# Multi-Sensory Stimulation in 24-hour Dementia Care

## Effects of snoezelen on residents and caregivers

Julia C.M. van Weert

ISBN 90-6905-696-8

http://www.nivel.nl
nivel@nivel.nl
Telephone +31 30 2 729 700
Fax +31 30 2 729 729



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# Multi-Sensory Stimulation in 24-hour Dementia Care

## Effects of snoezelen on residents and caregivers

Zintuigactivering in de 24-uurszorg aan demente ouderen
Effecten van snoezelen op verpleeghuisbewoners en zorgverleners
(met een samenvatting in het Nederlands)

PROEFSCHRIFT

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niet naakt maar ontbloot

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Kijk! Mama: De Tijd Verstrijkt
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# Contents

# 1 Introduction

## Introduction

The study described in this thesis addresses the implementation of a new care model in the 24-h daily care of demented nursing home residents, called *snoezelen* or Multi-Sensory Stimulation (MSS). A quasi-experimental pre-test and post-test design was carried out, in which the implementation of a new care model, named '*snoezelen*', was compared to care-as-usual. The study was conducted on twelve psycho-geriatric wards of six Dutch nursing homes between January 2001 and February 2003.
This first chapter addresses the common features of dementia and dementia care in Dutch nursing homes. It presents the theoretical background for the effect study. The care model investigated ('*snoezelen*') in this study is described and the latest scientific knowledge about its effectiveness is given; the aim of the study, the research questions and the design of the study are described. The chapter ends with a detailed description of the structure of this thesis.

### *Background*

**Dementia: incidence, types and development**

Dementia is a disease with a high prevalence. Worldwide, the number of new cases of dementia in 2000 was estimated at 4.6 million. About 6.1% of the population above 65 years of age suffer from dementia, which is about 0.5% of the world population (Wimo et al., 2003).

The essential features of dementia are multiple cognitive deficits that include memory impairment and at least one of the following: aphasia, apraxia, agnosia, or a disturbance in executive functioning (the ability to think abstractly and to plan, initiate, sequence, monitor, and stop complex behaviour) (APA, 1997).

Alzheimer's disease is the most common type of dementia, accounting for 50-75% of the total dementia population (APA, 1997). The incidence of Alzheimer's disease increases with age and is estimated at 0.5% per year from age 65-69 to 8% per year from age 85 onward (Hebert et al., 1995). Classically, Alzheimer's disease has an insidious onset and the progression is gradual, but steadily downward. The average duration from onset of symptoms to death is 8-10 year.

In addition, vascular (multi-infarct) dementia is probably the next most common type of dementia, though little is known about its prevalence (APA, 1997). Verhey (1997) estimated that 18% of the dementia patients are diagnosed with vascular dementia. Since both Alzheimer's disease and vascular dementia are common, the two frequently coexist, although only one diagnosis may be made during a person's life. Vascular dementia is a dementia due to the effects of one or more strokes on cognitive function. Typically, it is characterised by an abrupt onset and tends to progress in a stepwise fashion. Vascular dementia may occur any time in late life but

becomes less common after age 75, while the incidence of Alzheimer's disease continues to rise (APA, 1997). The relationship between Alzheimer's disease and vascular dementia is complex, because recent evidence suggests that small strokes may lead to increased clinical expression of Alzheimer's disease (Snowdon et al., 1997).

The remaining types of dementia account for a much smaller fraction of the total (APA, 1997). Other types of dementia are for instance dementia due to Lewy body disease, dementia due to Parkinson's disease, dementia due to Pick's disease and other frontal lobe dementias, dementia due to Huntington's disease or Creutzfeldt-Jakob disease, and dementia due to medical conditions (e.g., structural lesions, head trauma, endocrine conditions, nutrition conditions).
Dementia is often accompanied by behavioural and psychological disturbances that can be highly problematic for patients and caregivers. The International Psychogeriatric Association has defined Behavioural and Psychological Symptoms of Dementia (BPSD) as 'signs and symptoms of disturbed perception, thought content, mood or behaviour that frequently occur in patients with dementia' (APA, 1997). BPSD, such as aggression, agitation, depression or apathy, occur and are problematic in up to 97 percent of the cases (Buettner et al., 1996).

**Dementia in nursing homes**
Mental and functional loss forces a large number of elderly people with dementia to move to nursing homes. A nursing home is defined as an institution providing nursing care 24 hours a day, assistance with activities of daily living and mobility, psychosocial and personal care, paramedical care, such as physiotherapy and occupational therapy, as well as room and board. Nursing homes usually provide care that can be characterised as the 'highest level of care' (Ribbe et al., 1997). In the Netherlands there are 330 nursing homes, with a total of 57,000 beds (27 per 1000 inhabitants aged 65 and older). About 2.5% of the population above 65 years stay in nursing homes and another 6.5% in residential homes or homes for the aged with a lower level of care (Ribbe et al., 1997). The Dutch nursing home is a healthcare institution for chronically ill persons in need of permanent complex nursing care and is comparable to skilled nursing facilities in the United States. It differs from nursing homes in other countries in that the staff includes nursing assistants, specially trained nursing home physicians, psychologists, activity therapists, speech therapists, physical therapists, nutrition assistants, and others, all of whom are employed by the nursing home (Hoek et al, 2000). Medical care is provided by specially trained physicians, who are employed by the nursing home, with an average ration of one full-time doctor per 100 beds (Ribbe et al., 1997). Residents are admitted to nursing homes for several reasons: 50% require long-term institutional care, 40% use predominantly rehabilitative services, 5% have a terminal illness and another 5%

require special services such as the care needed by comatose people and those on respirators (Ribbe et al., 1997).

Dutch nursing homes have separate psychogeriatric wards for dementia patients with highly care-dependent residents, in which about 27,000 dementia patients are residing (Hoek et al., 2000). Koopmans et al. (2003) describe an observational analysis of a cohort of residents (n=890) from a Dutch psychogeriatric nursing home with a prospective follow-up. According to this study, the mean time dementia patients spend in a nursing home to death is 2.4 years, with a wide range (0-13.2). One of seven nursing home residents (14.2%) with dementia survive to late dementia, mostly women (90%) with Alzheimer's disease (60%) (Koopmans et al., 2003). The results show that Dutch nursing home patients with Alzheimer's disease have a mean disease duration of 7.2 years (range 1.3-23.5), whereas patients with vascular dementia have a mean disease duration of 5.3 years (range 0.8-15.1) (Koopmans et al., 1992; 2003).

**Quality of care for demented elderly: theoretical background**

Once he is institutionalized, the individual's quality of life is often affected by behaviour problems, such as aggression, agitation, depression or apathy (Buettner et al., 1996). The quality of life of demented nursing home residents depends for a major part on the extent to which the nursing care meets the residents' needs.

Hall and Buckwalter (1987) have developed a conceptual model, the Progressively Lowered Stress Threshold (PSLT), which posits that patients who have progressive dementia become less and less able to interpret, process, and adapt to environmental stimuli. Once the environmental demands exceed the patient's accommodation abilities, levels of stress increase and are manifested in, for instance, anxiety, agitated behaviours or aggression. On the other hand, Edelson (1984) and Norberg et al. (1986) describe psychosocial withdrawal as a result of a lack of (adequate) stimulation whereby individuals become apathetic or engage in self-stimulating behaviours. Hall et al. (1987) suggest that if environmental stimuli are manipulated by caregivers to create a supportive and less challenging milieu for the cognitively impaired patient, then quieter, more adaptive behaviour will replace catastrophic reactions caused by anxiety.

Kitwood developed a framework for psychogeriatric nursing care: the Dialectical Framework (Kitwood, 1996). The central thesis in this framework is that the dementing process arises from an interaction between neurological impairment and social psychological processes (e.g., the interaction between caregivers and demented elderly people). Social psychology enhances or diminishes an individual's sense of safety, value and personal well-being (Kitwood, 1993a;1993b). Kitwood distinguishes

certain kinds of interaction that are harmful to those who have dementia, and interactions that make for well-being (Kitwood, 1996). The interactions that contribute to the undermining of personhood are called 'malignant social psychology'. Examples of malignant social psychology are 'infantilization' (treating a person very patronizingly in the same way as a parent might treat a very young child) or 'disempowerment' (not allowing a person to use the abilities that they have; failing to help them to complete actions that they have initiated). The interactions that are clearly conductive to the maintenance of personhood and well-being are named 'positive person work' (Kitwood, 1998). Examples of positive person work are 'recognition' (acknowledging a demented resident as a person and affirm him or her in his or her uniqueness), 'negotiation' (consult the demented resident about preferences, desires, and needs, rather then being conformed to others' assumptions) or 'timalation' (the direct and pleasurable stimulation of the senses, in a way that accords with the values and scruples of the person with dementia) (Kitwood, 1996).

Caregivers, and especially Certified Nursing Assistants (CNAs), are an important factor in the environment of demented nursing home residents. According to the Dialectical Framework, there is much that can be done by caregivers in psycho-geriatric care that positively influences the mood and behaviour of nursing home residents. To be able to deliver resident-oriented or person-centred care, 'staff-centred work environments' or 'type B settings', as described by Kitwood, are needed (1997). In type B settings the manager's role is more one of enabling and facilitating than of controlling, and this involves giving a great deal of feedback to staff. The whole staff group (manager, senior care team and care assistants) thrives on cooperation and sharing. There is a strong commitment to minimize the differential of power. The organisation is highly skilled in interpersonal matters and has well-developed communication pathways. Type B settings are sensible to what staff members are experiencing and feeling. Each staff member can bring matters into the open, knowing that he will not be criticized, but given the support that he needs. Each resident is recognised in his or her uniqueness, through a skilled combination of empathy and personal knowledge (Kitwood, 1997). The creation of type B settings is supposed to lead to increased quality of care, which in turn will lead to increased quality of life for the residents.

The affective state or well-being of demented elderly people has long received little attention, with even less concerns to events that promote or threaten well-being. From the end of the 20$^{th}$ century, many caregivers prefer a person-centred approach to care provision (Innes and Surr, 2001). Once person-centred care has been realised, the quality of care provided for persons with dementia improves, which will result in increased quality of life of residents. However, a change to person-centred care is not always easy to achieve. Kitwood argues that the belief that nurses have in

the biomedical nature of dementia as the standard paradigm might have positive advantages for them as it allows them to retreat into emotional non-involvement when they do not have the personal resources available to deal appropriately with people with dementia (Adams, 1996). Meeting the psychosocial needs of demented residents remains a challenge. How to assess the extent to which these needs are met is another one (Innes and Surr, 2001).

**Quality of working life of caregivers: theoretical background**

Working in health care is characterised as emotionally demanding (Arts et al., 2001). In dementia care, caregivers often have to deal with behavioural problems of residents, which make their work even more demanding. Besides, many Dutch nursing homes have a high workload, partly caused by difficulties with the recruitment of sufficient staff (Hoek et al., 2000). Workload originates not only from the amount of work, but also from aspects as skill variety, autonomy and learning opportunities or tempo and role ambiguity. High workload may influence the level of stress reactions, job satisfaction and burnout negatively and, consequently, the quality of care. Aspects such as workload, job stress, job satisfaction and burnout are associated with the concept '*quality of working life*', which has been given increased attention in health services research (Beukema, 1987; Jansen et al., 1996; Bourbonnais, 1998; Kruijver et al., 2001; Arts et al., 1999; 2001). Beukema (1987) defines quality of working life as 'the degree to which employees are able to shape their jobs actively, in accordance with their options, interest and needs'. Arts et al. (2001) integrate three models of quality of working life into a new model containing three components:

1. workload (organizational characteristics, job characteristics, working conditions);
2. psychological and physical outcomes (job satisfaction, stress reactions, burnout, health);
3. capacity of coping (social support, personal characteristics).

In this model, a relationship between workload and the psychological and physical outcomes of work is assumed, having a buffer in the capacity for coping (Arts et al., 2001). In the current study, attention is paid to the relation between the intervention (*snoezelen)*, workload and psychological outcomes of work.

## *Snoezelen*

**_Snoezelen_ as a care model**

During the last decades, several psychosocial treatments have been developed in dementia care (APA, 1997). One of the approaches that is becoming more and more popular as a potential intervention on psycho-geriatric wards is *snoezelen*, also referred to as Multi-Sensory Stimulation (MSS). *Snoezelen* seems to fit the premises of the PSLT and the Dialectical Framework. It was developed in the Netherlands,

but spread rather rapidly across Europe, in particular the United Kingdom, in the 1980s and 1990s. It is just beginning to appear in the United States (Chitsey et al., 2002). *Snoezelen* can be defined as an approach which actively stimulates the senses of hearing, touch, vision and smell in a resident-oriented, non-threatening environment (Kok et al., 2000). It is intended to provide individualized, gentle sensory stimulation without the need for higher cognitive processes, such as memory or learning, in order to achieve or maintain a state of well-being. Traditionally, *snoezelen* was applied in a special room with an array of equipment, offering multiple stimulation, covering all the sensory channels (i.e., a vibrating bed, soft comfortable furnishings, aroma steamers, spotlights, mirrors and music), both to stimulate and to relax (Noorden, 1999; Lancioni et al., 2002). In the present study, *snoezelen* is extended to the 24-h daily care. Caregivers learn to incorporate personal circumstances of the residents such as lifestyle, preferences, desires and cultural diversity into 24-h daily care (Noorden, 1999). By interviewing family members ('history taking') and systematic observations ('stimulus preference screening'), the caregivers find out what stimuli the resident enjoy most (Lancioni et al., 2002). Then, the information is integrated in the residents' care plan ('*snoezel care plan*'). Caregivers also learn to adapt their attitude and practical skills to integrate multi-sensory stimuli in the care. The ultimate goal of integrated *snoezelen* is, consistent with the concept of patient-centeredness, the caregivers' understanding of the residents' real needs, preferences and wishes (Bensing, 2000).

*Snoezelen* aims to reduce residents' maladaptive behaviours, to increase positive behaviours and to improve their mood. Researchers describe the therapeutic benefits of *snoezelen* in terms of relaxation, behaviour modification or improved quality of life (Chitsey et al., 2002; Lancioni et al., 2002).
Additionally, *snoezelen* is used in dementia care to promote a caregiving relationship and to reduce caregiving stress, assuming a positive effect of the caregivers' quality of working life (McKenzie, 1995; Savage, 1996; Chung, 2002).

**Effectiveness of *snoezelen***
Until now, there has been limited evidence for the effectiveness of *snoezelen*. In the last decade, a number of studies have been carried out that evaluate the impact of *snoezelen* sessions in a special room on the resident's behaviour as well as on adaptive and performance skills within and after the *snoezelen* sessions. Although the majority of these studies did report within-session positive effects, most of the studies were not methodologically sound, e.g., contained no comparisons between treatment and control groups which are essential to demonstrate that *snoezelen* prevents deterioration (Lancioni, 2002). Chung et al. (2002) conducted a Cochrane review and found two randomised clinical trials (RCTs) of sufficient scientific quality, evaluating the effects of *snoezelen* in a *snoezel* room (Baker et al., 1997; 2001;

Holtkamp et al., 1997; Kragt et al., 1997). In the RCTs, positive immediate outcomes in reducing maladaptive behaviours and promoting positive behaviours are found. Kragt's subjects presented significantly fewer behavioural problems (e.g., apathy, restlessness) during the *snoezelen* sessions than the control sessions (Kragt et al, 1997; Holtkamp et al., 1997). Baker's subjects were more responsive to their surrounding environments immediately after the sessions (Baker et al., 1997; Chung et al., 2002). Yet, the variation in outcome measurements is too high to account for solid scientific evidence of *snoezelen* on other outcomes. Moreover, carryover and long-term effects of *snoezelen* are not evident. Non-controlled trials also report rather limited and inconsistent longer-term effects of *snoezelen* (Lancioni et al., 2002).

So far, there is hardly any evidence of expected benefits of *snoezelen* for staff. Most of the available studies only investigated the effects of *snoezelen* on the mood and behaviour of dementia patients. There are no RCTs available in which the effectiveness of *snoezelen* on the quality of working life is studied. Hence, Lancioni et al. (2002) recommend to determine the influence of multisensory (*snoezelen*) programmes on the quality of working life of staff involved in such an approach.

### *Objectives and research questions*

**Review of the literature**

First, a literature study was conducted to investigate the effects of existing psychosocial methods, including *snoezelen*, on the behaviour of demented persons. Earlier research has shown that aggression, depression and apathy are the behavioural disturbances accompanying dementia that nurses experience as the most problematic. However, there is limited insight into which psychosocial treatments are effective in reducing these behaviours.

The aim of the systematic review was to establish the extent of scientific evidence for the effectiveness of psychosocial methods on reducing depressed, aggressive or apathetic behaviours in people with dementia. Therefore, 13 psychosocial treatments were selected, i.e., 10 psychosocial methods, distinguished by the American Psychiatric Association (1997), supplemented with three treatments (i.e., gentle care, passivities of daily living, psychomotor therapy) that are often used in the Netherlands.

**Intervention study**

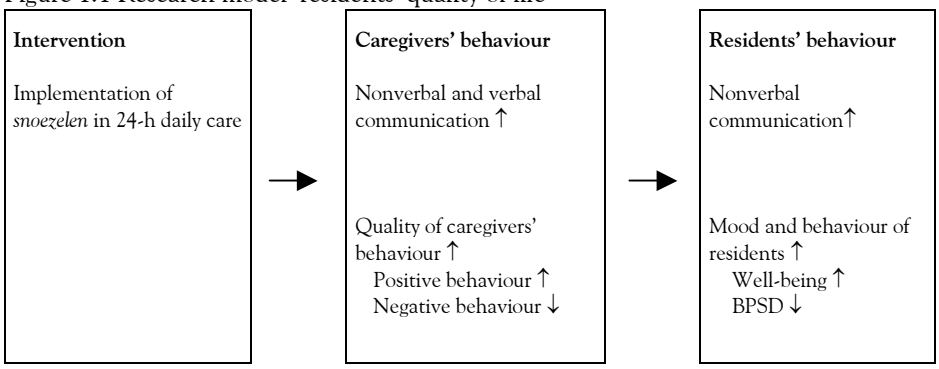
Although the review concludes that there is scientific evidence that *snoezelen* in a *snoezel* room reduces apathy in people in the latter phases of dementia, no generalizing effects of *snoezelen* on behaviour and mood of demented elderly could be established. The limited carryover and long-term effects suggest that a continuous and ongoing programme should be implemented (Chung, 2002). Moreover, the care

for demented nursing home residents demands interventions that are easily implemented by less skilled caregivers in daily contact with those with dementia (Sambandham, 1995). Therefore, an intervention study was conducted that focus on the implementation of an integrated *snoezelen* approach in the 24-h daily care, carried out by Certified Nursing Assistants (CNAs).

In the Netherlands, *snoezelen* usually gets no or little attention during the basic vocational education of nursing assistants. Bernardus Experisecentre/Fontis, a nursing home with training center specialised in *snoezelen,* has developed a four-day course '*snoezelen* for caregivers', which can be attended by staff members in addition to their basic education level. A resident-oriented attitude, comparable with 'positive person work' as described by Kitwood (see "Theoretical background"), is an important condition to integrate *snoezelen* care successfully in psychogeriatric care. Therefore, the training '*snoezelen* for caregivers' pays attention to person-centred care as well as to the application of multi-sensory stimulation. To implement the *snoezelen* care model successfully, psycho-geriatric units need to make organizational adaptations towards a 'type B setting' (see "Theoretical background"). These organizational adaptations are necessary to become a stimulating and safe environment for caregivers, providing the conditions to apply the new care model.

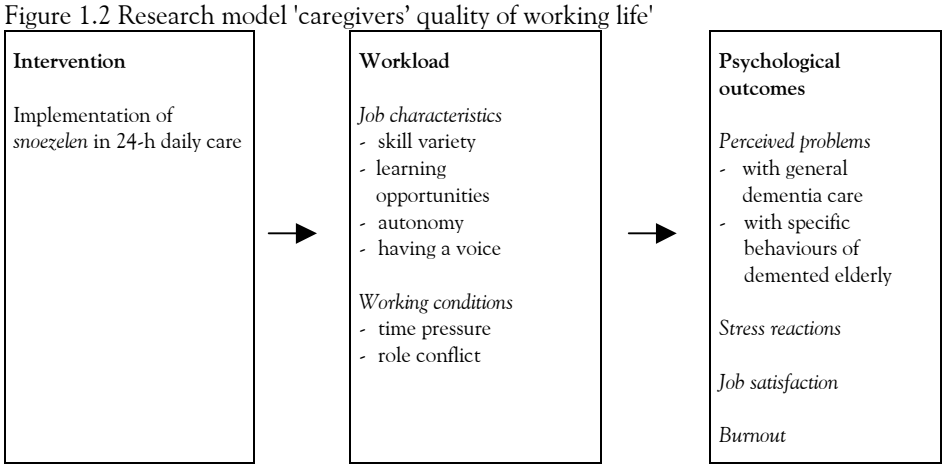
The final aim of the intervention is to increase mood and behaviour of demented residents and, therefore, the residents' quality of life. The switch in caregiver behaviour from task-oriented care to resident-oriented or person-centred care is considered as a prerequisite to reach this final aim, as is visualised in figure 1.1.

Figure 1.1 Research model 'residents' quality of life'




The intervention is supposed to increase not only the residents' quality of life, but also the caregivers' quality of working life, as is visualized in figure 1.2. The figure is based on Arts' model 'Quality of working life' (Arts, 2001).

Figure 1.2 Research model 'caregivers' quality of working life'



**Research questions of the intervention study**

The effectiveness of *snoezelen* as a care model, integrated in 24-h dementia care, has never been studied before. This paragraph describes the study's research questions and objectives.

**Research question 1**

1. *'How is the implementation of snoezelen evaluated by caregivers in psycho-geriatric care?'*

1a. *'What factors facilitate or hinder the implementation of snoezelen in the experimental wards in the eyes of the caregivers?'*

1b. *'Do caregivers experience positive changes at the level of caregivers, residents and the organisation, as a result of the implementation of snoezelen in 24-h care?'*

Many intervention studies lack an investigation of the extent to which the intervention was implemented as intended, which makes outcome measures difficult to interpret. Therefore, the first objective of our intervention study was to evaluate the implementation process of *snoezelen* on the experimental wards and to identify facilitating and hindering factors. Other health care institutions might take advantage of these findings when they intend to implement the *snoezelen* care model.

**Research question 2**

2a. *'What are the effects of the integration of snoezelen in 24-h care on the actual verbal and non-verbal communication of CNAs during morning care?'*

2b. *'What are the effects of the integration of snoezelen in 24-h care on the actual verbal and non-verbal communication of demented nursing home residents during morning care?'*

The second aim of the intervention study was to examine the effects of the implementation of *snoezelen* on the non-verbal and verbal communication of CNAs and residents during morning care. In particular, it was hypothesized that the intervention would lead to the following measurable changes:

- an increase of rapport-building non-verbal communication of both CNAs and residents (e.g., gazing, affective touch, smiling);
- an increase of the affective or socio-emotional verbal communication of CNAs that is needed to establish a trusting relationship (e.g., showing empathy, social talk, validation);
- a decrease of negative affective verbal communication of both CNAs and residents (e.g., showing disapproval or anger);

- a decrease of negative instrumental communication, initiated by CNAs (e.g., questions about facts, cognitive knowledge).

**Research question 3**

3. *'What are the effects of the implementation of snoezelen on the quality of CNAs' behaviour during morning care?'*

The third objective of the intervention study was to gain insight into the extent to which CNAs succeeded to improve the quality of their behaviour during morning care, by performing a more person-centred approach.
In particular, it was hypothesized that the intervention would lead to the following measurable changes:

- an increase of positive behaviours of CNAs;
- a decrease of negative behaviours of CNAs;
- an increase of sensory stimulation by CNAs.

**Research question 4**

4. *'What are the effects of snoezelen on the behaviour and mood of demented nursing home residents?'*

The fourth aim of the intervention study was to investigate whether *snoezelen*, applied by CNAs and integrated in 24-h daily care, leads to a positive change in mood and behaviour of demented nursing home residents as compared to residents receiving usual care, i.e., without *snoezelen*.
In particular, it was hypothesized that the intervention would lead to measurable, positive changes in

- well-being: more happiness/contentment, more enjoyment, better mood;
- adaptive behaviour: more attentive and responding to environment, more own initiatives, better relationship to caregiver;
- maladaptive behaviour: less non-social behaviour, apathetic behaviour, loss of decorum, loss of consciousness, rebellious behaviour, restless behaviour, disoriented behaviour, anxiety, aggression, agitation and depression.

**Research question 5**

5. *'What are the effects of the implementation of snoezelen on the quality of working life of caregivers in psycho-geriatric care?'*

The fifth objective was to find out whether the implementation of *snoezelen* had a positive effect on the quality of working life of CNAs who apply *snoezel* care, compared to CNAs who apply usual care.
In particular, it was hypothesized that the intervention would lead to measurable, positive changes in

- Workload: the activities that someone has to carry out in a particular environment, classified in job characteristics (skill variety, learning opportunities, autonomy, having a say) and working conditions (time pressure, role ambiguity). Positive effects of the implementation of *snoezelen* were especially assumed on working conditions.
- Psychological outcomes of CNAs : the subjective experience of the actual workload, operationalised in perceived problems, stress reactions, job satisfaction and burnout.

## Design of the study

A quasi-experimental pre-test and post-test design was carried out. The study was performed in twelve psycho-geriatric wards of six Dutch nursing homes. The six experimental wards received a training '*snoezelen* for caregivers' to implement *snoezelen* in 24-h care. In the six control wards, usual care was continued.

Randomisation took place at ward level by way of an independent person drawing lots drawn from a sealed container. Nursing units were randomised within each nursing home (every nursing home delivered an experimental and a control ward) instead of randomising entire nursing homes. Therefore, the experimental and the control group were considered to be comparable in terms of admission policy, capacity for psychogeriatric residents, population of psychogeriatric residents on the ward, composition of nursing staff, staff-client ratio, used care model at baseline, system of resident-allocation, service types and degree of care innovation. By interviews with staff members, these aspects were verified. In case of allocation to the control group, the ward had to refrain from *snoezelen* training or implementation of elements from the *snoezel* care model during the study period. Commitment to this and other inclusion criteria (see chapter 6) were laid down in a co-operative agreement. Control for contamination on the control wards was done by interviewing the head nurses. Control on the intervention in the experimental wards was done by participating observations in five of the six experimental wards (Janssen, 2001; Vruggink, 2004).
Measurements were performed at baseline and after 18 months in the period between January 2001 and February 2003. The nursing homes were consecutively included between January (home 1) and August 2001 (home 6), in order to spread the activities with regard to the pre-test and post-test and the intervention. The

measurements on the experimental and control ward of the same nursing home were carried out at the same time.

To establish the effectiveness of *snoezelen* on mood and behaviour of demented nursing home residents and work-related outcomes of caregivers, a sample size of 120 residents and 120 CNAs was required, i.e. 10 residents and 10 CNAs per ward (power=.80, $\alpha$ =.05, d=.50). Assuming one-third non-response (no proxy informed consent of residents' legal guardians), fifteen moderately to severely demented residents that fulfilled the inclusion criteria for residents (see chapter 6) had to be residing per ward at baseline. The selection of residents that fulfilled the inclusion criteria was done in cooperation with the head nurse. A larger sample could not be recruited at the beginning, as no more eligible residents were expected per ward. Therefore, loss to follow-up (e.g., due to death) had to be handled. To accommodate the dropouts occurring during the study period, a second cohort of subjects was recruited by replacing the dropouts from the first cohort of residents. The experimental wards were instructed to apply *snoezelen* care to as many (new) residents as fulfilled the inclusion criteria. Consequently, the dropouts could be replaced during the study period, so that at least 60 residents could be included at post-test. Loss to follow-up among residents was expected to be around 50%. Three months before the post-test, a new informed consent procedure was followed to obtain proxy consent from legal guardians of new, eligible residents.

Loss to follow up among CNAs (e.g., by changing jobs) was also handled by the replacement by new CNAs. Loss to follow-up among caregivers was expected to be around 35%. The new CNAs received 'training on the job' from the head nurse or the 'coordinator sensory stimulation' and attended the follow-up meetings in order to be able to apply the *snoezelen* method. They were also coached on how to bring the care into conformity with the *snoezel (care) plans* of the residents.

As dropouts were substituted by new residents or CNAs, multilevel analysis, carried out with MLwiN-software, was used for analyzing the data. By using multilevel analysis, the statistical analyses were carried out following the 'intention-to-treat' principle: all data available could be included in the analysis, which implies more power for the analysis than the 'complete cases only' approach employed by other techniques. A mixed model of multilevel analysis for repeated measurements was chosen, which takes into account all available data in an adequate way: the paired samples of completers (included in pre-test and post-test) as well as the unpaired pre-measurement or post-measurement data of non-completers (included in pre-test or post-test). The correlated measurements of completers are controlled for by modelling the covariance between the pre-measurement and post-measurement at the resident or CNA level. To compare the rate of change across the two groups, the

mean pre-test post-test differences in the experimental group were tested against the mean pre-test post-test differences in the control group. Relevant covariates were selected for adjusted analysis to correct for differences in the residents' conditions and background characteristics of residents or CNAs.

Figure 1.3 shows the most important elements of the intervention and the measurements.

The post-test was planned 18 months after the pre-test, because 15 months was considered to be the minimum time needed for successful implementation of the new care model (Finnema, 2000). This time was required to effect a change from task-oriented care to resident-oriented care and to effect changes at organizational level. At the caregivers' level, the implementation of *snoezelen* in 24-h care required several interventions to improve knowledge, skills and habits. Interventions at the organisational level were needed to guarantee persistent care changes. These concerned, for instance, adaptations of procedures and activities (e.g., breakfast project with nice-smelling food), investments in *snoezel* materials or adaptations in the daily schedule (e.g., no longer waking up of residents who prefer to sleep late, no force to be ready with the morning care before the coffee break).

The data collection to evaluate the implementation process of *snoezelen* on the experimental wards was carried out using a questionnaire about the training, interviews about the implementation and attendance to the follow-up meetings, also regarding implementation.

Figure 1.3 Design of the study

| Month | Experimental Group<br>6 psycho-geriatric wards | Control Group<br>6 psycho-geriatric wards |
|---|---|---|
| 1 | Informed consent procedure | Informed consent procedure |
| 2 | **Pre-test**<br>Measurements:<br>- observations on the ward by CNAs<br>- video-recordings during morning care<br>- medical background data by physician | **Pre-test**<br>Measurements:<br>- observations on the ward by CNAs<br>- video-recordings during morning care<br>- medical background data by physician |
| 3-20 | **From pre- to post-test**<br>Implementation of *snoezelen* in 24-h daily care:<br>- in-house training '*snoezelen* for caregivers' | **From pre- to post-test**<br>Care-as-usual: |
| 3 | - start implementation in daily care<br>- study group | - continuation of the usual care at baseline |
| from 4 | - stimulus preference screening of residents | |
| from 4 | - writing of *snoezel care plans* | |
| from 4 | - supervision meetings:<br>follow-up meetings (3x per ward) | |
| from 6 | general meetings (2x) | |
| 7,14,18<br>12,16 | Informed consent procedure to include new residents | Control for contamination:<br>- interview with head nurse (15 month after pre-test) |
| 18 | **Post-test**<br>Measurements:<br>- observations on the ward by CNAs | Informed consent procedure to include new residents |
| 21 | - video-recordings during morning care<br>- medical background data by physician | **Post-test**<br>Measurements:<br>- observations on the ward by CNAs<br>- video-recordings during morning care<br>- medical background data by physician |

The effectiveness of *snoezelen* on nurse-patient communication and the quality of nurses' behaviour was studied by analysing video-recordings of the morning care. To analyse the non-verbal and verbal nurse-patient communication during morning care in detail, the video-recordings were observed directly on the computer by independent assessors, using the computerized observation system 'Observer' and an adaptation of the Roter Interaction Analysis System (RIAS) (Caris-Verhallen, 1999; Kerkstra et al., 1999; Roter, 1989). To assess the quality of nurses' behaviour, a 4-point observation scale was developed, based on the Dialectical Framework of Kitwood (1996, 1997, 1998).

The effectiveness of *snoezelen* on the behaviour and mood of nursing home residents was studied in two ways. First, by conducting ward observations, using existing, valid

and reliable observation scales and investigating several behaviour patterns of demented elderly, such as agitation, aggression, depression, apathy and anxiety. Second, by analysing video-recordings, using observation scales on behaviour and mood of demented residents.
The effectiveness of *snoezelen* on the quality of CNAs' working life was investigated by an extensive questionnaire, existing of valid and reliable scales measuring workload, perceived problems, stress reactions, job satisfaction and burnout.

## Structure of the thesis

*Chapter 2* gives a systematic literature review of the effectiveness of psychosocial methods on depressed, aggressive and apathetic behaviours of people with dementia.
In *Chapter 3*, the implementation process on the experimental wards is evaluated. The quantitative results of the evaluation of the training '*snoezelen for caregivers*' are presented, as well as the qualitative results representing the opinion of caregivers. The chapter describes what actually has been done during the implementation period. Facilitating interventions and barriers are identified and an overview is given of the changes that have been realised, in the eyes of caregivers, on the level of residents, caregivers and organisation.
Chapter 4, 5, 6 and 7 present the quantitative results of the trial.
*Chapter 4* reports the effectiveness of *snoezelen* on nurse-patient communication during morning care. The non-verbal and verbal communication of both nurses and residents during morning care is described, based on a detailed analysis of the video-recordings by independent observers.
In *Chapter 5*, the effectiveness of the implementation of *snoezelen* on the quality of nurses' behaviour during morning care is presented. The chapter describes whether a change in nurses' behaviour towards a more person-centred attitude has been achieved on the experimental wards, using an observation scale that was developed for this study.
*Chapter 6* addresses the effects of *snoezelen* on the behaviour and mood of demented nursing home residents. The results of observations, carried out by CNAs on the ward, and video-observations of the morning care, assessed by blind observers, are provided.
In *Chapter 7* the results of the study into the effects of *snoezelen* on the quality of working life of CNAs are presented, in terms of perceived problems, job satisfaction and other work-related outcomes.
Finally, in *Chapter 8*, the results of our study are discussed. The main findings are summarized and methodological reflections are made. The relationship between the findings is discussed as well as the relevance of the study. Recommendations for practice and future research are made.

Chapter 2 to 7 are submitted for publication in scientific journals. As a consequence, there is some overlap between the chapters, in particular with regard to the description of the 'methods' and the 'intervention'. Chapter 3 was published by the International Journal of Nursing Studies (Van Weert et al., 2004). Chapter 4, 6 and 7 are in press.

# 2 The effects of psychosocial methods on depressed, aggressive and apathetic behaviours of people with dementia

## A systematic review

This chapter has been submitted for publication as:
Verkaik R, Weert JCM van, Francke AL. The effects of psychosocial methods on depressed, aggressive and apathetic behaviours of people with dementia: a systematic review (submitted).

## Abstract

This systematic review seeks to establish the extent of scientific evidence for the effectiveness of 13 psychosocial methods for reducing depressed, aggressive or apathetic behaviours in people with dementia. The guidelines of the Cochrane Collaboration were followed. Using a predefined protocol, ten electronic databases were searched, studies selected, relevant data extracted and the methodological quality of the studies assessed. With a Best Evidence Synthesis the results of the included studies are synthesized and conclusions about the level of evidence for the effectiveness of each psychosocial method are drawn. The review concludes that there is some evidence that Multi-Sensory Stimulation / *snoezelen* in a Multi-Sensory Room reduces apathy in people in the latter phases of dementia. Furthermore there is scientific evidence, although limited, that Behaviour Therapy-Pleasant Events and Behaviour Therapy-Problem Solving reduce depression in people with probable Alzheimer's disease who are living at home with their primary caregiver. There is also limited scientific evidence that Psychomotor Therapy Groups reduce aggression in a specific group of nursing home residents diagnosed with probable Alzheimer's disease. For the other 10 psychosocial methods there are no or insufficient indications that they reduce depressive, aggressive or apathetic behaviours in people with dementia. Although the evidence for the effectiveness of some psychosocial methods is better than for others, overall the evidence remains quite modest and further research needs to be done.

## Introduction

Dementia is often accompanied by behavioural and psychological disturbances that can be highly problematic to patients, their informal and formal caregivers. The

International Psychogeriatric Association has assigned the term Behavioural and Psychological Symptoms of Dementia (BPSD) to these disturbances. They define BPSD as 'signs and symptoms of disturbed perception, thought content, mood or behaviour that frequently occur in patients with dementia'. BPSD can be clustered into one of five syndromes: psychosis, aggression, psychomotor agitation, depression and apathy (Finkel and Costa e Silva, 1996). Various studies have been conducted into the prevalence of BPSD and describe figures between 58% and 100% of patients with at least one of the five syndromes (Zuidema and Koopmans, 2002).

Earlier research shows that most serious problems experienced by nurses caring for patients with dementia concern depression, aggression and apathy (Ekman et al., 1991; Halberg and Norberg, 1993; Kerkstra et al., 1999). One way to support nurses who are often confronted with these problems is through the development of guidelines. The guidelines should be based on psychosocial methods that are scientifically proven to reduce the BPSD. A systematic review of the existing research literature can help to determine the effectiveness of psychosocial methods in reducing BPSD. In recent years some systematic literature reviews have already been conducted. Following the review method of the Cochrane Collaboration these literature reviews explored the effects of Validation, Reminiscence, Reality Orientation, *Snoezelen* (Neal and Briggs, 2002; Spector et al., 2002; Spector et al., 2002; Chung et al., 2002). These reviews did not result in solid conclusions, because of, among others, the limited number of studies that could be included.

For this reason and because of the lack of systematic reviews of some other psychosocial methods (e.g. psychomotor therapy, behaviour therapy, gentle care) a new, large-scale systematic review has been conducted as a first phase in a research project aimed at the development of evidence based guidelines for nurses (including nursing assistants) working with clients suffering from dementia. In this review the amount of evidence for the effectiveness of thirteen psychosocial methods to reduce depression, aggression and apathy in people with dementia is established. Not only methods employed by nurses were studied but also methods utilized by other disciplines, such as by activity therapists, psychologists and psychotherapists. If these methods should prove to be effective they could be adapted to nursing practice. Previous reviews included only Randomized Controlled Trials (RCTs). In order to increase the chances that solid conclusions could be drawn, non-randomized controlled trials (CCTs) were also included in the review. The possible selection biases produced by the inclusion of CCTs are controlled for in the data synthesis of the review. In this article the methods, results and conclusions of the review are presented and discussed.

## Methods

The review has been conducted following the guidelines of the Cochrane Collaboration. This entails that (1) most steps in the review are performed by two researchers independently, (2) the researchers work in accordance with a predefined protocol and (3) the methodological quality of the studies is taken into account during the data synthesis. The method is described in detail in the Cochrane Reviewers' Handbook (Clarke et al., 2002).

### *Inclusion criteria*

*Types of studies*. Randomized controlled trials (RCTs) and controlled clinical trials (CCTs), also including cross-over trials with a sufficient wash-out period (depending on the specific psychosocial method), were included in the review when there was a full article or description of the study obtainable.

*Types of participants*. People were included who have been diagnosed as having a type of dementia according to DSM-III-R, DSM-IV, ICD-10 or other comparable instruments. Both inpatients and outpatients and all severities of dementia were included.

*Types of psychosocial methods*. The 10 psychosocial methods distinguished by the American Psychiatric Association were included, their names sometimes adjusted to current practice (APA, 1997), supplemented with three methods (in table 2.1 with an asterisk) that are well known to be used in the Netherlands.

Table 2.1 Included methods

| Behaviour oriented | Emotion oriented | Cognition oriented | Stimulation oriented |
|---|---|---|---|
| - Behaviour therapy | - Supportive psychotherapy<br>- Validation / Integrated emotion-oriented care<br>- Multi-Sensory Stimulation/Snoezelen<br>- Simulated presence therapy<br>- Reminiscence<br>- Gentle care*<br>- Passivities of Daily Living (PDL)* | - Reality orientation<br>- Skills training | - Activity/recreational therapy<br>- Art therapy<br>- Psychomotor therapy* |

*Types of outcome measures.* Only studies using depression, aggression or apathy as an outcome measure were included.

### *Search method*

From September 2002 to February 2003 we searched in various international and national bibliographical databases for intervention studies that fulfilled all four inclusion criteria. Ten databases were searched (see table 2.4).

The databases were searched using the following strategy that was formulated in PubMed and adapted to the other databases:

> dementia [MESH] AND (psychotherapy OR complementary therapies OR psychosocial treatments OR psychosocial* OR emotion-oriented care OR emotion-oriented* OR validation therapy OR validation-therapy OR Multi-Sensory Stimulation OR sensory stimulation OR sensory integration OR *snoezelen* OR simulated presence therapy OR simulated presence* OR reminiscence therapy OR reminiscence* OR warm care OR gentle care OR passivities of daily living OR PDL OR behavioural therapy OR behaviour* therapy OR cognitive therapy OR reality orientation OR ROT OR skills training OR recreational therapy OR psychomotor therapy OR psychomotor* OR psychomotor-therapy)
> Limits: Clinical Trial

The complete Specified Trials Register of the Cochrane Dementia and Cognitive Disorders Group (CDCIG) was searched. Identified systematic reviews were screened for additional references.

### *Selection method*

A first selection for inclusion was performed by the first author (RV). On the basis of titles and abstracts all studies that clearly did not meet one of the four inclusion criteria were excluded from the review. If there was any doubt about meeting the inclusion criteria, the full article was ordered. A second selection was made by two reviewers independently (RV, JvW). On the basis of the full articles the two reviewers checked if the studies satisfied all four criteria. Disagreements regarding inclusion status were resolved by discussion. If no consensus could be met, a third reviewer (AF) was consulted.

### *Assessment of methodological quality*

The methodological quality of the selected RCTs and CCTs was rated by a list developed by Van Tulder (1997). This list, containing specified criteria proposed by Jadad (1996) and Verhagen et al. (1998) consists of 11 criteria for internal validity, 6 descriptive criteria and 2 statistical criteria (table 2.2). The list was developed in close contact with the Dutch Cochrane Centre.

The criteria mentioned in table 2.2 were operationalised to the specific area of psychogeriatrics by the first author. After discussion with the second and third author, agreement about the operationalization was reached. An example is the operationalization of criterion e 'was the care provider blinded for the intervention?' to 'did the care provider know which was the experimental condition and which the control?'. More information about the operationalization of the criteria is available from the first author. All criteria were scored as yes, no, or unclear. Equal weight was applied to all items. Studies were considered to be of 'high quality' if at least 6 criteria for internal validity, 3 descriptive criteria and 2 statistical criteria were scored positively. Otherwise, studies were considered of 'low quality'. The methodological quality of the included trials was independently assessed by two reviewers (RV, JvW). The assessments were compared and disagreements were resolved by discussion.

Table 2.2 Criteria List for the Methodological Quality Assessment

| | | |
|---|---|---|
| **Patient selection:** | | |
| a) | Were the eligibility criteria specified? | Yes/No/Don't know |
| b) | Treatment allocation: 1) was a method for randomization performed? | Yes/No/Don't know |
| | 2) was the treatment allocation concealed? | Yes/No/Don't know |
| c) | Were the groups similar at baseline regarding the most important diagnostic indicators? | Yes/No/Don't know |
| **Interventions:** | | |
| d) | Were the index and control interventions explicitly described? | Yes/No/Don't know |
| e) | Was the care provider blinded for the intervention? | Yes/No/Don't know |
| f) | Were co-interventions avoided or comparable? | Yes/No/Don't know |
| g) | Was the compliance acceptable in all groups? | Yes/No/Don't know |
| h) | Was the patient blinded to the intervention? | Yes/No/Don't know |
| **Outcome measurement:** | | |
| i) | Was the outcome assessor blinded to the interventions? | Yes/No/Don't know |
| j) | Were the outcome measures relevant? | Yes/No/Don't know |
| k) | Were adverse effects described? | Yes/No/Don't know |
| l) | Was the withdrawal/drop out rate described and acceptable? | Yes/No/Don't know |
| m) | Timing follow-up measurements: | |
| | 1) was a short-term follow-up measurement performed? | Yes/No/Don't know |
| | 2) was a long-term follow-up measurement performed? | Yes/No/Don't know |
| n) | Was the timing of the outcome assessment in both groups comparable? | Yes/No/Don't know |
| **Statistics:** | | |
| o) | Was the sample size for each group described? | Yes/No/Don't know |
| p) | Did the analysis include an intention-to-treat analysis? | Yes/No/Don't know |
| q) | Were point estimates and measures or variability presented for the primary outcome measures? | Yes/No/Don't know |

Internal validity criteria: b.1, b.2, e, f, g, h, I, j, l, n, p.
Descriptive criteria: a, c, d, k, m.1, m.2.
Statistical criteria: o, q.

### *Data extraction*

Two reviewers (RV, JvW) independently documented the following characteristics of each included study:

1. Study design.
2. Participants: inclusion and exclusion criteria; number of patients; sex; age; type of dementia and diagnostic instruments used; severity of the dementia and diagnostic instruments used; duration of the dementia; inpatients/outpatients; duration of institutionalization.

3. Psychosocial method: type of psychosocial support method in the experimental condition(s); type of psychosocial support in the control condition(s), features of methods (duration, frequency, setting).
4. Outcome measures/instruments (aggression, depression or apathy): instrument(s) used; timing of measurements; number of participants who completed the study in the experimental and control conditions; mean scores for experimental and control conditions; standard deviations in experimental and control conditions.
5. A short description of the results.

The documentations of the two researchers were compared and disagreements were resolved by discussion.

### *Data synthesis*

Owing to diversity in the features of the psychosocial methods and in outcome measures, it was not possible to pool the data for each type of method. Therefore a 'Best Evidence Synthesis' was conducted (see table 2.3) based upon those developed by Van Tulder et al. (2002) and adapted by Steultjens et al. (2002).

Table 2.3 Principles of Best Evidence Synthesis

| |
|---|
| **Evidence:** |
| Provided by consistent, statistically significant findings in outcome measures in at least two high quality RCTs. |
| ***Moderate evidence:*** |
| Provided by consistent, statistically significant findings in outcome measures in at least one high quality RCT and at least one low quality RCT or high quality CCT. |
| ***Limited evidence:*** |
| Provided by statistically significant findings in outcome measures in at least one high quality RCT |
| Or |
| Provided by consistent, statistically significant findings in outcome measures in at least two high quality CCTs (in the absence of high quality RCTs). |
| ***Indicative findings:*** |
| Provided by statistically significant findings in outcome measures in at least one high quality CCT or low quality RCT (in the absence of high quality RCTs) |
| ***No/Insufficient evidence:*** |
| If the number of studies that have significant findings is less than 50% of the total number of studies found within the same category of methodological quality and study design |
| Or |
| In case the results of eligible studies do not meet the criteria for one of the above stated levels of evidence |
| Or |
| In case of conflicting (statistically significantly positive and statistically significantly negative) results among RCTs and CCTs |
| Or |
| In case of no eligible studies |

The Best Evidence Synthesis is conducted by attributing various levels of evidence to the effectiveness of the psychosocial methods. The synthesis takes into account the design, the methodological quality and the outcomes of the studies.

### *Sensitivity analysis*

A sensitivity analysis was performed in order to identify how sensitive the results of the Best Evidence Synthesis are to changes in the way it was conducted. The Best Evidence Synthesis was repeated in two different ways, using the following principles:

- Low quality studies were excluded.
- Studies were rated 'high-quality' if they at least met 4 criteria of internal validity (instead of 6).
- The results of the altered syntheses were then compared with those of the Best Evidence Synthesis and the sensitivity of the method was described.

## Results

### *Selection of studies*

Application of the search strategy to the specified databases resulted in 3.977 hits. Based on titles and abstracts, the first author selected 189 studies which possibly met the four inclusion criteria. Table 2.4 shows the number of studies that each database contributed.

A total of 177 studies were tracked down by library services, contacting authors of studies, contacting authors of other reviews and by contacting the Cochrane Dementia and Cognitive Improvement Group. Despite these activities, 12 studies could not be retrieved. Four of these studies investigated the effects of validation (Buxton, 1996; Esperanza, 1987; Pretczynski et al, 2002; Snow, 1990), two studied the effects of psychotherapy (Burns, 2000; Marino-Francis, 2001), two the effects of Multi-Sensory Stimulation (Creany, 2000; Sansom, 2002), one the effects of reminiscence (McKiernan et al, 1990) and one the effects of behaviour therapy (Howard, 1999). Of the interventions in the other two studies (North of England Evidence Based Guideline Development Project, 1998; Sharp, 1993) it was not clear which psychosocial method they concerned.

Table 2.4 Results of database searches

| Source | Hits | Number of new possibly relevant studies |
|---|---|---|
| PubMed (1966 to 6 December 2002) | 535 | 51 |
| Cochrane (CENTRAL/CCTR, Cochrane 2002, issue 3 ) | 101 | 32 |
| Cochrane Database of Systematic Reviews (Cochrane 2002, issue 3 )<br>Hand search 4 reviews and 3 protocols | | 29 |
| PsychInfo (1872 to 2002 September week 1) | 130 | 34 |
| EMBASE (1990 to 2002 week 40) | 418 | 6 |
| CINAHL (1982 to 2002 August week 5) | 152 | 6 |
| INVERT (1993 to Autumn 2002) | 16 | 2 |
| NIVEL full catalogue | 37 | 4 |
| Cochrane Specialized Register CDCIG (CENTRAL/CCTR, Cochrane 2002, issue 4) | 2580 | 8 |
| SIGLE (1980-2002/6) | 8 | - |
| Other | | 12 |
| Cochrane Database of Abstracts of Reviews of Effectiveness (Cochrane 2002, issue 4)<br>Hand search 5 reviews<br>Hand search 17 reviews found in search PubMed, PyscInfo, EMBASE, CINAHL and other sources | | 5 |
| **Total** | **3977** | **189** |

The 177 studies were independently assessed on the four inclusion criteria by the first two authors. The evaluations of the two authors were compared for all four inclusion criteria which showed a consensus on 79% of the evaluations. After discussion all disagreements were resolved. Twenty-three of the 177 articles fulfilled all four inclusion criteria. Of these articles eight described the same four studies; these were combined. This left us with a total of 19 studies to be included in the review. Of the 154 excluded studies, 89 were excluded because they did not meet one of the four selection criteria: 33 did not use a control group or a cross-over design, 21 studies did not use the formulated outcome measures, 17 did also include subjects that were not demented and 18 studies evaluated other methods than the 13 that were selected. Of the other 65 excluded studies, two were excluded because the articles did not contain a complete description (Brack, 1998; Ermini-Fünfschilling et al, 1995). Sixty-three studies did not meet more than two of the selection criteria.

**Data-extraction and quality assessment**

This section describes the features of each study and the rating of their methodological quality. The description includes the items mentioned in the Methods section about data-extraction as far as they were described in the articles. Table 2.5 contains an overview of the main characteristics of the included studies. The text following table 2.5 describes the more precise content of the psychosocial methods, the control groups(s) that were used and the results of each study.

*Validation integrated emotion-oriented care*

Four studies into the effects of validation were included in the review. Validation aims to restore self-worth and reduce stress by validating emotional ties to the past (APA, 1997).

The first included study, reported by Finnema et al. (1998, 2000) and Dröes et al. (1999), investigated the effects of Integrated Emotion-Oriented Care on depression, aggression and apathy on nursing home residents in the Netherlands. Integrated emotion-oriented care is a combination of methods and techniques from emotion-oriented approaches, based on the needs of the resident in question. The method mainly consists of validation, supplemented by other emotion-oriented methods (see table 2.1). Participants in the experimental group received 24-h Emotion-Oriented Care for 7 months by trained nursing assistants. Participants in the control group received usual nursing home care. Finnema et al. and Dröes et al. did not find significant changes in the depression, aggression or apathy scores of the participants who received Emotion-Oriented Care or in participants that received usual care.

The second study that measured the effects of validation was conducted by Toseland et al. (1997) and investigated the effects of structured Validation Therapy group sessions on depression, aggression and apathy of nursing home residents in the United States. Participants in the experimental group received structured Validation Therapy group sessions of 30 minutes, four times a week, during a period of one year. There were two types of control groups. The first control group received Social Contact group sessions with the same intensity as the experimental group received Validation Therapy group sessions.

Table 2.5 Characteristics of included studies (E=Experimental group, C=Control group)

| **Treatment type and first author** | **Quality** | **Design** | **Participants (N; sex; age)** | **Participants (Type and severity dementia)** | **Outcome measures** | **Results** [1)] |
|---|---|---|---|---|---|---|
| Validation, Finnema et al., 1998; 2000, Dröes, 1999 | High | RCT | N completers=146 (67 exp; 79 contr.)<br>Female n=118<br>Male n=28<br>Age exp M=83,8 SD 5.3<br>Age contr. M=83,6 SD 5.8 | 107 Alzheimer's Disease<br>29 Dementia Syndrome<br>8 Alzheimer's and Vascular<br>2 Amnestic Syndrome<br><br>Severity dementia (GDS-score)<br>Mild n=7<br>Moderate-Severe n=69<br>Severe-Very severe n=70 | *Apathy:*<br>-Behavioural Assessment Scale for Intramural Psychogeriatrics (BIP)_Subscale apathy<br>-Dutch Assessment Scale for Elderly Patients (ASEP)_Subscale inactivity<br>*Depression:*<br>-Cornell Scale for Depression in dementia<br>*Aggression:*<br>-Cohen-Mansfield Agitation Inventory (CMAI)_Subscales verbally and physically aggressive behaviours<br>-Dutch Assessment Scale for Elderly Patients (ASEP)_Subscale aggression | *Apathy:*<br>No significant changes<br>*Depression:*<br>No significant changes<br>*Aggression:*<br>No significant changes |

*-table 2.5 continued I-*

| **Treatment type and first author** | **Quality** | **Design** | **Participants (N; sex; age)** | **Participants (Type and severity dementia)** | **Outcome measures** | **Results** [1)] |
|---|---|---|---|---|---|---|
| Validation, Toseland et al., 1997 | High | RCT | N (baseline)=88<br>Female n=66<br>Male n=22<br>Age exp M=87.8 SD 6.0<br>Age contr.1 M=87.3 SD 6.12<br>Age contr.2 M=87.8 SD 7.6 | At least moderate level of dementia (MDS)<br><br>Cognitive functioning (errors SPMSQ):<br>Errors exp. M=7.4 SD=2.1<br>Errors contr.1 M=7.5 SD=2.8<br>Errors contr.2 M=7.2 SD=3.0 | *Apathy:*<br>-Multidimensional Observation Scale for Elderly Subjects (MOSES)_Subscale withdrawn behaviour<br>*Depression:*<br>-Multidimensional Observation Scale for Elderly Subjects (MOSES)_Subscale depression<br>*Aggression:*<br>-Cohen-Mansfield Agitation Inventory (CMAI)_Subscales verbally aggressive behaviour (VAB) and physically aggressive behaviour (PAB) | *Depression:*<br>Sign. difference after 1 year between validation therapy group (VT) and social contact group (SC), caused by increased depression scores of SC. No sign. differences between VT and usual care group (UC)<br>*Aggression*<br>According to nursing staff assessment: Sign. changes in PAB after 3 months and 1 year. Sign. lower VAB-scores after 1 year for both VT and SC.<br>According to nonparticipant observers: No sign. changes in PAB. Sign. lower VAB scores for SC |

*-table 2.5 continued II-*

| **Treatment type and first author** | **Quality** | **Design** | **Participants (N; sex; age)** | **Participants (Type and severity dementia)** | **Outcome measures** | **Results** [1)] |
|---|---|---|---|---|---|---|
| Validation, Schrijnemaekers, 2002 | Low | CCT | N (baseline)=151<br>Female=136<br>Male=15<br>Age exp. M=84.3<br>SD=5.5<br>Age contr. M=85.9<br>SD=5.6 | Moderate to severe cognitive impairment (MMSE score)<br>score exp. M=10.8<br>SD=5.1<br>score contr. M=11.3<br>SD=5.1 | *Apathy:*<br>-Dutch Behaviour Observation Scale for Psychogeriatric Inpatients (GIP)_Subscale apathetic behaviour<br>*Aggression:*<br>-Cohen-Mansfield Agitation Inventory (CMAI)_Subscales verbally and physically aggressive behaviours | *Apathy:*<br>No significant changes<br>*Aggression:*<br>No significant changes |
| Validation/ Reality Orientation, Scanland et al., 1993 | Low | CCT | N (completers)=34<br>Age M=76.8 (≥60) | Presence of confusion (MMSE≤24) | *Depression:*<br>Modified Beck Depression Inventory | *Depression:*<br>No significant changes |
| Reality Orientation, Spector et al., 2001 | Low | RCT | N (baseline)=35<br>Age M=85.7 SD=6.7 | Dementia according to DSM-IV criteria<br>Ability to communicate and understand communication (CAPE score 1 or 0 on questions 12 and 13) | *Depression:*<br>Cornell Scale for Depression in Dementia (CSDD) | *Depression :*<br>Significant differences in pre-/post change scores |

*-table 2.5 continued III-*

| **Treatment type** | **Quality** | **Design** | **Participants** | **Participants (Type and** | **Outcome measures** | **Results** [1)] |
|---|---|---|---|---|---|---|

| **and first author** | | | **(N; sex; age)** | **severity dementia)** | | |
|---|---|---|---|---|---|---|
| Reality Orientation, Hanley et al., 1981 | Low | RCT | N (completers)=57<br>Hospital residents of long-stay psychogeriatric unit (n=41)<br>Residents old peoples home (n=16)<br><br>Female n=53<br>Male n=4 | Senile dementia n=39<br>Arteriosclerotic dementia or Cerebral arteriosclerosis n=9<br>Alcohol related dementia n=2<br>Korsakoff n=1<br>No diagnosis n=6<br><br>Severity of dementia (Koskela test)<br>Hospital residents psychogeriatric unit<br>Mild=7%<br>Moderate=27%<br>Grave=25%<br>Nursing home residents<br>Mild=20% Moderate=55% Grave=25% | *Apathy:*<br>Geriatric Rating Scale (GRS)_Subscale withdrawn/apathy | *Apathy:*<br>No significant changes |
| Reality Orientation, Baldelli et al., 1993 | Low | CCT | N (baseline)=23<br>Female n=23<br>Male n=0<br>Age M=84.5 SD=6.4 | Senile Alzheimer's Disease n=23<br><br>MMSE ≥10 and ≤24 | *Depression:*<br>Geriatric Depression Scale (GDS) | *Depression:*<br>No significant changes |

*-table 2.5 continued IV-*

| **Treatment type and first author** | **Quality** | **Design** | **Participants (N; sex; age)** | **Participants (Type and severity dementia)** | **Outcome measures** | **Results** [1)] |
|---|---|---|---|---|---|---|

| | | | | | | |
|---|---|---|---|---|---|---|
| Reality Orientation, Ferrario et al., 1991 | Low | CCT | N (completers)=19<br>Female n=11<br>Male n=8 | MMSE >18 and <24 | *Apathy:*<br>-Multidimensional Observation Scale for Elderly Subjects (MOSES)_Subscale withdrawn behaviour<br>*Depression:*<br>- Multidimensional Observation Scale for Elderly Subjects (MOSES)_Subscale depression | *Apathy:*<br>Significant lower apathy scores than at pretest<br><br>*Depression:*<br>No significant changes in depression scores |
| Multi-Sensory Stimulation/ *Snoezelen* Baker et al., 2001 | High | RCT | N (baseline) =50<br>Female n=25<br>Male n=25<br>Age M=78 (≥60) | Alzheimer's Disease n=33<br>Vascular Dementia n=7<br>Mixed n=10<br>(psychiatrist and CAMDEX)<br><br>MMSE<br>Score exp. M=11.0<br>SD=6.5<br>Score contr. M=6.1<br>SD=5.1 | *Apathy:*<br>INTERACT_Short<br>(differences in the amount of interaction at 10 minutes before each session and at 10 minutes after each session) | *Apathy:*<br>Significant interaction effect on 'attentiveness to the environment' |

*-table 2.5 continued V-*

| **Treatment type and first author** | **Quality** | **Design** | **Participants (N; sex; age)** | **Participants (Type and severity dementia)** | **Outcome measures** | **Results** [1)] |
|---|---|---|---|---|---|---|
| Multi-Sensory Stimulation/ *Snoezelen,* Kragt et al., 1997, Holtkamp et al., 1997 | High | Rcross-Over | N (baseline)=16<br>Female n=15<br>Male n=1<br>Age M=86 <78,97> | Diagnosis dementia (MMSE) | *Apathy:*<br>-Dutch Behaviour Observation Scale for Psychogeriatric Inpatients (GIP)_Subscale apathetic behaviour | *Apathy:*<br>Significant effect on apathy |
| Multi-Sensory Stimulation/ *Snoezelen,* Robichaud et al., 1993 | High | RCT | N (completers)=40<br>Age M=78.4<br><66,88> | Dementia according to DSM-III-R<br><br>Modified MMSE score ≤75<br>Physically able to attend the sessions | *Depression:*<br>-Revised Memory and Behaviour Problems Checklist (RMBPC)_Subscale depression | *Depression:*<br>No significant effect |
| Reminiscence, Goldwasser et al., 1987 | Low | RCT | N (completers)=27<br>Female n=20<br>Male n=7<br>Age M=82.3<br><70,97> | Clinical diagnosis of dementia:<br>Alzheimer's Disease n=6<br>Multi-infarct n=11<br>Dementia secondary to a medical disorder n=10<br><br>MMSE score M=10.4<br><1,22> | *Depression:*<br>Beck depression Inventory | *Depression:*<br>Significant lower self-reported depression score at posttest.<br>Note: Reminiscence group participants had higher depression scores at baseline than the 2 control groups |

*-table 2.5 continued VI-*

| **Treatment type and first author** | **Quality** | **Design** | **Participants (N; sex; age)** | **Participants (Type and severity dementia)** | **Outcome measures** | **Results** [1)] |
|---|---|---|---|---|---|---|

| | | | | | | |
|---|---|---|---|---|---|---|
| Reminiscence, Namazi et al., 1994 | Low | CCT | N (completers)=15<br>Female n=15<br>Male n=0<br>Age M=81.5 SD 3.6 | Alzheimer's disease n=15<br><br>MMSE<br>Score exp. M=13.4<br>SD=4.9<br>Score contr.1 M=12.6<br>SD=3.9 | *Apathy:*<br>Verbal responses during session_'Related responses <5 or >5 words' and 'Unrelated responses <5 or >5 words' | *Apathy:*<br>No significant changes |
| Psychomotor Therapy, Hopman-Rock et al., 1999 | High | RCT | N (baseline)=92<br>Female n=87<br>Male n=5<br>Age exp. M=83.8<br>SD=5.8<br>Age contr. M=84.2<br>SD=5.6 | Cognitive impairment (CST-14 maximum score=14)<br>Score exp. M=11.5<br>SD=3.3<br>Score contr. M=11.5<br>SD=5.7 | *Apathy:*<br>-Dutch Behavioural Observation Scale for Intramural Psychogeriatry (BIP)_Subscale apathetic behaviour<br><br>*Depression:*<br>-Dutch Behavioural Observation Scale for Intramural Psychogeriatry (BIP)_Subscale depression | *Apathy:*<br>No significant changes<br><br>*Depression:*<br>No significant changes |

*-table 2.5 continued VII-*

| **Treatment type and first author** | **Quality** | **Design** | **Participants (N; sex; age)** | **Participants (Type and severity dementia)** | **Outcome measures** | **Results** [1)] |
|---|---|---|---|---|---|---|
| Psychomotor Therapy, Dröes, 1991 | High | RCT | N (baseline)=43<br>Female n=36<br>Male n=7<br>Age M=84.2<br>SD=5.39 | Diagnosis probable dementia of Alzheimer type (DSM-III-R)<br>MMSE score M=12.7<br>SD=4.16 | *Apathy:*<br>-Dutch Behaviour Observation Scale for psychogeriatric Inpatients GIP_Subscale apathetic behaviour<br>*Depression:*<br>-Dutch Depression list<br>*Aggression:*<br>-Dutch Beoordelingsschaal voor Oudere Patiënten [*Assessment Scale for Elderly Patients]* (BOP)_Subscale aggression | *Apathy:*<br>No significant changes.<br>*Depression:*<br>No significant changes.<br>*Aggression:*<br>Significantly lower aggression scores in subgroup of patients with more functional disorders than in this type of patients in the control group |
| Skills Training, Meier et al.,1996 | Low | CCT | N (completers)=53<br>Female=34<br>Male=19<br>Age exp. M=74.7<br>SD=8.7<br>Age contr. M=75.6<br>SD=7.2 | Alzheimer's Disease (NINCDS-ADRDA) n=28<br>Vascular Dementia (NINDS-AIREN) n=25<br>MMSE score<br>Score exp. M=24.7<br>SD=2.9<br>Score contr. M=24.6<br>SD=3.2 | *Depression:*<br>-Geriatric Depression Scale | *Depression:*<br>No significant changes |

*-table 2.5 continued VIII*

| **Treatment type and first author** | **Quality** | **Design** | **Participants (N; sex; age)** | **Participants (Type and severity dementia)** | **Outcome measures** | **Results** [1)] |
|---|---|---|---|---|---|---|
| Behaviour Therapy, Teri et al., 1997 | High | RCT | N (completers)=72<br>Female n=34<br>Male n=38<br>Age M=76.4 SD=8.2 | Probable Alzheimer's Disease (NINCDS-ADRDA criteria)<br><br>MMSE score M=16.5 SD=7.4 | *Depression:*<br>-Hamilton depression Scale<br>-Cornell Scale for Depression in Dementia<br>-Beck Depression Inventory | *Depression:*<br>Significantly lower depression scores in both experimental groups after 9 weeks intervention period and after 6 months follow-up |
| Art Therapy, Wilkinson et al., 1998 | Low | CCT | N (completers)=15<br>Female n=10<br>Male n=5<br>Age exp. M=79.6<br>Age contr. M=80 | Consultant diagnosis of dementia (DSM-IV) | *Depression:*<br>-Cornell Scale for Depression in Dementia | *Depression:*<br>No significant changes |
| Gentle Care, Bråne et al., 1989 | Low | CCT | N (baseline)=26<br>Age exp. M=83.5 SD=5.3<br>Age contr. M=81.5 SD=5.3 | Patients in the experimental group were demented according to their MMSE-score (Folstein et al., 1975). | *Apathy:*<br>Depression in Dementia Scale_Subscale withdrawal<br>*Depression:*<br>Depression in Dementia Scale_Subscale depressed mood | *Apathy:*<br>Significant changes in withdrawal change scores<br>*Depression:*<br>No significant changes |

[1)] Significant results are in favour of the experimental group, unless otherwise stated. Only results concerning apathetic, depressive or aggressive behaviour are mentioned

The second control group continued to participate in regular social and recreational programs. The Validation Therapy group sessions and Social Contact group sessions were facilitated by trained group leaders who had bachelor's degrees and previous experience with nursing home residents.
Toseland et al. found that the first control group (Social Contact group) had higher depression scores at post-test than at baseline, while the scores of the Validation Therapy and the Usual Care groups had not changed.
According to blinded nursing staff assessment after three months and one year, the Validation Therapy group participants were physically less aggressive than the two control groups. After one year, verbally aggressive behaviour was reduced significantly in both the Validation Therapy group and the Social Contact group. However, the reduced physically and verbally aggressive behaviours were only reported by the nursing staff and were not confirmed by the blinded nonparticipant observers.

The third validation study included, reported by Schrijnemaekers (2002), investigated the effects of integrated emotion-oriented care on aggression and apathy of residents in homes for the aged in the Netherlands. The experimental group received 24-h Integrated Emotion-Oriented Care during a period of 8 months by professional caregivers of the nursing homes, while the control group received regular nursing care. Schrijnemaekers found no significant differences in the pre-/post change scores of the experimental and control groups.

*Validation/Reality orientation*
The fourth study on validation is also the first included study on the effects of reality orientation, and was performed by Scanland et al. (1993) among nursing home residents in the United States. The aim of reality orientation is to redress cognitive deficits (APA, 1997). In classroom reality orientation, a prepared instructor reviews facets of reality with a small group of confused people. The first experimental group received Validation Therapy group sessions for 30 minutes, 5 times a week, for 4 months. The second experimental group received Reality Orientation group sessions with the same intensity as the Validation Therapy. A third group formed the control group and received no formal therapy. Both the Reality Orientation group sessions and the Validation Therapy group sessions were conducted by the same registered nurse, who had a background in group psychotherapy. Scanland et al. measured the effects on depression but found no significant pre-/ post change scores in the experimental groups or the control group.

*Reality orientation*
The second included reality orientation study, reported by Spector et al. (2001), investigated the effects of reality orientation on depression among nursing home

residents in the United Kingdom. The experimental group received 15 sessions of Structured Reality Orientation Group Therapy, each session lasted 45 minutes. The groups were facilitated by a member of the research team with a staff member from the home/center as co-facilitator. The control group received usual care. Spector et al. found significant differences in the pre-/post change scores of the experimental and the control group, in favor of the experimental group.

The third study on the effects of reality orientation was performed by Hanley et al. (1981) to establish the effects on apathy among residents of a long-stay psychogeriatric unit of a hospital, and residents of an old peoples home in the United Kingdom. The experimental groups received half an hour Classroom Reality Orientation, four times a week for 12 weeks by a therapist. The control groups received usual care. Hanley et al. found no significant differences in the apathy change scores of the experimental and the control group.

The fourth study on the effects of reality orientation was conducted by Baldelli et al. (1993) among institutionalized people with Alzheimer's Disease in Italy. The experimental group received formal Classroom Reality Orientation Therapy for 1 hour, 3 times a week, during a period of 3 months. The control group received usual care. Baldelli et al. measured the effects on depression but found no significant changes in the scores of the experimental and control group.

The fifth included study on the effects of reality orientation, reported by Ferrario et al. (1991), investigated the effects on depression and apathy among institutionalized psychogeriatric patients in Italy. The experimental group received formal Classroom Reality Orientation Therapy for 1 hour, 5 times a week, for 24 weeks by a therapist. The control group received usual care. The apathy scores in the experimental group were significantly lower than at pretest, while the scores in the control group had not changed. There were no significant changes in the depression scores.

*Multi-Sensory Stimulation/Snoezelen*

The aim of Multi-Sensory Stimulation/ *snoezelen* is to maintain or improve contact with demented people and to improve their well-being by positive stimulation of their senses (visual, auditory, tactile, olfactory and gustatory stimulation). The first included study on the effects of Multi-Sensory Stimulation was conducted by Baker et al. (2001) among people living at home with their primary caregiver and attending a hospital day center in the United Kingdom. People in the experimental group received 1:1 Multi-Sensory Stimulation sessions in a Multi-Sensory Stimulation room for 30 minutes, twice weekly, for 4 weeks. The control group attended 1:1 Activity Therapy sessions for 30 minutes, twice weekly, for 4 weeks. The sessions were conducted by two teams of 'keyworkers', which consisted of a member of staff from

the day hospital, an occupational therapist or a psychology assistant. Baker et al. found that the experimental group had a significantly greater increase in attentiveness to their environment than the control group. Both groups showed significant improvements after the sessions in the following areas indicating the level of apathy: 'spontaneous speech', 'relating to people', 'doing more from own initiative', 'active or alert' and 'less bored, inactive'.

The second study into Multi-Sensory Stimulation is a randomized cross-over study, reported by Kragt et al. (1997) and Holtkamp et al. (1997), on the within session effects on apathy among nursing home residents in the Netherlands. The experimental method consisted of 1:1 Snoezel sessions of half an hour to an hour, for three successive days, by an activity therapist. The control method consisted of staying in the living room and receiving usual care. Participants received either the experimental method or the control method first. Between the conditions was a wash-out period of 4 days. Kragt et al. and Holtkamp et al. found that participants were significantly less apathetic in the experimental condition than in the control condition.

The third included study on the effects of Multi-Sensory Stimulation was conducted by Robichaud et al. (1994) and measured the effects on depression of nursing home residents and residents of a hospital for long-term care in Canada. The experimental group followed a Sensory Integration Group program for 30 to 45 minutes, 3 times a week for 10 weeks provided by the first author, a doctoral student of gerontology and geriatrics. The Sensory Integration sessions also contained Reality Orientation and Cognitive Stimulation. The control group took part in the usual leisure activities of their institution. Robichaud et al. found no significant differences in the depression change scores between the experimental and control group.

*Reminiscence*

Two studies that were included in the review investigated the effects of reminiscence. The aim of reminiscence is to stimulate memory and mood in the context of the patient's life history (APA, 1997). The first study, reported by Goldwasser et al. (1987), measured the effects of Reminiscence Therapy Group sessions on depression among nursing home residents in the United States. The experimental group received Reminiscence Group Therapy sessions of 30 minutes, twice weekly for five weeks. There were 2 control groups. The first control group attended Support Group sessions that focused on present and future events and problems for half an hour, twice weekly, for 5 weeks. The second control group received usual care. The facilitators for the experimental and the first control group were a graduate student in clinical psychology and a social worker. The experimental group had lower self-reported depression change scores than the control groups. It is to be noted that the

experimental group was significantly more depressed at baseline than the control groups.

The second study on reminiscence was conducted by Namazi and Haynes (1994) and investigated the effects of Sensory Reminiscence on apathy among nursing home residents in the United States. The experimental group attended Sensory Reminiscence Group sessions of 30 minutes, 3 times weekly for 4 weeks. The sensory-stimulation part consisted of colored photographs of objects and sounds related to the objects. Participants in the control group attended discussion sessions in which the events of the day and future times were discussed, without the aid of sensory stimuli for 30 minutes, 3 times a week, for 4 weeks. Both groups were led by a trained instructor. Namazi and Haynes found no significant differences between the experimental group and the control group.

*Psychomotor therapy*

Two studies into the effects of psychomotor therapy were included. The aim of psychomotor therapy is to help people with dementia to cope with the changes they encounter as a consequence of their disease. Sporting activities and games are used to stimulate cognitive and psychosocial functions (Dröes, 1991). The first study was performed by Hopman-Rock et al. (1999) and measured the effects of psychomotor therapy on apathy and depression among cognitive impaired residents of homes for the elderly in the Netherlands. The experimental group attended Psychomotor Activation Program Group sessions provided by trained activity therapists. They were offered the opportunity to participate in the sessions twice a week, for 6 months. Participants were included in the analysis when they had attended at least 15 sessions during this period. The control group participated in usual activities. Hopman-Rock et al. found no significant changes in the scores of the experimental or the control group.

The second study on the effects of psychomotor therapy, reported by Dröes (1991), investigated the effects of Psychomotor Therapy on depression, aggression and apathy among nursing home residents in the Netherlands. The experimental group attended Psychomotor Therapy group sessions of 45 minutes, 3 times a week during 11 months. The sessions were conducted by a graduate (the author) and a doctoral student Human Movement Sciences. The participants in the control group attended Activity Group sessions with the same intensity. Dröes found significantly lower aggression scores after the psychomotor therapy in patients with more functional disorders (PADL<44) than in this type of patients in the control group.

*Skills Training*

One included study researched the effects of skills training on people with dementia. The aim of (cognitive) skills training is to redress cognitive deficits (APA, 1997), by activating remaining cognitive functions. It is often conducted in a classroom setting. This Swiss study performed by Meier et al. (1996) measured the effect of cognitive skills training on depression. The participants were living at home with their primary caregiver and were attending a memory clinic. The experimental group received Cognitive Skills Training in groups of 8/9 persons, for 60 minutes, once weekly, during 4 quarters. Some of the people in the control group were on a waiting list for receiving Cognitive Skills Training. Others lived too faraway to attend the sessions. The control group received no treatment. Meier et al. found no significant changes in the scores of the experimental and control groups.

*Behaviour Therapy*

One study on the effects of behaviour therapy was included. The aim of behaviour therapy is to reduce or improve behaviour by analyzing the situations in which the behaviour occurs and anticipate these situations. This study was conducted by Teri et al. (1997) and investigated the effects of Behaviour Therapy-Pleasant Events and Behaviour Therapy-Problem Solving on depressed Alzheimer patients, living at home with their primary caregivers in the United States. Two experimental groups and two control groups participated in the study. In the first experimental group, patients and their primary caregivers attended Behaviour Therapy-Pleasant Events for 1 hour, once weekly for 9 weeks, led by an experienced geriatrician. In the first 6 sessions patients and primary caregivers learned how to reduce the patient's (and their own) depression by increasing pleasant events. The last 3 sessions covered strategies for identifying and confronting behavioural disturbances that interfered with engaging in pleasant events. In the second experimental group, patient and caregiver attended Behaviour Therapy-Problem Solving with the same intensity. The sessions in this program were also led by an experienced geriatrician. Behaviour Therapy-Problem Solving was designed to be more flexible than Behaviour Therapy-Pleasant Events by allowing caregivers more input into the content and flow of the program. The program did not have the focus on identifying and carrying out pleasant events but focused on problem-solving patient depression behaviours that were of specific concern to the caregiver. The first control group received Typical Care Control. In Typical Care Control the geriatrician gave suggestions and advice without specific problem solving or behavioural strategies with that intensity. The participants in the second control group formed a Waiting List group who had no contact with a geriatrician during the 9 weeks intervention period. They had been told that they would receive therapy after this period. Teri et al. found significantly lower depression scores in both experimental groups than at baseline and no significant changes in depression scores of the control groups. No significant differences between the two

experimental conditions were found. At the six month follow-up both experimental groups were still significantly less depressed than at baseline.

*Art therapy*
One study on the effects of art therapy was included in the review. Art therapy (e.g. music, dance, drama) provides stimulation and enrichment, and in this way can mobilize the patient's available cognitive resources (APA, 1997). This study, reported by Wilkinson et al. (1998), investigated the effects of Drama and Movement Therapy on depression in the United Kingdom. Participants were living at home and attending a psychiatric day hospital for the elderly. The experimental group attended a Drama and Movement Therapy group session of 45 minutes, once weekly for 12 weeks. The control group received the usual care of the day hospital. Wilkinson et al. found no significant changes in the scores of the experimental and control groups.

*Gentle care*
One included study measured the effects of gentle care, also called integrity promoting care, on people with dementia. The aim of gentle care is to create an atmosphere in which people with dementia feel safe, and in this way reduce feelings of fear and insecurity. Closeness, recognition and liberty are central concepts of gentle care (Buijssen, 1991). Bråne et al. (1989) measured the effects on apathy and depression of nursing home residents in Sweden. Residents in the experimental group received 24-h Integrity Promoting Care for 3 months from trained nursing staff. The control group received usual 24-h care. Bråne et al. found significant differences in the apathy change scores between the experimental and the control group. The experimental group showed less withdrawn behaviour than at baseline, while the control group showed more withdrawn behaviour.

**Data Synthesis**
Using the principles of the Best Evidence Synthesis (see Table 3), taking into account the design, methodological quality and outcomes of the studies, the following conclusions can be drawn.

*Apathy*
There is scientific evidence that people with moderate to severe dementia (MMSE 0-17) and high care dependency, are less apathetic when remaining in a Multi-Sensory Stimulation/*Snoezel* room than when receiving Activity Therapy or staying in the living room. The evidence comes from two studies with apathy as outcome measure, both with the same significantly positive findings. The studies were two high quality RCTs conducted by Baker et al. (2001) and Kragt et al./Holtkamp et al. (1997/1997).

*Depression*

There is limited scientific evidence that people with probable Alzheimer's Disease (NINCDS-ADRDA), meeting DSM-III-R criteria for major or minor depressive disorder, and living with their caregivers at home, are less depressed when their informal caregivers are trained in using Behaviour Therapy-Pleasant Events or Behaviour Therapy-Problem Solving than when a) their informal caregiver receives standard information from a therapist or when b) the informal caregiver does not receive any special training or information. The evidence comes from one study, conducted by Teri et al. (1997), with depression as outcome measure that shows significantly positive results. This study was an RCT that was rated as being of high methodological quality.

*Aggression*
There is limited scientific evidence that people living in nursing homes who meet DSM-III-R criteria for probable Alzheimer's Disease, who are mobile (including wheelchair), who are support-dependent or slightly care dependent (BOP 0-6) but are relatively highly functionally disordered (PADL<44) are less aggressive when following Psychomotor Therapy groups than when following Activity Groups. The evidence comes from one study with aggression as an outcome measure that shows significantly positive results. This study, conducted by Dröes (1991), was an RCT that was rated as being of high methodological quality.

There is no evidence that Multi-Sensory Stimulation/*Snoezelen*, Behaviour Therapy-Pleasant Events, Behaviour Therapy-Problem Solving or Psychomotor Therapy also have positive effects on the other outcome measures that were subject of this review. For Validation Therapy, Reality Orientation Therapy, Activity/Recreational Therapy, Reminiscence Therapy, Skills Training, Art Therapy, Gentle Care, Passivities of Daily Living, Supportive Psychotherapy and Simulated Presence Therapy, there is no or limited evidence that they have positive effects on either apathetic, depressed or aggressive behaviours of people with dementia.

**Sensitivity analysis**
The results of the data synthesis appeared not to be sensitive to the principles used in the Best Evidence Synthesis. The results remained the same when the analysis was repeated with low quality studies excluded and when studies were rated to be of 'high-quality' if 4 or more criteria of internal validity were met.

## Conclusion and discussion

The main results of this review are that: 1) there is some evidence that Multi-Sensory Stimulation or *snoezelen* in a Multi-Sensory room reduces apathy in people in the latter phases of dementia, 2) there is scientific evidence, although limited, that Behaviour Therapy-Pleasant Events and Behaviour Therapy-Problem Solving reduce

depression in people with probable Alzheimer's disease who are living at home with their primary caregiver, 3) there is also limited evidence that Psychomotor Therapy Groups reduce aggression in a specific group of nursing home residents diagnosed with probable Alzheimer's disease. The evidence comes from a maximum of two high quality RCTs that arrive at the same positive results.

The systematic review as described has some limitations. In the first place it was not possible to track down complete descriptions of 12 studies (see section 'Selection of studies'). If some of these studies should meet all four inclusion criteria the results of the review could be different. If, for example, the omitted studies on Multi-Sensory Stimulation were also to measure the effects on apathy, and these studies were not to find the same positive results as the included studies, there would be no scientific evidence left for Multi-Sensory Stimulation. Also, if one of the excluded studies were a randomized controlled trial of high methodological quality on a psychosocial method for which no studies were yet included, and with positive effects, there would also be limited scientific evidence for the effectiveness of this method. However, the odds that the results of the review would be different if the 12 studies had been included are small. Of the 12 not-included studies four measured the effects of validation. Looking at the method of Best Evidence Synthesis, these studies can no longer influence the results of the review, because of the lack of significant findings in the studies already included. The other eight studies were on: psychotherapy, Multi-Sensory Stimulation, reminiscence, behaviour therapy and two as yet unclear psychosocial methods. If the percentage of the studies that meet all four inclusion criteria is comparable with that of the studies already included (14%), only one of these 8 studies would be included.

Another limitation of the review is that the included studies were classified into one of 13 psychosocial approaches according to their main principles. While the main principles of the methods are similar, the specific content and intensity of the methods classified into one approach could sometimes be quite different. In the validation group, for example, studies were included that measured the effects of 24-h integrated emotion-oriented care and studies that measured the effects of validation therapy group sessions. The more specific content and intensity of the methods in some cases might play a larger role than the main principles. Moreover, the measurement instruments used to measure the effects of a psychosocial approach on, for example, apathy could differ between specific methods. If the Best Evidence Synthesis is repeated with some subdivisions of methods that belong to an approach, this however does not change the results. And when looking more closely at the measurement instruments used for apathy in the Multi-Sensory Stimulation studies, these are comparable.

Another point related to the focus on 13 types of psychosocial interventions, is that studies into other (possibly effective) interventions are not being described. The reason to limit the study to these interventions was however the possibility to combine their results. Inclusion of all psychosocial methods would have made this impossible.

A substantial limitation of the review would be if not all existing studies into the effectiveness of the 13 psychosocial methods on reducing depressive, aggressive and apathetic behaviours of people with dementia would have been considered for inclusion. The search in ten different databases in combination with screening relevant other reviews (n=22) gives us confidence that the relevant studies have been considered.

In conclusion, it seems noteworthy that until now 1) the number of studies of sufficient scientific quality on the effectiveness of psychosocial methods in dementia care is rather limited, though there are some convincing examples of high quality research and 2) treatments based on a non-cognition oriented theory seem to produce the most promising results. Multi-Sensory Stimulation or *snoezelen*, Behaviour Therapy-Pleasant Events and Behaviour Therapy-Problems Solving are all methods that aim to improve the patients' well-being and to fit the individual needs of demented patients. However, other psychosocial methods, such as validation, integrated emotion-oriented care or gentle care, do have comparable goals. There might be several reasons why there is, until now, no or only limited evidence (Toseland et al, 1997; Bråne et al, 1987) for the effectiveness of these methods for as far as reduction of depression, apathy and aggression are concerned: lack of sufficient high quality scientific research (e.g. in the case of gentle care), the heterogeneity of the study population, the measurements used and the specific content of the method or the duration of the implementation period (Finnema, 2000). New scientific research is needed to get more insight into the effective elements of psychosocial methods used in the care for demented elderly with BPSD.

# 3 The implementation of snoezelen in psychogeriatric care

## An evaluation through the eyes of caregivers

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## Abstract

Many intervention studies lack an investigation of the extent to which the intervention was implemented as intended, which makes outcome measures difficult to interpret. The aim of the present study was to gain insight into the implementation process of *snoezelen* in 24-h dementia care. The intervention on each of six experimental wards comprised training sessions in '*snoezelen* for caregivers', evaluated using a questionnaire. To study experience with implementation, the follow-up and general meetings (20 in total) were attended and semi-structured interviews (6 in total) were conducted. The results indicated that the implementation of *snoezelen* effected a change from task-oriented care to resident-oriented care. The nursing assistants also experienced changes at the resident level and organisational changes. However, the lack of intervention in the organisational structure and obstructive factors such as understaffing seemed to get in the way of the integration of multi-sensory stimulation in the daily care in two of the six wards.

## Introduction

Dementia is a progressive and irreversible neurological disease that affects the physical, cognitive, behavioural and emotional domains of 1% of the Dutch population of 65 years and above. This rises to 40% among the 90-year-olds or those even older (Alzheimer Nederland, 2002). As a result of dementia, psychogeriatric nursing home residents gradually lose their verbal and nonverbal communicative abilities. *Snoezelen*, or multi-sensory stimulation, has become widely used in the last 15 years to improve residents' quality of life (Lancioni et al., 2002). Traditionally, *snoezelen* was applied in a special room with an array of equipment, offering multiple stimulation, covering all the sensory channels (i.e., a vibrating bed, soft comfortable furnishings, aroma steamers, spotlights, mirrors and music), both to stimulate and to relax (Noorden, 1999; Lancioni et al., 2002). In the present study, *snoezelen* was extended to the 24-h daily care. It can be defined as an integrated approach, applied by caregivers during daily care, which actively stimulates the senses by light, sound, smell and taste (Kok et al., 2000). The intent is to provide individualised, gentle sensory stimulation in a non-threatening environment without the need for higher cognitive processes, such as memory or learning. By incorporating personal circumstances such as lifestyle, preferences, desires and cultural diversity, *snoezelen* is tailored to the resident needs. Consequently, the application of *snoezelen* requires a resident-oriented attitude, knowledge and skills, allowing Certified Nursing Assistants (CNAs) to attend to residents' physical, emotional, social and spiritual needs, in order to achieve or maintain a state of well-being (Noorden, 1999). In the light of the concept of patient-centeredness, the caregivers do not restrict themselves to the 'disease of the resident', but orient themselves towards the 'resident with the disease'. The ultimate goal is the caregivers' understanding of the residents' real needs, preferences and wishes (Bensing, 2000).

The effects of *snoezelen* in long-term care are not well known (Chung et al., 2002). We are currently investigating the effects of *snoezelen* in long-term dementia care. Within this framework, it is important to know the factors that facilitated or hindered the implementation. Hence, the aim of this paper is to evaluate the implementation process of an integrated *snoezelen* approach in the 24-h daily care, delivered by CNAs. Many intervention studies lack an investigation and description of treatment process variables, although they allow researchers to understand which aspects of the intervention are successfully implemented (Finnema, 2000; Burgio et al., 2001; Schrijnemaekers et al., 2002). Without an accurate assessment of whether the intervention was delivered as intended, conclusions regarding outcome measures are questionable (Phillips, 1995; Burgio et al., 2001).
Generally, the implementation of interventions is preceded by training and followed by the introduction of the new care model in the ward. With respect to the training, insight is needed to measure the extent to which the training goals are reached. The effectiveness of the training may be affected by a number of factors, such as

characteristics of the programme (i.e., topics, exercises and duration) and the working environment (i.e., support from superiors and colleagues). The success of the learning process may also depend on complementary factors, such as the relationship with the teacher, sympathy and support among the participants and an intention to change behaviour after the training (Francke et al., 1995).

Taking a course is only the first step towards implementation. The introduction of a new care model requires permanent behaviour changes in caregivers. Positive changes in knowledge and skills do not automatically lead to actual behavioural changes. The step from 'knowing' and 'knowing how' to 'showing' is influenced by organisational and structural characteristics of the professional working environment (Kruijver, 2001). A combination of approaches appears to be the most effective way to achieve lasting change (Grol, 1999). Implementation can only be effective if it tackles obstacles such as disagreement with the content of the new care model, doubts about its feasibility in daily practice and reluctance from colleagues (Grol, 1997; Schers et al., 2001). Furthermore, organisational adjustments (i.e., creating organisational and structural conditions, restructuring the care processes, changing tasks, providing resources and support) may be necessary to maintain the change (Grol, 1999).

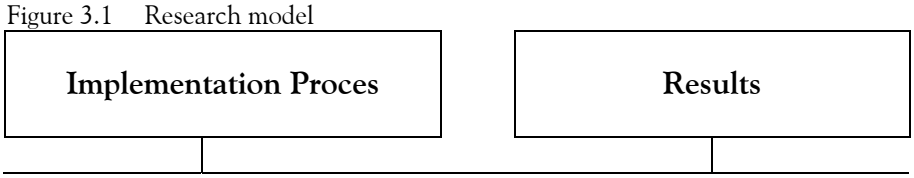
In conclusion, the effects of the implementation of a new care model, such as *snoezelen*, depend on different factors that may facilitate or hinder its implementation. This study, therefore, addressed the following research questions:

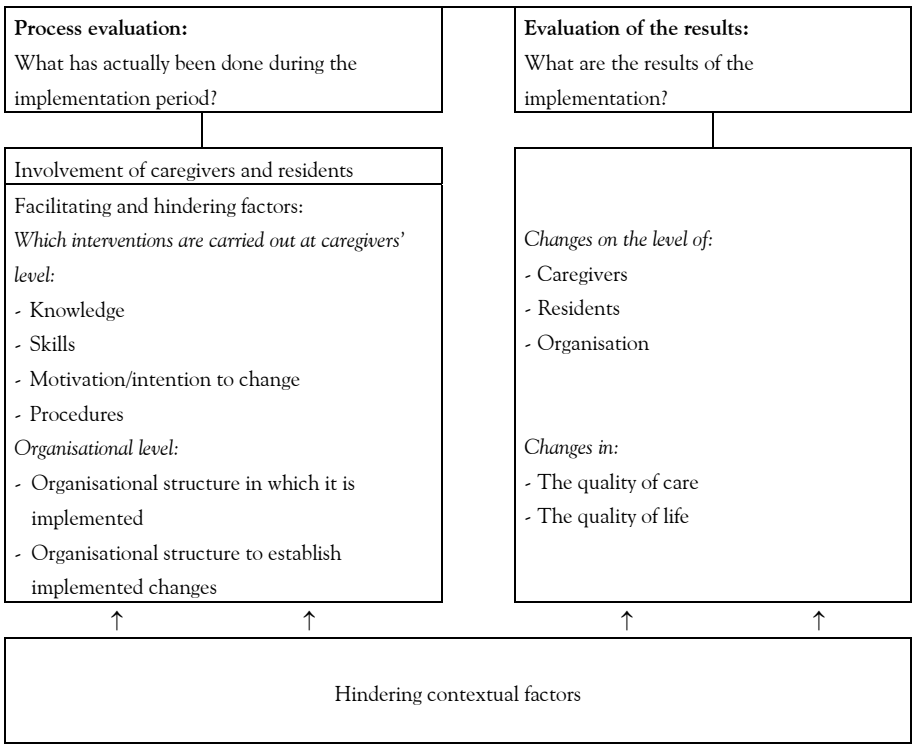
> *What factors facilitated or hindered the implementation of snoezelen in the experimental wards in the eyes of the caregivers?*
>
> *Do caregivers experience changes at the level of caregivers, residents and the organisation, as a result of the implementation of snoezelen in 24-h care?*

## Research model

The relationship between facilitating and hindering factors during the implementation period and changes resulting from the implementation is shown in figure 3.1.

Figure 3.1 Research model






The research model is adapted from the model for Implementation of Change in Health Care (ICHC-model) (Theunissen et al., 2003). In the process-evaluation, by analysing the interventions that were successfully executed, facilitating and hindering factors were identified. The absence of a facilitating factor may be considered to be a hindering factor (e.g., the lack of financial support might be an implementation barrier). Interventions during the implementation process were subdivided as interventions under:

- *Knowledge:* providing theoretical information;
- *Skills:* training caregivers to bring the theory in practice;
- *Motivation to change:* using motivational techniques, discussing the new care model and finding consensus within team-members;
- *Habits:* changing caregivers' behaviour and existing working styles;
- *Organisational structure in which the intervention is implemented:* adapting an existing structure or developing a new one;
- *Organisational structure needed to establish implemented changes:* making policy and making structural changes to guarantee the continuation of the implemented care model.

Further, we wanted to find out which contextual variables hindered the

implementation process and the results. In particular, characteristics of the working environment were studied.
With regard to the evaluation of the results, special attention was given to:

- *Changes in caregivers:* actual changes in the behaviour of caregivers;
- *Changes in residents:* actual changes in the behaviour of residents;
- *Organisational changes:* actual changes in the organisation of the care.

The final results 'changes in the quality of care' and 'changes in the quality of life' will be expanded upon in a separate study.

## Methods

### *Design of the study*

A quasi-experimental pre- and-post-test design was carried out. The study was performed at twelve psychogeriatric wards of six Dutch nursing homes. The homes included in the study had not yet implemented *snoezelen* in the daily care of their residents. Randomisation took place at the ward level. Six experimental wards implemented *snoezelen* in their 24-h care and were compared to six control wards that continued to give standard care. The implementation period lasted 18 months per ward in the period between January 2001 and February 2003.

### *Implementation process*

In short, the implementation process in the experimental wards consisted of the steps discussed in the following sections.

*Training*

The CNAs were trained in *snoezelen* by a qualified and experienced professional trainer of the Bernardus Centre of Expertise/Fontis. The in-house training comprised four, weekly, 4-h sessions. The main aims of the training were to improve the caregivers' knowledge and skills with regard to *snoezelen*, to dissipate reluctance, if necessary, and to motivate all team-members to implement the new care model in 24-h care (see box 3.1).

Box 3.1 Outline of the content of training in '*Snoezelen* for caregivers'.

**Day 1**
Introduction
Inventory of individual learning goals and reluctance
Definition of *snoezelen* and explanation of the concept of *snoezelen*
History of *snoezelen* in mentally handicapped care and psychogeriatrics
Video '*snoezelen* with nursing home residents suffering from dementia with video exercise
Sense organs / useful materials for sensory stimulation / which materials are present in the organisation

**Day 2**
Resident-oriented care
Video with video commissions
Demands of the ward / demands of CNAs / effects of *snoezelen*
The application of *snoezelen*:
- systematic observation of resident responses to *snoezelen* (10 x 1 h)
- use of a form for *snoezelen* observation
- how to draw up an individual *snoezel*plan, based on the observations
- how to put the *snoezel*plan in an integrated *snoezel* care plan

Case histories
Options on own ward

**Day 3**
Massage/therapeutic touch (adaptation)
Aroma therapy
Practice aroma therapy

**Day 4**
*Snoezelen* and attitude
Discussing case history homework (*snoezel* care plan of own resident)
Installation of study group
Evaluation

In total, 80 caregivers attended the training program, 70 of whom were team-members, i.e., CNAs (n=59), head nurses (n=6), nutrition assistants (n=2), activity therapists (n=2) and a student nurse (n=1). The other 10 participants were not formally supervised by the head nurse of the ward, i.e., activity therapists of a separate division (n=8), a care manager (n=1) and a clerical worker (n=1). On average, 11.7 team-members (range 11-13) participated in the training. Compliance to the training sessions was 92.5%.

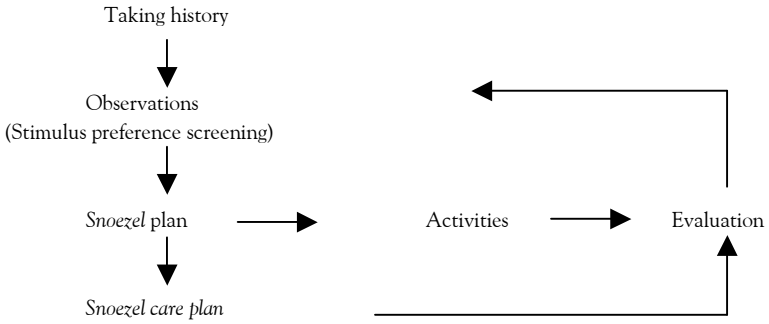
*Study group*

On the last day of training, a study group was started in each nursing home, usually comprising three CNAs, the head nurse and an activity therapist or co-ordinator in sensory stimulation. The aim of the study group was to evaluate the implementation process, adapted where necessary and to start new activities, appropriate to the needs of their own ward.

*Stimulus preference screening and snoezel (care) plan*

After the training, the caregivers started to use *snoezelen* in the 24-h care of the residents. Every trained CNA was matched to one resident. The CNA took a detailed history of the residents' life and preferences by interviewing family members. Then, stimulus preference screening was arranged to find out what stimuli the resident enjoy most (Lancioni et al., 2002). Therefore, the participating resident was observed during ten, weekly, 1-h sessions, according to the methodology acquired in the training. At the end of the observation period, the CNAs wrote an individual *snoezel* plan, based on the observations. The *snoezel* plan describes the residents' specific behaviours, e.g., anxiety, distress or aggression, and how to react on these behaviours (e.g., " Anxiety: mrs X is anxious when she goes to bed. Approach: Sit down on the bedside, stroke her cheek, hold her hand. Then, she will sleep soon"). Next, the *snoezel* plan was translated into the residents' *snoezel* care plan, in order to integrate the required approach into the Activities of Daily Life, in particular the morning care. Thereby, all other caregivers, including temporary employees, were informed as to how the resident should be approached to achieve, or maintain, an optimal state of well-being (e.g., how the resident has to be waked, how eye-contact can be used, whether the resident is capable of choosing her own clothes, whether the residents likes to be touched, whether aroma therapy, music, perfume or make-up can be used). Also the activities, carried out by activity therapists or other caregivers, are based on the stimulus preference screening and the *snoezel* plan. The *snoezel* plan, *snoezel* care plan and activities had to be evaluated and adapted regularly, preferably during interdisciplinary consultations. The methodology of systematic *snoezelen* is summarised in figure 3.2.

Figure 3.2 Methodology to integrate *snoezelen* into daily care




*Follow-up meetings*

During the implementation period of 18 months, the caregivers were offered three in-house follow-up meetings under the guidance of the same professional trainer. The aim of the follow-up meetings was to support the implementation of *snoezelen* in daily care. The observations of the residents' reactions to sensory stimulation were discussed and the development of integrated care plans, based on the observations, was evaluated and supported. The caregivers also received (video-) exercises and feedback.

In addition, there were two general meetings, attended by three representatives of each nursing home (e.g., head nurses, care managers). The aim of these meetings was to support the implementation of *snoezelen* at the organisational level. In the first meeting, the participants received theoretical information about implementation barriers and learned how to write a long-term implementation plan. In the second meeting, they had to present the implementation plans to each other. In both meetings there were subgroup discussions about implementation problems, introduced by the organisation itself.

***Measuring instruments***

Data collection was carried out using a questionnaire about the training, interviews about the implementation and attending the follow-up meetings, also regarding implementation.

*Questionnaire*

In order to identify the extent to which training objectives has been achieved, the trainees completed a questionnaire at the end of the program. The questionnaire, developed by the Bernardus Centre of Expertise/Fontis, included questions from the IKN (Integraal Kankercentrum Noord Nederland), to measure nurses' opinions about the training program (Kruijver, 2001). The following points were considered to be decisive factors in effecting changes in knowledge, skills and motivation:

- content of the training (10 items; eight yes/no questions and two open questions);
- the professional competence of the trainer (four items; all 5 point Likert type questions, varying from 1 'not' to 5 'very/a lot');
- the atmosphere during the training sessions (two items; both 5 point Likert type questions);
- the social system of the working environment (three items; two 5 point Likert type questions and one open question);
- the intention to change after the training (four items; three 5 point Likert type questions and one open question);
- the overall opinion about the training (one item; a mark from 1 'very bad' to 10 'excellent').

To gain further insight into the implementation process and the results of the implementation, a qualitative approach was used.

*Interviews*

Six semi-structured interviews were held with the head nurses and sometimes also with the project-leader. The interviews focused on experiences with the implementation, in particular facilitating and hindering factors, and changes as a result of the training. The interviews lasted approximately 1 h. All interviews were audiotaped and relevant issues were transcribed verbatim.

*Follow-up meetings*

The implementation process was monitored by the researcher (JvW) by attending the three follow-up meetings with the trainees. The main topics of interest were the same as in the interview scheme. All the relevant issues, brought up by the caregivers, were recorded verbatim. The same procedure was followed during the two general meetings.

### *Data analysis*

Data analysis of the questionnaire was done using descriptive statistics. The questionnaires of team-members were completed by 66 trainees (94.3 %).

The interview data, and the data from the follow-up meetings and the general meetings, were analysed qualitatively. Responses were grouped into categories, separate from the implementation model (see figure 1). Numbers and letters are used throughout this paper to represent: the nursing home (NH), the caregiver (CG), the follow-up meeting (FM1 - FM3) and the interview (I1 - I6). Quotes given in the text are illustrative and reflect the responses given by caregivers.

## Results

### *Evaluation of the training program*

First, we evaluated the caregivers' opinion of the content of the training program with respect to knowledge and skills. The majority found the training informative (100%), applicable (100%), practical (98.5%) and interesting (98.5%). In their opinion, the information was clear and well-structured (100%) and the training suited their expertise and working situation (96.9%). In addition, the participants were asked to indicate what they considered to be the most useful aspects of the training. Half of the participants (50.0%) considered the entire training program to be very useful. Another 25.8% were especially enthusiastic about the aromatherapy session. Four respondents (6.1%) praised the development of an integrated *snoezel* care plan. The others (18.2 %) highlighted different aspects.

As regards the least useful aspects, 37.9% filled in nothing, 33.3% said explicitly that nothing was useless. The only part of the training, mentioned by more than two people as not being useful, was the therapeutic touch (adaptation) session (19.7%).

Table 3.1 Caregivers' opinion about the professional competence of the trainer, the atmosphere during the training sessions, the support from the working environment and the intention to change (n=66)

| | **not/ hardly (1-2)** % | **rather (3)** % | **conside-rable (4)** % | **a lot (5)** % |
|---|---|---|---|---|
| *Caregivers' satisfaction with teachers'* | | | | |
| - professional competence with regard to *snoezelen* | | | | |
| - conveying theory and skills | - | - | 13.6 | 86.4 |
| - giving room for discussion | - | - | 30.3 | 69.7 |
| - giving feedback | - | - | 21.2 | 78.8 |
| | - | - | 34.8 | 65.2 |
| *Caregivers' opinion about the training atmosphere* | | | | |
| - to feel comfortable with the teacher | - | 1.5 | 37.9 | 60.6 |
| - to feel comfortable with the participants (team members) | 1.5 | 6.1 | 33.3 | 59.1 |
| *Caregivers' opinion about support from the working environment* | | | | |
| - perceived support from head nurse | 3.1 | 9.2 | 40.0 | 47.7 |
| - perceived support from colleagues | - | 4.5 | 48.5 | 47.0 |
| *The extent in which caregivers:* | | | | |
| - feel encouraged to perform what they have learned in practice | - | 4.5 | 42.4 | 53.0 |
| - intend to perform what they have learned in future | - | 3.0 | 40.9 | 56.1 |

Table 3.1 shows that the participants were very satisfied with the professional competence of the teacher. They felt comfortable with both the teacher and the participants and were encouraged by their head nurses and colleagues to implement *snoezelen* in 24-h daily care. The majority felt sufficiently encouraged to implement the new care model in practice and intended to practice what they had learned in future. In answer to the open question, aromatherapy, in particular (26x), and the use of an individual resident-oriented approach (17x) were considered to be applicable in practice. Arm-hand massage (7x), the use of materials, music and light (7x), the use of a *snoezelroom* (6x), therapeutic touch (adaptation)/overall massage (5x) and the improvement of history taking and individual care plans (4x) were also mentioned.
On average, the overall assessment of the training by the caregivers was 8.4 (S.D. .75; range 7-10).

***Process-evaluation: Facilitating and hindering factors***

Although the results of the questionnaire indicated that the caregivers assessed the training program very positively, more than half of the trainees (n=35; 53.0%) expected that at the end of the training program there would be obstacles to the implementation of *snoezelen*, especially in respect of: workload/lack of time (15x), shortage of staff (11x), lack of money or materials (9x), support of the central management (8x), lack of room or other facilities (5x) and resistance of family members (4x).

Both the interviews and the follow-up meetings provided a detailed view on actual experience with implementation. The reported results of the interviews and the follow-up meetings represent the opinion of the caregivers (CNAs and head nurses). As the head nurses and the project-leaders usually attended the follow-up meetings, we did not find any contradiction between the information gathered by the interviews and the information presented during the follow-up meetings.
Table 3.2 shows facilitating interventions that are carried out. The content of the table will be discussed below.

Table 3.2 Caregivers' opinion about facilitating factors during the implementation process

| | Nursing home (H) | | | | | |
|---|---|---|---|---|---|---|
| **Facilitating factors** | **H1** | **H2** | **H3** | **H4** | **H5** | **H6** |
| Caregivers' level | | | | | | |
| *Interventions to change the procedures* | | | | | | |
| training '*snoezelen* for caregivers' | + | + | + | + | + | + |
| follow-up meetings | + | + | + | + | + | + |
| training "feedback by team-members" | | | | + | | |
| coaching to caregivers by head nurse | | + | + | + | | + |
| feedback to caregivers by independent, qualified person | | | | | + | + |
| coaching to head nurse by care manager | | | | + | + | + |
| support by activity therapist(s) | + | | + | | + | + |
| writing of *snoezel care plans* by CNAs | + | + | + | + | | + |
| use of *snoezel care plans* | + | + | + | + | + | + |
| mutual consultations (informal) | + | + | + | + | + | + |
| structural evaluations of the care plans (formal) | + | + | + | | + | + |
| Organisational level | | | | | | |
| *Interventions in structure:* | | | | | | |
| study group '*snoezelen*' | + | | + | | + | + |
| adaptations in day schedule / planning | + | | + | + | | + |
| *snoezel* bathroom | + | | | | + | + |
| *snoezel*room | + | | + | | + | + |
| fitting up the ward | + | | + | | + | + |

*- table 3.2 continued -*

| Facilitating factors | Nursing home (H) H1 | H2 | H3 | H4 | H5 | H6 |
|---|---|---|---|---|---|---|
| *Structure to continue implemented changes* | | | | | | |
| implementation plan (long-term) | + | | + | | + | + |
| structural training of new team members | | | | | | + |
| continuation on other wards | | | + | | + | + |

*Facilitating interventions to change habits*

The training was identified as the basis for a change in habits. During the implementation process, the caregivers still acknowledged the importance of these changes, though they reported, particularly in the first and second follow-up, that it was *not always easy to achieve or to adhere to* the new working style.

> 'That was a major contradiction in our team, it was very difficult to drop the old style approach. The change in attitude is extremely important. The resident is the starting-point of the care.' (NH2, CG1, FM2)

> 'It's easy to slip back into old ways of thought.' (NH4, CG5, FM1).

All wards reported that the *follow-up meetings* were motivating in maintaining and further changing habits. Caregivers' experience of these meetings was an encouragement in continuing with their implementation.

During daily practice, individual *coaching and feedback* proved to be essential in establishing changes in habit. The head nurse usually coached the implementation process and gave regular feedback to the caregivers. However, it seemed to be very difficult to sustain the efforts when there was no co-operation with other staff members. Three head nurses were coached by the care manager, which they found helpful and in some cases indispensable. In two wards, a special, independent, qualified person was appointed (e.g., a 'co-ordinator in sensory stimulation') to support the head nurse in coaching the staff and to provide individual feedback to the caregivers during daily practice. These interventions were reported to be very effective, because the caregivers felt safe with them and were able to discuss improvements in daily procedures. In one ward special training was offered to the caregivers on providing feedback to one another.

Furthermore, the *use of snoezel care plans* was proposed as an intervention in order to change set procedures. Although in the beginning, the writing of *snoezel* care plans was sometimes met with reluctance, in the end they proved to be useful.

> 'Using the *snoezel* care plan, we have something to refer to, how to deliver the

care. We know a lot more about the resident now.' (NH4, CG8, FM3)

At first, many caregivers felt embarrassed, because they didn't consider the observations and the application of *snoezel* activities as 'real work'. Planning the observations, writing the *snoezel* care plan and other *snoezel* activities in the daily scheme seemed to be effective in allowing the *snoezel* method to become an integrated part of the normal care program.

'*Snoezelen* has to be regarded as work. In the beginning, they thought "Yóu are giving a hand-massage and Í'm working my fingers to the bone". Now, it's a normal part of the work.' (NH5, CG1, I5)

'The *snoezel* bathroom is used by schedule, three times a day, in the morning, in the afternoon and in the evening.' (NH1,CG1, FM1)

In one ward, the *snoezel* care plans were not written by the caregivers themselves, which made them feel less involved. In some wards, the caregivers were actively supported by activity therapists in observing and writing the *snoezel* care plans, without being completely taken over. They felt comfortable with this system.

In addition, the increase in both formal and informal *reciprocal consultation* was seen as a tool to maintain and further improve the changes in procedure. Caregivers usually reported their experiences in using the *snoezel* care plans. As a result, they started to talk more about the problem behaviour of residents and were having more discussions about solutions.

'We are talking more about the residents, our care is tuned to each other now.' (NH2, CG3, FM3)

'There are more consultations between caregivers. The idea that problems can be solved together. When you notice that someone is becoming more restless, you start to think immediately "how are we going to solve this?".' (NH6, CG3, FM2)

Most wards decided to evaluate the care plans structurally. Some just with the team-members, others in multi-disciplinary consultations.

'It's part of the multi-disciplinary consultation now, in the beginning it wasn't.' (NH5, CG9, FM3)

*Facilitating interventions to change the organisational structure*

In four homes, the *study group* had regular meetings (approximately once a month) and functioned well. In the other two wards, the study group did not get off to a good start.

> 'We could not find time for meetings of the study group. Or maybe, we didn't make time for them. Now, I think, we should have given it priority, it's just very important.' (NH4, CG1, I4)

Four wards made *organisational adaptations* in the daily schedule, duty scheme or working style in order to support the implementation. One of the wards decided not to wash all the residents in the morning anymore, but to select some residents, who preferred to be washed in the evening. Another ward reported that they were no longer getting round to helping other teams during the morning care, as they were used to before.

With regard to the *snoezel equipment,* four wards received financial support (one via sponsoring) to invest in *snoezel* materials, a *snoezel* room (4 wards) or a *snoezel* bathroom (3 wards). In their opinion, the use of *snoezel* equipment had added value. They also paid attention to the furnishings and the fittings of the ward.

> 'We created really nice and cosy sitting areas.' (NH5, CG2, FM3)

> 'You notice that there are a lot of changes in the ward. Everything is fitted and looks nice. You can talk with the residents about the aquarium in the hall and so on. That's the way you make contact with one another.' (NH6, CG3, FM3)

*Facilitating interventions to continue the implemented changes*
Four nursing homes completed a long-term implementation plan, including time-plan and budget. Three of them plan to continue the implementation of *snoezelen* on other wards in the near future. One made a plan for more than a year for the structural training of new team-members.

*Contextual obstacles*
The caregivers identified several obstacles, mainly in the working environment, as shown in table 3.3.

Table 3.3 Caregivers' opinion about contextual factors that hindered the implementation of *snoezelen*

| **Hindering factors** | | **Nursing home (H)** | | | | | |
|---|---|---|---|---|---|---|---|
| | | **H1** | **H2** | **H3** | **H4** | **H5** | **H6** |
| Perceived workload | x | x | x | x | x | x | |
| Lack of staff | | x | x | | x | | |
| Lack of management support / financial support | | | x | | x | | |
| Other innovative projects / changes simultaneously | | | | x | x | x | |
| Expectations too high | | x | x | x | x | | |
| Dissatisfaction within team-members | | | | | | x | |

Caregivers of all wards indicated, that in their experience, *workload* was an obstacle on some occasions. They reported that they had too little time, particularly in the first phase of the implementation process, when the observation of the residents took up a lot of time. As a result of this none of the wards succeeded in completing the observations and the *snoezel* plans in time for the first follow-up meeting. The high level of absence of team-members, due to holidays or sickness, was also thought to have a negative effect.

Three wards went through a period of *understaffing,* caused by vacancies, which hindered implementation. One ward reported a high turnover of staff (almost two thirds of the team-members).

> 'Sometimes, there's a shortage of staff. Then, the old, task-oriented attitude shows up again.' (NH3, CG4, FM2)

The two wards that didn't receive financial support, also reported a lack of *support from central management.* They missed an integrated policy and also mentioned the lack of interest and co-operation of central management.

> 'An obstacle was formed by central management's lack of cooperation. The management failed to show interest and support. I can imagine that it's not easy to find new staff members, but they didn't even come to have a look, or ask 'how we were getting on'. I think this is very strange (...).So we did without financial support and management interest in the project.' (NH4, CG1, I4)

The wards that did get financial support, interpreted the financial investment as a sign of interest and co-operation. However, they still wanted personal appreciation from management, for instance in the form of visits, to see the new equipment and encourage the caregivers. Only one ward reported this kind of management appreciation.

Three wards mentioned that they also had to manage other important projects (implementation of a computerised care plan, preparation for move), which required a lot of input. The caregivers thought that *too many innovations* were being implemented simultaneously.

> 'Now, I think it was too much. Especially with the introduction of INTERLECT (computer program JvW). I noticed that I lost enthusiasm myself, just because of the other things that had to be done. But I couldn't afford to fall behind at the start of INTERLECT.' (NH5, CG1, I5)

In retrospect, some of the caregivers, especially the head nurses, felt that their *expectations* at the beginning of the project had been too high. They wanted to start too many things at once. This was considered to be an obstacle, until they adapted their expectations and set new, realistic goals.

***Evaluation of the results: Changes in the daily care***

The interviews and follow-up meetings provided information about the changes that caregivers experienced as a result of the implementation of *snoezelen*.

*Changes in caregivers*

The caregivers reported that their attitude towards the residents had changed. A resident-oriented attitude is a basic condition in the application of *snoezelen*. Caregivers consider the switch from task-oriented care to resident-oriented care as the most important change at the individual level.

> 'You know what makes somebody happy and what makes him or her unhappy.' (NH6, CG4, FM1)

'None of the residents are the same. Now, we are attending to what the residents like. Little by little you really learn to understand what's important for a particular resident.' (NH3, CG2, FM1)

In the last follow-up, all the caregivers mentioned that they had succeeded in laying the foundation for resident-oriented care. Although the head nurses noticed that not every caregiver had the necessary qualities for the new working style, they felt that most of the team-members changed towards resident-oriented care.

'In the daily care, you can see that not everybody is able to give real resident-oriented care. And that's not a matter of unwillingness. But the majority do succeed.' (NH4, CG1, I4)

The aim of the implementation of *snoezelen* was *to integrate multi-sensory stimulation* in the daily care program. Obviously there were differences between the participating wards. Four wards invested in *snoezel* equipment and the caregivers started to use the materials, the *snoezel* bathroom or the *snoezel* room. They also started to apply *snoezel* activities during the day. Two wards, however, restricted themselves to the resident-oriented approach, which they applied during daily care periods (morning care, meals, evening care).

'On our ward, it's not the materials that are essential.' (NH2, CG5, FM3)

'We focused on our behaviour: What is the right approach for this resident?' (NH4, CG1, FM3)

In some wards, caregivers noticed that the use of *medication diminished*, because the caregivers had improved their problem-solving ability and started to try other solutions first.

'When a resident manifests behaviour problems, we talk about it first. Not immediately running to the medication, but first by discussing it:"what can we do?".' (NH2, CG4, FM3)

'In the past, we said "this resident is restless, which medication can we give?". Now, we report in the multidisciplinary consultation: "we tried this, we tried aromatherapy, we tried the music pillow; this seems to work and that doesn't work".' (NH5, CG5, FM2)

*Changes in residents*

In the opinion of the caregivers, the implementation of *snoezelen* resulted in *positive*

*patient outcomes*. There were two primary changes in the residents. Caregivers noticed that it became easier to get through to the residents and that the residents in turn showed more response.

> 'Residents who are very difficult to establish contact with can now be reached.' (NH1, CG9, FM2)

> 'When Mrs. E. attended our ward, she was much more apathetic than now, and that just happened by involving her all the time, a lot of eye-contact, a lot of talking to her.' (NH4, CG5, FM2)

Furthermore, caregivers reported that, in their opinion, agitated, restless or aggressive residents became more quiet and satisfied.

> 'It struck me that the residents quietened down' (NH3, CG5, FM2)

> 'I see a significant change in the residents' behaviour. Now, we have a resident, who is transferred from another ward. There's a difference in behaviour now, I think, compared with the other ward. She's more satisfied and quieter, not so aggressive.' (NH1, CG3, FM3)

The four wards that invested in *snoezel* equipment also reported positive changes in residents as a result of the use of *snoezel materials and aromatherapy*.

> 'We got a lot of cuddly animals and observed the residents' reaction to them. Now, you see a lot of people walking with the cuddly toys, a lot more residents than I had expected.' (NH5, CG3, FM1)

> 'I'm really surprised about the effects of aromatherapy.' (NH3, CG6, FM1)

*Organisational changes*

At the ward-level, the caregivers reported a change in the planning of the day, mainly in the '*use of the clock*'. In the past, everything was done by the clock. Now, they ignore the time, which, in the opinion of the caregivers, had positive effects for both the residents and themselves.

> 'When I compare the present with a half year ago, then I really see a difference. Before, everything had to go fast, fast, fast, turning people out of bed, etc. But now, we just have more time for each other.' (NH3, CG5, FM1)

> 'I'm new to this ward. It struck me when I started here that there were no

clocks.' (NH5, CG5, FM3)

In some wards, the time of the breaks changed or became flexible. In other wards, the caregivers no longer force themselves to be *ready with the morning care* before the break.

'At a given moment, we asked the study group "Isn't it possible to change the breaks?" Why should a bed-patient have to be washed at 10.30 a.m.? Changing the breaks was a real taboo. But we succeeded and the team-members deserve a compliment for adapting to it very well.' (NH3, CG1, I3)

'The rush is gone. We don't have to get everybody out of bed before the coffee break. We are more relaxed now, less stressed than before.' (NH6, CG1, FM1)

By working in a more relaxed way during the morning care, one would expect a lack of time during the rest of the day. However, caregivers' experience was that they *were still able to get their work finished.* They mentioned that, when there was no battle during the morning care, the rest of the day progressed more smoothly.

'For instance, Mrs. K. who, when woken up too early in the morning, became very ill tempered. We know now that she needs to sleep until 9.30 a.m. and has to wake up spontaneously. That is such a gain of time. When she's in a bad temper, it takes longer to get her dressed.' (NH3, CG12, FM3)

'It's strange, but although you are not working to the clock, everything is done when you go home.' (NH4, CG4, FM3)

There were other changes that carried through to different moments of the day, but these changes varied from ward to ward. In three nursing homes, a breakfast project was started up, to enable the residents to smell different odours of cooking (e.g., bacon and eggs, pancakes, coffee). Two wards made a similar change in the organisation of the supper.

## Discussion

### *Major findings*

The results of the present study show that the new *snoezelen* care model can be successfully implemented in daily care.

All participating wards reported changes at the caregiver level, the resident level and organisational changes. The combination of interventions at the caregiver level and

interventions in the organisational structure seemed to be a particularly important indicator of success. Two wards lacked interventions at the organisational level and only mentioned limited changes at the caregivers level. They reported a change from task-oriented care to resident-oriented care, but stayed behind with the integration of multi-sensory stimulation in 24-h care. The other four wards also reported additional changes at the caregiver level, such as the application of multi-sensory stimulation in the daily care or the performance of *snoezel* activities. Though the shift towards resident-oriented care can be considered as the basis of *snoezelen*, and therefore an important starting-point, the integration of *snoezelen* into daily care is intended to be more than that. This study showed that the efforts and support of central management, including interest and support over time, are crucial for success. Caregivers need to get confirmed that the new care model is essential to improve the quality of care. Four wards received financial support and made policy with respect to continuing the implementation. The study group, proposed as a tool to monitor the implementation process, appeared to be of great value in the same four wards in identifying obstacles, developing strategies and evaluating the process, all considered to be important steps in the implementation cycle (Grol et al., 1997; 2000). As was the case with Schrijnemaekers et al. (2002), the study showed that fundamental organisational changes are needed to successfully implement a new care model.

Contrary to other studies (Holtkamp et al., 2001; Schrijnemaekers et al., 2002), caregivers not only experienced obstacles such as workload and understaffing, but also reported a range of facilitating interventions that were carried out at the caregiver level. Removing the clocks was one of these. The follow-up meetings, the use of *snoezel* care plans and the increase in mutual consultations were also identified as facilitating the implementation.

As the progress of the implementation process, particularly the establishment of procedural change, requires a lot of management skills from the head nurses, coaching the head nurse would appear to be essential to establish the continuation of the implementation process. Coaching by the head nurses' supervisor (the care manager) appeared to be significant, as did assistance in providing feedback to the caregivers, for example by an independent qualified professional. The experience of the importance of coaching strategies is in accordance with recent literature about the implementation processes. Grol (1999) mentioned that, in general, reviewing performance, providing feedback to caregivers, giving practical tools and providing incentives or sanctions, may be suitable coaching strategies for change. In addition, Burgio et al. (2000) stated that the receptiveness of CNAs in dementia care to learn new skills must be continued by establishing staff motivation systems, such as behavioural supervision (e.g., specific feedback suggesting practical ways of

maximising skills). These interventions proved to successfully motivate the CNAs and ensure the maintenance of the skills. Holtkamp (2003) also recommended more supervision and support for the nursing staff during the intervention period. Hence, constant attention to the different levels of management was identified as an important implementation strategy to motivate nurses and other care staff to apply complicated interventions. In the present study, the combination of coaching strategies at different levels, for CNAs as well as to head nurses, seemed indeed to be most effective. Coaching for CNAs was given on all wards. However, the coaching of head nurses needed, again, the support of the central management and was only offered in two of the six wards.

The implementation period started with training in '*snoezelen* for caregivers'. In Schrijnemaekers' research the training was regarded by caregivers as a confirmation of their current practice, however, the caregivers in this study assessed the training positively with respect to the improvement of knowledge and skills and the realisation of an intention to change. When compared with the evaluation of a training program on the communication skills of nurses in oncology, caregivers in our study gave a more positive assessment of all the items (Kruijver, 2001). It would appear that the training program reached its goal.

Nevertheless, more than half of the participants reported expected obstacles to the implementation of the new care model. Perceived workload, specifically lack of time, indeed hindered the implementation on all participating wards. As mentioned previously, the shortage of staff and a lack of management support appeared to be an obstacle in some of the wards. Delayed and adjusted implementation was also reported by Holtkamp et al. (2001), who found comparable difficulties in obtaining qualified staff, due to understaffing or a high turnover of staff.

The implementation model shows that these contextual problems, that are not always easy to solve, influence the implementation process. When facing facilitating interventions at both the caregivers' and the organisational level, it is still possible to be successful. However, there has to be a balance: If there are too many obstructive factors they should be dealt with first, before starting the implementation.

In conclusion, according to the caregivers, the implementation succeeded in all participating wards, though two wards lagged behind with the integration of multi-sensory stimulation in 24-h care. Most of the caregivers noticed changes at residents level. They observed that there was more contact with the residents, the level of residents' response increased and the residents were more settled. With regard to organisational changes, the release of the "use of the clock" was especially nominated as a major, positive change. It appeared to be necessary to create 'staff-

centred work environments', as described by Kitwood (1997), to be able to deliver resident-oriented or person-centred care. The type of environment that proved to be needed in our study reflects many of the characteristics of Kitwood's 'type B' environment. In type B settings the manager's role is more one of enabling and facilitating than of controlling, and this involves giving a great deal of feedback to staff. The whole staff group (manager, senior care team and care assistants) thrives on cooperation and sharing. There is a strong commitment to minimizing the differential of power. The organisation is highly skilled in interpersonal matters and has well-developed communication pathways. Type B settings are sensible to what staff members are experiencing and feeling. Each staff member can bring matters in the open, knowing that they will not be criticized, but given the support that they need. Each resident can be known in his or her uniqueness, through a skilled combination of empathy and personal knowledge (Kitwood, 1997).

***Recommendations for practice***

Based on this study, the most important prerequisites for the successful introduction of *snoezelen* in psychogeriatric care are:

- To determine the policy of the central management, prior to the start of implementation, including the assessment of possible obstacles; proposals to solve or to minimize the obstacles and the fulfilling of conditions such as funding, facilities and personnel needs. The preparation takes about 9 months (Dröes et al., 1999).
- To carefully determine the start of the implementation, avoiding:
  - the implementation of several innovations at the same timing;
  - starting with an unstable team.
- Training for the complete team by a qualified professional trainer, who not only aims to improve knowledge and skills, but also to achieve the intention to change among caregivers.
- The trainers' involvement during follow-up meetings.
- Structural evaluations of the implementation process, leading to adaptation or development of new strategies.
- Support of the head nurse at different levels:
  - by the supervisor to control the progress and to coach the continuation of the process;
  - by an independent qualified person, to support the head nurse in coaching the staff.
- Support of the CNAs by giving regular feedback or supervision. Kitwood (1997) advises an hour of supervision per month for all employees in dementia care.
- Structural interest and support of the central management.
- A long-term implementation plan, including a time schedule, budget,

structural training of new team members and structural evaluation to establish the continuation of the project.

***Implications for research***

Nursing homes, policy makers and researchers pay a great deal both in time and money to develop, implement and study interventions. In the absence of an accurate assessment of implementation problems, conclusions about outcome measures are difficult to interpret. This study gives detailed information about facilitating and hindering factors. The results made us curious to know whether the caregivers' opinions, given in follow-up meetings and interviews, will be reflected in daily practice. A more thorough study is needed to determine whether residents' and caregivers' behaviour has indeed changed in a positive way.

# 4 Effects of snoezelen, integrated in 24-h dementia care, on nurse - patient communication during morning care

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## Abstract

A quasi-experimental pre- and post-test design was conducted to examine the effects of *snoezelen* on the communication of Certified Nursing Assistants (CNAs) and demented nursing home residents, 18 months after a training '*snoezelen* for caregivers'. Independent assessors analysed 250 video-recordings directly from the computer, to compare nonverbal and verbal communication during morning care in six experimental wards (that integrated *snoezelen* in 24-h care) to six control wards (continuing usual care). Trained CNAs showed a significant increase of resident-directed gaze, affective touch and smiling. The total number of verbal utterances also increased (more social conversation, agreement, talking about sensory stimuli, information and autonomy). Regarding residents, a significant treatment effect was found for smiling, CNA-directed gaze, negative verbal behaviours (less disapproval and anger) and verbal expressed autonomy. Morning care by trained CNAs appeared to take more time. This suggests that (some) time investment might be required to achieve positive effects on CNA and resident communication.

## Introduction

Effective communication is essential to the quality of life for elderly people living in residential care (Kato et al., 1996). The power of communication is confirmed by evidence that residents respond to care and live longer when they are engaged in interpersonal relationships with staff (Kiely et al., 2000; Walk et al., 2000; Williams et al., 2003). Opportunities for social interaction of nursing home residents rest primarily on staff, but analyses of nursing home communication show a relative absence of talk and predominantly task-oriented or instrumental talk (Baltes and Wahl, 1996). Examination of nursing home talk also reveals a failure to meet residents' needs for socio-emotional interaction, which is a critical factor affecting residents' quality of life (Williams et al., 2003). In residential dementia care, communication between staff and residents is even more complicated by the decline in verbal as well as nonverbal communicative ability of demented patients. The cognitive deficiencies of demented nursing home residents make it essential for nurses to adapt their communication to the residents' capabilities. Individuals with dementia are still able to transmit meaningful communication, that can be interpreted by others. Caregivers should focus on receiving and interpreting verbal and nonverbal messages conveyed by demented residents (Acton et al., 1999). Thereby, the use of nonverbal communication, in addition to verbal communication, is essential with people who have limited verbal comprehension (Chambers, 2003). Nonverbal behaviour is an eminent mode of expressing empathy and support and an important tool to make contact with residents (Bensing et al., 1995; Caris-Verhallen et al., 1997; 1999; Roter and Hall, 1992).

It is very important that staff continue with communicating in spite of the difficulties entailed to the dementia process. Accordingly, there is considerable agreement in the literature on the need for specialized training for geriatric health care staff (Buijssen and Razenberg, 1991; Chant et al., 2002; Kato et al., 1996; Kerkstra et al., 1999; Magai et al., 2002; Norbergh et al., 2001; Smith, 2004). The communication problems of staff members can be summarized as negative stereotypes about residents and their communication needs, undervaluing communication compared to physical and medical aspects of patient care and restricted communication style (Kato et al., 1996).

*Snoezelen*, or Multi-Sensory Stimulation (MSS), is supposed to be an appropriate tool to communicate with severely demented persons, because there is no appeal to intellectual capabilities (Holtkamp et al., 1997; Hutchinson and Kewin, 1994). *Snoezelen* in 24-h dementia care combines a resident-oriented approach with stimulation of the senses by light, sound, feeling, smell and taste. It is a means of making contact and aims for pleasurable sensory experiences, tailored to the needs of demented elderly. The final goal is to increase or maintain the well-being of the

demented person (Kok et al., 2000). *Snoezelen* was developed in the Netherlands, and quickly gained a significant following in Europe and later in America and Canada. It is a contraction of two Dutch words, the equivalent in English being 'sniffing and dozing' (Burns et al., 2000). In daily care, aspects of *snoezelen* are used at the bedside, in the bathroom and in the living room.

Until now little research has been done to study the effects of *snoezelen*. Most of the studies evaluated the effects of *snoezelen* sessions in a special room on the behaviour of demented elderly. In some of the trials, positive immediate patient outcomes were found on patient behaviour, but carryover and longer-term effects of *snoezelen* were not evident (Baker et al., 1997; 2001; Chung et al., 2002; Van Diepen et al., 2002; Kragt et al., 1997; Lancioni et al., 2002; Robichaud et al., 1994). Therefore, it is recommended to implement a continuous and ongoing program (Chung et al., 2002; Lancioni et al., 2002). Accordingly, *snoezelen* is defined as an integrated approach in 24-h routine care, delivered by Certified Nursing Assistants (CNAs). They are best prepared to interpret patients' needs and eligible to apply *snoezelen* in the care (Chitsey et al., 2002).

The aim of the current study is to investigate the extent in which CNAs succeeded to change their communication conforming the communicating principles underlying the philosophy of *snoezelen.* The effects of the implementation of *snoezelen* on the actual communicative behaviour of demented nursing home residents is also examined. The effectiveness is studied during a well-defined and limited care situation, namely morning care. Morning care is defined as the period of time between 7 a.m. and 12 a.m. when CNAs are engaged with residents in activities relating to bathing, grooming, dressing and toileting. Clinical experience and the literature have indicated that the period of morning care is difficult for both residents and CNAs, because it is the time when 'problematic' behaviours, such as agitation in residents, occur most frequently (Kovach and Meyer-Arnold, 1996; Wells et al., 2000).

The following research questions will be addressed:

> *What are the effects of the implementation of snoezelen in 24-h care on the actual communicative behaviour of CNAs during morning care?*
>
> *What are the effects of the implementation of snoezelen in 24-h care on the actual communicative behaviour of demented nursing home residents during morning care?*

During *snoezelen,* an affective, empathic attitude of the caregivers is essential: the carers have to be focused on sharing and entering into the experiences of the demented resident and to create an atmosphere of trust and relaxation (Achterberg et al., 1997; Finnema et al., 2000). To promote a sense of mutual togetherness with the resident, caregivers need to balance in their interactions, verbal as well as non-verbal (Hansebo and Kihlgren, 2002). Nonverbal communication supports the verbal communication, conveys interpersonal attitudes and emotional states and functions as substitute for language if speech is impossible (Bensing and Verhaak, 2004; Caris-Verhallen et al., 1999a; Chambers, 2004; Gleeson and Timmins, 2004). Gazing and smiling convey interest and warmth. Touch is a very important aspect in establishing a relationship and can be applied to show affection, care and comfort. As regards verbal communication, affective talk contributes to the development of a meaningful interpersonal relationship (Caris-Verhallen et al., 2000). Verbal communication that makes an appeal to cognitive abilities, such as cognitive questions, does not fit the *snoezelen* approach (Burns et al., 2000; Kok et al., 2000). By incorporating these communicating principles underlying *snoezelen*, resident-oriented care can be provided, which might ultimately result in a decrease of problematic behaviours and an increase in quality of life (Acton et al., 1999).
In particular, it was hypothesized that the implementation of *snoezelen* would lead to the following measurable changes:

- An increase of rapport-building nonverbal behaviour of both CNAs and residents (e.g., gazing, affective touch, smiling)
- An increase of positive affective or socio-emotional verbal communication of CNAs needed to establish a trusting relationship (e.g., showing empathy, social talk, validation)
- A decrease of negative instrumental communication, initiated by CNAs (e.g., questions about facts, cognitive knowledge)
- A decrease of negative affective verbal communication of both CNAs and residents (e.g., showing disapproval or anger)

## Method

### *Design*

A quasi-experimental pre- and post-test design was carried out. The study was performed in 12 psychogeriatric wards in six Dutch nursing homes. Each nursing home delivered an experimental and a control ward. The six experimental wards received the training '*snoezelen* for caregivers' and implemented *snoezelen* in 24-h care. In the six control wards, usual care without *snoezelen* continued. The implementation period lasted 18 months per ward in the period between January 2001 and February 2003. Measurements were performed at baseline and after 18 months.

### *Sample*

Six nursing homes, in different parts of The Netherlands, were selected for the study out of nineteen potentially eligible sites. Interviews with staff members revealed whether the nursing homes met the following inclusion criteria: (1) the presence of two comparable units (one experimental ward and one control ward); (2) the willingness to create the conditions to implement *snoezelen* in the daily care of the experimental ward; (3) the promise to refraining from *snoezelen* training during the study period in the control ward; and (4) no substantial organisational changes (e.g., removal, reorganization) during the study period (Van Weert et al., in press; chapter 6). Commitment to these criteria was laid down in a co-operative agreement.

Randomisation took place at ward level. In four nursing homes, the wards were randomised by having lots drawn from a sealed container by an independent person. Two wards were assigned to the experimental group on the basis of practical considerations (e.g., the presence of a room that could be used as *snoezel*room by other disciplines such as activity therapists). This decision was taken after careful assessment of other differences between the experimental and the control ward to establish that baseline differences between the experimental and the control ward that might prejudice treatment comparisons (e.g., population, staff-client ratio, motivation of nursing staff, working atmosphere) were absent. These potential confounding factors were objectively evaluated by visiting the wards and interviewing the care manager and the head nurses of both wards. The head nurses also completed a questionnaire.

After 15 months, interviews were held with the head nurses of the control wards to find out whether the control wards refrained from *snoezelen* during the study period, in conformity with the cooperative agreement. The results revealed that on three control wards, some CNAs started to apply parts of the *snoezel* methodology in the daily care (e.g., music, aroma). However, no one integrated these parts in an individual, resident-centred approach, nor integrated these structurally. As these are considered important conditions for *snoezelen* to be effective, no serious contamination risk is supposed to be present on the control wards.

## *Subjects*

### Residents

To establish the effectiveness of *snoezelen*, a sample size of 120 residents (60 treatments, 60 controls) was minimally required (power=0.80, $\alpha$=0.05, d= 0.50). To be eligible for the trial, residents had to meet the following criteria: (1) moderate to severe dementia according to DSM-III-R, diagnosed by a physician; (2) moderate to severe nursing-care dependency; (3) absence of an additional psychiatric diagnosis; (4) sense-organs completely or partially unimpaired; and (5) not bedridden. Care dependency was measured by the Care Dependency Scale (CDS) for demented in-patients, an assessment instrument for use in psychogeriatric nursing homes (Dijkstra 1998; 1999a; 1999b). The degree of care dependency is assessed on a five-point Likert-scale. A total sum score with a theoretical range from 15 till 75 can be computed; the higher the score, the less the dependency on nursing care. The internal consistency of the scale was high ($\alpha$=.93) (Van Weert et al., in press; chapter 6).

### CNAs

All CNAs were recruited for the study from all shifts (day, evening and night). The majority (81.4%) worked in rotation shifts. To be eligible for the trial CNAs had to meet the following criteria: (1) be employed for at least three months in the nursing home (2) be employed for at least 12 hours per week and (3) working in rotation shifts. Temporary staff, students, and CNAs only working at night were not eligible. The CNAs participated in the training '*snoezelen* for caregivers' and observation sessions as part of their regular employment duties.

### Informed consent

Written informed consent was obtained from the residents using proxy consent wherein the legal guardian of the resident was contacted by mail, informed about the content of the study and the right to withdraw at any time during the study. Guardians were provided with a written informed consent form to allow their participation in the project, i.e. video-recording of the morning care for research purposes as well as the use of medical background characteristics.

### Procedures

First, the ward staff selected a minimum of fifteen residents who fulfilled the above criteria.

Next, every resident included was matched to a CNA, who was attuned to care for the resident. Every matched 'CNA-resident couple' was videotaped once in the pre-test and once in the post-test (when still attending the ward) during morning care, using a hand-held camera. Morning care was recorded from the moment the CNA

reached the bedside until the moment the CNA left the room (usually together with the resident). Twelve CNAs (7 in the pre-test and 5 in the post-test) were videotaped twice as there were more residents than CNAs. When the level of intellectual capacity of the resident allowed verbal communication, the CNA informed the resident about the video-recordings and asked permission. The CNAs as well as the research assistant were instructed to stop the video-recording when they noticed negative reactions of the resident, caused by the presence of the researcher or otherwise related to the video-recordings. As this happened only five times (twice in the experimental group and three times in the control group), no sufficient affect of terminating the videotaping on measurement of negative behaviour is assumed. Immediately after the morning care, the CNAs were given the opportunity to disclose their feelings as to the video-recording. Although, in general, they experienced some (minor) stress in advance, the majority reported that stress did not really affect their behaviour or that of the resident and that the video reflected the normal situation. Despite the obvious fact that they were being observed, the CNAs and residents adapted to the presence of the observer, as has been often reported in observational research before (e.g., Caris-Verhallen, 1999a; VanHaitsma et al.,1997).

**Handling loss to follow-up**

To be sure that at least 60 residents could be included in each condition at post-test, the experimental wards were instructed to apply *snoezelen* care to as much (new) residents as fulfilled the above mentioned inclusion criteria. Consequently, a second cohort of subjects could be recruited to replace residents who dropped out from the first cohort, mainly caused by death (see 'data-analysis' for statistical handling). Three months before the post-test, the above mentioned informed consent procedure was followed to obtain proxy consent from legal guardians of new, eligible residents. Provided a successful implementation of *snoezelen* in 24-h care, a three month period was minimally needed to be able to effect changes at the residents' level (Kok et al., 2000).

The post-test was planned 18 months after the pre-test, because this period was considered to be the minimum time needed for successful implementation of the new care model (Finnema, 2000; Van Weert et al., 2004), e.g., to improve skills and to change habits.

Loss to follow-up among CNAs was handled by the inclusion of new CNAs, meeting the above mentioned inclusion criteria. 75.0% of the newly included CNAs in the experimental group was new in the ward. They received 'training on the job' from the head nurse or the 'coordinator sensory stimulation', and attended the follow-up meetings, to be able to apply the *snoezelen* method. The other 25% of new members

CNAs was employed in the ward at pre-test, but wasn't able to be included in the pre-test, e.g., because they did not fulfil the inclusion criteria at that time. The median time of new members of the CNA groups in the ward was 1.0 year in the experimental group (range .23 - 5.78) and 1.2 year in the control group (range .31-11.20).

### *Intervention*

#### Training

The CNAs were trained in *snoezelen* by a qualified and experienced professional trainer of the Bernardus Expertise Centre/Fontis. The training consisted of four, weekly, 4-h in-service sessions and homework. The main objectives of training were to motivate team-members and to improve knowledge and practical skills. The underlying philosophy of *snoezelen* is compatible with developments in dementia care to 'person-centred' care, which aims to maintain personhood in the face of failing mental powers, by gaining knowledge of each individual and showing affective involvement (Kitwood, 1997). During the training, attention was paid to CNAs attitude towards verbal and nonverbal communication and the need for verbal and nonverbal attentiveness. With regard to communication, the training focused in particular on:

- the development of CNAs awareness of the residents' physical, social and emotional needs (e.g., by paying attention the residents' verbal and nonverbal behaviours and learning how these can be interpreted);
- making contact with demented residents and showing affection and empathy (e.g., by gazing, affective touch, smiling or showing verbal affection);
- supporting demented residents in responsiveness (e.g., by waiting for a respons);
- avoiding to correct the residents' subjective reality (e.g., by validation);
- avoiding to spread useless cognitive information and to test the residents' remaining cognitive knowledge.

Furthermore, the training paid attention to practical skills needed for the application of multi-sensory stimulation, such as taking a life style history interview with family members, arranging a stimulus preference screening to find out which sensory stimuli the resident likes most and writing a *snoezel* care plan describing how to approach the resident and how to integrate multi-sensory stimuli in 24-h care. An extensive manual of *snoezelen* was available with specific instructions, methodology observation forms, and examples on the integration of *snoezelen* in 24-h care. In total, 59 CNAs and 6 head nurses attended the training program. During the 18-month implementation period, the caregivers were offered three in-house supervision meetings under the guidance of the same professional trainer. In addition, there were two general meetings, attended by three representatives of each nursing home (e.g., head nurses, care managers) to support the implementation of *snoezelen* at the

organizational level. Details about the intervention have been described elsewhere (Van Weert et al., 2004).

### *Outcome measures*

The effectiveness of *snoezelen* was studied by videorecordings of morning care. Morning care is given on every ward in every nursing home, and allows a non-biased comparison between treatment and control groups: Both groups deliver care on a one-to-one basis to the resident (individual attention with *snoezelen* vs individual attention without *snoezelen*) and they both have the same final objective (of getting the resident washed and dressed). Morning care is a suitable care moment to stimulate the senses (tactual, visual, auditory, olfactory) and to integrate elements of the *snoezel* methodology (e.g., nice smelling soap, soft towels).

Video assessment of communicative behaviour during morning care was done by three independent observers, who were blinded as to whether the resident was included in the experimental or the control group, using the OBSERVER computer system (Noldus et al., 2000). The assessors were trained and guidelines were followed to minimize observer bias and reactivity. Every video-recording was observed three times (twice to code nonverbal behaviour and once to code verbal behaviour).

#### Indicators of nonverbal communication

Based on the research of Caris-Verhallen et al. (1998; 1999a), Kerkstra et al. (1999) and Kruijver (2001), nonverbal affective behaviours were selected that appeared to be particularly important for the establishment of the nurse-elderly relationship. The observation scheme contains the following indicators of rapport-building nonverbal communication: three nonverbal affective categories for CNAs (eye-contact, affective touch, smiling) and two nonverbal affective categories for residents (eye-contact, smiling). Eye-contact, affective touch and smiling convey involvement, closeness, friendliness and attentiveness. They are not necessary in performing nursing tasks, but do facilitate interaction between nurses and patients (Kruijver, 2001). In addition, instrumental touch was measured. Instrumental touch is inherent to nursing and does not play a role in building rapport, but has to be observed to distinguish it from affective touch.
Table 4.1 shows the definitions for the nonverbal indicators used in this study. The instrument has shown to be reliable in previous studies (Caris-Verhallen et al., 1998; 1999b; Kerkstra et al., 1999; Kruijver, 2001). For eye-contact, affective and instrumental touch, the duration was rated. For smiling, the frequency was counted, because the duration of smiling was often too short to assess reliably.

Table 4.1 Nonverbal categories of the observation scheme

| Abbreviations | Measurement (duration or frequency) | Definition |
|---|---|---|
| **CNAs' nonverbal communication** | | |
| Eye-contact | Duration | Resident-directed gaze: the CNA is looking at the eyes of the resident |
| Instrumental touch | Duration | Deliberate physical contact, which is necessary in performing the nursing task |
| Affective touch | Duration | Relatively spontaneous and affective touch, which is not necessary for the completion of a nursing task<br>Affective touch shows empathy and intends to make contact with the resident |
| Smiling | Frequency | Facial utterance of friendliness directed to the resident |
| **Residents' nonverbal communication** | | |
| Eye-contact | Duration | CNA-directed gaze: the resident is looking at the eyes of the CNA |
| Smiling | Frequency | Facial utterance of friendliness directed to the CNA |

**Indicators of verbal communication**

Verbal nurse-patient communication was analysed using an adapted version of the Roter Interaction Analysis System (RIAS), originally developed by Roter (1989) and further adapted to nurse-elderly patient communication by Caris-Verhallen et al. (1998; 1999b) and nurse-demented patient communication by Kerkstra et al. (1999). The system is widely used and has shown to be reliable (Bensing, 1991; Caris-Verhallen, 2000; Kerkstra et al., 1999; Kruijver, 2001). The RIAS gives the opportunity to code both CNAs and resident communication. The scheme uses verbal utterances as a unit of analysis. Each utterance, which is defined as the smallest distinguishable speech segment to which a coder can assign a classification, was allocated to one of 19 categories, which are mutual exclusive.
Table 4.2 gives an overview of the categories used in the present study.

Table 4.2 Verbal categories of the observation Scheme

| Abbreviations | Definition | Examples |
|---|---|---|
| **Affective communication (positive)** | | |
| Social | Social conversation, personal remarks, jokes, greetings, friendly statements and conversation about non-nursing topics, unrelated to health or social context | 'Good morning, how is it going?'<br>'Did you sleep well?'<br>'It's really nice weather today' |
| Validation | Emotion-oriented communication, acknowledging the (subjective) reality of a persons' feelings and adapting to this reality, whether 'true' or not | 'We can take it easy, your father is taking a cup of coffee in the meantime' [in answer on residents' question about her (dead) father becoming impatient] |
| Agree | Shows agreement or understanding, paraphrase | 'Yes', 'I see', 'I know', 'hmmm' |
| Affection | Shows affection, empathy, emotional involvement, warmth, gratitude or reflection of feelings (pronounced affectively) | 'Are you feeling so sad now'<br>'It will work out, I'll help you'<br>'Thank you, you're so sweet' |
| Partnership | Shows partnership | 'We have done well together' |
| Sensory stimuli | Conversation about sensory stimuli | 'Do you like this smell?'<br>'Feel how nice and soft this jersey is' |
| Affective question | Affective question, question which intents to make real contact on an emotional level, question which shows emotional involvement with the other person | 'How do you feel?'<br>'Why are you so sad by now?' |
| **Affective communication (negative)** | | |
| Disapproval | Shows disapproval or criticism (moderately negative utterances) | 'I don't want to be washed'<br>'Don't pinch my arm, mrs. X' |
| Anger | Shows anger, irritation or reluctance (shows real negative emotions) | 'Stop it!', 'Keep your hands off me',<br>'You're a fright, I hate you' |

*- table 4.2 continues-*

*-table 4.2 continued*

| | | |
|---|---|---|
| **Instrumental communication (positive)** | | |
| Information and orients | Gives orientation or information on nursing and health, including statements telling the other what is about to happen | 'We are now going to the bathroom'<br>'Just brushing your hair and then we are ready' |
| Instruction | Gives instructions on morning care, instructing or dictating the other person to do something specific | 'Please, turn on your right side'<br>'Pick up your feet!' |
| Autonomy | C: Questions that asks for the residents' opinion in order to give the resident autonomy<br>R: Giving opinion by resident, making a choice | C: 'Would you like to wear this dress or this one?'<br>R: 'That one'<br>C: 'Do you want to take a shower?' |
| Ask for clarification | Bids for clarification, statements requesting for repetition of the other's previous statement | 'What did you say?' |
| Instrumental question | Other instrumental questions, questions on nursing and health | 'Does your knee still hurts?' |
| **Instrumental communication (negative)** | | |
| Knowledge | Providing factual knowledge/unnecessary cognitive information in the actual context, correcting the resident on cognitive facts | 'It's Wednesday today, not Monday'<br>'In six months, the euro will be introduced in Europe' |
| Closed question knowledge | Closed-ended questions on factual knowledge | 'Is Julie coming to visit you tomorrow?'<br>'Do you remember that queen Beatrix celebrated her birthday last month?' |
| Open question knowledge | Open-ended questions on factual knowledge | 'What's your daughter's name?'<br>'What did you have for dinner yesterday?' |
| **Other communication** | | |
| Third person | Communication to a third person | 'Can you please give me a towel? (to another nurse) |
| Unintelligible | Not categorizable or unintelligible utterances | 'xxxx xxxx xxxx xxxx' |

C = CNA category, R=Resident category

In the RIAS, a distinction is made between affective communication and instrumental communication, both essential in nursing care. Positive affective communication is needed to establish a trusting relationship between the CNA and

the resident (e.g., social conversation that has no particular function in nursing activities, showing agreement and understanding). Instrumental communication includes communication that structures the encounter, stimulates autonomy and exchanges information (see table 4.2).
In addition, some study-specific adaptations were made to tailor the observation system to nurse-patient interaction in dementia care. Within the affective domain, 'negative affective communication' was distinguished, including disapproval and anger, which is expected to have a negative influence on the CNA-resident relationship instead of a positive. Furthermore, two sub-categories were specified within the cluster 'positive affective communication', because of their value within the concept of *snoezelen* (Kok et al., 2000). First, the category 'conversation about sensory stimulation', such as talking about the smell of soap or the colour of clothes. Second, the category 'validation' or 'emotion-oriented communication', meaning that the conversation is adapted to the (subjective) perceived reality of the resident, whether the resident is confused or not.
Within the instrumental domain, the cluster 'negative instrumental communication' was distinguished, containing 'cognitive communication'. 'Cognitive communication' includes the provision of factual knowledge, which is useless in the context of the present situation, checking the residents' knowledge of facts or correcting verbal facts expressed by the resident. As *snoezelen* does not aim to make an appeal to the residents' intellectual capabilities, the active use of cognitive communication might confuse the resident and has to be avoided. We distinguished open and closed questions about factual knowledge, because closed questions are considered less confusing for dementia patients than open questions (Kok et al., 2000).

**Reliability of the observations**
To rate inter-observer reliability, the observers rated the same 25 (10%) video-recordings. Inter-observer correlations (mean Pearson's r) for the nonverbal behaviours was .93 (range .83 to .99), for the verbal behaviours .84 (affective utterances .44 (2.3% of all utterances); other verbal behaviours ranged .59 -.96). Inter-observer reliability was only measured for the verbal utterances that took up more than 2 percent of the utterances (Ford et al., 1996).

### *Data analysis*
Descriptive statistics were obtained on the demographic characteristics of subjects in pre-test and post-test and in the experimental and control groups. Differences were examined using chi-square tests or t-tests.

Data-analysis of the video-observations was done by descriptive statistics. The mean frequency of verbal utterances within each category of the observation scheme during every video-taped morning care was calculated, as well as the mean duration of the nonverbal behaviours 'gazing', 'instrumental touch' and 'affective touch', and

the mean frequency of 'smiling'. Except for smiling, the length of the nonverbal behaviours was proportionate to the total length of the morning care minus interruptions and unobservable parts.

As dropouts were substituted by new residents and CNAs, multilevel analysis, carried out with MLwiN-software, was used for analysing the data. With multilevel analysis, it is possible to correct for dependency of the observations within subjects (Bryk and Raudenbusch, 1992; Goldstein, 1995). A mixed model of repeated measurements was chosen, which takes into account all available data in an adequate way: the paired samples of completers (included in both pre- and post-test) as well as the unpaired pre- or post-measurement data of non-completers (only included in pre-test or post-test). We distinguished two levels of analysis: (1) measurement, and (2) resident and CNA, respectively. The correlated measurements of completers are controlled for by modelling the covariance between the pre- and post-measurement at resident or CNA level. Similarity among the care by CNAs who were video-recorded twice (n=12) was also taken into account.

Change scores were computed by subtracting the magnitude of change in the control group (pre-treatment score minus post-treatment score) from the magnitude of change in the experimental group. The mean pre-test post-test differences of the experimental group were tested against the mean pre-test post-test differences in the control group. The following characteristics were used as covariates in the adjusted analysis of residents' communication to correct for differences in the residents' condition or function: care dependency, memory impairment, age, duration of nursing home admission and sex (Van Weert et al., in press; chapter 6).
In the analysis of CNAs' communication, age, gender, working experience and working period on the ward were added in the model as covariates. As the communication opportunities for CNAs also depend on the function of the resident involved, additional adjusted analyses were done adding the resident's relevant covariates (care dependency, memory impairment, age, duration of nursing home admission and sex) to the model.

The number of wards (n=6 in each group) was too small to allow for comparisons between subgroups of nursing homes or to take similarity among wards into account.

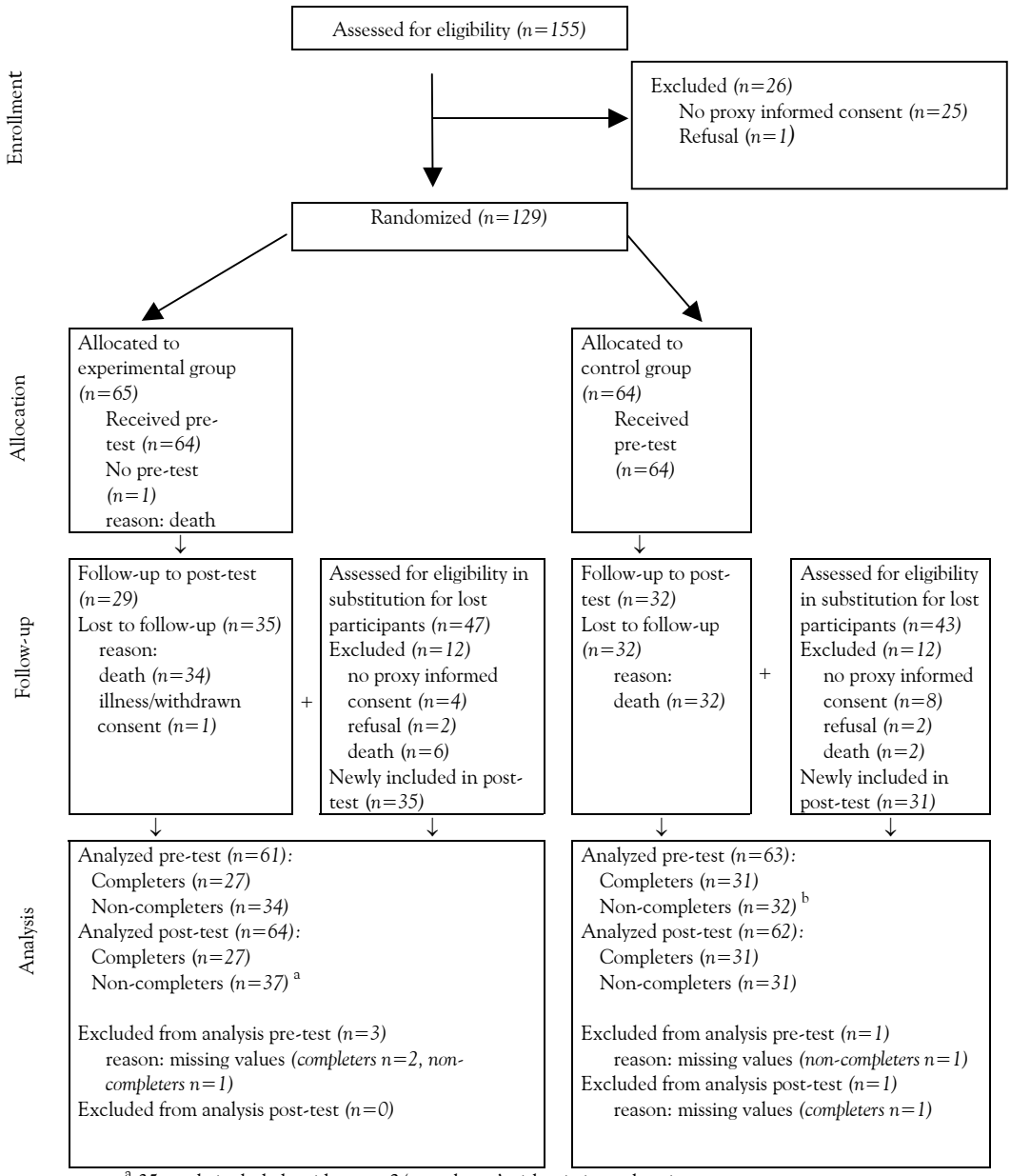
## Results

### *Response*

Figure 4.1 presents the informed consent, response and dropping out over time per group (experimental and control).

Before the pre-test, 155 legal guardians were asked for a written informed consent of whom 25 (16.1%) refused. The main reason for refusal was objection to videotaping by the resident. No significant differences were obtained on age and sex among participants and refusers. A total of 67 residents was lost to follow-up. They were substituted by 66 new residents. Five cases were excluded from the final analysis because there were missing values in the background variables used for the adjusted multilevel analyses (n=4) or adjourned video-recording (n=1). In total, 250 video-recordings could be analysed (124 in pre- and 126 in post-test).
With regard to CNAs, 37 out of 117 were lost to follow-up by changing jobs (19 in the experimental group and 18 in the control group). They were substituted by 41 new CNAs (22 in the experimental group and 19 in the control group).

Figure 4.1 Flow chart of the trial




[a] 35 newly included residents + 2 'completers' with missing values in pre-test
[b] 31 non-completers + 1 'completer' with missing values in post-test

## *Sample characteristics*

### Background characteristics residents

Table 4.3 summarizes the demographic characteristics for subjects in pre-test and post-test.

Table 4.3 Background characteristics of participating residents by treatment group

| Residents' Characteristics | Experimental group | | | | Control group | | | |
|---|---|---|---|---|---|---|---|---|
| | Pre-test (n=61) | | Post-test (n=64) | | Pre-test (n=63) | | Pre-test (n=63) | |
| Gender: female (n, (%)) | 48 | (78.7) | 56 | (87.5) | 52 | (82.5) | 47 | (75.8) |
| Age (mean in years, (sd)) | 84.01 | (8.7) | 85.83*[a] | (6.1) | 82.60 | (8.2) | 82.54 | (7.9) |
| Duration of illness (mean in years, (sd)) | 5.6 | (2.7) | 6.3 | (3.0) | 6.1 | (3.5) | 6.3 | (3.1) |
| Residing in nursing home (mean in years, (sd)) | 3.17 | (2.5) | 3.48 | (2.8) | 2.57 | (2.5) | 2.96 | (2.6) |
| Care dependency (CDS; 15-<u>75</u>)[b] (mean score, (sd)) | 26.87 | (11.0) | 30.22 | (12.8) | 29.46 | (11.2) | 27.06 | (12.0) |
| Memory impairment (BIP7; <u>0</u>-21)[b] (mean score, (sd)) | 14.61 | (3.1) | 13.41 | (3.8) | 13.37 | (4.0) | 13.84 | (3.9) |
| Diagnosis (n, (%)): | | | | | | | | |
| - Alzheimer's (DAT) | 35 | (57.4) | 36 | (56.3) | 34 | (54.0) | 32 | (51.6) |
| - Vascular dementia | 13 | (21.3) | 11 | (17.2) | 5 | (7.9) | 13 | (21.0) |
| - Combined DAT+vascular | 9 | (14.8) | 14 | (21.9) | 16 | (25.4) | 8 | (12.9) |
| - Other dementia | 4 | (6.6) | 3 | (4.7) | 8 | (12.7) | 9 | (14.5) |
| Predominant features (n,(%)) | | | | | | | | |
| - with delirium | 0 | (0.0) | 2 | (3.1) | 0 | (0.0) | 2 | (3.2) |
| - with delusions | 10 | (16.4) | 13 | (20.3) | 12 | (19.0) | 15 | (24.2) |
| - with depressed mood | 8 | (13.1) | 10 | (15.6) | 9 | (14.3) | 9 | (14.5) |
| - with anxiety | 10 | (16.4) | 7 | (10.9) | 7 | (11.1) | 11 | (17.7) |
| - with primary insomnia | 6 | (9.8) | 8 | (12.5) | 6 | (9.5) | 4 | (6.5) |
| - uncomplicated | 27 | (44.3) | 24 | (37.5) | 29 | (46.0) | 21 | (33.9) |
| Cognitive disturbances (n,(%)) | | | | | | | | |
| - aphasia | 3 | (4.9) | 1 | (1.6) | 5 | (7.9) | 5 | (8.1) |
| - apraxia | 12 | (19.7) | 16 | (25.0) | 10 | (15.9) | 13 | (21.0) |
| - agnosia | 31 | (50.8) | 37 | (57.8) | 28 | (44.4) | 25 | (40.3) |
| - none of these disturbances | 3 | (4.9) | 5 | (7.8) | 4 | (6.3) | 7 | (11.3) |
| - unknown | 12 | (19.7) | 5 | (7.8) | 16 | (25.4) | 12 | (19.4) |

To test the differences in background characteristics, t-tests and $\chi^2$ analysis were used

* $p<.05$

[a] difference between experimental group and control group at post-test

[b] the underlined scores indicate the most favourable score (least impairment) for the scale

The table shows that the experimental and the control groups were comparable on background characteristics, with the exception of age. In the post-test, the experimental group was significantly older than the control group: The newly included participants of the experimental group were older than those of the control group (85.1 as against 81.3 years; $P<0.05$), which probably counts for this difference in the total group. Although age does not appear to be a factor of significance for dependency (Jirovec and Kasno, 1993; Dijkstra, 1998), the difference was accounted for in the analyses. No other significant differences were found.

**Background characteristics CNAs**

Table 4.4 shows the demographic characteristics for CNAs in pre- and post-test.

Table 4.4 Background characteristics of participating CNAs by treatment group

| CNAs' Characteristics | Experimental group | | | | Control group | | | |
|---|---|---|---|---|---|---|---|---|
| | Pre-test (n=57) | | Post-test (n=60) | | Pre-test (n=60) | | Post-test (n=61) | |
| Gender: female (n, (%)) | 53 | (93.0) | 55 | (91.7) | 55 | (91.7) | 58 | (95.1) |
| Age (years, (sd)) | 36.75 | (10.7) | 35.62 | (10.7) | 33.24 | (9.4) | 36.11 | (9.9) |
| Hours employment per week (mean hours, (sd)) | 29.51 | (10.9) | 27.68 | (7.5) | 29.17 | (7.4) | 28.82 | (7.5) |
| Psychogeriatric experience (mean years, (sd)) | 8.17 | (6.4) | 8.23 | (7.3) | 7.42 | (5.9) | 8.98 | (8.2) |
| Employed on this ward (mean years, (sd)) | 3.79 | (3.9) | 3.63 | (3.2) | 3.45 | (3.7) | 4.06 | (3.0) |
| Position (n, (%)): | | | | | | | | |
| - Team leader | 4 | (6.6) | 4 | (6.7) | 6 | (10.0) | 5 | (8.2) |
| - Nursing assistant | 50 | (87.7) | 50 | (83.3) | 45 | (75.0) | 48 | (78.7) |
| - Other (ward assistant, geriatric helper) | 3 | (5.3) | 6 | (10.0) | 9 | (14.9) | 8 | (13.1) |

To test the differences in background characteristics, t-tests and $\chi^2$ analysis were used. No significant differences were found

There were no significant differences on background characteristics between the experimental and the control group of CNAs. The majority of the study population was female with an average age of 36 years and around 8 years work experience.

Subgroup analyses were done to control for differences between completers and non-completers (dropouts or newly included CNAs) in both groups during pre-test and post-test (not presented in table). In the post-test, completers of both the experimental group and the control group, were significantly longer employed at the ward than newly included CNAs, as was expected (Exp.: 4.4 vs 1.7 years, $P<.01$; Contr.: 3.1 vs 1.7 years, $P<.01$). In the experimental group, completers had also more experience than newly included CNAs (7.3 vs 3.6 years, $P<.01$). There were no other differences in the groups.

### *Outcomes*

**Effects on nonverbal communication**

Table 4.5 provides the adjusted estimated means and the change scores from the experimental group in comparison with the control group on nonverbal communication.

On all measures, negative change scores indicate a difference in change in favour of the experimental group. Regarding CNAs nonverbal behaviour, a significant treatment effect was obtained for the duration of eye-contact, affective touch and the mean number of smiles. In proportion to the total duration of the morning care, the percentages of eye-contact (resident-directed gaze) and affective touch increased significantly, while the percentage of instrumental touch did not.

With regard to residents' nonverbal behaviour, the duration of eye-contact (CNA-directed gaze) and the mean number of smiles of experimental subjects increased significantly. The percentage of eye-contact within the group of experimental subjects also showed a significant increase, but, in comparison with the control group, the total change score was not significant.

The morning care with trained CNAs tended to be longer; the total length of the morning care increased significantly in the experimental group as compared to the control group.

Table 4.5 Change in nonverbal communication of CNAs and residents

| Outcome measures | Experimental group | | | | Control group | | | | Change Score [c] | $\Delta\chi^2$ (1) |
|---|---|---|---|---|---|---|---|---|---|---|
| | Pre-test | | Post-test | | Pre-test | | Post-test | | | |
| | M | (se) | M [a] | (se) | M | (se) | M [b] | (se) | | |
| ***CNAs' nonverbal behaviour*** | | | | | | | | | | |
| Eye-contact (sec) | 72.15 | (7.7) | 215.40*** | (16.1) | 57.25 | (7.5) | 78.52 | (15.9) | *-121.96**** | 30.39 |
| Eye-contact (%) | 6.23 | (0.6) | 14.30*** | (0.9) | 4.70 | (0.6) | 6.53* | (0.8) | *- 6.25**** | 23.02 |
| Instrumental touch (sec) | 567.90 | (25.6) | 560.60 | (29.6) | 584.20 | (24.8) | 564.20 | (29.1) | - 11.55 | 0.04 |
| Instrumental touch (%) | 43.96 | (2.0) | 43.08 | (1.6) | 47.19 | (2.0) | 41.96* | (1.6) | - 4.35 | 1.89 |
| Affective touch (sec) | 26.22 | (4.5) | 76.48*** | (6.2) | 17.21 | (4.4) | 19.15 | (6.1) | *- 44.16**** | 23.20 |
| Affective touch (%) | 2.23 | (0.4) | 5.06*** | (0.4) | 1.43 | (0.4) | 1.61 | (0.4) | *- 2.49**** | 13.73 |
| Smiling (freq) | 2.56 | (0.6) | 9.90*** | (1.0) | 3.23 | (0.6) | 5.19 | (0.9) | *- 5.34**** | 10.90 |
| ***Residents' nonverbal behaviour*** | | | | | | | | | | |
| CNA-directed gaze(sec) | 49.95 | (6.5) | 107.50*** | (12.0) | 38.52 | (6.3) | 54.00 | (12.1) | *- 42.07** | 6.62 |
| CNA-directed gaze (%) | 4.61 | (0.6) | 7.66*** | (0.8) | 3.33 | (0.6) | 4.67 | (0.8) | - 1.70 | 1.96 |
| Smiling (freq) | 1.17 | (0.3) | 4.60*** | (0.7) | 1.58 | (0.3) | 2.14 | (0.7) | *- 2.87*** | 8.14 |
| ***Mean duration of morning care (minutes)*** | 19.08 | (0.6) | 23.72*** | (0.8) | 18.92 | (0.6) | 19.58 | (0.8) | - 3.97** | 9.54 |

* P<.05, ** P<.01, *** P<.001
[a] P-values as compared to pre-test in experimental group
[b] P-values as compared to pre-test in control group
[c] The scores in italic indicate a significant change in favour of the experimental group, meaning that the pre-/post change in the experimental group is significantly different from the pre-/post change in the control group
M = estimated mean score (mean duration; percentages of total duration of morning care; for smiling mean frequencies)
se = standard error
$\Delta\chi^2$ (1) = Chi square (1 degree of freedom)
sec = seconds
freq = frequencies

**Effects on verbal communication**

The effects of the application of *snoezelen* on verbal communication of CNAs during morning care are presented in table 4.6. On measures representing positive verbal communication (affective and instrumental) negative change scores indicate a difference in change in favour of the experimental group. On measures representing negative verbal communication (affective and instrumental) positive change scores indicate a difference in change in favour of the treatments.

Significant treatment effects were particularly found in the category 'positive affective communication' and 'positive instrumental communication'. These effects were mainly caused by significant increases in the following sub-categories: social conversation, showing agreement and understanding, conversation about sensory stimuli (affective sub-categories), giving information and autonomy (instrumental sub-categories). Moreover, 'negative affective behaviour' and 'negative instrumental behaviour' decreased, in favour of the experimental group. The total number of verbal utterances by CNAs showed a significant increase in the experimental group.
In proportion to the total number of verbal utterances, the percentages of 'conversation about sensory stimuli' ($p<.001$) and 'autonomy' ($p<.01$) increased and the percentages of 'disapproval' ($p<.01$), 'anger' ($p<.05$), 'knowledge' ($p<.05$) and 'open questions about knowledge' ($p<.05$) decreased (not presented in table).

Effects on the verbal communication of residents are presented in table 4.7. A significant treatment effect was found in the category 'negative affective communication'. More detailed analysis revealed that, at post-test, the residents in the experimental condition decreased in showing disapproval and anger whereas those of the control condition increased in showing anger. Further analysis of resident communication showed a significant increase in showing autonomy (giving opinion, making a choice) by residents in the experimental condition. Consequently, the total number of positive instrumental responses increased significantly in the experimental condition, although not leading to a significant effect in the total change score. Residents in the experimental condition also showed significantly more verbal utterances at post-test than at pre-test. Yet, a significant total change score was not reached.
There were no significant changes in the ratio of verbal affective behaviour (positive nor negative) versus verbal instrumental behaviour (positive nor negative) of residents.

Table 4.6 Change in verbal communication of CNAs (estimated number of utterances per category)

| Outcome measures | Experimental group | | | | Control group | | | | Change Score [c] | $\chi^2$ (1) |
|---|---|---|---|---|---|---|---|---|---|---|
| | Pre-test | | Post-test | | Pre-test | | Post-test | | | |
| | M | (se) | M [a] | (se) | M | (se) | M [a] | (se) | | |
| ***Affective (positive)*** | **42.73** | **(2.8)** | **66.64*** ** | **(3.6)** | **35.27** | **(2.8)** | **40.03** | **(3.5)** | ***-19.15**** | **14.31** |
| Social | 19.70 | (1.7) | 33.37*** | (2.3) | 16.54 | (1.7) | 21.22 | (2.3) | *- 9.00** | 6.06 |
| Validation | 1.37 | (0.3) | 4.44*** | (0.8) | 1.09 | (0.3) | 2.50 | (0.8) | - 1.66 | 1.73 |
| Agree | 13.19 | (1.3) | 20.14*** | (1.2) | 10.91 | (1.2) | 11.31 | (1.2) | *- 6.56*** | 10.02 |
| Affection | 5.34 | (0.6) | 4.74 | (0.6) | 4.76 | (0.6) | 3.46 | (0.6) | - 0.70 | 0.40 |
| Partnership | 0.16 | (0.1) | 0.51* | (0.1) | 0.18 | (0.1) | 0.24 | (0.1) | - 0.28 | 2.21 |
| Sensory stimuli | 0.34 | (0.1) | 2.56*** | (0.3) | 0.29 | (0.1) | 0.36 | (0.3) | *- 2.15**** | 23.29 |
| Affective question | 1.87 | (0.3) | 0.67** | (0.2) | 1.70 | (0.3) | 0.38** | (0.2) | - 0.12 | 0.06 |
| ***Affective (negative)*** | **1.71** | **(0.4)** | **0.62*** | **(0.3)** | **1.00** | **(0.4)** | **1.66** | **(0.3)** | ***1.74**** | **6.02** |
| Disapproval | 1.52 | (0.4) | 0.62* | (0.3) | 1.00 | (0.4) | 1.44 | (0.3) | 1.34* | 4.48 |
| Anger | 0.17 | (0.1) | 0.02 | (0.1) | 0.01 | (0.1) | 0.22* | (0.1) | *0.37*** | 7.75 |
| ***Instrumental (positive)*** | **86.12** | **(5.5)** | **114.70*** ** | **(4.7)** | **85.58** | **(5.4)** | **75.76** | **(4.6)** | ***- 38.41**** | **15.62** |
| Information | 57.76 | (3.6) | 73.49*** | (3.3) | 56.47 | (3.5) | 49.63 | (3.2) | *- 22.57**** | 13.35 |
| Instruction | 13.41 | (1.7) | 13.56 | (1.1) | 13.94 | (1.6) | 10.31 | (1.1) | - 3.78 | 1.91 |
| Autonomy | 8.26 | (0.9) | 21.30*** | (1.6) | 8.42 | (0.9) | 10.36 | (1.6) | *- 11.11**** | 21.02 |
| Ask for clarification | 1.91 | (0.4) | 1.17 | (0.2) | 1.54 | (0.4) | 0.68* | (0.2) | - 0.12 | 0.04 |
| Instrumental question | 5.15 | (0.6) | 5.06 | (0.6) | 5.11 | (0.6) | 4.78 | (0.5) | - 0.25 | 0.05 |
| ***Instrumental (negative)*** | **2.72** | **(0.4)** | **1.16*** ** | **(0.5)** | **2.01** | **(0.4)** | **2.47** | **(0.5)** | ***2.03**** | **7.05** |
| Knowledge | 1.34 | (0.3) | 0.47* | (0.2) | 0.95 | (0.3) | 1.00 | (0.2) | 0.92 | 3.44 |
| Closed qst knowledge | 0.75 | (0.2) | 0.48 | (0.2) | 0.63 | (0.2) | 0.89 | (0.2) | 0.53 | 3.10 |
| Open qst knowledge | 0.62 | (0.2) | 0.25 | (0.2) | 0.41 | (0.1) | 0.56 | (0.2) | 0.52 | 3.33 |

*- table 4.6 continues -*

*- table 4.6 continued -*

| | M | (se) | M [a] | (se) | M | (se) | M [a] | (se) | Change Score [c] | $\chi^2$ (1) |
|---|---|---|---|---|---|---|---|---|---|---|
| ***Other*** | **11.61** | **(1.7)** | **12.77** | **(1.7)** | **10.90** | **(1.6)** | **14.64** | **(1.7)** | **2.58** | **0.64** |
| Third person | 10.51 | (1.7) | 11.27 | (1.7) | 9.93 | (1.6) | 13.79 | (1.7) | 3.10 | 0.97 |
| Unintelligible | 1.08 | (0.3) | 1.53 | (0.4) | 0.95 | (0.3) | 0.81 | (0.4) | - 0.59 | 0.79 |
| **Total verbal utterances** | **145.1** | **(7.1)** | **195.9*** ** | **(7.6)** | **135.1** | **(6.9)** | **134.0** | **(7.4)** | ***- 51.93*** ** | **16.79** |

* p<.05, ** p<.01, *** p<.001

[a] p-values as compared to pre-test in experimental group

[b] p-values as compared to pre-test in control group

[c] The scores in italic indicate a significant change in favour of the experimental group, meaning that the pre-/post change in the experimental group is significantly different from the pre-/post change in the control group

M = estimated mean score (multilevel analysis)

se = standard error

$\chi^2$ (1) = Chi square (1 degree of freedom)

qst =question

Table 4.7 Change in verbal communication of residents (estimated number of utterances per category)

| Outcome measures | Experimental group | | | | Control group | | | | Change Score [c] | $\chi^2$ (1) |
|---|---|---|---|---|---|---|---|---|---|---|
| | Pre-test | | Post-test | | Pre-test | | Post-test | | | |
| | M | (se) | M [a] | (se) | M | (se) | M [b] | (se) | | |
| ***Affective (positive)*** | **29.20** | **(3.1)** | **35.97** | **(3.4)** | **25.06** | **(3.0)** | **24.64** | **(3.4)** | **-7.18** | **1.80** |
| Social | 7.63 | (1.5) | 9.77 | (1.4) | 7.56 | (1.5) | 8.52 | (1.4) | -1.17 | 0.38 |
| Validation | 1.49 | (0.6) | 4.47 | (1.4) | 1.26 | (0.6) | 1.75 | (1.4) | -2.49 | 1.34 |
| Agree | 18.99 | (1.8) | 20.35 | (2.0) | 15.04 | (1.8) | 13.82 | (2.0) | -2.58 | 0.81 |
| Affection | 1.10 | (0.3) | 0.93 | (0.2) | 1.19 | (0.3) | 0.61 | (0.2) | -0.41 | 0.76 |
| Partnership | 0.00 | (0.0) | 0.00 | (0.0) | 0.02 | (0.0) | 0.00 | (0.0) | -0.02 | 1.52 |
| Sensory stimuli | 0.02 | (0.0) | 0.11 | (0.1) | 0.03 | (0.0) | 0.05 | (0.1) | -0.07 | 0.83 |
| Affective question | 0.11 | (0.1) | 0.01 | (0.0) | 0.11 | (0.1) | 0.04 | (0.0) | 0.04 | 0.19 |
| ***Affective (negative)*** | **5.77** | **(1.0)** | **3.16** | **(1.1)** | **3.23** | **(1.0)** | **5.98** | **(1.1)** | **5.36*** | **6.42** |
| Disapproval | 5.10 | (0.9) | 3.02 | (0.9) | 3.06 | (0.9) | 5.06 | (0.9) | *4.08** | 4.81 |
| Anger | 0.67 | (0.3) | 0.11 | (0.3) | 0.17 | (0.3) | 0.92* | (0.3) | *1.31** | 5.94 |
| ***Instrumental (positive)*** | **14.81** | **(1.7)** | **22.46**** | **(1.8)** | **12.65** | **(1.7)** | **15.26** | **(1.8)** | **-5.05** | **2.18** |
| Information | 6.90 | (0.9) | 9.30 | (1.0) | 5.99 | (0.9) | 7.52 | (1.0) | -0.89 | 0.24 |
| Instruction | 0.23 | (0.1) | 0.12 | (0.0) | 0.26 | (0.1) | 0.11 | (0.0) | -0.03 | 0.06 |
| Autonomy | 3.64 | (0.6) | 9.65*** | (1.0) | 2.93 | (0.6) | 4.89 | (1.0) | *-4.06*** | 6.87 |
| Ask for clarification | 2.09 | (0.4) | 1.69 | (0.3) | 1.60 | (0.4) | 0.93 | (0.3) | -0.26 | 0.14 |
| Instrumental question | 1.90 | (0.3) | 1.66 | (0.3) | 1.88 | (0.3) | 1.66 | (0.3) | 0.02 | 0.00 |

*- table 4.7 continues -*

*- table 4.7 continued -*

| Outcome measures | Experimental group | | | | Control group | | | | Change Score [c] | $\Delta\chi^2$ (1) |
|---|---|---|---|---|---|---|---|---|---|---|
| | Pre-test | | Post-test | | Pre-test | | Post-test | | | |
| | M | (se) | M [a] | (se) | M | (se) | M [b] | (se) | | |
| ***Instrumental (negative)*** | **1.24** | **(0.3)** | **0.83** | **(0.3)** | **1.21** | **(0.3)** | **1.26** | **(0.3)** | **0.46** | **0.68** |
| Knowledge | 0.73 | (0.3) | 0.63 | (0.2) | 0.90 | (0.3) | 0.86 | (0.2) | 0.06 | 0.02 |
| Closed qst knowledge | 0.09 | (0.1) | 0.10 | (0.1) | 0.16 | (0.1) | 0.07 | (0.1) | -0.09 | 0.33 |
| Open qst knowledge | 0.30 | (0.1) | 0.10* | (0.1) | 0.24 | (0.1) | 0.20 | (0.1) | 0.17 | 1.76 |
| ***Other*** | **16.60** | **(4.5)** | **20.19** | **(2.7)** | **11.24** | **(4.4)** | **14.56** | **(2.7)** | **-0.26** | **0.00** |
| Third person | 0.30 | (0.2) | 0.49 | (0.2) | 0.48 | (0.2) | 0.59 | (0.2) | -0.09 | 0.04 |
| Unintelligible | 16.18 | (4.5) | 19.71 | (2.7) | 10.55 | (4.4) | 13.79 | (2.6) | -0.28 | 0.00 |
| **Total verbal utterances** | **66.94** | **(6.4)** | **83.72*** | **(6.0)** | **53.26** | **(6.3)** | **61.81** | **(5.9)** | **-8.24** | **0.53** |

* p< .05, ** p< .01, *** p< .001

[a] p-values as compared to pre-test in experimental group

[b] p-values as compared to pre-test in control group

[c] The scores in italic indicate a significant change in favour of the experimental group, meaning that the pre-/post change in the experimental group is significantly different from the pre-/post change in the control group

M = estimated mean score (multilevel analysis)

se = standard error

$\Delta\chi^2$ (1) = Chi square (1 degree of freedom)

qst = question

## Conclusion and discussion

### *Results*

The results of this study support CNAs' use of *snoezelen* principles by improvements being observed in nonverbal and verbal communication in dementia care. CNAs applying a *snoezel* approach during morning care demonstrated more rapport-building nonverbal behaviour (resident-directed gaze, affective touch and smiling) than the control group, which applied usual care. As regards verbal communication, they showed more affective communication, particularly social conversation, agreement and understanding and conversation about sensory stimuli. Negative verbal communication, such as the provision of factual knowledge or showing disapproval, decreased. The improved communication of trained CNAs seemed to facilitate residents' responsive communication. Residents showed an increase in CNA-directed gaze and smiling as well as a decrease in verbal disapproval and anger. These findings are in accordance with our hypotheses. Unexpectedly, CNAs of the experimental group also increased in giving information and facilitating autonomy (instrumental communication). Residents in turn showed an increase in taking autonomy (giving opinion, making a choice). Although these results were not expected in advance, they are quite easy to explain afterwards. During the training '*snoezelen* for caregivers', CNAs learned to be more aware of the residents' physical, social and emotional needs. One of the needs, often identified by CNAs, seems to be the need for information. Taking notice of the possibilities of the resident appeared to be another one. By enabling a resident to do what he or she would not be inclined to do beforehand, CNAs facilitated the autonomy of the resident.

The mean duration of morning care also increased in the experimental group. Compared to a previous, descriptive study measuring the duration of morning care in two Dutch psycho-geriatric nursing homes in 1996 (n=77 video-recordings), the average length of morning care was 2.2 minutes shorter at pre-test in the present study (21.2 min. in 1996 vs. 19.0 min. in 2000) (Kerkstra et al., 1999). At post-test (in 2001), the mean duration of morning care increased to 23.7 minutes in the experimental group. It is interesting how communication changes (e.g., increased nonverbal communication of CNAs and residents) coincide with the length of morning care. One could argue that during longer morning care, CNAs have more opportunities to communicate, just because they have more time for it (Bensing et al., 1995). Accordingly, only proportionate results should be of importance. A more theoretically based line of reasoning, known from doctor-patient communication research, is that the use of nonverbal and verbal behaviours by caregivers encourages the patient to respond, with longer consultation length as a consequence (Bensing et al., 1995). Following this hypothesis, the absolute measurements should be presented to avoid the (real) effect of increased nonverbal and verbal communication being masked by using a relative measure. According to Bensing et al. (1995), both lines of

reasoning seem to be partly true in general practice, and reinforce each other in circular processes. Dementia care especially differs from somatic health care in the expectations one could have of patient's communication. Demented nursing home residents usually cannot be expected to initiate communication; they are more likely to respond on the encouragement of other persons. This means that the efforts of caregivers to facilitate residents' responses might even be more important than in other care settings. Moreover, residents need time to assimilate to the CNAs' input and to be able to provide a reaction (Kitwood, 1997). Taking this into account, it seems most likely that increased communicative initiatives by CNAs, aiming to adequately facilitate responses of demented residents, will automatically lead to a (somewhat) increased length of morning care. This raises the question whether an increased time commitment during morning care has to be considered as problematic. In dementia care, there are only a few care moments with the possibility of real individual contact between CNAs and residents. Morning care is one of these. Time investment in these scarce, but individual, care routines might yield a profit during the rest of the day. This train of thought was confirmed by the CNAs of the experimental group. They mentioned that, when a battle during the morning care can be avoided and the resident becomes in a good mood during the care routines, the rest of the day progresses more smoothly too. They also reported that they were still able to get their work finished (Van Weert et al., 2004). Additional analysis revealed that CNAs of the experimental group perceived less time pressure, fewer problems caused by lack of time, fewer stress reactions and less emotional exhaustion after the implementation of *snoezelen* than those of the control group (Van Weert et al., in press; chapter 7). Moreover, the implementation of the new care model did not require an expansion of staff members, which suggests that a shift in time investment was made. In conclusion, time commitment to morning care might be feasible in the nursing home environment, because the benefits seem to balance the investment in time.

### *Strengths and limitations*

The findings on CNA nonverbal and verbal communication in the present investigation illustrate the contributions that behavioural observation can make in the context of an intervention study. The communication between CNAs and residents in dementia care has never been described in this detail before. The detailed analysis of the communication addressed specific research questions about the occurrence of specific verbal and nonverbal communication between CNAs and residents that might otherwise go unanswered and resulted in clear and convincing findings.

There are also limitations of this study. As this study was using video-recordings, CNAs' reaction to observation might be a potential problem. CNAs' performance of skills during observation may be influenced by social desirability factors and may not be completely representative (Burgio et al., 2000). For instance, the increased length of morning care in the actual day-to-day situation of the experimental group during post-test might be (somewhat) less than five minutes. A little overextension of the morning care cannot be excluded due to enthusiasm of CNAs to show the new working style, though the CNAs did not know how the video-recordings would be analysed. We do not know to what degree social desirability exactly influenced the CNA result, but several authors stated that the occurrence of performance bias in nursing research seems to be limited (Bottorf, 1994; Caris-Verhallen, 1999b; Kruijver, 2001; VanHaitsma et al., 1997). Accordingly, CNAs reported afterwards that the video-taped morning care reflected the normal situation.

Because the intervention was a combination of communication principles and the application of sensory stimuli, it is not possible to draw a fixed conclusion about the separate contributions of each element. During the implementation period of *snoezelen*, a lot of attention was given to the application of a stimulus preference screening to find out which sensory stimuli the resident liked most, the development of a snoezel care plan and organizational adaptations to be able to apply the new care model (Van Weert et al., 2004). The present study shows that the CNAs used the communication principles underlying *snoezelen*, 18 months after the training. Whether separate training in communication skills or separate training in the application of sensory stimuli would result in the same findings has to be investigated in future research.

To observe nonverbal communication, we relied on instruments used in the studies of Caris-Verhallen (1999a), Kerkstra et al. (1999) and Kruijver (2001). As regards verbal communication, we built on RIAS (Roter, 1989). These instruments have proven to be reliable and valid in analysing nurse-(elderly) patient communication (Caris-Verhallen, 1999a; 1999b; Kerkstra et al., 1999; Kruijver, 2001). The RIAS

contains a large number of variables regarding both the communication of CNAs and that of residents. Due to this, there is a decrease of the power of the statistical tests and, at the same time, an increased risk of false-positive results (falsely assuming that a hypothesis is confirmed, type I error). In the present study, the significance level was set at $p<.05$. Therefore, one out of twenty tests will be coincidentally significant (Caris-Verhallen, 1999b). To account for the number of comparisons being performed, it is often recommended to lower the alpha (Hayes, 1988), but this increases the possibility of false-negative results (falsely rejecting a hypothesis, type II error) (Perneger, 1998). Also when the sample size is limited, type II errors might occur. The majority of the significant test results regarding CNA communication reached the $p< .01$ or $p<.001$ level. These results are still convincing. The results regarding resident communication need to be interpreted with caution, as they may be attributed to chance, although they were in conformity with the hypothesis and all point in the same direction.

The analysis methods used supply content information about the nature and frequency of behaviour categories in nurse-patient communication. Frequency-based data analysis does not really give insight into how the information was presented (Caris-Verhallen, 1999b; Hulsman, 1998). The results of the present study revealed, for instance, that nonverbal affective behaviour increased, while the number of verbal affective utterances hardly changed. This suggests that empathy and affection were mainly expressed nonverbally. Gazing and affective touch are essential for a provider-patient relationship and smiling is also supposed to be an important characteristics of a caregiver who wishes to establish a good rapport with patients (Caris-Verhallen, 2000; Heintzman et al., 1993). However, verbal affection might also be expressed by the use of social communication or asking the opinion of the resident instead of the use of explicitly affective pronounced statements. It would be of interest to assess the quality of the interaction to find out whether the CNA had the right attitude and indeed was acting in a respectful and empathetic way.

### *Practice implications*

In dementia care, ideas have developed rapidly in recent years (e.g., Kitwood, 1997), and the underlying philosophy of *snoezelen* is compatible with such developments. Underpinning of skills training by a 'person-centred' care philosophy is essential (Bryan et al., 2002). This study provides evidence of a perceived benefit from training on *snoezelen* among nursing home staff and residents. *Snoezelen* aims to fit the individual needs of the resident. The implementation of *snoezelen* contributed to a deeper understanding of the residents' situation and helped CNAs to understand what was important in the residents' lives. To achieve this, staff members are required who are skilled communicators, trained to facilitate effective

communication despite demented residents' communication difficulties. Teaching CNAs to provide *snoezelen* care holds promise as an approach to improve the communication environment in nursing homes. Ultimately, achieving optimal communication environments in nursing homes is considered to contribute to increased satisfaction with nursing home life and well-being (Williams et al., 2003). Reaching the goals of a training program requires strong team leadership and communication, clear patient-oriented goals definition, an understanding and appreciation of roles among various disciplines, skilful negotiation, and shared responsibility for the patient (Keough et al., 2002).

In the present study, favourable shifts within the nonverbal and verbal categories occurred. Training programs usually pay less attention to the performance of nonverbal skills. Nonverbal behaviour seemed to facilitate residents' responses most effectively. Regarding verbal communication, especially the facilitation of autonomy appeared to result in residents' responses. Even severely demented residents appeared to be able to make a choice between, for instance, two dresses that were showed to them. By stimulating autonomy (non-verbal and verbal), residents are supported to make their own choice and to find their own answers, which turned out to be possible until a very late stage of dementia.

# 5 The effects of the implementation of snoezelen on nurses' behaviour during morning care, assessed on the basis of Kitwood's approach to dementia care

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## Abstract

**Background.** Caregivers in long-term dementia care are often unaware of the impact of their behaviour on patient functioning. *Snoezelen* is a psychosocial intervention that might improve the quality of caregiver behaviour by combining a person-centred approach with the integration of sensory stimuli.

**Aim.** To investigate the effects of the implementation of *snoezelen*, or multi-sensory stimulation, on the quality of nurse behaviour during morning care.

**Methods.** A quasi-experimental pre- and post-test design was carried out in twelve psychogeriatric wards at six nursing homes. The experimental group intervention was a four-day in-house '*snoezelen*' training, stimulus preference screening and supervision meetings. The control group gave customary nursing home care. The effectiveness of the intervention was studied by the analysis of 250 video-recordings of morning-care (124 in the pre-test and 126 in the post-test). The video-recordings were assessed by independent observers, using a 4-point measurement scale that was developed for this study. The scale is designed to characterize the quality of nurse behaviour in the care of demented nursing home residents, and was based on Kitwood's Dialectical Framework. The tool contains 10 items of positive behaviour for nursing assistants ('Positive Person Work') in interaction with residents and 12 items of negative behaviour ('Malignant Social Psychology'). The number of sensory stimuli offered by nursing assistants was also counted.

**Results.** The results showed a significant increase in 'Positive Person Work' and decrease in 'Malignant Social Psychology' (total scores) after the implementation of *snoezelen*. Nursing assistants in the experimental group also significantly improved on all sub-items of 'Positive Person Work'. The mean number of sensory stimuli, offered implicitly, increased.

**Conclusion.** The implementation of *snoezelen* succeeded in effecting a change to a more person-centred approach during morning care. The results indicate that caregivers' behaviour can be positively changed, provided that the new care model has been successfully implemented.

## Introduction

Dementia is an irreversible disease that results in progressive cognitive deterioration and behaviour problems. Recent research shows that even patients suffering from severe dementia are sensitive to the emotional behaviour of others, such as caregivers. Thus far, most research on dementia has focused on the cognitive and behavioural aspects of the disease. Accordingly, most caregivers in long-term care facilities have had little training in understanding and responding to the emotional aspects of dementia, and may be unaware of the impact of their behaviour on patient functioning (Magai et al., 2002). A growing body of literature indicates that the quality of the relationship between caregivers and patients and the quality of nurse behaviour are closely related to both the caregiver burden and patient symptomology (Cicirelli, 1993; Edberg et al., 1995; Magai and Cohen, 1998; Magai et al., 2002; Williamson and Schulz, 1990). Negative behaviour by caregivers may contribute to an increase in behavioural symptoms in dementia patients and sensitive, person-centred behaviour by caregivers is increasingly considered to be essential (Kitwood, 1997; Magai et al., 2002; Vitaliano et al., 1993).

*Snoezelen* is a psychosocial intervention that combines a person-centred approach with the integration of sensory stimuli in daily care to nursing home residents suffering from moderate or severe dementia. Person-centred care is based on the humanist view that the status of individuals, suffering from dementia, as a person, should be preserved by positive interaction (Kuhn et al., 2000). Residents can be reached without the need for higher cognitive processes, such as memory or learning, by adding visual, auditory, tactile, olfactory and gustatory stimuli that accord with their preferences (Burns et al., 2000; Kok et al., 2000). The final aim of the implementation of *snoezelen* is compatible with that of other psychosocial interventions in dementia nursing home care, i.e., the improvement of the well-being of residents. Although the extent to which the intervention succeeds in changing caregiver behaviour to conform with the principles of intervention is a prerequisite in finding effects at the resident level, few studies have paid attention to adherence to the intervention protocol (Schrijnemaekers et al., 2002). The present study intends to gain insight into the adherence of Certified Nursing Assistants (CNAs) to the behavioural principles underlying *snoezelen*, 18 months after the start of the implementation.

## Background

The intervention (implementation of *snoezelen*) aimed to effect a change from task-oriented care to person-centred care, according to Kitwood's approach to dementia care. In his Dialectical Framework, Kitwood (1996) explains dementia on the basis of five key factors, i.e. personality, biography, physical health, neurological impairment and social psychology. Kitwood (1997) views the process of dementia as involving a continuing, dialectical interplay between the two main factors, namely those that pertain to neuropathology and those which are social-psychological. Social psychology makes up the fabric of life and enhances or diminishes an individual's sense of safety, value and personal wellbeing (Kitwood, 1993). Kitwood identified various areas of social psychology that are damaging to those who have dementia and interactions that make for well-being (Kitwood, 1996; 1997). The interactions that adversely affect the self-esteem of the elderly suffering from dementia and contribute to undermining the individual's 'personhood' are called 'Malignant Social Psychology (MSP)'. The interactions that are clearly conducive to the maintenance of 'personhood' and well-being are termed 'Positive Person Work (PPW)' (Kitwood, 1997; 1998).
In total, Kitwood describes 17 categories of interaction that belong to Malignant Social Psychology and 10 categories of interactions that have to do with Positive Person Work (see figure 5.1).

Kitwood and Bredin (1992) understand the preservation of 'personhood', i.e. deep and mutually empathetic interaction between people, as the central issue in the care of people with dementia. They attributed great importance to the social environment. The social environment of people with dementia, living in nursing homes, is to a large extent shaped by CNAs, because they interact with these residents on a regular basis. Good care by caregivers enables the person with dementia to feel supported, valued and socially confident, regardless of cognitive impairments (Kuhn et al., 2000). The achievement of this is dependent upon the skills of the staff providing that care (Brooker et al., 1998). Therefore, all the positive and the negative behaviours mentioned in figure 5.1 might be observed by CNAs in the contact with demented nursing home residents.

Figure 5.1 Original scheme and adapted scheme of Positive Person Work and Malignant Social Psychology

| **Positive Person Work (PPW)** | **Malignant Social Psychology (MSP)** |
|---|---|

| Dialectical Framework [a] | Adapted observation scheme | Dialectical Framework[a] | Adapted observation scheme |
|---|---|---|---|
| Recognition | Recognition | Treachery | Treachery |
| Negotiation | Negotiation | Disempowerment | - [c] |
| Collaboration | Enabling | Infantilization | Infantilization |
| Facilitation | | Intimidation | - [c] |
| Play | Play | Labelling | Prejudice |
| Stimulation | Stimulation | Stigmatization | |
| Celebration | - [b] | Objectification | |
| Relaxation | - [b] | Outpacing | Outpacing |
| Validation | Validation | Invalidation | Invalidation |
| Holding | - [b] | Ignoring | Ignoring |
| | | Banishment | |
| | | Imposition | Imposition |
| | | Withholding | Withholding |
| | | Accusation | Accusation |
| | | Disruption | Disruption |
| | | Mockery | - [c] |
| | | Disparagement | - [c] |
| - | Distraction [d] | - | Disruption [d] |
| - | Empathize [d] | - | Testing knowledge [d] |
| - | Making contact [d] | | |
| - | Respecting privacy [d] | | |

[a] Reprinted from Kitwood 1997 (with the kind permission of the Open University Press / McGraw-Hill Publishing Company)

[b] Excluded because less applicable to morning care

[c] Excluded because not observed during pilot study

[d] Added because observed during pilot study

## The study

### *Aim*

This study aims to examine the extent to which CNAs have succeeded in improving the quality of their behaviour during a well-defined care moment (i.e., morning care) by using a more person-centred approach. Morning care is defined as the period of time between 7 a.m./12 a.m. when CNAs are concerned with bathing, grooming, dressing and toileting residents. Clinical experience and the literature have indicated that the period of morning care is difficult for residents and CNAs, because it is the time when 'problematic' behaviour, such as resident agitation, is most frequent (Wells et al., 2002).

The following research question was studied:

> *What is the effect of the implementation of snoezelen on the quality of CNA behaviour during morning care?*

In particular, it was hypothesized that the intervention would lead to the following measurable changes:

- *An increase in positive behaviours by CNAs*
- *A decrease in negative behaviours by CNAs*
- *An increase in sensory stimulation by CNAs*

### *Design*

The study was carried out in 12 psychogeriatric wards at six Dutch nursing homes. Each nursing home provided an experimental and a control ward. The six experimental wards received training in '*snoezelen* for caregivers' and implemented *snoezelen* in 24-h care. In the six control wards, customary care without *snoezelen* continued. The participating nursing homes signed a cooperative agreement, in which they undertook to refrain from integrating *snoezelen* on the control wards during the study period. The period of implementation on the experimental wards lasted 18 months per ward in the period January 2001 through February 2003. Measurements (e.g., video-recordings of morning care) were performed at baseline and after 18 months. Figure 5.2 gives a summary of the study design.

### *Intervention*

The implementation of *snoezelen* in 24-h care was intended to teach caregivers how to apply qualitatively high, person-centred care and to combine this with sensory stimulation. Caregivers on the experimental wards (59 CNAs and 6 head nurses) were offered a four-day in-house training session on '*snoezelen* for caregivers' (16 hours in total), guided by a professional trainer with a nursing background. After the training session, the wards started to implement *snoezelen* in the daily care. An individual *snoezel* care plan was written for each resident, including a description of the required approach. The care plan was based on a life style history interview with family members and a stimulus preference screening, to find out which sensory stimuli the resident preferred. A study group was set up in each experimental ward to support the head nurse and/or 'sensory stimulation coordinator' to develop required organisational changes, to evaluate the implementation process and to make adaptations where necessary. During the 18-month implementation period, the caregivers were offered three in-house supervision meetings under the guidance of the same professional trainer. In addition, there were two general meetings, attended by three representatives of each nursing home (e.g., head nurse, care manager) to support the implementation of *snoezelen* at the organisational level. Detailed information about the intervention is described elsewhere (Van Weert et al., 2004).

Figure 5.2 Design of the Study

| Month | Experimental Group<br>6 psycho-geriatric wards | Control Group<br>6 psycho-geriatric wards |
|---|---|---|
| 1 | Informed consent procedure | Informed consent procedure |
| 2 | **Pre-test**<br>Measurements:<br>- video-recordings during morning care<br>- medical background data by physician<br>- CNA characteristics by questionnaire | **Pre-test**<br>Measurements:<br>- video-recordings during morning care<br>- medical background data by physician<br>- CNA characteristics by questionnaire |
| 3-20<br><br><br>3<br><br>from 4<br>from 4<br>from 4<br><br>from 6 | **From pre- to post-test**<br>Implementation of *snoezelen* in 24-h daily care:<br>- in-house training '*snoezelen* for caregivers'<br>- start implementation in daily care<br>- study group<br>- stimulus preference screening of residents<br>- writing of *snoezel* care plans<br>supervision meetings:<br>- follow-up meetings (3x per ward)<br>- general meetings (2x) | **From pre- to post-test**<br>Care-as-usual:<br>- continuation of the usual care at baseline |
| 7,14,18<br>12,16 | Informed consent procedure to include new residents | Informed consent procedure to include new residents |
| 18<br><br><br>21 | **Post-test**<br>Measurements:<br>- video-recordings during morning care<br>- medical background data by physician<br>- CNA characteristics by questionnaires | **Post-test**<br>Measurements:<br>- video-recordings during morning care<br>- medical background data by physician<br>- CNA characteristics by questionnaires |

### *Sample*

To establish the effectiveness of *snoezelen*, a sample size of 120 CNAs and 120 residents (60 treatments, 60 controls) was required (power=.80, $\alpha$=.05, d= 50). All nursing staff members were recruited for the study from all shifts (day, evening and night). The majority (81.4%) worked in rotation shifts. Temporary staff, students, and CNAs only working at night were not eligible to participate. The two most important eligibility criteria for residents for the trial were: (1) moderate to severe dementia according to DSM-III-R (American Psychiatric Association, 1994), diagnosed by a physician and; (2) moderate to severe nursing-care dependency, in terms of the Care Dependency Scale (Dijkstra, 1998; Dijkstra et al., 1996; 1999a; 1999b).

In the pre-test, 124 video-recordings (61 in the experimental group and 63 in the control group) were collected of 117 different CNAs. In the post-test, 126 video-recordings (64 in the experimental group and 62 in the control group) were collected of 121 different CNAs. Twelve CNAs (7 in the pre-test and 5 in the post-test) were videotaped twice as there were more residents than CNAs.

Losses in follow-up were handled by the recruitment of new CNAs and residents, replacing the dropouts. In the experimental group, 38 CNAs and 29 residents were included in both the pre- and the post-test. In the control group, 42 CNAs and 32 residents were included in both measurements (see data-analysis for statistical treatment). The new CNAs in the experimental group received 'training on the job' from the head nurse or the 'sensory stimulation coordinator' and attended the three follow-up meetings to be able to apply the *snoezelen* method.

### *Data collection*

Each resident included was videotaped during morning care with a contact nurse. This CNA was supposed to be a person who had knowledge and close contact with the particular resident. Morning care was videotaped from the moment the CNA reached the bedside until the moment the CNA left the room (usually together with the resident to go to the living room). Video assessment of CNA behaviour during morning care was done by two independent observers who were blind as to whether the resident was included in the experimental or control group. They assessed the quality of nurse behaviour and the use of sensory stimuli (see below). Guidelines were followed to minimize observer bias and response. The observer watched a video-recording twice before scoring. The average duration of videotaped morning care was 20.3 minutes.

#### Quality of nurse behaviour

An instrument was required that could assess the quality of nurse behaviour during morning care in terms of (a change in) positive and negative behaviours. Existing observational tools often focus on quantity of activity rather than quality of care, or focus principally on negative caregiver behaviours (Brooker et al., 1998; Williams and Rees, 1997). As there was no appropriate instrument available for the purposes of our study, an observational instrument was developed. The categories described by Kitwood (1997) formed the basis for the observation protocol. A pilot-study, using participant observation, was carried out in three psychogeriatric nursing homes to find out the extent to which Kitwood's categories of PPW and MSP were applicable and sufficiently exhaustive and exclusive for the analysis of the observations ( Janssen, 2001). The observation period was 12 days (four days in each ward). The outcome was that, in general, Kitwoods' theory was appropriate for this research. Some adaptations were made.

First, some of the categories were difficult to distinguish. Accordingly 'labelling', 'objectification' and 'stigmatisation' were combined into 'prejudice'. 'Collaboration' and 'facilitation' were united as 'enabling' and 'ignoring' was extended by 'banishment'.

Second, some positive CNA behaviours in the interaction with residents could not be placed correctly in one of the already existing categories as defined by Kitwood (1997). Consequently, four categories of PPW were added (i.e., 'distraction', 'making contact', 'empathize' and 'respecting privacy').

The negative categories were extended by two categories that are the opposite of the two positive interactions 'enabling' and 'validation', i.e., 'disabling' and 'testing knowledge'. The latter is qualified as negative because, within the concept of *snoezelen*, the focus is on the (subjective) reality of the person with dementia and not on cognitive knowledge.

Last, 'relaxation', 'holding' and 'celebration' were excluded because they were less applicable to the morning care. Also not included were 'intimidation', 'mockery', 'disparagement' and 'disempowerment', because no observations of these behaviours were found during the pilot study.
These adaptations resulted in an observation scheme with 10 positive and 12 negative behavioural items (see figure 5.1).

Observational scheme categories were used to develop a quantitative measurement instrument. The assessment instrument comprises the 22 items described above on a four point Likert scale. The items were formulated to enable the assessment of the extent to which a specific behaviour was implemented by a CNA during the morning care. Figure 5.3 provides a description of all items.

Figure 5.3 'Positive Person Work' and 'Malignant Social Psychology' in people with dementia, adapted from Kitwood 1997 (with the kind permission of the Open University Press / McGraw-Hill Publishing Company)

| **CNA behaviour** | **Description** |
|---|---|
| *Positive Person Work (PPW)* | |
| Recognition | Acknowledging a man or women who has dementia as a person, knowing that person by name and affirm him or her in his or her uniqueness |
| Negotiation | Consulting the person with dementia about his or her preferences, desires, and needs, rather then being conformed to others' assumptions |

| | |
|---|---|
| Enabling | Giving the resident the opportunity to take care of him- or herself as much as possible and just 'completing' the care when necessary. The caretaker takes notice of the possibilities of the resident, by which the actual interaction between caretaker and the person who needs care can be optimized |
| Play | Showing spontaneity and self-expression (an experience that has value in itself), making jokes, laughing with the resident |
| Stimulation | Providing sensory stimuli or sensory information, without the intervention of concepts and intellectual understanding; for example through music, aromatherapy or massage. The significance of this kind of interaction is that it can provide contact, reassurance, and pleasure while making very few (cognitive) demands |
| Validation | Acknowledging the (subjective) reality of a person's emotions and feelings, and giving a response on the feeling level, without correcting the residents' reality. Validation involves accepting the subjective truth of a resident, attempting to understand a person's entire frame of reference, even if it is chaotic or paranoid or filled with hallucinations |
| Distraction | Distracting a resident in a positive way by guiding the conversation away from something unpleasant for the resident or to take the residents' mind off things. The aim of distracting is to influence mood and behaviour of the resident in a positive way |

*- figure 5.3 continues -*

*- figure 5.3 continued -*

| | |
|---|---|
| Empathize | Accepting the feelings and emotions of a resident and showing warmth and affection to cover the needs of a resident |
| Making contact | Giving the resident attention as a person by explicitly making contact. Making contact means responding to what a resident indicates but also giving attention to a resident when he or she doesn't specifically asks for it |
| Respecting privacy | Treating a resident discreetly. Signs of respect of the privacy of a resident can be to close the door/curtains when a caretaker gives a resident a wash, not leaving a resident naked for an unnecessarily long period |
| *Malignant Social Psychology (MSP)* | |
| Treachery | Using some form of deception in order to mislead or manipulate a person, or force them into compliance |
| Infantilization | Treating a person very patronizingly, as a parent who is insensitive or insecure might treat a very young child |
| Disabling | Not allowing a person to use the abilities that he or she does have; failing to help him or her to complete actions that they have initiated. Not taking notice of the possibilities of a person |
| Prejudice | Not looking upon a resident and treating the resident as a human being or 'normal' person. Always thinking the resident is confused and doesn't understand anything. In the worst case, the resident is treated as an object, an alien or an outcast |
| Outpacing | Providing information, presenting choices, and so on, at a rate too fast for a person to understand; putting him or her under pressure to do things more rapidly then he or she can bear |
| Invalidation | Failing to acknowledge the subjective reality of a person's experience and especially what he or she is feeling |

| | |
|---|---|
| Ignoring | Carrying on (in action or conversation) in the presence of a person as if he or she is not there |
| Imposition | Forcing a person to do something, overriding desire or denying the possibility of choice on his or her part |
| Withholding | Refusing to respond to an ask for attention, or to meet an evident need; for example for affectionate contact |
| Accusation | Blaming a person for actions or failures of action that arise from his or her lack of ability, or his or her misunderstanding of the situation |
| Disruption | Roughly intruding on a person's action or inaction; crudely breaking his or her 'frame of reference' |
| Testing knowledge | Asking questions about (for a resident difficult) facts instead of trying to fit in the resident's environment |

Each of the 10 PPW-items was rated on one of four response categories: (1) not at all; (2) a little; (3) moderately; and (4) maximally. The extent to which the 12 negative items were exhibited by the CNA could be assessed on a scale from (1) not at all to (4) frequently. The higher the score, the more positive (PPW) or the more negative (MSP) the behaviour of the CNA was assessed.
The internal consistency of the subscales was good with a Cronbach's alpha of .88 for PPW (10 items) and .78 for MSP (12 items).
More details of the development of the measurement instrument are available with the first author.

**Multi-Sensory Stimulation**
In addition, the use of sensory stimuli was counted and described. A sensory stimulus was defined as the explicit use of visual, auditory, tactile, olfactory or gustatory stimuli in order to make contact with the resident and/or illicit a response from the resident. For example, briefly mentioning how nice the soap smelt was not counted as a sensory stimulus, but letting the resident smell the soap, talking about the smell and waiting for a response was rated as one olfactory sensory stimulus. In addition to the use of distinct sensory stimuli, CNAs also appeared to use their bodies to apply multiple sensory stimuli at one time. The use of more than one sensory channel could also provide the resident with sensory information. For example, a physical demonstration accompanied with words on how to put a pullover on, instead of merely saying 'please put your pullover on', provides the resident with sensory information. These multiple sensory stimuli expressed by CNAs were counted as a separate category. The use of affective touch, eye-contact and smiling has been described elsewhere (Van Weert et al., in press; chapter 4).

### *Reliability*
Inter-observer reliability was established by calculating the overall average pairwise

Pearson correlation of 25 (10%) video-recordings that were rated by both observers. The mean Pearson's r for the total of 22 sub-items was .77 (range .66 to .89); .75 for the PPW sub-items (range .66 to .89) and .79 for the MSP sub-items (range .69 - .86).

### *Ethical considerations*

Informed written consent was obtained from the residents, using proxy consent whereby the resident's legal guardian was contacted by mail, informed about the content of the study and the right to withdraw from it at any time during the study. Guardians were provided with an informed consent form to allow participation in the project, i.e. the video-recording of morning care for research purposes as well as the use of medical background characteristics. When the resident's intellectual capacity allowed verbal communication, the CNA informed the residents about the video-recordings and asked their permission.

### *Data analysis*

Descriptive statistics were obtained on the demographic characteristics of subjects in pre-test and post-test and in the experimental and control groups. Differences in these variables were examined using chi-square tests or t-tests.

To analyse the effects on the quality of CNA behaviour and the use of sensory stimuli, multilevel analysis was carried out with MLwiN-software. A mixed model of multilevel analysis with repeated measurements was chosen, which takes into account all available data in an adequate way: the paired samples of completers (included in pre-test AND post-test) as well as the unpaired pre- or post-measurement data of non-completers (included in pre-test OR post-test) (Bryk and Raudenbusch, 1992; Goldstein, 1995). We distinguished two levels of analysis: (1) measurement and (2) CNA. The correlated measurements of completers are controlled for by modelling the covariance between pre- and post-measurement at the CNA level. The mean pre-test post-test differences of the experimental group were tested against the mean pre-test/ post-test differences in the control group.
In analyzing CNA behaviour, their age, gender, working experience and working period on the ward were added to the model as covariates. As CNA behaviour also depends on the condition and function of the resident involved, additional adjusted analyses were done by adding the following resident characteristics as covariates: care dependency, memory impairment, age, duration of nursing home admission and sex.

The number of wards (n=6 in each group) was too small to allow for comparisons between subgroups of nursing homes or to take similarity among wards into account.

## Results

### *Background characteristics*

Table 5.1 shows the demographic characteristics for CNAs.

There were no significant differences on background characteristics between the experimental and control groups. The majority of the study population was female with an average age of 36 and around 8 years of work experience.

Table 5.1 Background characteristics of participating CNAs by treatment group

| CNA Characteristics | Experimental group | | Control group | |
|---|---|---|---|---|
| | Pre-test (n=57) | Post-test (n=60) | Pre-test (n=60) | Post-test (n=61) |
| Gender: female (n, (%)) | 53 (93.0) | 55 (91.7) | 55 (91.7) | 58 (95.1) |
| Age (years, (sd)) | 36.75 (10.7) | 35.62 (10.7) | 33.24 (9.4) | 36.11 (9.9) |
| Hours employment per week (mean hours, (sd)) | 29.51 (10.9) | 27.68 (7.5) | 29.17 (7.4) | 28.82 (7.5) |
| Psychogeriatric experience (mean years, (sd)) | 8.17 (6.4) | 8.23 (7.3) | 7.42 (5.9) | 8.98 (8.2) |
| Employed on this ward (mean years, (sd)) | 3.79 (3.9) | 3.63 (3.2) | 3.45 (3.7) | 4.06 (3.0) |
| Position (n, (%)): | | | | |
| - Team leader | 4 (6.6) | 4 (6.7) | 6 (10.0) | 5 (8.2) |
| - Nursing assistant | 50 (87.7) | 50 (83.3) | 45 (75.0) | 48 (78.7) |
| - Other (ward assistant, geriatric helper) | 3 (5.3) | 6 (10.0) | 9 (14.9) | 8 (13.1) |

To test the differences in background characteristics, t-tests and  $\chi^2$ analysis were used. No significant differences were found

Subgroup analyses were done to control for differences between completers (included in pre-test and post-test) and dropouts or newly included CNAs (not presented in table). In the post-test, completers were employed significantly longer on the ward than those recently included CNAs, as had been expected (Exp.: 4.4 vs 1.7 years, P<.01;Contr.: 3.1 vs 1.7 years, P<.01). In the experimental group, completers also had more experience than the new members CNAs (7.3 vs 3.6 years, P<.01). No other differences were found. Details about background characteristics of the residents are available with the first author.

### *Effects on the quality of CNA behaviour*

Table 5.2 provides the adjusted estimated means and the change scores from the experimental group and the control group. On the measures on PPW, negative

change scores indicate a change in favour of the experimental group. On the measures on MSP, positive scores indicate a change in favour of the experimental group.

Table 5.2 Change in quality of behaviour as performed by CNAs (estimated mean scores of multilevel analysis)

| Outcome measures | Experimental group | | | | Control group | | | | Change Score [c] | $\Delta\chi^2(1)$ |
|---|---|---|---|---|---|---|---|---|---|---|
| | Pre-test | | Post-test | | Pre-test | | Post-test | | | |
| | M | (se) | M [a] | (se) | M | (se) | M [b] | (se) | | |
| **Positive Person Work (0-30)** [d] | **11.93** | **(0.7)** | **21.24*** ** | **(0.7)** | **11.41** | **(0.7)** | **13.19** | **(0.7)** | **- 7.53*** ** | **27.91** |
| Recognition | 2.95 | (0.1) | 3.80*** | (0.1) | 2.95 | (0.1) | 3.08 | (0.1) | *- 0.71**** | 16.25 |
| Negotiation | 1.97 | (0.1) | 3.22*** | (0.1) | 1.93 | (0.1) | 2.10 | (0.1) | *- 1.08**** | 16.62 |
| Enabling | 2.26 | (0.1) | 3.48*** | (0.1) | 2.36 | (0.1) | 2.38 | (0.1) | *- 1.20**** | 23.36 |
| Play | 1.67 | (0.1) | 2.76*** | (0.2) | 1.59 | (0.1) | 2.00 | (0.2) | *- 0.68** | 5.01 |
| Validation | 1.99 | (0.1) | 3.00*** | (0.2) | 2.11 | (0.1) | 2.26 | (0.2) | *- 0.86*** | 7.96 |
| Distraction | 1.60 | (0.1) | 2.26*** | (0.2) | 1.42 | (0.1) | 1.36 | (0.1) | *- 0.72*** | 7.30 |
| Empathize | 2.77 | (0.1) | 3.50*** | (0.1) | 2.56 | (0.1) | 2.76 | (0.1) | *- 0.53*** | 7.39 |
| Making contact | 2.66 | (0.1) | 3.32*** | (0.1) | 2.52 | (0.1) | 2.73 | (0.1) | *- 0.45** | 6.36 |
| Respecting privacy | 2.99 | (0.1) | 3.80*** | (0.1) | 2.95 | (0.1) | 3.27* | (0.1) | *- 0.49** | 6.10 |
| Stimulation | 1.10 | (0.0) | 2.13*** | (0.1) | 1.10 | (0.0) | 1.27 | (0.1) | *- 0.85**** | 40.58 |
| **Malignant Social Psychology (0-36)** [d] | **5.70** | **(0.7)** | **2.98*** ** | **(0.6)** | **4.01** | **(0.7)** | **6.03*** | **(0.6)** | **4.73*** ** | **16.39** |
| Treachery | 1.08 | (0.0) | 1.09 | (0.0) | 1.01 | (0.0) | 1.06 | (0.0) | 0.04 | 0.14 |
| Infantilization | 1.67 | (0.1) | 1.55 | (0.1) | 1.40 | (0.1) | 1.97*** | (0.1) | *0.70*** | 8.42 |
| Disabling | 1.44 | (0.1) | 1.25 | (0.1) | 1.44 | (0.1) | 1.55 | (0.1) | 0.31 | 1.66 |
| Prejudice | 1.51 | (0.1) | 1.03*** | (0.1) | 1.49 | (0.1) | 1.28 | (0.1) | 0.27 | 1.71 |
| Outpacing | 1.80 | (0.1) | 1.75 | (0.1) | 1.61 | (0.1) | 1.44 | (0.1) | -0.11 | 0.16 |
| Invalidation | 1.72 | (0.1) | 1.41 | (0.1) | 1.42 | (0.1) | 1.99*** | (0.1) | *0.87**** | 14.12 |
| Ignoring | 1.80 | (0.1) | 1.16*** | (0.1) | 1.70 | (0.1) | 1.78 | (0.1) | *0.72*** | 10.08 |

*- table 5.2 continues -*

*- table 5.2 continued -*

| Outcome measures | Experimental group | | | | Control group | | | | Change Score [c] | $\chi^2(1)$ |
|---|---|---|---|---|---|---|---|---|---|---|
| | Pre-test | | Post-test | | Pre-test | | Post-test | | | |
| | M | (se) | M[a] | (se) | M | (se) | M[b] | (se) | | |
| Imposition | 1.70 | (0.1) | 1.51 | (0.1) | 1.47 | (0.1) | 2.10*** | (0.1) | *0.82**** | 15.03 |
| Withholding | 1.46 | (0.1) | 1.05** | (0.1) | 1.35 | (0.1) | 1.36 | (0.1) | *0.42** | 4.82 |
| Accusation | 1.29 | (0.1) | 1.10 | (0.1) | 1.11 | (0.1) | 1.33* | (0.1) | *0.40*** | 7.80 |
| Disruption | 1.34 | (0.1) | 1.16 | (0.1) | 1.12 | (0.1) | 1.28 | (0.1) | *0.35** | 5.61 |
| Testing knowledge | 1.61 | (0.1) | 1.25** | (0.1) | 1.42 | (0.1) | 1.53 | (0.1) | *0.48*** | 7.62 |

* p<.05, **p<.01, ***p<.001

[a] P-values as compared to pre-test E

[b] P-values as compared to pre-test C

[c] The scores in italic indicate a significant change in favour of the experimental group, meaning that the pre-/post change in the experimental group is significantly different from the pre-/post change in the control group

[d] The underlined score indicate the most favourable score for the scale. Sub-items range from 1 to 4. To rate the total score, the items were first recoded to 0 to 3.

M = estimated mean score (multilevel analysis)

se = standard error

$\chi^2(1)$ = Chi square (1 degree of freedom)

Significant treatment effects were obtained for all the PPW sub-items as well as for the PPW total score. CNAs in the experimental group significantly improved on all PPW sub-items, while CNAs from the control group showed no significant changes, except for 'respecting privacy'. As regards MSP, significant treatment effects were seen for the MSP total score and for eight out of the twelve sub-items. Three of which were the result of a decrease in CNA negative behaviours in the experimental group (i.e., 'ignoring', 'withholding' and 'testing knowledge'). Four of them were caused by increased CNA negative behaviours in the control group (i.e., 'infantilization', 'invalidation', 'imposition' and 'accusation') and one by the combination of improvement in the experimental group and deterioration in the control group (i.e., 'disruption'). 'Prejudice' showed a significant effect within the experimental group, but a significant total change score was not reached.
Post hoc analysis revealed an effect size of .66 for PPW (total score) and .52 for MSP (total score), which is in accordance with the intended effect size (d=.50) in advance.

### *The use of sensory stimulation*

The estimated mean number of explicitly offered sensory stimuli increased in the experimental group from .67 at pre-test to 3.22 at post-test (change -2.55; P<.001). In the control group, there was no measurable change from pre-test (.44) to post-test (.56) in the number of sensory stimuli used by CNAs (change -.12; n.s.). Almost one third of the sensory stimuli (30.0%) used at post-test by the experimental group were multiple sensory stimuli, mainly given by the CNA using body movement and/or using more than one sense-organ at the same time. As regards singular sensory stimuli, the majority were visual (39.0%) or olfactory (31.8%). Visual stimuli used frequently included the explicit use of the mirror, talking about colours or the design of the residents' clothing or looking with the resident at something in the immediate environment, e.g. out of the window or at a photograph. As regards olfactory stimuli, CNAs were successful in stimulating the residents by having them smell soap, cream, body-lotion, perfume or after-shave. Auditory stimuli (11.9%), mainly the use of individual music, and gustatory (0%) stimuli were observed less often. Tactile stimuli (17.4%) were noted in particular when the resident was encouraged to feel the heat of the water or the softness of towels, clothes and cuddly animals.

In addition to the methods of sensory stimulation during morning care, mentioned above, the CNAs in the experimental group appeared to take structural, individual precautions before starting the morning care in half of the cases (n=32), usually as part of the *snoezel* care plan. These precautions involved waiting until the residents woke up of their own accord (10x), the use of aroma therapy (8x), music beforehand (5x), the use of light (3x), hand massage beforehand (2x), having breakfast before getting washed and dressed (2x), extra heating in the room (2x) and using a doll (1x). Although some of these precautions, such as not waking up the residents when they were still asleep, were usually part of the implementation changes in general,

they were considered particularly important for these individual residents (e.g., noted in their care plan: 'Wait with morning care until Mrs. X. wakes up herself, and then start the care as soon as possible. When she has to wait too long, she gets angry'). In the control group, explicit precautions were only mentioned in one case at pre-test (i.e., medication) and 5 cases at post-test (i.e., 2x having the resident's sleep longer, 2x music, 1x breakfast beforehand). The experimental group reported aromatherapy at pre-test once.

## Discussion

The results of this study show that the implementation of *snoezelen* in dementia care effected positive changes on person-centred behaviour, performed by CNAs during morning care. These changes were measured eighteen months after the start of implementation, indicating that CNAs adhered to the person-centred principles underlying *snoezelen*. In particular, positive caregiver behaviour appeared to lead to change. CNAs applying a *snoezel* approach demonstrated significantly increased improvements with respect to their level of 'Positive Person Work' (total score) compared with those giving customary care. They also showed improvements on all PPW sub-items, while those of the control group hardly showed changes. In addition, a significant training effect was obtained for the level of 'Malignant Social Psychology' (total scale). The latter was not only caused by improvements in the experimental group, but also by deterioration in the control group. Last, the number of sensory stimuli offered explicitly increased in the experimental group when compared with pre-test and the control group.

The present study shows that particularly positive caregiver behaviour was amenable to change. The experimental group clearly improved on PPW, which has hardly been reported before. Previous research often focused on negative caregiver behaviour or 'Personal Detractors', i.e., short episodes of care which are thought to lead to a reduction in self-esteem for people with dementia (Brooker et al., 1998). These are examples of Malignant Social Psychology (MSP) of dementia. In the current study, the baseline scores of MSP were rather good to very good in both the experimental and the control group (range 1.08 to 1.80 on a scale from 1 to 4), almost reaching a 'ceiling effect'. Contrary to our expectations, the control group showed deterioration on four MSP sub-items and on the MSP total score. We have no clear explanation for this finding. Social desirability might have been of influence, especially at pre-test when the video-recording was something new. CNAs seemed to be more aware of undesirable negative behaviours than of desirable positive ones. At pre-test, CNAs may have refrained more from negative behaviours, because they were conscious of the camera. At post-test, they might have been more used to the video-camera. Several authors have mentioned the potential bias of social desirability, that might influence CNA performance during the observations. They concluded that the occurrence of performance bias in nursing research seems to be limited (Bottorff, 1994; Caris-Verhallen, 1999; Kruijver, 2001; VanHaitsma, 1997).

The CNAs in our study were given the opportunity to disclose their feelings directly after the video-recording. They reported that they experienced some stress in advance, but that, in general, the video-taped morning care reflected the normal situation. Given the convincing effects found, it seems not very likely that the existing effects, especially those on PPW, were caused by social desirability factors on the outcomes.

Kitwood's approach to dementia has been influential in dementia care. The present study shows that the Dialectical Framework is a useful basis for assessing the quality of nurse behaviour. The conceptualization of the instrument in translating the original items into an assessment scale succeeded. Some adaptations were made. The findings support the utility of the scale in nursing research, although further validation is needed.

The results of the present study are in accordance with a previous, computerized, quantitative analysis of the communication between CNAs and residents during morning care by using an adaptation of the Roter Interaction Analysis System (RIAS) (Caris-Verhallen, 1999; Roter, 1989; Van Weert et al., in press). CNAs trained in *snoezelen* showed a significant increase in the total number of verbal utterances (more social conversation, agreement, talking about sensory stimuli, information and autonomy). The duration of resident-directed gaze and affective touch also increased as well as the frequency of smiling (Van Weert et al., in press; chapter 4). As this kind of analysis does not really give insight into how information was presented, the present study aimed to provide a (more subjective) assessment of the quality of CNA behaviour, to find out the extent to which the CNA had the right attitude and indeed was acting in a respectful and empathetic way. In future, the instrument used in the present study might be used in daily practice or for research purposes, e.g., in participant observations. A major advantage of the instrument is that the administration of the scale is not very time-consuming and therefore less costly than other instruments, such as RIAS (Roter, 1989) or Dementia Care Mapping (DCM) (Kitwood and Bredin, 1992). The assessment instrument, used in the present study, could be completed within five minutes, after watching the video-recording twice. The RIAS observations took up around six times the duration of the video-recording. DCM involves making a series of detailed observations over a period of six hours in a care setting. The tool is basically a means to measure the level of well-being or discomfiture in persons with dementia. As regards staff behaviour, DCM mainly records negative behaviours, i.e. interactions between staff and residents that are presumed to detract from well-being (Kuhn et al., 2000). Our instrument appeared to be especially useful in detecting changes in positive CNA behaviours. Although the instrument is limited to the assessment of the quality of caregiver behaviours, it might be a practical tool for coaching and feedback of caregivers in dementia care. If person-centred care is to be a reality, methods are needed to evaluate the quality of care provided for persons with

dementia, which can be used by staff to develop their care practice (Innes and Sur, 2001). Our instrument seem to be appropriate for this goal.

### *Limitations*

Some methodological considerations need attention. A potential limitation was the choice to randomize nursing units within each nursing home instead of randomizing entire nursing homes. Because CNAs were occasionally pulled to work on other nursing units, it is possible that trained CNAs applied communication skills on control units. Interviews with the head nurses of the control wards revealed that the control wards did not integrate the *snoezel* methodology structurally in the daily care; nor do the results of the study indicate significant improvements in the control group. Accordingly, no serious contamination effects are assumed.

Though the multilevel model used for the effect study takes into account the data of completers (included in pre-test and post-test) as well as non-completers (included in pre-test or post-test), there might be conflicting findings in the patterns of improvement in both groups. Consequently, post hoc analyses were done including only CNA-completers. The results showed no contradiction with the multilevel results. The majority of the outcome measures still showed a significant treatment effect ($P<.05$). Three sub-items ('distraction', 'empathize' and 'accusation') showed a trend instead of a significant effect ($P<.10$). Only one sub-item ('withholding') did not reach a significant level any more, which can be explained by reduced power.

## Conclusion

The aim of the present study was to gain insight into the adherence of Certified Nursing Assistants (CNAs) to the behavioural principles underlying *snoezelen*, 18 months after the start of the implementation. CNAs succeeded in improving the quality of their behaviour during morning care by performing a more person-centred approach. As this was considered to be a major condition for the probability of finding effects at resident level, the results make us curious to know whether this indeed resulted in improved levels of well-being for nursing home residents suffering from dementia. Many people with dementia do not receive specialist levels of care appropriate to their complex needs. This has implications with regard to the need for a comprehensive system of skills training, e.g., disseminating skills towards a good person-centred care, which may prevent the development of behavioural problems (Ballard et al., 2001). Previous research has shown that only those nursing homes that sought intensive support of the caregivers were able to effect enough change in clinical practice to improve resident outcomes significantly (Rantz et al., 2001). The intervention offered in the present study included a well-evaluated training program with follow-up meetings and coaching and/or supervision. Other facilitating factors that were identified for the successful implementation of the new care model were the use of *snoezel* care plans, the increase of mutual consultations, structural evaluations, adaptations in daily schedules and investments in snoezel materials

(Van Weert et al., 2004). Such various and continuous efforts during the relatively long period of 18 months, seem to be an essential prerequisite to effect positive changes at caregiver level. The present study shows that the intervention reached its first goal, namely the improvement of caregiver behaviour. In the eyes of caregivers, there were also positive changes at the resident level. They noticed that there was more contact with residents, the level of resident response increased and residents were more settled (Van Weert et al., 2004). A more thorough study is needed to determine whether improved resident outcomes can indeed be established.

# 6 Behavioural and mood effects of snoezelen integrated in 24-h dementia care

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## Abstract

**Objectives:** To investigate the effectiveness of *snoezelen*, integrated in 24-h daily care, on the behaviour and mood of demented nursing home residents.

**Design:** Quasi-experimental pre- and post-test design.

**Setting:** 12 psychogeriatric wards of six nursing homes, spread over different parts of The Netherlands.

**Participants:** 125 patients with moderate to severe dementia and care dependency were included in the pre-test and 128 in the post-test. 61 were completers (included in both pre- and post-test).

**Intervention:** Experimental subjects received an individual 24-h *snoezel* program, based on family history taking and stimulus preference screening. Caregivers were trained and (organisational) adaptations were made to fulfill the conditions for resident-oriented *snoezel* care. The control group received the usual nursing home care.

**Measurements:** Observations were made on the wards using sub-scales of the Dutch Behaviour Observation Scale for Psychogeriatric Inpatients (BIP), the Dutch version of the Cohen-Mansfield Agitation Inventory (CMAI-D) and the Cornell Scale for Depression in Dementia (CSDD-D). Videorecordings of the morning care were observed by independent assessors using the measuring device INTERACT (behaviour) and FACE (mood).

**Results:** Residents receiving *snoezel* care demonstrated a significant treatment effect with respect to their level of apathetic behaviour, loss of decorum, rebellious behaviour, aggressive behaviour and depression, as compared to those receiving usual care. During morning care, the experimental subjects showed significant changes in well-being (mood, happiness, enjoyment, sadness) and adaptive behaviour (responding to speaking, relating to caregiver, normal length sentences).

**Conclusion:** *Snoezel* care particularly seems to have a positive effect on disturbing behaviour and withdrawn behaviour. The results suggests that a 24-h integrated *snoezel* program has a generalizing effect on the mood and behaviour of demented residents.

## Introduction

Dementia is a progressive, irreversible, neurological cognitive impairment syndrome that affects about 6.1% of the population 65 years and over (Wimo et al., 2003). Once institutionalized, behavioural problems occur in up to 97% of the cases and

often reduce the individual's quality of life (Buettner et al., 1996). Kitwood developed the Dialectical Framework for dementia care (Kitwood 1996; 1997; 1998). In the view of this theory, there is much that can be done by dementia caregivers to promote nursing home residents' quality of life. The central thesis is that the dementia process arises from an interaction between neurological impairment and social psychological processes (e.g., the interaction between caregivers and dementia patients). Kitwood distinguished certain kinds of malignant caregiver behaviour, damaging to those who have dementia ('malignant social psychology'), and positive caregiver behaviour, that make for well- being ('positive person work'). He identified 17 indicators of 'malignant social psychology', such as infantilization, stigmatization and ignoring, as well as 12 indicators of 'positive person work', such as recognition, validation and stimulation of the senses (Kitwood, 1996, 1997, 1998).

*Snoezelen*, or Multi-Sensory Stimulation (MSS), is a widely used and accepted approach to nursing home residents suffering dementia and seems to fit the premises of the Dialectical Framework (Spaull and Leach, 1998). It was developed in The Netherlands, but is becoming more and more popular in Great Britain and in the United States (Chitsey et al., 2002). *Snoezelen* can be defined as an approach which actively stimulates the senses by light, sound, smell and touch (Kok et al., 2000). The application of *snoezelen* requires a resident-oriented attitude, knowledge and skills, allowing caregivers to incorporate personal circumstances such as lifestyle, preferences, desires and cultural diversity, in order to achieve or maintain a state of well-being. Therefore, *snoezelen* matches the concept of 'patient-centredness'. The caregivers do not restrict themselves to the 'resident's complaint', but orient themselves to the 'resident with a complaint' (Bensing, 2000). According to Kitwood, the prime task of person-centred dementia care is to maintain personhood in the face of failing mental powers, by showing empathy and gaining knowledge of the individual's personal history, personality and needs. The required resident-oriented attitude to apply *snoezelen* include the different types of interaction described in the Dialectical Framework as 'positive person work' (Kitwood 1996; 1997; 1998; Kok et al., 2000).

Although several studies have been carried out to investigate the effectiveness of *snoezelen* and the majority of them reported within-session positive effects, many lack a comparison between treatment and control groups. Only two randomized clinical trials (RCTs) of high quality are available, both evaluating the impact of *snoezelen* sessions in a special room. In these trials, positive immediate outcomes were found, particularly on apathetic behaviour, but carryover and longer-term effects of *snoezelen* were not evident (Chung et al., 2002; Holtkamp et al., 1997; Baker et al., 1997; 2001). This suggests that a continuous and ongoing program should be implemented by caregivers in daily contact with those with dementia (Chung et al.,

2002; Sambandham and Schirm, 1995). Accordingly, the present study addresses the implementation of *snoezelen* as a person-centred 24-h approach to care, delivered by certified nursing assistants (CNAs), integrating multi-sensory stimuli through the day.

The aim of the study is to investigate the effectiveness of integrated *snoezelen* on behaviour and mood of nursing home residents suffering from dementia. In particular, it was hypothesized that the intervention would lead to measurable changes in

- well-being: more happiness/contentment, more enjoyment, better mood;
- adaptive behaviour : more attentive and responsive in relation to the environment, more personal initiative, better relationship to caregiver;
- maladaptive behaviour : less anti-social behaviour, apathetic behaviour, loss of decorum, loss of consciousness, rebellious behaviour, restless behaviour, disoriented behaviour, anxious behaviour, agitation, aggression and depression (Baker at al. 1997; 2001; Chitsey et al., 2002; Hogg et al., 2001; Holtkamp et al., 1997; Lancioni et al., 2002; Robichaud et al., 1994; Sambandham and Schirm, 1995; Spaull and Leach, 1998).

## Methods

### *Design*

A quasi-experimental pre- and post-test design was used. The study was performed in 12 psychogeriatric wards at six Dutch nursing homes. Each nursing home delivered an experimental and a control ward. The six experimental wards implemented *snoezelen* in 24-h care. In the six control wards, usual care continued. The implementation period lasted 18 months per ward in the period between January 2001 and February 2003. Measurements were performed at baseline and after 18 months.

### *Sample*

**Nursing homes**

Six nursing homes, in different parts of The Netherlands, were selected for the study out of 19 potentially eligible sites. The Dutch nursing home is comparable to skilled nursing facilities in the United States. There are separate wards for patients with Alzheimer's Disease (Hoek et al., 2000).

Interviews with staff members revealed whether the eligible nursing homes met the following inclusion criteria:

- *Snoezelen* had not yet been implemented in the daily care of their residents.
- Presence of two comparable units (i.e., population of residents, composition of nursing staff, used care model, level of attention and assistance) with at least 15 residents that met the inclusion criteria for residents (assuming one third non-response) and at least 10 CNAs.
- Willingness to create the conditions to implement *snoezelen* in the daily care of the experimental ward.
- No *snoezelen* training during the study period or implementation of elements from the *snoezel* intervention on the control ward.
- Presence of some basic, practical conditions, e.g., a comfortable residents' chair (e.g., for arm-hand massage).
- No substantial organizational changes (e.g., removal, reorganization) during the study period.

Commitment to these criteria was laid down in a cooperative agreement.

The six nursing homes had a mean number of 194 residents (range 122 to 280) and 21 residents per ward (range 15 to 32). On average, staff-client ratio was .15 CNA per resident (range .14 to .16). In all nursing homes, CNAs consistently cared for the same residents every day. By selecting an experimental and a control ward from the same nursing home, the control wards were comparable to the experimental wards in terms of capacity, staff-client ratio, system of resident-allocation, service types, used care plans and level of assistance.

Randomization took place at ward level. In four nursing homes, the wards were randomized by having lots drawn from a sealed container by an independent person. Two wards were assigned to the experimental group on the basis of practical considerations (e.g., the presence of a room that could be used as *snoezel*room by other disciplines such as activity therapists). This decision was taken after careful assessment of other differences between the experimental and the control ward that might be prejudice treatment comparisons (e.g., population, motivation of nursing staff, working atmosphere), to rule out selection and confounding biases.

**Subjects**

*Residents*

To establish the effectiveness of *snoezelen*, a sample size of 120 residents (60 treatments, 60 controls) was required (power=.80, $\alpha$=.05, effect size d=.50). To be eligible for the trial residents had to meet the following criteria:

- Moderate to severe dementia according to DSM-III-R, diagnosed by a physician (American Psychiatric Association, 1994).
- Moderate to severe nursing-care dependency, measured by the Care Dependency Scale (CDS) for demented in-patients, an assessment instrument for use in psychogeriatric nursing homes (Dijkstra, 1998; Dijkstra et al., 1999a; 1999b). The degree of care dependency is assessed on a five-point Likert-scale. A total sum score with a theoretical range from 15 till 75 can be computed; the higher the score, the less the dependency on nursing care. The internal consistency of the scale was high ( $\alpha$=.93).
- Absence of an additional psychiatric diagnosis (e.g., schizophrenia and other psychotic disorders).
- Hearing and vision completely or partially unimpaired.
- Not bedridden.

The ward staff selected a minimum of 15 residents who fulfilled the above criteria. About one month before the measurements, the legal guardians of the selected residents were informed by mail of the nature and the content of the study. They were asked to sign an informed consent form to allow video-recording of the morning care for research purposes as well as the use of medical background characteristics. Guardians were informed about their right to withdraw at any time during the study.

*CNAs*

Every resident included was matched to a CNA, who had to be familiar with the resident. The majority of nursing staff members, recruited for the study, worked in rotation shifts (81.4%). Temporary staff , students, and CNAs only working at night were not eligible. The CNAs participated in the training program and observation sessions as part of their regular employment duties. Consent for their participation was obtained from the Director of Nursing. Every matched 'couple' (resident-CNA)

was videotaped once in the pre-test and once in the post-test (when still on the ward) during morning care, using a hand-held camera. 12 CNAs (7 in the pre-test and 5 in the post-test) were videotaped twice as there were more residents than CNAs. When the level of intellectual capacity of the resident allowed verbal communication, the CNA informed the resident about the video-recordings and asked permission. The CNAs as well as the research assistant were instructed to stop the video-recording when they noticed negative reactions of the resident ('stopping rule'). Immediately after the morning care, the CNAs were given the opportunity to disclose their feelings in respect of the video-recording. Although, in general, they experienced some stress in advance, the majority reported afterwards that stress did not really affect their behaviour and that the video reflected the normal situation. Despite the obvious fact that they were being observed, the CNAs and residents adapted to the presence of the observer, as reported before (Caris-Verhallen, 2000; VanHaitsma et al., 1997).

37 CNAs out of 117 were lost to follow-up, mainly due to changing jobs (19 in the experimental group and 18 in the control group). They were replaced by new CNAs. To be able to apply the *snoezelen* method, the new CNAs received 'training on the job' and attended the follow-up meetings. The experimental group and control group CNAs did not differ significantly in background characteristics. At baseline, 92.2% was female with an average age of 34.9. The mean work experience was 7.6 years. On average, they worked 29.1 hours a week.

### *Handling loss to follow-up*

To make sure that at least 60 residents could be included in each condition at post-test, the experimental wards were instructed to apply *snoezelen* care to all (new) residents who fulfilled the above mentioned inclusion criteria. Consequently, a second cohort of subjects could be recruited to replace the dropouts from the first cohort of residents. Three months before the post-test, the same informed consent procedure was followed to obtain proxy consent from legal guardians of new, eligible residents. Once the new care model (*snoezelen* in 24-h care) was successfully implemented, the *snoezelen* program was supposed to be effective at the residents' level within three months (Kok et al., 2000).

Yet, the post-test was planned 18 months after the pre-test, because 15 months was considered to be the minimum time needed for successful implementation of the new care model (Finnema, 2000; Van Weert et al., 2004). This time was required to effect a change from task-oriented care to resident-oriented care and to effect changes at organizational level, such as investments in *snoezel* materials, adaptations of daily schedules, activities and procedures (e.g., no longer waking up residents who prefer to sleep late, no hurry to be ready with the morning care before the coffee

break) (Van Weert et al., 2004).

### *Intervention*

Figure 6.1 gives a summary of the intervention and measurements. Details of the intervention have been described elsewhere (Van Weert et al., 2004).

The CNAs were trained in *snoezelen* by a qualified and experienced professional trainer of the Bernardus Expertise Centre/Fontis, a nursing home with connected training centre specialized in *snoezelen*. In-house training included four, weekly, 4-h sessions (16 hours in total), and homework. The main objectives were to motivate team-members and to improve caregiver knowledge and practical skills with regard to resident-oriented care (e.g., attitude towards verbal and nonverbal communication) and *snoezelen* (e.g., how to take a family history, to review specific behaviour problems, to observe sensory preferences, to adapt care plans and to apply sensory stimulation in the daily care). An extensive manual of *snoezelen* was available with specific instructions, methodology observation forms and examples on the integration of *snoezelen* in 24-h care. At the end of the course, trainees received a certificate. In total, 80 caregivers attended the training program, 59 of whom were CNAs and 6 were head nurses. The other participants (not included in the measurements) were activity therapists (n=10), nutrition assistants (n=2), a care manager (n=1), a clerical worker (n=1) and a student nurse (n=1). Thus, almost complete teams were trained. Compliance with the training sessions was 92.5%.

Figure 6.1 Design of the study

| **Month** | **Experimental Group**<br>**6 psycho-geriatric wards** | **Control Group**<br>**6 psycho-geriatric wards** |
|---|---|---|
| *1* | *Informed consent procedure* | *Informed consent procedure* |
| *2* | *Pre-test*<br>Measurements:<br>- observations on the ward by CNAs<br>- video-recordings during morning care<br>- medical background data by physician | *Pre-test*<br>Measurements:<br>- observations on the ward by CNAs<br>- video-recordings during morning care<br>- medical background data by physician |
| *3-20* | *From pre- to post-test*<br>Implementation of *snoezelen* in 24-h daily care: | *From pre- to post-test*<br>Care-as-usual: |
| 3 | - in-house training '*snoezelen* for caregivers' | - continuation of the usual care at baseline |
| 4 | - start implementation in daily care | |

| | | |
|---|---|---|
| from 4 | - study group | |
| from 4 | - stimulus preference screening of residents | |
| from 6 | - writing of *snoezel care plans* | Control for contamination: |
| | - supervision meetings: | interview with head nurse (15 month after |
| 7,14,18 | • follow-up meetings (3x per ward) | pre-test) |
| 12,16 | • general meetings (2x) | |
| | | Informed consent procedure to include new |
| 18 | Informed consent procedure to include new residents | residents |
| | | *Post-test* |
| *21* | *Post-test* | Measurements: |
| | Measurements: | - observations on the ward by CNAs |
| | - observations on the ward by CNAs | - video-recordings during morning care |
| | - video-recordings during morning care | - medical background data by physician |
| | - medical background data by physician | |

After the training, the CNA took a detailed history of the matched residents' life and preferences by interviewing family members. Then, stimulus preference screening was arranged during 10, weekly, 1-h sessions. The residents were offered various sensory stimuli (tactual, visual, auditory, olfactory, gustatory) in order to find out which stimuli the resident enjoyed most. Their reactions were observed and carefully registered.
Next, the CNAs wrote an individual *snoezel* plan, based on life history, stimulus preference screening and multidisciplinary conferences. The *snoezel* plan describes the residents' specific behaviours, and how to react on these behaviours (e.g., "Anxiety: Mrs X is anxious when she goes to bed. Approach: sit down at the bedside, stroke her cheek, hold her hand. Then she will sleep soon"). The *snoezel* plan was translated into the residents' *snoezel* care plan, to integrate the required approach into the Activities of Daily Living (e.g., how to wake up, whether the resident is capable of choosing own clothes, whether perfume or make-up can be used, how (eye-)contact can be made, whether the resident likes to be touched affectively, whether music or aroma therapy can be used, which *snoezel* activities can be offered in the living room). During (multi-disciplinary) consultations, the *snoezel* plans were evaluated and, if necessary, adapted to residents' changes in response or condition.

Each experimental ward, set up a study group, usually comprising three CNAs, the head nurse and an activity therapist or coordinator in sensory stimulation. The aim of the study group was to evaluate the implementation process structurally and to make adaptations where necessary.

The caregivers were offered three in-house follow-up meetings (10 hours in total) under the guidance of the same professional trainer. The aim of these supervision meetings was to support the implementation of *snoezelen* in daily care by discussing the observations, evaluating the *snoezel* care plans, providing feedback and (video-)exercises. In addition, two general meetings, attended by three representatives per nursing home (e.g., head nurses, care managers), supported the implementation of *snoezelen* at the organizational level. Depending on the bottlenecks mentioned by the executive staff, implementation problems on the experimental wards were discussed.

### *Outcome measures*

The effectiveness of *snoezelen* was studied by observing residents in the wards and video-recordings of the morning care. The observations in the wards were intended to give insight in the overall ('generalized') behaviour of the residents during the last two weeks. The video-recordings enabled detailed observation of the residents' behaviour during a well-defined care moment ('within sessions'). Morning care was video-taped because it is given on every ward in every nursing home and allows a non-biased comparison between treatment and control groups (individual attention with vs without *snoezelen*).

**Assessment of behaviour in the ward environment**

Observation of the resident was conducted in the ward by the matched CNA using the most reliable, valid and sensitive observation scales available in Dutch (Schrijnemaekers et al., 2002). Ratings covered the two weeks preceding the administration of the scales.

*CNAs' assessed behaviour*

Parts of the Dutch Behaviour Observation Scale for Psychogeriatric In-patients (BIP) were used to measure the behaviour of residents. The BIP is an extensive psychogeriatric behaviour observation scale for institutionalized psychogeriatric people. The scale contains 82, 4-point scale items divided over 14 independent sub-scales (Verstraten and Van Eekelen, 1987; Verstraten, 1988). The CNAs filled out the BIP completely, though only 8 of the 14 sub-scales were selected as outcome measurements, i.e. 'non social behaviour', 'apathetic behaviour', 'distorted consciousness, 'loss of decorum', 'anxious behaviour', 'rebellious behaviour', 'restless behaviour' and 'disoriented behaviour'. The CNAs were not informed about selected sub-scales. In accordance with the manual, the BIP was completed by two CNAs together to maximize inter-rater reliability and to avoid observer-bias. The subscale 'memory disorders' (7 items) was used as a background characteristic/confounder. The validity and reliability of the BIP is adequate to good. Verstraten (1988) reported Cronbach's alpha values ranging from .61 to .90 for the 14 sub-scales and a mean inter-rater reliability of .74 (range .53 to .90). As a measure of the reliability of the instrument, Cronbach's alpha of our data was calculated. The internal

consistency of the subscales was sufficient for 'non social behaviour' (α=.85; 8 items), 'apathetic behaviour' (α=.73; 6 items), 'distorted consciousness (α=.88; 7 items), 'loss of decorum (α=.70; 5 items), anxious behaviour (α=.81; 6 items) and memory disorders (α=.73; 7 items), but rather low for 'rebellious behaviour' (α=.60; 5 items), restless behaviour (α=.62; 5 items) and 'disoriented behaviour' (α=.47; 5 items). As the low internal consistencies were probably due to the small number of items, 'rebellious behaviour' and 'restless behaviour' were maintained, but 'disoriented behaviour' was excluded from analysis (Van der Wee, 2000).

*Agitation*

The Cohen-Mansfield Agitation Inventory (-Dutch version) (CMAI-D) was completed by CNAs to measure agitation (Cohen-Mansfield et al., 1989; Cohen-Mansfield, 1991; De Jonghe and Kat, 1996; Miller et al., 1995; Schrijnemaekers et al., 2002). The CMAI is a caregivers' rating questionnaire consisting of 29 agitated behaviours, each rated on a 7-point frequency scale, ranging from 'never' to 'several times an hour'. The scale covers three syndromes of agitation: Aggressive behaviour (AB), physically non-aggressive behaviour (PNAB) and verbally agitated behaviour (VAB) (Cohen-Mansfield et al., 1989). In accordance with the manual, factor-analysis was done to control for the factor structure, excluding behaviours exhibited by less than 5% of the participants ('intentional falling', 'hurting self or another', 'verbal sexual advances', 'physical sexual advances') and behaviours that hardly loaded ('repetitious mannerisms', 'making strange noises') (Cohen-Mansfield, 1991). 'Grabbing' loaded on the subscale VAB instead of AB and 'screaming' on AB instead of VAB. 'Throwing things' was added to AB and 'hiding things' and 'hoarding things' to PNAB (not included in Cohen-Mansfield's factor structure). The results confirmed earlier findings on the factor structure of the CMAI in a nursing home setting (De Jonghe and Kat, 1995; Miller et al., 1995).

De Jonghe and Kat (1996) found a good internal consistency of the scale (Cronbach's alpha .82) and an inter-rater agreement of .89 for the CMAI-D. Our data showed an overall Cronbach's alpha of .81: α=.82 on the subscale AB (10 items), α=.77 on PNAB (6 items) and α=.71 on VAB (5 items). Explained variance was 46.8%.

*Depression*

The Cornell Scale for Depression in Dementia (-Dutch version) (CSDD-D), especially designed for assessing depression in dementia patients, was used to measure depressive symptoms (Mood-Related Signs, Behavioural Disturbance, Physical Signs and Cyclic Funtions) (Alexopoulos et al., 1988; Droës, 1996). Each of the 15 items was rated on a scale from 'absent', 'mild', 'severe' to 'unable to evaluate'. The scale has a high inter-rater reliability (weighted Kappa=.67) and

internal consistency (Cronbach's α=.84) (Alexopoulos et al., 1988). Cronbach's alpha of our data was .75.

**Video assessment of behaviour during morning care**

Two independent observers rated the video-observations of the residents during morning care. They were both university graduates, one in psychology and one in social sciences, and they have been working as CNAs in the past. Training was given by explaining the use of the scale, rating the same patients and discussing discrepancies. The original guidelines were followed to minimize observer bias and reactivity (Baker and Dowling, 1995). After three weeks of training, the 'real' observations started. The video-tapes were randomly switched over to DVDs by a technician and assessed by one of the observers. They were blind for whether the resident was included in the experimental or in the control group. The observer watched a video-recording twice before scoring to ensure a reliable assessment. The average duration of the videotaped morning care was 20.3 minutes.

*Observers' assessed behaviour*

The video-recordings were observed using the measuring device INTERACT, which was specifically designed to measure the effects of *snoezelen* on demented elderly (Baker et al., 1997; 2001; Baker and Dowling, 1995; Van Diepen et al., 2002). The scale includes 22 items about mood (4 items), speech (5 items), relating to other people (4 items), relating to the environment (4 items), need for prompting (1 item) and stimulation level (4 items), using a five-point Likert scale, ranging from 'not at all' to 'nearly all the time', to reflect the behaviour during morning care. Both positive and negative behaviours of demented elderly are identified. The INTERACT was extended by 8 study-specific items, based on the observation form of Bernardus Expertise Centre/Fontis and literature (Kok et al., 2000; Lawton, 1997; Lawton et al., 2000); two items were added to the 'relating to person' domain and six to the 'stimulation level' domain (see table 6.3). Six INTERACT-items were excluded from analysis due to low inter-observer reliability (Pearson's r <.60).

*Mood*

Individuals' mood was measured using three face diagrams (FACE) with different mouth shapes, which are considered universal symbols for happy, neutral and sad affects (Volicer et al., 1999a; 1999b; Whaley and Wong, 1987). The observers were asked to rate the patient: ☹ if frown pre-dominated; 😐 if the expression was neutral; ☺ if smile pre-dominated.

*Reliability of the video-observations*

Inter-rater reliability checks on the observational measures were conducted during observer training. The final inter-observer reliability was calculated for 25 out of 250

video-recordings (10%) (Wells et al., 2000). Inter-rater reliability (mean Pearson's r) of the 24 selected INTERACT items was .83 (range .68-.99); FACE .84.

### *Interviews*

After 15 months, the head nurses of the control wards were interviewed to find out whether the control wards refrained from *snoezelen* during the study period, conforming to the cooperative agreement. The results revealed that on three control wards some CNAs started to apply parts of the *snoezel* methodology in the daily care (e.g., music, aroma). However, no one integrated these parts in an individual, resident-centred approach, nor did anyone integrate these structurally. As these are considered important conditions for *snoezelen* to be effective, no serious contamination risk was supposed on the control wards.

### *Data analysis*

All instruments were reviewed immediately after completion, so CNAs could be contacted about missing data. The number of missing data for BIP, CMAI-D and CSDD-D was therefore negligible. Data resulting from video-analysis was complete.

Descriptive statistics were obtained on the demographic characteristics of subjects in pre-test and post-test and in the experimental and control groups. Differences on these variables were examined using chi-square tests or t-tests (table 6.1).

As dropouts were substituted by new residents, multilevel analysis, carried out with MLwiN-software, was used for analyzing the data (Rasbash et al., 2000). A mixed model of multilevel analysis for repeated measurements was chosen, which takes into account all available data in an adequate way: the paired samples of completers (included in pre-test and post-test) as well as the unpaired pre-measurement or post-measurement data of non-completers (included in pre- or post-test) (Bryk and Raudenbusch, 1992; Goldstein, 1995). Two levels of analysis were distinguished: (1) measurement and (2) resident. The correlated measurements of completers are controlled for by modelling the covariance between the pre- and post-measurement at the resident level.

To compare the rate of change across the two groups, the mean pre-test post-test differences in the experimental group were tested against the mean pre-test post-test differences in the control group.
The following characteristics were selected as relevant covariates in adjusted analysis to correct for differences in the residents' conditions and background characteristics: care dependency, memory impairment, age, duration of nursing home admission and sex (American Psychiatric Association, 1994; Dijkstra, 1998; Finnema, 2000; Jirovec and Kasno, 1993; Schrijnemaekers et al., 2002).

The number of wards was too small to compare subgroups of nursing homes or to take similarity among wards into account.

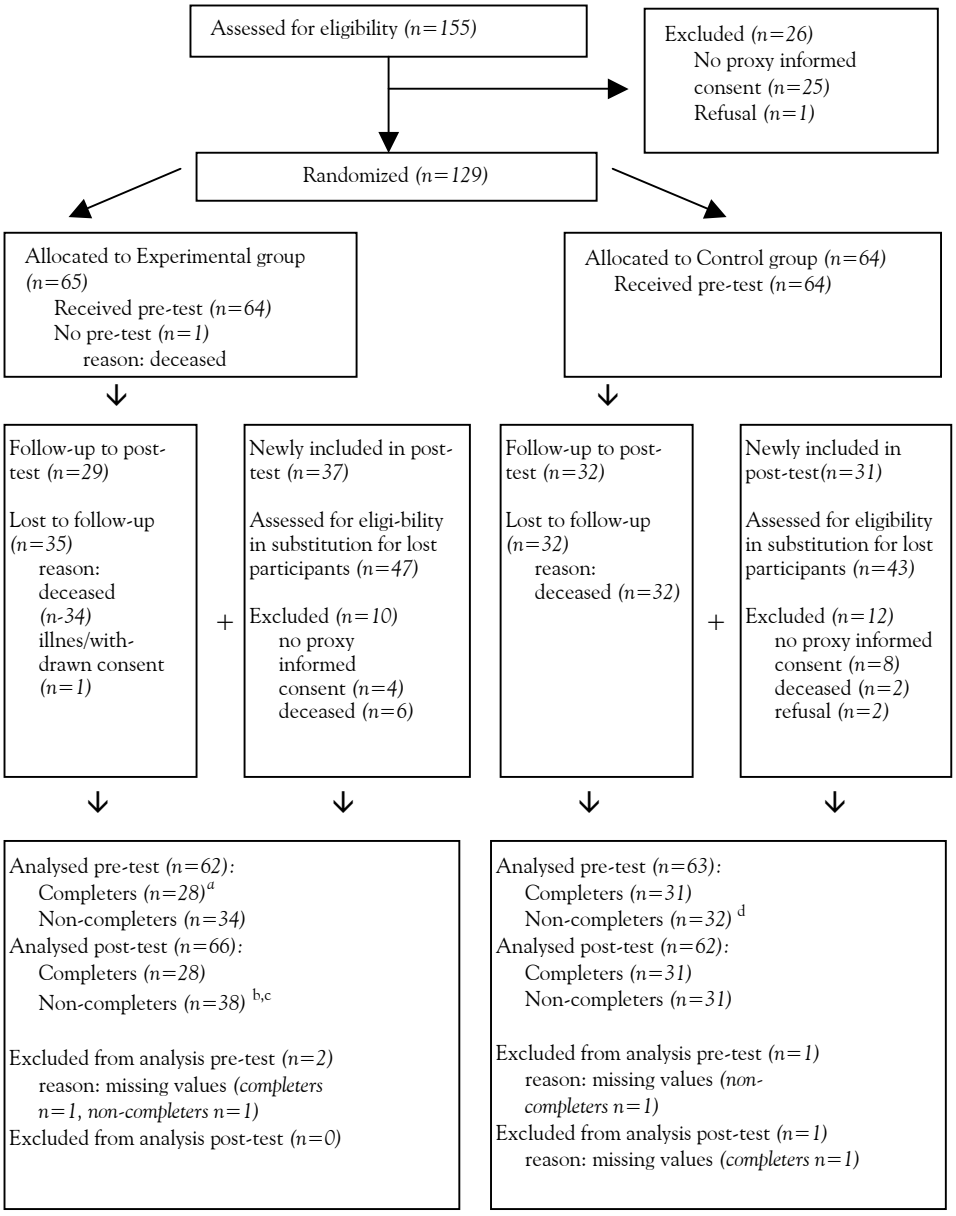
## Results

### *Response*

Figure 6.2 presents the study flow diagram.

Before the pre-test, 155 legal guardians were asked to give written informed consent of whom 25 refused (11 in the experimental group and 14 in the control group). The main reason was objection to videotaping. No significant differences were obtained on age and sex among participants and refusers. Four cases (three in pre-test and one in post-test) were excluded from the final analysis because information on background variables was missing. Due to residents' refusal, three video-recordings of experimental subjects were missing. As they received the *snoezel* program, the ward observations were still used. From the 125 residents analysed in the pre-test, 61 'completers' could also be included in the post-test. Two of them had missing values in pre-test or post-test. Their data were analysed unpaired, similar to the data of 'non-completers'. 68 'Newly included residents' ('non-completers') entered the study group. The majority of legal guardians (43 out of 47) of newly eligible experimental subjects gave informed consent, as a result of which the sample size increased from 64 at pre-test (analysed 62) to 66 at post-test (analysed 66). In the control group, the sample size decreased from 64 at pre-test (analysed 63) to 63 at post-test (analysed 62).

Figure 6.2 Flow chart of the trial




[a] video-observations: n=27. Reason: missing values (n=1)
[b] video-observations: n=36. Reason: missing values (n=2)
[c] 37 newly included residents + 1 'completer' with missing values in pre-test
[d] 31 non-completers + 1 'completer' with missing values in post-test

### *Background characteristics*

Table 6.1 summarizes the demographic characteristics for subjects at baseline.

Table 6.1 Background characteristics at baseline by treatment group

| **Residents' characteristics** | **Experimental * (n=62)** | | **Control * (n=63)** | |
|---|---|---|---|---|
| Gender female (n, (%)) | 49 | (79.0) | 52 | (82.5) |
| Age (years, (sd)) | 84.0 | (8.6) | 82.6 | (8.2) |
| Duration of illness (years, (sd)) | 5.6 | (2.7) | 6.1 | (3.5) |
| Residing in nursing home (years, (sd)) | 3.1 | (2.5) | 2.6 | (2.5) |
| Care dependency (CDS; 15-75) [a] (mean score, (sd)) | 27.4 | (11.7) | 29.5 | (11.2) |
| Memory impairment (BIP7; 0-21) [a] (mean score, (sd)) | 14.5 | (3.1) | 13.4 | (4.0) |
| Diagnosis (n, (%)): | | | | |
| - Alzheimer's | 35 | (56.5) | 34 | (54.0) |
| - Vascular dementia | 13 | (21.0) | 5 | (7.9) |
| - Combined Alzheimer's + vascular | 10 | (16.1) | 16 | (25.4) |
| - Other dementia | 4 | (6.5) | 8 | (12.7) |
| Predominant features (n,(%)) | | | | |
| - with delirium | 0 | (0.0) | 0 | (0.0) |
| - with delusions | 10 | (16.1) | 12 | (19.0) |
| - with depressed mood | 8 | (12.9) | 9 | (14.3) |
| - with anxiety | 11 | (17.7) | 7 | (11.1) |
| - with primary insomnia | 6 | (9.7) | 6 | (9.5) |
| - uncomplicated | 27 | (43.5) | 29 | (46.0) |
| Cognitive disturbances (n,(%)) | | | | |
| - aphasia | 3 | (4.8) | 5 | (7.9) |
| - apraxia | 13 | (21.0) | 10 | (15.9) |
| - agnosia | 31 | (50.0) | 28 | (44.4) |
| - none of these disturbances | 3 | (4.8) | 4 | (6.3) |
| - unknown | 12 | (19.4) | 16 | (25.4) |

* No significant differences were found between the experimental group and the control group at baseline

[a] The underlined scores indicate the most favourable score (least impairment) for the scale

sd =standard deviation; CDS = Care Dependency Scale; BIP = Dutch Behaviour Observation Scale for Psychogeriatric In-patients

The table shows that the experimental and the control groups were to a large extent comparable on background characteristics. At baseline, there were no significant differences between the experimental group and the control group.

Table 6.2 Change in outcome measures according to CNAs' assessments in the ward environment (multilevel analysis)

| Outcome measures | Experimental group | | | | | Control group | | | | | Change Score[a] | $\chi^2(1)$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Pre-test | | Post-test | | Change | Pre-test | | Post-test | | Change | | |
| | Mean | (se) | Mean | (se) | | Mean | (se) | Mean | (se) | | | |
| **Behaviour (BIP)**[b] | | | | | | | | | | | | |
| non-social behaviour (0-24) | 13.82 | (0.4) | 13.31 | (0.4) | 0.51 | 13.78 | (0.4) | 13.81 | (0.4) | -0.03 | 0.54 | 0.54 |
| apathetic behaviour (0-18) | 10.98 | (0.3) | 9.87 | (0.3) | 1.11** | 10.48 | (0.3) | 10.62 | (0.3) | -0.15 | *1.26** | 5.16 |
| loss of consciousness (0-21) | 9.14 | (0.4) | 7.89 | (0.4) | 1.25* | 8.19 | (0.4) | 7.60 | (0.4) | 0.60 | 0.65 | 0.75 |
| loss of decorum (0-15) | 7.72 | (0.4) | 6.88 | (0.3) | 0.84 | 6.60 | (0.4) | 7.34 | (0.3) | -0.74 | *1.58** | 6.22 |
| rebellious behaviour (0-15) | 6.09 | (0.3) | 5.23 | (0.3) | 0.87* | 5.03 | (0.3) | 5.60 | (0.3) | -0.57 | *1.44** | 5.99 |
| restless behaviour (0-15) | 4.42 | (0.3) | 4.11 | (0.3) | 0.31 | 3.66 | (0.3) | 4.01 | (0.3) | -0.35 | 0.66 | 1.25 |
| anxious behaviour (0-18) | 4.04 | (0.4) | 4.03 | (0.5) | 0.02 | 3.47 | (0.4) | 4.36 | (0.5) | -0.89 | 0.91 | 1.70 |
| **Agitation (CMAI-D)**[b] | | | | | | | | | | | | |
| aggressive behaviour (0-60) | 5.36 | (0.8) | 3.53 | (0.7) | 1.83 | 3.73 | (0.8) | 4.93 | (0.7) | -1.21 | *3.03** | 4.33 |
| physically non-aggressive behaviour (0-36) | 3.94 | (0.6) | 3.53 | (0.5) | 0.41 | 4.02 | (0.6) | 3.64 | (0.5) | 0.38 | 0.03 | 0.00 |
| verbally agitated behaviour (0-30) | 5.21 | (0.6) | 5.06 | (0.6) | 0.14 | 4.59 | (0.6) | 5.26 | (0.6) | -0.67 | 0.81 | 0.69 |
| **Depression (CSDD-D)**[b] | | | | | | | | | | | | |
| (0-30) | 8.93 | (0.6) | 7.44 | (0.5) | 1.48* | 7.22 | (0.6) | 7.88 | (0.5) | -0.66 | *2.14** | 4.83 |

* p< .05, ** p< .01

[a] The scores in italic indicate a significant change in favour of the experimental group, meaning that the pre-/post change in the experimental group is significantly different from the pre-/ post change in the control group

[b] The underlined scores indicate the most favourable score for the scale

Mean = estimated mean score (multilevel analysis)

se = standard error

$\chi^2(1)$ = Chi square (1 degree of freedom)

BIP = Dutch Behaviour Observation Scale for Psychogeriatric In-patients

CMAI-D = Cohen-Mansfield Agitation Inventory - Dutch version

CSDD-D = Cornell Scale for Depression in Dementia - Dutch version

Table 6.3 Change in outcome measures according to video observations during morning care (multilevel analysis)

| Outcome measures | Experimental group | | | | | Control group | | | | | Change score[a] | $\chi^2(1)$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Pre-Test | | Post-test | | Change | Pre-test | | Post-test | | Change | | |
| | Mean | (se) | Mean | (se) | | Mean | (se) | Mean | (se) | | | |
| **INTERACT (1-5)** | | | | | | | | | | | | |
| **Mood** | | | | | | | | | | | | |
| Tearful/sad | 1.52 | (0.1) | 1.29 | (0.1) | 0.23 | 1.16 | (0.1) | 1.54 | (0.1) | -0.39* | *0.62*** | 6.74 |
| Happy/content | 2.74 | (0.2) | 3.47 | (0.2) | -0.73*** | 3.07 | (0.2) | 2.63 | (0.2) | 0.44 | *-1.17**** | 13.82 |
| Fearful/anxious | 1.60 | (0.1) | 1.32 | (0.1) | 0.28* | 1.40 | (0.1) | 1.28 | (0.1) | 0.12 | 0.16 | 0.70 |
| **Speech** | | | | | | | | | | | | |
| Talked spontaneously | 2.45 | (0.2) | 2.64 | (0.2) | -0.20 | 2.42 | (0.2) | 2.57 | (0.2) | -0.14 | -0.06 | 0.04 |
| Recalled memories | 1.22 | (0.1) | 1.27 | (0.1) | -0.04 | 1.26 | (0.1) | 1.30 | (0.1) | -0.03 | -0.01 | 0.01 |
| Spoke clearly | 2.54 | (0.2) | 2.65 | (0.2) | -0.11 | 2.69 | (0.2) | 2.86 | (0.2) | -0.17 | 0.06 | 0.04 |
| Spoke sensibly | 2.51 | (0.2) | 2.86 | (0.2) | -0.36 | 2.75 | (0.2) | 2.61 | (0.2) | 0.14 | -0.49 | 2.59 |
| Normal length sentences | 2.27 | (0.2) | 2.83 | (0.1) | -0.56** | 2.58 | (0.2) | 2.52 | (0.1) | 0.06 | *-0.62** | 4.46 |
| **Relating to person** | | | | | | | | | | | | |
| Appropiately eye contact | 2.53 | (0.1) | 2.98 | (0.1) | -0.45** | 2.50 | (0.1) | 2.87 | (0.1) | -0.37** | -0.08 | 0.10 |
| Related well | 3.40 | (0.1) | 3.87 | (0.1) | -0.47** | 3.64 | (0.1) | 3.35 | (0.1) | 0.28 | *-0.75** | 7.06 |
| S: Listened to voice/ noise[b] | 4.25 | (0.1) | 4.20 | (0.1) | 0.05 | 4.30 | (0.1) | 4.00 | (0.1) | 0.30 | -0.25 | 1.13 |
| S: Responded to speaking[b] | 3.79 | (0.1) | 3.54 | (0.1) | 0.23 | 4.06 | (0.1) | 3.24 | (0.1) | 0.83*** | *-0.60** | 5.40 |
| **Relating to environment** | | | | | | | | | | | | |
| Tracked observable stimuli | 2.78 | (0.1) | 3.03 | (0.2) | -0.26 | 3.31 | (0.1) | 3.23 | (0.2) | 0.08 | -0.34 | 2.06 |
| Touched objects/equipment | 2.26 | (0.1) | 2.20 | (0.1) | 0.06 | 2.45 | (0.1) | 2.16 | (0.1) | 0.29 | -0.23 | 0.85 |
| **Need for prompting** | | | | | | | | | | | | |
| Own initiative | 1.94 | (0.1) | 1.80 | (0.1) | 0.14 | 1.87 | (0.1) | 1.84 | (0.1) | 0.03 | 0.12 | 0.25 |

*- table 6.3 continues -*

*- table 6.3 continued -*

| Outcome measures | Experimental group | | | | | Control group | | | | | Change score[a] | $\Delta\chi^2(1)$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Pre-Test | | Post-test | | Change | Pre-test | | Post-test | | Change | | |
| | Mean | (se) | Mean | (Se) | | Mean | (Se) | Mean | (Se) | | | |
| **Stimulation level** | | | | | | | | | | | | |
| Restless | 1.67 | (0.1) | 1.46 | (0.1) | 0.21 | 1.47 | (0.1) | 1.67 | (0.1) | -0.19 | 0.40 | 2.70 |
| Enjoying self, pleasure | 2.32 | (0.2) | 3.17 | (0.2) | -0.84*** | 2.54 | (0.2) | 2.43 | (0.2) | 0.10 | *-0.84*** | 9.77 |
| Bored, inactive | 2.33 | (0.2) | 1.69 | (0.2) | 0.64** | 2.05 | (0.2) | 2.25 | (0.2) | -0.20 | *0.85*** | 7.21 |
| S:Alert[b] | 3.76 | (0.1) | 3.74 | (0.2) | 0.02 | 3.99 | (0.1) | 3.69 | (0.2) | 0.30 | -0.28 | 1.07 |
| S:Verbal anger[b] | 1.30 | (0.1) | 1.07 | (0.1) | 0.23 | 1.18 | (0.1) | 1.26 | (0.1) | -0.07 | 0.30 | 3.02 |
| S:Aggressive[b] | 1.25 | (0.1) | 1.05 | (0.1) | 0.19 | 1.11 | (0.1) | 1.13 | (0.1) | -0.02 | 0.21 | 2.10 |
| S:Negativism, complaining[b] | 1.85 | (0.1) | 1.48 | (0.1) | 0.37* | 1.32 | (0.1) | 1.65 | (0.1) | -0.33 | *0.71*** | 8.12 |
| S:Reluctance[‡b] | 1.43 | (0.1) | 1.11 | (0.1) | 0.32* | 1.24 | (0.1) | 1.38 | (0.1) | -0.14 | *0.46** | 5.59 |
| S:Repetitious mannerism[b] | 1.42 | (0.1) | 1.55 | (0.1) | -0.13 | 1.40 | (0.1) | 1.30 | (0.1) | 0.11 | -0.24 | 0.92 |
| **FACE (1-3)** | | | | | | | | | | | | |
| Mood | 2.10 | (0.1) | 2.49 | (0.1) | -0.39*** | 2.17 | (0.1) | 2.16 | (0.1) | 0.01 | *-0.40*** | 7.72 |

* P < .05, ** P < .01, *** P < .001

[a] The scores in italic indicate a significant change in favour of the experimental group, meaning that the pre-/post change in the experimental group is significantly different from the pre-/post change in the control group

[b] S= Study specific, additional item

Mean = estimated mean score (multilevel analysis)

se = standard error

$\Delta\chi^2$ (1) = Chi square (1 degree of freedom)

### *Outcomes*

Table 6.2 provides the adjusted estimated means (95% confidence interval) and the change scores from the experimental group and the control group on the observed behaviours by CNAs.

On all measures, positive change scores indicate a change in favour of the experimental group.
A significant treatment effect was obtained for apathetic behaviour, loss of decorum, rebellious behaviour, aggressive behaviour and depressive behaviour.

The effects of *snoezelen* during morning care are presented in table 6.3. On measures representing positive feelings or adaptive behaviour (e.g., happy/content, enjoying self, normal length sentences) negative change scores indicate a change in favour of the experimental group. On measures representing maladaptive, negative behaviour (e.g., restless, bored/inactive, verbal anger) positive change scores indicate a change in favour of the treatments.

Significant treatment effects were seen in the following nine INTERACT outcome measures: tearful/sad, happy/content, talked with normal length sentences, related well, enjoying self, bored/inactive, responding to speech, negativism/complaining and reluctance. The scores on FACE also showed a significant effect in favour of the experimental group. Restlessness and verbal anger marginally improved ($P<.100$).

## Discussion

The results of this study support the effectiveness of *snoezelen* in dementia care. Residents receiving a *snoezel* approach, integrated in 24-h daily care, demonstrated significantly more improvements with respect to their level of apathetic behaviour, loss of decorum, rebellious behaviour, aggressive behaviour and depression than the control group who received usual care. During morning care, residents receiving the *snoezel* program, showed more happiness and enjoyment, related better to the CNA, were more responding to speaking and talked more frequently with normal length sentences than the control group. They were also in a better mood and showed less sadness, bored and inactive behaviour, negativism and reluctance.
Although Lancioni et al. (2002) reported occasions in which participants had a temporary behavioural deterioration or severe behavioural problems, which brought a definite stop to *snoezel* sessions, in the present study no participants dropped out for that reason (Lancioni et al., 2002). Nor were there any other negative findings or side effects. An explanation might be that in the present study, contrary to most of the other studies, a stimulus preference screening was part of the intervention. This allowed staff to expose the participants selectively to the stimuli that they find more pleasurable and more suitable to their condition, which is recommended to help prevent or minimize behavioural problems within the *snoezelen* context (Lancioni et

al., 2002). The within-session improvements found during morning care are consistent with positive findings obtained in earlier studies with less scientific quality (e.g., weak control conditions, limited number of sessions and use of descriptive data) (Chitsey et al., 2002; Spaull and Leach, 1998).

Much of the literature on *snoezelen* demonstrates a wide range of positive outcomes, but there is little evidence of generalization (Hogg et al., 2001). Lancioni et al. (2002) found four studies showing that the immediate post-session effects were favourable compared to those of control conditions. Yet, longer-term, generalized effects of *snoezelen* were only reported in two out of six studies and these studies did not meet the citeria for high methodological quality (Verkaik et al., submitted). The overall improvement of behaviour on the ward, found in the present study, seems to be an indication for the generalized effects of integrated *snoezel* care. On the one hand, as expected, *snoezelen* influenced disturbing behaviours as physical aggression or rebellion and, on the other hand, withdrawn behaviour as apathy or depression. A treatment effect was also found on loss of decorum, which has never been reported before. This might be explained by the increased attention of CNAs to the residents' personal preferences for their personal appearance, which is part of the integrated *snoezel* program, but not of the *snoezel* sessions in a special room described in earlier studies. There was no generalized improvement of anti-social, restless, anxious behaviour, loss of consciousness, verbal aggression or physically non-aggressive behaviour. Behaviours falling in the 'speech' domain, did not change either. These domains are possibly less likely to be effected by *snoezelen*. Negative symptoms like apathy and loss of decorum are perhaps amenable to treatment, while more complex behaviours such as agitation, restlessness and anxiety or more cognitive competences such as speech seem to be more difficult to influence (De Jonghe et al., 2003).

The actual effective ingredient(s) of the *snoezelen* intervention still remain indeterminate. The combination of individualized, person-centred care and a 24-h comprehensive care plan integrating multi-sensory stimulation might contribute to the success. Yet, additional scientific research is needed to get more insight into the underlying mechanisms.

Some methodological considerations need attention. Though the multilevel model takes into account the data of completers (included in pre- and post-test) as well as non-completers (included in pre- or posttest), there might be conflicting findings in the patterns of deterioration and improvement in both groups. Subgroup analyses were done with regard to the variables that showed significant changes. There was no improvement in the control groups: neither for completers nor for non-completers. The experimental groups showed improvement or, only within the subgroup of completers, no or small changes from pre- to post-test with less

deterioration in the experimental group than in the control group (BIP4 loss of decorum E=+1.11,d=.29;C+2.13,d=.82; responding to speaking E-.48,d=.37;C-1.00,d=.71).

Another potential limitation were the unblinded observations on the ward by CNAs. Finnema (2000) investigated whether participation in the study influenced the judgment of CNAs by asking an independent CNA from another ward for a second opinion of BIP sub-scales, CMAI-D and CSDD-D on 15 percent of the residents. No indications were found that the judgment of the first CNA-assessor deviated systematically from the assessment of the independent CNA-assessor. In the present study, CNAs completed five (hidden) BIP sub-scales, that were not selected as outcome measurements, but effects were only found on selected sub-scales. Last but not least, the video-observations were blind and did not contradict the observations on the wards. Therefore, no sufficient bias is assumed.

The aim of using video-recordings of the morning care was to provide supplementary data to the observations on the ward with the advantage of blinded assessment. The limitation to morning care may create measurement bias. In future studies, the video-observations should be extended to other care moments.

The post-test was limited to one measurement. Future research should consider the measurement of outcome measures at different time points to strengthen the results. Measurement intervals are also recommended to investigate the effectiveness of *snoezelen* at an individual level, to find out whether some residents benefit more from the *snoezelen* intervention than others.
The results need to be interpreted with caution as the experimental group appeared to show more behavioural problems at baseline than the control group. However, the disordinal interactions still account for convincing results. There is no clear explanation for these differences in baseline scores. There might have been unexpected selection bias, e.g., the experimental wards might have been more eager for getting their most 'difficult' residents included. In future research, this might be prevented by selecting participants by the research team (e.g., after a period of participating observations), by randomizing the wards after the pre-test and/or by selecting residents on their main behaviour problem (e.g., to focus on aggression or depression).

Last, the INTERACT scale does not give sum scores and the item-by-item analysis increases the risk of a false-positive result (type I error) (Van Diepen et al., 2002). Though no contradictions were found in the results, future studies should develop a scale consisting of multi-item subscales measuring the same domains. At the beginning of this study, such measurement was not available.

# 7 The effects of the implementation of snoezelen on the quality of working life in psychogeriatric care

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## Abstract

**Background:** Dementia among nursing home residents is often accompanied by high care dependency and behavioural disturbances. This has resulted in an increased workload for the caregivers involved. S*noezelen*, integrated in 24-h dementia care, is an approach that might improve the quality of working life of dementia caregivers. The present study aims to investigate the effectiveness of integrated *snoezelen* on work related outcomes (workload and psychological outcomes) of caregivers in psychogeriatric nursing homes.

**Methods:** A quasi-experimental pre- and post-test design was conducted, comparing six psychogeriatric wards, that implemented *snoezelen* in 24-h care, to six control wards, that continued in giving usual care. 129 Certified Nursing Assistants (CNAs) were included in the pretest and 127 CNAs in the posttest. The six intervention wards received a four-day in-house training program '*snoezelen* for caregivers'. The intervention further consisted of implementation activities on the ward (e.g., stimulus preference screening, workgroup), three in-house follow-up meetings and two general meetings. Measurements about workload, perceived problems, stress reactions, job satisfaction and burnout were performed at baseline and after 18 months.

**Results:** A significant treatment effect in favour of the experimental group was found for time pressure, perceived problems, stress reactions and emotional exhaustion. CNAs of the experimental group also improved on their overall job satisfaction score. They were especially more satisfied with the quality of care and with their contact with residents.

**Conclusion:** Results indicated that the implementation of s*noezelen* improved the quality of working life of dementia caregivers. This suggests that the application of structured, nonpharmacological approaches, such as *snoezelen*, has a surplus value in psychogeriatric care.

## Introduction

Working in health care is characterized as emotionally demanding (Arts et al., 2001). Specific working conditions have been identified as stressful, such as shift work, shift rotations and lack of flexibility in working hours and time off (Chappell and Novak, 1992; Hare et al., 1988; Hoffman and Scott, 2003). Workload is also recognized as an increasing problem among caregivers in psychogeriatric nursing homes. About 27,000 dementia patients stay in Dutch nursing homes (Hoek et al., 2000). The behavioural and psychological disturbances often accompanying dementia can be highly problematic to caregivers and increase the workload. High workload may influence the level of stress reactions and job satisfaction negatively, possibly resulting in a negative psychological state commonly referred to as 'burnout' (Blegen, 1993; Shelledy et al., 1992). Aspects such as workload, job stress, job satisfaction and burnout are associated with the concept '*quality of working life*', which has been given increased attention in health services research (Arts et al, 1999; 2001; Bourbonnais et al., 1998; Jansen et al., 1996).

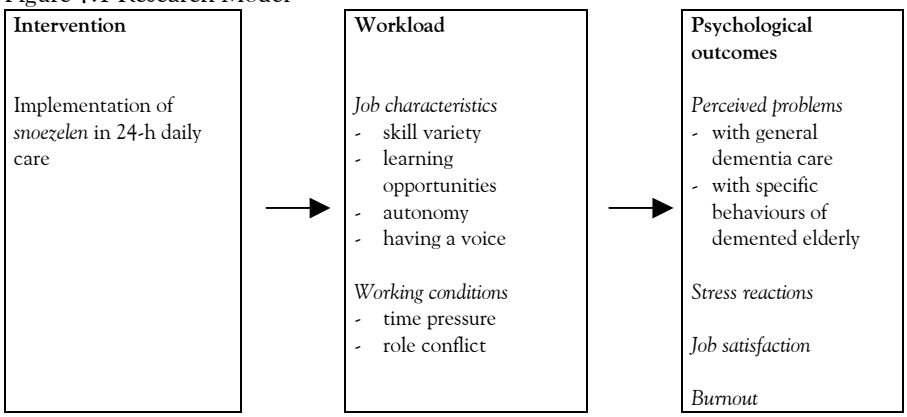
Training and implementation of interventions for caregivers in dealing with cognitive impairment is a proactive, not costly step that can be used by institutions to help alleviate the effects of stressors on caregivers (Chappell and Novak, 1992). If nurses feel that they have adequate resources to meet their patients' needs, they might be more satisfied (Shaver and Lacey, 2003). One of the approaches that has become more and more popular as a potential intervention on psychogeriatric wards is *snoezelen*, also referred to as Multi-Sensory Stimulation (MSS). In the present study, *snoezelen* is defined as an approach, integrated in 24-h daily care, which actively stimulates the senses of hearing, touch, vision and smell in a resident-oriented, non-threatening environment (Kok et al., 2000). The intent is to provide individualized, gentle sensory stimulation without the need for higher cognitive processes, such as memory or learning, in order to achieve or maintain a state of well-being.

*Snoezelen* might reduce maladaptive behaviours and increase positive behaviours of demented residents, but is also employed in dementia care to reduce caregivers' stress and, therefore, to improve the quality of working life of caregivers (Chung et al., 1995; Savage, 1996). So far, the evidence for the expected benefits of *snoezelen* for staff personnel is rather limited. Accordingly, Lancioni et al. (2002) recommended the determination, in future research, of the influence of multisensory (*snoezelen*) programs on work related outcomes of staff personnel involved in such an approach. The purpose of the current study is to investigate the effectiveness of the implementation of *snoezelen*, delivered by Certified Nursing Assistants (CNAs) throughout the day, on their quality of working life.

Arts et al. (2001) integrated three existing models of '*quality of working life*' into a

new model, reflecting the relationship between workload on the one hand and psychological and physical outcomes of work on the other hand, with a buffer in the capacity for coping. In the current study, this model is adapted to the study purposes. The hypothesized relationship between the implementation of *snoezelen*, workload (organizational characteristics, job characteristics, working conditions) and psychological outcomes of work (job satisfaction, stress reactions, burnout) is shown in figure 7.1.

Figure 7.1 Research Model




In particular, it was hypothesized that the intervention would lead to measurable, positive changes in

- Workload: The activities that someone has to carry out in a particular environment, classified in job characteristics (skill variety, learning opportunities, autonomy, having a voice) and working conditions (time pressure, role ambiguity).
- Psychological outcomes of CNAs : The subjective experience of the actual workload, operationalised in perceived problems, stress reactions, job satisfaction and burnout.

## Methods

### *Design*

A quasi-experimental pre- and post-test design was carried out. The study was performed at twelve psychogeriatric wards in six Dutch nursing homes. Every nursing home delivered an experimental and a control ward. The six experimental wards received training in '*snoezelen* for caregivers' and implemented *snoezelen* in 24-h care. In the six control wards, usual care continued. The implementation period lasted 18 months per ward in the period between January 2001 and February 2003. The effectiveness of *snoezelen* on the quality of CNAs' working life was studied by an extensive questionnaire. Measurements were performed at baseline and after 18 months, because this time was expected to be the minimum needed for successful implementation.

### *Procedures*

*Nursing homes*

Six nursing homes, in different parts of The Netherlands, were selected for the study out of nineteen potentially eligible sites. Interviews were held with staff members to obtain information and to examine whether the nursing homes met the following inclusion criteria: (1) s*noezelen* had not yet been implemented in the daily care of their residents (2) presence of two comparable units (i.e., population of residents, composition of nursing staff, used care model, level of attention and assistance) with at least 10 CNAs that met the inclusion criteria for CNAs (3) willingness to create the conditions to implement *snoezelen* in the daily care of the experimental ward (4) presence of some basic, practical conditions, e.g., a comfortable residents' chair (5) no substantial organizational changes (e.g., removal, reorganization) during the study period.

The nursing homes signed a cooperative agreement in which they promised that the control wards would refrain from s*noezelen* training or implementation of elements from the *snoezelen* care model on the wards during the study period. Control for contamination on the control wards was done by interviewing the head nurses, fifteen months after the start of the implementation on the experimental ward. These interviews revealed that on three control wards some CNAs started to apply parts of the *snoezel* methodology in the daily care (e.g., music, aroma). No one integrated these parts in an individual, resident-centred approach, nor did anyone integrate these structurally. As these are considered important conditions for *snoezelen* to be effective, no serious contamination risk was assumed on the control wards.

Randomization took place at ward level. In four nursing homes, the two wards involved in each home were randomized by having lots drawn from a sealed container by an independent person. Two wards in the other two participating homes were assigned to the experimental group on the basis of practical

considerations (e.g., the presence of a room that could be used as *snoezel*room by other disciplines such as activity therapists). This decision was taken after careful assessment of other differences between the experimental and the control ward that might be prejudice treatment comparisons (e.g., population, motivation of nursing staff, working atmosphere), to rule out selection and confounding biases.

*Subjects*

To establish the effectiveness of *snoezelen*, a sample size of 120 CNAs (60 treatments, 60 controls) was required (power=0.80, $\alpha$=0.05, d= 0.50). To be eligible for the trial CNAs had to meet the following criteria: (1) be employed for at least three months in the nursing home (2) be employed for at least 12 hours per week and (3) working in rotation shifts or on day-duty. CNAs who were expected to be absent during the study period for a longer period were excluded as well as CNAs who were only working at night. CNAs who dropped out unexpectedly, e.g. by changing jobs, were replaced by new CNAs. The new CNAs received 'training on the job' from the head nurse or the 'coordinator sensory stimulation' and attended the follow-up meetings in order to be able to apply the *snoezelen* method. They were also coached on how to bring the care into conformity with the *snoezel* (care) plans of the residents.

***Intervention***

*Training*

The CNAs were trained in *snoezelen* by a qualified and experienced professional trainer of the Bernardus Center of Expertise/Fontis. In-house training included four, weekly, 4-h sessions and homework. The main objectives of training were to improve caregiver knowledge and skills with regard to *snoezelen* and to motivate all team-members to implement the new care model in 24-h care. Attention was paid to the residents' life history, the attitude of caregivers towards demented residents, observation of the residents' (sensory) preferences, understanding of the residents' needs and practical skills with regard to sensory stimulation. Trainees received a complete caregiver reader, methodology observation forms and a certificate. In total, 59 CNAs and 6 head nurses attended the training program, as well as 15 other caregivers that were not formally included in the study (e.g., activity therapists or nutrition assistants). Compliance with the training sessions was 92.5%. On average, the overall assessment of the training by the caregivers on a 10-point scale was 8.4 (S.D.=0.75; range 7-10).

*Implementation on the ward*

After the training, the caregivers started to implement *snoezelen* in the 24-h care of the residents. The CNA took a detailed history of the matched residents' life and preferences by interviewing family members. The resident was then observed during

ten, weekly, 1-h sessions using the methodology acquired in the training ('stimulus preference screening'). Next, the CNAs wrote an individual *snoezel* care plan, in order to integrate the observation findings into the 24-h daily care (e.g., required approach, how to wake up, whether the resident is capable of choosing own clothes, whether aroma therapy, music, perfume or make-up can be used).

*Follow-up and general meetings*

The caregivers were offered three in-house follow-up meetings spread over a total period of 15 months under the guidance of the same professional trainer. The aim of this supervision meetings was to support the implementation of *snoezelen* in daily care (e.g., practical advice, exchanging experiences, discussing problems). In addition, there were two general meetings, attended by three representatives of each nursing home (e.g., head nurses, care managers). The aim of these meetings was to support the implementation of *snoezelen* at the organizational level. Details about the intervention have been described elsewhere (Van Weert et al., 2004)

***Effects of the intervention on resident outcomes***

In a parallel study, the effects of the above described intervention on residents outcomes were investigated. The research population consisted of 125 moderately to severe demented nursing home residents at pre-test (62 in the experimental group and 63 in the control group) and 128 residents at post-test (66 in the experimental group and 62 in the control group). The effectiveness of *snoezelen* was studied by conducting ward observations and by analysing video-recordings of morning care, using observation scales on behaviour and mood of demented elderly.

The results of the ward observations showed a significant treatment effect in favour of the experimental group regarding apathetic behaviour, loss of decorum, rebellious behaviour, aggressive behaviour and depressive behaviour. The results of the video-analysis showed significant pre-test/post-test changes in well-being and adaptive behaviour of the residents in the experimental group. A treatment effect in favour of the experimental group was found regarding mood, happiness and contentment, enjoyment, relating well to the CNA, responding to speaking and talking with normal length sentences. Residents of the experimental group also showed a decreased level of tearfulness/sadness, bored/inactive behaviour, negativism and reluctance.

In conclusion, the results of this parallel study supported the effectiveness of *snoezelen* on the behaviour and mood of demented nursing home residents. *Snoezel* care particularly seemed to have a positive influence on the deterioration of disturbing and withdrawn behaviour and the improvement of mood and happiness. Details about the effects of *snoezelen* on resident outcomes have been described elsewhere (Van Weert et al., in press; chapter 6). The present study elaborates on the findings by investigating the effects of *snoezelen* on the quality of caregivers'

working life.

***Outcome measures 'Quality of working life'***

The various aspects of quality of working life were measured using the most reliable, valid and sensitive scales available in Dutch.

*Workload*

The questionnaire 'Experience and Assessment of Work' (VBBA) by Van Veldhoven and Meijman (1994) was used for scales on job characteristics and working conditions. Four *job characteristics* were measured: 'skill variety' ($\alpha$=0.77; 6 items), 'learning opportunities' ($\alpha$=0.78; 4 items), 'autonomy' ($\alpha$=0.86; 11 items) and 'having a voice' ($\alpha$=0.86; 8 items). *Working conditions* were operationalized in 'time pressure; tempo and amount of work ' ($\alpha$=0.87; 11 items) and 'role conflict; performing tasks that are conflicting or performing tasks one prefers not doing' ($\alpha$=0.69; 6 items).

***Psychological outcomes***

*Job satisfaction*

Job satisfaction of the CNAs was measured by using the Maastricht Work Satisfaction Scale for Healthcare (MAS-GZ) (Landeweerd et al., 1996a; 1996b). The MAS-GZ consists of seven sub-scales with three items, each of which have to be rated on a 5-point scale. In addition, an overall satisfaction score was calculated including all 21 items ($\alpha$=0.89). Four sub-scales were selected for the present study: satisfaction with quality of care ($\alpha$=0.76), satisfaction with opportunities for self-actualization/growth ($\alpha$=0.66), satisfaction with contact with colleagues ($\alpha$=0.78) and satisfaction with contact with residents ($\alpha$=0.77). Satisfaction with supervisor ($\alpha$=0.89) and satisfaction with possibilities for promotion ($\alpha$=0.86) were considered to be less relevant. Satisfaction with clarity of tasks and rules ($\alpha$=0.55) was excluded from subgroup-analysis, due to the low Cronbach's alpha.

*Perceived problems (general)*

In order to examine perceived problems of CNAs in the care for demented nursing home residents, the NIVEL Scale for Perceived Problems in Dementia Care (NSPP-DC) was used, a structured questionnaire, specifically designed for assessing problems of caregivers in dementia care (Kerkstra et al., 1999). Factor analysis resulted in four sub-scales with an explained variance of 40.3 %: problems caused by lack of self-confidence/feelings of uncertainty in the care for demented elderly ($\alpha$=0.74, 10 items), problems caused by lack of time ($\alpha$=0.73, 6 items), negative feelings towards behaviours of demented elderly ($\alpha$=0.75, 8 items) and problems in the balance between emotional involvement and professional distance ($\alpha$=0.73, 6 items).

*Perceived problems (specific behaviours)*

The NIVEL Scale for Perceived Problems with Specific Behaviours of demented patients (NSPP-SB) was especially designed to measure CNAs' problems with specific behaviours often expressed by dementia patients (Kerkstra et al., 1999). The scale consists of 12 sub-scales: problems with behaviours during morning care ($\alpha$=0.91, 9 items), restless behaviour ($\alpha$=0.91, 6 items), aggressive behaviour ($\alpha$=0.88, 7 items), psychiatric symptoms ($\alpha$=0.79, 6 items), obnoxious behaviour ($\alpha$=0.87, 5 items), behaviours during eating ($\alpha$=0.87, 5 items), claiming behaviour ($\alpha$=0.67, 3 items), disoriented behaviour ($\alpha$=0.75, 4 items), depressive behaviour ($\alpha$=0.80, 6 items), loss of decorum ($\alpha$=0.82, 3 items), social isolation ($\alpha$=0.83, 4 items) and language disorder ($\alpha$=0.74, 2 items). Finally, a total score of the scale was calculated ($\alpha$=0.97, 60 items).

*Stress reactions*

The short version of the General Health Questionnaire (GHQ-12) was used to measure the CNAs' perceived stress on a range from 0 to 12 (Koeter and Ormel, 1987; Ormel et al. 1989a; Ormel et al., 1989b). Ratings pertained to the weeks preceding to the administration of the scale. Each of the 12 items were rated on one of four answering categories: 'absent' (0 points), 'the same as usual' (0 points), 'more than usual' (1 point) or 'a lot more than usual' (1 point). Cronbach's alpha of our data was 0.81.

*Burnout*

Burnout has been described as a syndrome of emotional exhaustion, depersonalization and reduced personalized accomplishment (Maslach, 1982). The Dutch translation of the Maslach Burnout Inventory (MBI-NL) (Schaufeli et al., 1993; Schaufeli and Van Dierendonck, 1994; 1995; 2000), especially developed to measure burnout in the human services sector, was used for the evaluation of burnout. The MBI-NL consists of three sub-scales with a total of 20 items: emotional exhaustion ($\alpha$=0.86, 8 items), depersonalization ($\alpha$=0.54, 5 items) and personal accomplishment ($\alpha$=0.84, 7 items). Due to the low Cronbach's $\alpha$ of the depersonalization-subscale, which is in support of earlier findings on the internal consistency of this subscale, the subscale was excluded from analysis (Schaufeli et al., 1993; 1994; Jansen et al., 1996; Arts et al., 2001).

***Data management and analysis***

*Data management*

All questionnaires were reviewed immediately after they were received. Uncompleted questionnaires were sent back to the CNA. The remaining missing values on items that were part of a (sub-)scale were substituted according to the 'mean value of valid sub-tests principle': The missing value was replaced by the mean

value calculated from the valid item scores of the (sub-)scale obtained for the same case at the same time point (Schrijnemaekers et al., 2003). This replacement strategy was only used if 25% or less of the items of the (sub-)scale had missing values. If more than 25% of the items had missing values, the (sub-)scale of that case was excluded from analysis (n in tables represents the number of questionnaires that could be analysed).

*Data analysis*
Descriptive statistics were obtained on the demographic characteristics of subjects in pre-test and post-test and in the experimental and control groups. Differences on these variables were examined using chi-square tests or t-tests. T-tests were also used to examine differences between completers and non-completers (i.e., dropouts and newly included CNAs).

As dropouts were substituted by new CNAs, multilevel analysis, carried out with MLwiN-software, was used for analysing the data (Bryk and Raudenbusch., 1992; Goldstein, 1995). A model of multilevel analysis of repeated measurements was chosen, which takes into account all available data in an adequate way: the paired data of completers as well as the unpaired data of dropouts and newly included CNAs. The multilevel analysis also accommodated for dependencies among measurements, caused by the hierarchical structure of the data (measurement occasions nested within caregivers, who are nested within wards). We distinguished three levels of analysis: (1) measurement (2) CNA and (3) ward. By including the ward level, the similarity within wards could be taken into account, meaning that the 'CNA nested within ward' effect and its interactions are accounted for. Change scores were computed, to compare the rate of change across the experimental and the control group on each measure from pre- to post-test. The mean pre-test post-test differences in the experimental group were tested against the mean pre-test post-test differences in the control group. Additional adjusted analysis were conducted in which the following characteristics were added as covariates: age, sex, years of working experience, years of employment on the present ward, and hours of employment per week.

## Results

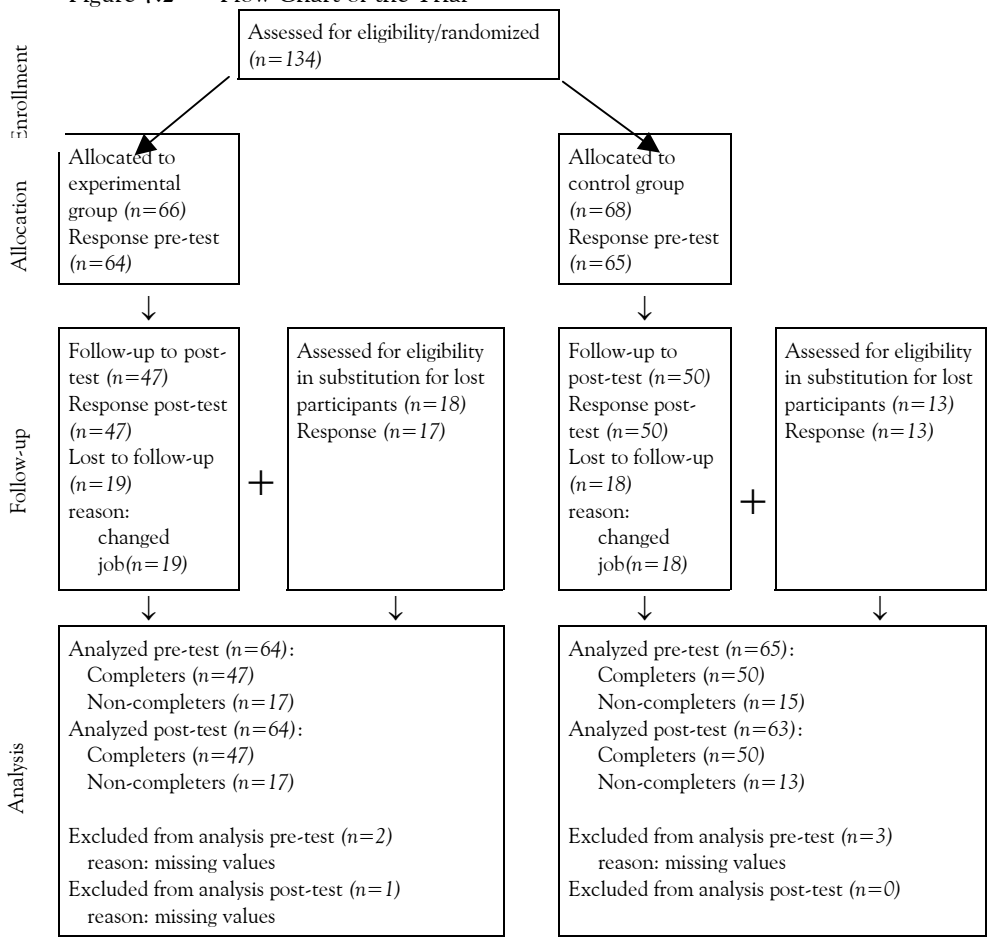
### *Response*

Figure 7.2 presents the response and dropouts over time per group (experimental or control).

134 CNAs were selected to participate in the pre-test, five of whom did not respond (one refused to complete the questionnaire, one changed her job, one was lost in the mail, two did not respond for unclear reasons). 37 CNAs were lost to follow-up (19

in the experimental group and 18 in the control group). They were substituted by new CNAs. At post-test, only one person did not respond (due to illness). In total, 129 questionnaires from CNAs were analysed for the pre-test (64 in the experimental group and 65 in the control group) and 127 for the post-test (64 in the experimental group and 63 in the control group). The mean number of analysed questionnaires per ward was 10.7 for the experimental group at pre-test (range 9-12), 10.8 for the control group at pre-test (range 7-14), 10.7 for the experimental group at post-test (range 7-14) and 10.5 for the control group at post-test (range 10-11).

Figure 7.2 Flow Chart of the Trial




Interviews were held with the head nurses of the experimental wards to discover the reasons why dropouts left their job and to find out whether their leave was connected with the implementation of the new care model. Eight CNAs left their jobs to be employed in another care setting such as home care, mainly for practical reasons (e.g., no shifts, physically less demanding). Four CNAs were transferred to another ward. The remainders changed for other reasons. According to the head nurses, the implementation of *snoezelen* played a role in the decision to change of five CNAs (three leaving to another ward in the same nursing home, one to another care setting, one quitted after illness).

In addition, subgroup analyses were done to control for differences between completers and non-completers (dropouts and newly included CNAs replacing the

dropouts). In the pre-test, there were no significant differences between completers and dropouts with regard to background characteristics and outcome measures, neither for the experimental group, nor for the control group. In the post-test, completers of both the experimental group and the control group, were significantly longer employed at the ward than newly included CNAs, as was expected (Exp.: 4.8 vs 1.9 years, $p<.01$;Contr.: 4.9 vs 1.8 years, $p<.01$). In the experimental group, completers had also more experience than newly included CNAs (9.4 vs 4.5 years, $p<.01$). There were no other differences, neither in background characteristics nor in outcome measures between completers and dropouts resp. newly included CNAs in the experimental and the control group.

***Background characteristics***

Table 7.1 summarizes the demographic characteristics for CNAs in the pre-test and the post-test.

Table 7.1 Background characteristics of participating CNAs

| CNAs' Characteristics | Experimental group | | | | Control group | | | |
|---|---|---|---|---|---|---|---|---|
| | Pre-test (n=64) | | Post-test (n=64) | | Pre-test (n=65) | | Post-test (n=63) | |
| Gender: female (n, (%)) | 59 | (92.2) | 58 | (90.6) | 60 | (92.3) | 59 | (93.7) |
| Age (years, (sd)) | 36.6 | (10.9) | 36.3 | (10.9) | 33.2 | (9.5) | 36.3 | (10.2) |
| Hours employment per week (mean hours, (sd)) | 29.3 | (10.9) | 27.9 | (7.5) | 29.0 | (7.4) | 28.7 | (7.6) |
| Psychogeriatric experience (mean years, (sd)) | 7.8 | (6.4) | 8.1 | (6.8) | 7.4 | (6.3) | 9.0 | (8.2) |
| Employed on this ward (mean years, (sd)) | 3.6 | (4.0) | 4.0 | (3.9) | 3.4 | (3.7) | 4.3 | (3.5) |
| Position (n, (%)): | | | | | | | | |
| - Team leader | 5 | (7.8) | 4 | (6.3) | 7 | (10.8) | 5 | (7.9) |
| - Nursing assistant | 52 | (81.3) | 53 | (82.8) | 48 | (73.8) | 50 | (79.4) |
| - Other (ward assistant, geriatric helper) | 7 | (10.9) | 7 | (10.9) | 10 | (15.4) | 8 | (12.8) |

To test the differences in background characteristics, t-tests and $\chi^2$ analysis were used. There were no significant differences in background characteristics

The table shows that the experimental and the control groups were to a large extent comparable on background characteristics. There were no significant differences between the experimental group and the control group at pre-test and at post-test, nor between measures within the experimental group or the control group.

***Outcomes***

*Workload*

Table 7.2 provides the adjusted estimated means (95% confidence interval) and the change scores from the experimental group in comparison with the control group on all variables regarding workload. On all measures in this table, positive change scores indicate a change in favour of the experimental group.

A significant treatment effect was obtained for having a voice, time pressure and role conflict. 'Time pressure' significantly decreased in the experimental group. The effects of 'having a voice' and 'role conflict' were obtained because, in the opinion of the control group, 'having a voice' and 'role conflicts' had significantly, negatively changed in comparison with the pre-test.

Table 7.2 Change in outcome measures regarding workload (multilevel analysis)

| Outcome measures | | Experimental group | | | | | Control group | | | | | Change score [b] | $\chi^2$ (1) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Pre-test | | Post-test | | | Pre-test | | Post-test | | | | |
| | n[c] | M | (se) | M | (se) | Change | M | (se) | M | (se) | Change | | |
| **Job characteristics** (VBBA)[a] | | | | | | | | | | | | | |
| Skill variety (0-18) | 255 | 7.09 | (0.5) | 6.80 | (0.4) | 0.29 | 7.29 | (0.5) | 7.88 | (0.4) | -0.59 | 0.89 | 2.24 |
| Learning opportunities (0-12) | 255 | 5.52 | (0.3) | 5.15 | (0.3) | 0.37 | 5.63 | (0.3) | 5.80 | (0.3) | -0.17 | 0.54 | 1.45 |
| Autonomy (0-33) | 255 | 15.12 | (0.5) | 14.49 | (0.6) | 0.64 | 15.22 | (0.5) | 16.15 | (0.6) | -0.93 | 1.57 | 3.62 |
| Having a voice (0-24) | 255 | 10.71 | (0.8) | 9.96 | (0.8) | 0.75 | 9.37 | (0.8) | 11.16 | (0.8) | -1.79*** | *2.54*** | 10.88 |
| **Working conditions** (VBBA)[a] | | | | | | | | | | | | | |
| Time pressure (0-33) | 255 | 15.67 | (1.0) | 13.84 | (1.0) | 1.84*** | 15.55 | (1.0) | 15.82 | (1.0) | -0.26 | *2.10*** | 7.52 |
| Role conflict (0-18) | 255 | 3.68 | (0.2) | 3.48 | (0.3) | 0.19 | 3.21 | (0.2) | 3.90 | (0.3) | -0.69** | *0.89** | 5.74 |

* p< .05, ** p< .01, *** p< .001

[a] The underlined scores indicate the most favourable score for the scale

[b] Scores in italics indicate a significant change in favour of the experimental group, meaning that the pre-/post change in the experimental group is significantly different from the pre-/post change in the control group

[c] Number of questionnaires included in the analysis (N=256)

VBBA=Experience and Assessment of Work Questionnaire

$\chi^2$ (1) = chi square (1 degree of freedom)

*Psychological outcomes*

The effects of *snoezelen* on perceived problems of CNAs, part of the psychological work-related outcomes, are presented in table 7.3. In this table, positive change scores indicate a change in favour of the experimental group.

The scores on NSPP-DC showed a significant treatment effect in favour of the experimental group for the subscales 'lack of self-confidence and uncertainty in care' and problems caused by 'lack of time'. Within the experimental group there was also a significant change from pre- to post-test on these subscales, as well as on the subscale 'negative feelings towards behaviours of demented elderly'. The latter, however, did not result in a significant treatment effect.

The experimental group also showed a significant, positive change on the total score of perceived problems with specific behaviour of demented elderly (NSPP-SP). With regard to the 12 sub-scales of this scale, a significant treatment effect was found for depressive behaviour (change score 2.47;$p<.001$), loss of decorum (change score 2.08; $p<.05$) and restless behaviour (change score 1.79; $p<.05$) (not presented in table).

Table 7.3 Change in outcome measures regarding perceived problems of CNAs (multilevel analysis)

| Outcome measures | Experimental group | | | | | | Control group | | | | | Change score[b] | $\chi^2$(1) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Pre-test | | Post-test | | Change | Pre-test | | Post-test | | Change | | |
| | n[c] | M | (se) | M | (se) | | M | (se) | M | (se) | | | |
| **Perceived problems** (NSPP-DC) [a] | | | | | | | | | | | | | |
| Lack of self-confidence / uncertainty (0-40) | 254 | 10.61 | (0.6) | 8.81 | (0.6) | 1.80*** | 9.93 | (0.6) | 10.59 | (0.6) | -0.66 | *2.46*** | 13.47 |
| Lack of time (0-24) | 252 | 13.36 | (0.8) | 11.78 | (0.8) | 1.58* | 11.96 | (0.8) | 13.21 | (0.8) | -1.24 | *2.82*** | 9.41 |
| Negative feelings (0-32) | 254 | 7.79 | (0.6) | 6.40 | (0.5) | 1.39* | 8.74 | (0.6) | 8.24 | (0.5) | 0.49 | 0.89 | 1.38 |
| Balance (0-24) | 253 | 6.73 | (0.7) | 6.41 | (0.6) | 0.32 | 6.64 | (0.7) | 6.51 | (0.6) | 0.13 | 0.19 | 0.08 |
| **Perceived problems** (NSPP-SB) [a] | | | | | | | | | | | | | |
| Total problems with residents' behaviour (0-240) | 235 | 94.17 | (4.7) | 84.84 | (4.9) | 9.33* | 92.44 | (4.6) | 97.92 | (4.8) | -5.49 | *14.82*** | 7.08 |

* p< .05, ** p< .01, *** p< .001

[a] The underlined scores indicate the most favourable score for the scale

[b] Scores in italics indicate a significant change in favour of the experimental group, meaning that the pre-/post change in the experimental group is significantly different from the pre-/post change in the control group

[c] Number of questionnaires included in the analysis (N=256)

NSPP-DC= NIVEL Scale for Perceived Problems in Dementia Care

NSPP-SB= NIVEL Scale for Perceived Problems with Specific Behaviours of demented patients

$\chi^2$ (1) = chi square (1 degree of freedom)

Table 7.4 Change in outcome measures regarding stress reactions, job satisfaction and burnout (multilevel analysis)

| Outcome measures | Experimental group | | | | | | Control group | | | | | Change score [b] | $\chi^2(1)$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Pre-test | | Post-test | | Change | Pre-test | | Post-test | | Change | | |
| | n[c] | M | (se) | M | (se) | | M | (se) | M | (se) | | | |
| **Stress reactions** (GHQ) (0-12)[a] | | | | | | | | | | | | | |
| GHQ-12 score | 256 | 1.46 | (0.4) | 0.77 | (0.4) | 0.69* | 1.24 | (0.4) | 1.93 | (0.4) | -0.69* | *1.37*** | 8.60 |
| **Job satisfaction** (MAS-GZ) (0-12) [a] | | | | | | | | | | | | | |
| Supervisor | 253 | 7.08 | (0.5) | 7.65 | (0.5) | -0.57 | 7.43 | (0.5) | 7.46 | (0.5) | -0.02 | -0.55 | 1.56 |
| Promotion | 253 | 6.15 | (0.3) | 6.16 | (0.5) | -0.01 | 5.94 | (0.3) | 6.08 | (0.3) | -0.14 | 0.13 | 0.10 |
| Quality of care | 254 | 6.43 | (0.4) | 7.71 | (0.4) | -1.29*** | 6.95 | (0.4) | 6.61 | (0.4) | 0.34 | *-1.62**** | 12.37 |
| Growth | 254 | 7.90 | (0.2) | 8.25 | (0.2) | -0.34 | 7.90 | (0.2) | 7.35 | (0.2) | 0.55* | *-0.90*** | 8.44 |
| Contact colleagues | 254 | 8.93 | (0.2) | 9.11 | (0.2) | -0.18 | 9.23 | (0.2) | 8.83 | (0.2) | 0.41 | -0.58 | 3.39 |
| Contact residents | 254 | 8.98 | (0.2) | 9.56 | (0.2) | -0.59** | 8.99 | (0.2) | 8.79 | (0.2) | 0.20 | *-0.79*** | 9.29 |
| Total satisfaction (0-84) | 251 | 53.36 | (1.6) | 56.41 | (1.6) | -3.05** | 54.33 | (1.6) | 52.87 | (1.6) | 1.46 | *-4.50*** | 8.19 |

*- table 7.4 continues -*

*- table 7.4 continued -*

| Outcome measures | Experimental group | | | | | | Control group | | | | | Change score [b] | $\chi^2$(1) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Pre-test | | Post-test | | Change | Pre-test | | Post-test | | Change | | |
| | n[c] | M | (se) | M | (se) | | M | (se) | M | (se) | | | |
| **Burnout** (MBI-NL) [a] | | | | | | | | | | | | | |
| Emotional exhaustion (0-48) | 253 | 10.75 | (0.8) | 8.31 | (0.9) | 2.44** | 10.35 | (0.8) | 10.77 | (0.9) | -0.42 | *2.86** | 6.52 |
| Personal accomplishment (0-42) | 253 | 28.10 | (0.8) | 29.14 | (0.7) | -1.05 | 26.38 | (0.8) | 25.73 | (0.7) | 0.65 | -1.70 | 2.11 |

* p< .05, ** p< .01, *** p< .001

[a] The underlined scores indicate the most favourable score for the scale

[b] Scores in italics indicate a significant change in favour of the experimental group, meaning that the pre/post change in the experimental group is significantly different from the pre-/post change in the control group

[c] Number of questionnaires included in the analysis (N=256)

GHQ=General Health Questionnaire (short version); MAS-GZ=Maastricht Work Satisfaction Scale for Healthcare; MBI-NL=Maslach Burnout Inventory (Dutch version)

$\chi^2$ (1) = chi square (1 degree of freedom)

Table 7.4 provides the adjusted estimated means and change scores from the experimental group in comparison with the control group on stress reactions, job satisfaction and burnout, all part of the psychological work-related outcomes. On measures representing job satisfaction and the burnout-subscale 'personal accomplishment' a negative change scores indicate a change in favour of the experimental group. On the other measurements a positive change score is in favour of the experimental group.

There was a significant effect on stress reactions and emotional exhaustion in favour of the experimental group. Significant improvements in favour of the experimental group were also found in satisfaction with the quality of care, satisfaction with contact with residents and total satisfaction. For these subscales, there was a significant, positive change from pre-test to post-test in the experimental group, as well as a significant treatment effect. Satisfaction with growth (self-actualization) showed a significant pre-test / post-test change as a result of increased satisfaction ($p<.1$) in the experimental group and decreased satisfaction ($p<.05$) in the control group.

## Discussion

The results of this study support the effectiveness of *snoezelen* on the quality of working life of CNAs in dementia care. With regard to workload, time pressure decreased from pre- to post-test in the experimental group, although the number of staff members had not been increased. CNAs working at wards that implemented *snoezelen* in 24-h daily care showed less stress reactions and emotional exhaustion than those applying usual care. The experimental group was, compared to the control group, more satisfied with their contact with residents and with the quality of care. Total satisfaction and satisfaction with growth also showed a treatment effect in favour of the experimental group. Moreover, the experimental group noted fewer problems caused by lack of time and less problems caused by uncertainty. They also perceived fewer problems with specific behaviours of residents, especially with depressive behaviour, loss of decorum and restless behaviour. In a parallel study, investigating the effects of *snoezelen* on the behaviour of demented nursing home residents, positive effects were found, among others, on depression, apathy and loss of decorum (Van Weert et al., in press; chapter 6). These behaviours seem to be sensitive to the *snoezelen* approach. In the present study, CNAs reported in turn that they could better deal with these behaviours after the implementation of *snoezelen*. The results are in conformity with the subjective experiences of participating CNAs, evaluated during follow-up meetings and interviews with head nurses and project leaders. CNAs mentioned that, on the one hand, withdrawn residents became more responsive and, on the other hand, residents with disturbing behaviour became quieter. They reported that the implementation of *snoezelen* resulted in a more

relaxed working style, but that they were still able to get the work finished, e.g., because they were less hindered by disturbing behaviour of residents (Van Weert et al., 2004). Factors relating workload, residents' outcomes and psychological caregivers' outcomes seem to reinforce each other in circular processes, which indicates that the hypothesized research model should be extended with residents' outcomes. How these factors exactly interfere on each other has to be elaborated in future research.

The results are partly supportive to recent literature. Hoffman and Scott (2003) found that nurses experienced greater professional fulfillment and career satisfaction when strategies are implemented that promote autonomous practice environments, recognize professional status and provide financial incentives. S*noezelen* fits best in a 'staff-centred work environment', meeting de needs of autonomy and professional recognition (Kitwood, 1997; Van Weert et al., 2004), but not an increased salary. According to Shelledy et al. (1992), satisfaction with pay cannot only be predicted by the actual salary, but also by factors as job independence, job stress and organizational climate. Institutions should therefore be looking for ways to lighten the demands at work and make the work more interesting (Chappell and Novak, 1992). The implementation of *snoezelen* seems to be an appropriate tool to reach these goals.

This gives rise to the question whether nursing homes have the financial means to implement an innovative care model such as *snoezelen*, as finances often must be literally accounted for. In the present study, the *snoezelen* environment was broadened to a multi-dimensional concept, i.e. a total package that has to be applied throughout the day by all caregivers involved, including a resident-oriented attitude and multi-sensory stimulation. The latter doesn't have to be a 'high-tech' package. A special *snoezelen* room can have additional value, but is not definitely required. Simple attributes in the environment of the residents, combined with some creativity of caregivers, are sufficient. This means that investments in *snoezel* equipment might vary from around 200 euro (only simple attributes) to 25.000 euro (e.g., for a well-equipped *snoezel* room) or even more (e.g., for a *snoezel* bathroom). An investment that certainly has to be made is a training '*snoezelen*', preferably for all CNAs, but also for supervisors and other disciplines, such as activity therapists. A training will cost 365 euro per trainee or 3000 euro per in-house course for 15 trainees (excluding travelling-allowance). Training costs have to be estimated structurally to educate new team members. Moreover, it is recommended to rate costs for supervision meetings to support the implementation.

***Limitations***

A few methodological considerations need attention. First, though the multi-level

model takes into account the data of completers (included in pre-test and post-test) as well as non-completers (included in pre-test or post-test), the results might be biased. The loss-to-follow-up due to structural dropout was almost equal for the two study groups. There were no sufficient differences between completers and dropouts or between completers and newly included CNAs with regard to background characteristics and outcome measures. Furthermore, post hoc subgroup analyses were done on the variables that showed significant changes. The results showed no contradictions between the subgroup of completers and the total group. Therefore, no large bias of the results by dropouts and newly included CNAs is supposed.

Second, the implementation of *snoezelen* on the experimental wards brought new enthusiasm to staff members. This might be subsumed under the 'Hawthorne effect', because the intervention was compared to 'real-life', daily dementia care given by the control group. Caregivers who get the opportunity to follow a training may have an improved job satisfaction regardless of the content of the training. However, if the 'Hawthorne effect' would explain all the results, this effect would have been occurred in previous studies that used a 'usual care' control group too (e.g., in Schrijnemaekers et al., 2003). Moreover, our results were not marginally, but convincing and in conformity with the findings of the parallel studies. Therefore, the 'Hawthorne effect' is not assumed to explain all the effects in the present study.

Last, the outcome measures could not be blinded, which may lead to an overestimation of effects. Therefore, complete scales were included in the questionnaire, although we did not expect effects on all subscales. The effects found were in conformity with the effects assumed.

***Conclusion and recommendations***

The results suggest that the implementation of *snoezelen* adds to the quality of working life of CNAs in psychogeriatric care. To confirm our findings, the study should be repeated, preferably by exposing a second control group to a treatment that is equivalent (e.g., education and training) to the *snoezelen* treatment. In the meantime, the implementation of this care model on psychogeriatric wards of nursing homes with moderate to severe dementia patients seems to be promising. In future studies, research is also recommended on whether decreased job stress, increased job satisfaction and decreased emotional exhaustion do indeed result in physical outcomes, such as decreased sick-leave.

# 8 Summary and discussion

## Summary

This chapter reflects on the results and implications of our study. First, a summary is given of the study and the main results. Then, theoretical and methodological reflections are made. The results are discussed and compared to those of previous studies in this field. Finally, recommendations for future research and practice are given.

### *General outline of the study*

This thesis started with a review of relevant literature with regard to the effects of psychosocial interventions, including *snoezelen*, on apathetic, depressed and aggressive behaviour of demented persons.

Then, a study with a quasi-experimental pre-test and post-test design was carried out.

The aim of the study was to investigate the effects of *snoezelen* integrated in 24-h dementia care on (i) caregivers' and residents; verbal and nonverbal communication; (ii) the quality of caregivers' behaviour; (iii) mood and behaviour of demented nursing home residents and; (iv) work-related outcomes of caregivers in psychogeriatric care.

This study was conducted on 12 psychogeriatric wards in six nursing homes in the Netherlands. Each nursing home delivered an experimental and a control ward. Quantitative measurements were conducted at two time points, i.e., preceding the implementation of *snoezelen* (pre-test) and after 18 months (post-test). Prior to the data collection, written informed consent was obtained from the legal guardian of each participating resident.

Additionally, a qualitative evaluation of the implementation process took place to find out to which extent the intervention had been delivered as intended. To study experience with implementation, semi-structured interviews (six in total) were conducted with the head nurses and/or project leader. Moreover, three follow-up meetings and two general meetings were organised and attended in each ward.

To study the effectiveness at residents' level, ward observations and video-recordings of the morning care were made. The research population of demented nursing home residents consisted of 125 participants at pre-test (62 in the experimental group and 63 in the control group) and 128 residents at post-test (66 in the experimental group and 62 in the control group). Due to residents' refusal to be videotaped, 124 video-recordings (out of 125) at pre-test and 126 (out of 128) at post-test could be made. A total of 66 residents was lost to follow-up and 69 residents were newly included.

The statistical analysis was carried out following the 'intention-to-treat' principle: by choosing a mixed model of multilevel analysis, all available data were included in the

analysis, which implied more power than the 'complete cases only' approach employed by other techniques.

The effectiveness of *snoezelen* on communication and behaviour of caregivers was examined by using the same video-recordings of morning care, applied by Certified Nursing Assistants (CNAs). The research population of caregivers consisted of 117 CNAs at pre-test (57 in the experimental group and 60 in the control group) and 121 CNAs at post-test (60 in the experimental group and 61 in the control group). Twelve CNAs (seven in pre-test and five in post-test) were videotaped twice as there were more residents than CNAs. A total of 37 CNAs was lost to follow-up and 41 CNAs were newly included. To be able to apply the *snoezelen* method, the new CNAs of the experimental group received 'training on the job' from the head nurse or the 'coordinator sensory stimulation' and attended the three follow-up meetings during the implementation period. By choosing a model of multilevel analysis, all available data could be taken into account.

To study the effects of *snoezelen* on work-related outcomes, 129 CNAs completed a questionnaire at pre-test (64 in the experimental group and 65 in the control group). At post-test, 127 questionnaires were analysed (64 in the experimental group and 63 in the control group).

### *Literature review of publications on the effectiveness of psychosocial methods (chapter 2)*

A systematic review was conducted to gain insight into the amount of existing scientific evidence for the effectiveness of 13 psychosocial methods used to reduce depression, aggression and apathy in people with dementia. The guidelines of the Cochrane Collaboration were followed. Ten electronic databases were used to search for relevant studies. The search resulted in 3,977 hits. After assessment of the reviewers on inclusion criteria and methodological quality, 19 studies turned out to satisfy all criteria. With a Best Evidence Synthesis the results of the included studies were synthesized and conclusions about the level of evidence for the effectiveness of each psychosocial method were drawn. The review showed that there is scientific evidence that people with moderate to severe dementia (MMSE 0-17) and high care dependency, are less apathetic when remaining in a Multi Sensory Integration/*snoezel* room. There is also scientific evidence, although limited, that people with suspected Alzheimer's disease, who meet the DSM-III-R criteria for major or minor depressive disorder and who live at home with their caregivers, are less depressed when their caregivers are trained in using Behaviour Therapy-Pleasant Events or Behaviour Therapy-Problem Solving. Finally, there is scientific evidence, though again limited, that people who live in nursing homes, who meet DSM-III-R criteria for suspected Alzheimer's Disease, who are mobile, support dependent or

slightly care dependent, but relatively highly functionally disordered, are less aggressive when following psychomotor therapy groups.
For the other 10 psychosocial methods there was no or only insufficient scientific evidence of reducing depressive, aggressive or apathetic behaviours in people with dementia.

### *Evaluation of the implementation process (chapter 3)*

In Chapter 3, the implementation process of *snoezelen* on the experimental wards, participating in the intervention study, was evaluated to investigate the extent in which the intervention was implemented as intended.
The intervention offered to the six experimental wards consisted of the following elements: training, study group, observation period, three follow-up meetings and two general meetings. The aim of the supervision meetings was to support the implementation of *snoezelen* in daily care (follow-up meetings) and at the organisational level (supervision meetings).

In total, 80 caregivers (including 59 CNAs and 6 head nurses) were trained in *snoezelen* by a qualified and experienced professional trainer of the Bernardus Centre of Expertise/Fontis, a nursing home with specialized training centre. The in-house training comprised four weekly, four-hour sessions and homework. The training sessions in '*snoezelen* for caregivers' were evaluated using a questionnaire. The trainees found the training informative, applicable, practical and interesting. In their opinion, the training suited their expertise and working situation. The majority felt sufficiently equipped to implement the new care model in practice and intended to apply in future what they had learned. On average, the overall assessment of the training on a scale from 0 to 10 was 8.4.

To gain more insight into the implementation process on the experimental wards, follow-up meetings (3 per ward and 2 general meetings) were attended and semi-structured interviews (6 in total) were conducted. Facilitating and hindering factors were identified. For that purpose, the model for Implementation of Change in Health Care (ICHC-model) (Theunissen et al., 2003) was used.

The training was identified as an important factor for increasing knowledge and motivating staff members, but also as the basis for a change in habits. The follow-up meetings were considered to be motivating in maintaining and further changing habits. Individual coaching and feedback (supervision) proved to be essential in establishing changes. Most caregivers reported their experiences in the *snoezel* care plans, proposed as an intervention in order to change set procedures. As a result, staff members started to talk more about the problematic behaviours of residents and were having more discussions about solutions. The increase in both formal and

informal reciprocal consultation was seen as a tool to maintain and further improve the changes in procedure as well.

With regard to the organisational structure needed to establish implemented changes, four nursing homes had completed a long-term implementation plan, including time-plan and budget. Three of these planned to continue the implementation of *snoezelen* on other wards in the near future.

A number of contextual obstacles were mentioned by the caregivers of the experimental wards. Workload was identified as a barrier on all wards. Particularly in the first phase of the implementation process, when observations of the residents ('stimulus preference screening') took up a lot of time (10x 1h), there was not always enough time. Periods of understaffing, caused by vacancies, holidays or sickness, sometimes hindered the implementation process on all participating wards. Two wards also reported a lack of integrated policy and support from the central management.
The implementation model shows that these contextual problems, which were not always easy to solve, influenced the implementation process. It was still possible to be successful, but there had to be a balance: in case of too many obstructive factors these had to be dealt with first, preferably before starting the implementation.

The results indicated that the implementation of *snoezelen* effected a change from task-oriented care to resident-oriented care on all participating wards. In the opinion of the CNAs, the implementation of *snoezelen* also resulted in positive patient outcomes. Two primary changes in the residents were mentioned. First, it became easier to get through to the residents and the residents in turn were more responsive. Next, residents with disturbing behaviours, such as agitation, restlessness or aggression, became more quiet and satisfied.

With regard to organisational changes, the CNAs especially reported a change in the planning of the day and particularly in the 'use of the clock'. CNAs became more relaxed, which, in their opinion, had positive effects for both the residents and themselves.

In conclusion, the implementation of *snoezelen* was a success on all participating wards. All included wards mentioned that the change from task-oriented care to resident-oriented care, a prerequisite for applying *snoezelen*, had been made. In agreement with Grol (1999), a combination of interventions at different levels appeared to be the most effective way to achieve lasting change.

### *Effects of snoezelen on nurse-patient communication during morning care (chapter 4)*

Chapter 4 reports the effects of the implementation of *snoezelen* on the nonverbal and verbal communication of CNAs and residents during morning care. To examine the effects of *snoezelen* on the communication, 250 video-recordings (124 in pre-test and 126 in post-test) of morning care were observed by independent assessors, using the computerized observation system 'Observer' and an adaptation of the Roter Interaction Analysis System (RIAS). CNAs trained in the application of *snoezelen* showed a significant increase in resident-directed gaze, affective touch and smiling. They also demonstrated an increase in social conversation, showing agreement and understanding, conversation about sensory stimuli, providing information and facilitating autonomy. Consequently, the total number of verbal utterances increased. The improved nonverbal and verbal communication by CNAs seemed to facilitate residents' actual communication to more responsiveness. This was evidenced by a significant increase in CNA-directed gaze and smiling, a decrease in negative verbal behaviours (disapproval and anger) and an increase in verbally expressed autonomy (giving opinion, making a choice) as compared to the control group. However, morning care by trained CNAs appeared to last longer than those of the control group. This suggests that positive effects can be achieved on CNA and resident communication provided that a shift is made to time investment in morning care.

In conclusion, the results of the study support CNAs' use of communication principles underlying *snoezelen* in dementia care, 18 months after the start of the implementation. Positive changes in the actual communication during morning care were found on both caregivers' level and residents' level.

### *Effects of snoezelen on the behaviour of nurses during morning care (chapter 5)*

Chapter 5 describes the extent to which CNAs succeeded to improve the quality of their behaviour during morning care, by performing a more person-centred approach. To investigate the effectiveness of *snoezelen* on nurses' behaviour, the same 250 video-recordings of morning-care (124 in the pre-test and 126 in the post-test) were assessed by independent observers using a 4-point measurement scale that was developed for this study. The scale aims to characterize the quality of nurses' behaviour in their care for demented nursing home residents, and is based on Kitwood's Dialectical Framework. The scale contains 10 items of positive behaviours of CNAs ('positive person work' (PPW)) in interaction with residents and 12 items of negative behaviours ('malignant social psychology' (MSP)) with their descriptions. Examples of PPW are recognition, enabling, validation and empathize. Examples of MSP are infantilization, ignoring, imposition and withholding.

To study the adherence of CNAs to the intervention protocol, the number of sensory stimuli by CNAs was also counted.
The results showed that the implementation of *snoezelen* had successfully effected a change to a more person-centred approach during morning care. CNAs applying a *snoezel* approach demonstrated more improvements with respect to their level of 'positive person work' (PPW total score). They also showed improvements on all PPW sub-items, while CNAs of the control group hardly showed any changes. Additionally, the level of 'malignant social psychology' (MSP total scale) had gone down in the experimental group. A more detailed analysis revealed that the CNAs of the experimental group showed less negative behaviour on four MSP sub-items, whereas the control group showed more malignant behaviour on four (other) MSP sub-items. Lastly, the number of explicitly offered sensory stimuli had increased in the experimental group.
In conclusion, the results of the study show that implementation of *snoezelen* in dementia care effected positive changes to person-centred behaviour by CNAs during morning care.

### *Effects of snoezelen on mood and behaviour of demented nursing home residents (chapter 6)*

Chapter 6 reports whether *snoezelen*, integrated in 24-h dementia care, led to a positive change in mood and behaviour of demented nursing home residents. To investigate the effects of *snoezelen* on patient outcomes, behaviour and mood were assessed by (i) ward observations and (ii) video-recordings of the morning care. Observations of the residents on the ward were conducted by CNAs, using existing observation scales with, in earlier studies, moderate to good reliability, internal consistency and validity. Ratings pertained to the two weeks preceding the administration of the scales. Moreover, the above mentioned video-observations during morning care were observed by two independent observers. They assessed the residents' behaviour and mood immediately after observing the video-recording. The observers were blind for whether a resident belonged to the experimental or the control group.

The results showed a significant treatment effect in favour of the experimental group regarding apathetic behaviour, loss of decorum, rebellious behaviour, aggressive behaviour and depressive behaviour, assessed on the ward. These ward observations gave insight in the overall ('generalised') behaviour of residents during the last two weeks. According to the assessment of independent observers during videotaped morning care, residents receiving the *snoezel* care showed significant pre-test /post-test changes in well-being and adaptive behaviour. Compared to the control group who received the usual care, a treatment effect in favour of the experimental group was found regarding mood, happiness and contentment, enjoyment, relating well to

the CNA, responding to speaking and talking with normal length sentences. Residents of the experimental group also showed a decreased level of tearfulness/sadness, bored/inactive behaviour, negativism and reluctance.
Subgroup analyses within the subgroup of completers (included in pre-test and post-test) and the subgroup of non-completers (included in pre-test or post-test) were done with regard to the variables that showed significant changes at post-test. The results showed no improvement in the control groups: neither for completers nor for non-completers. The experimental groups showed mainly improvement. Only within the subgroup of completers small deterioration from pre- to post-test was found, but the deterioration was smaller in the experimental group than in the control group.
In conclusion, the results of the study support the effectiveness of *snoezelen* on the behaviour and mood of demented nursing home residents. *Snoezel* care particularly seems to have a positive influence on the deterioration of disturbing and withdrawn behaviour and the improvement of mood and happiness.

### *Effects of snoezelen on the quality of working life of nurses (chapter 7)*

Chapter 7 pays attention to the effects of the implementation of *snoezelen* on work-related outcomes (quality of working life) of CNAs. To investigate the effectiveness of *snoezelen* on the quality of working life, CNAs were asked to complete an extensive questionnaire, containing measurement scales with proven reliability, internal consistency and validity.

A positive effect in favour of the experimental group was found regarding stress reactions, emotional exhaustion, satisfaction with the quality of care, satisfaction with contact with residents, satisfaction with growth at work (self-actualization) and total satisfaction. These (sub)scales showed significant pre-test / post-test changes in the experimental group as compared to the control group.
With regard to perceived problems of caregivers in the care for demented elderly, a positive effect in favour of the experimental group was found for the subscales 'lack of self-confidence and uncertainty in care' and 'problems caused by lack of time'. Moreover, the experimental group perceived less problems with specific behaviours of demented elderly at post-test (in particular with depressive behaviour, loss of decorum and restless behaviour).
The results also showed a significant treatment effect in favour of the experimental group for time pressure, having a voice and role conflict. Yet, 'having a voice' and 'role conflict' did not change in the experimental group, but deteriorated in the control group.
In conclusion, these results point out that *snoezelen* has positive effects on the quality or working life of nurses in psychogeriatric care.

## Discussion

### *Theoretical reflections*

The results of this study support the effectiveness of *snoezelen* on residents' and caregivers' behaviour as well as on the quality of working life of CNAs in dementia care. Analysis of the subjective experiences of participating CNAs in the experimental group, revealed that, in the eyes of CNAs, there were positive changes at the caregivers' and residents' level. They mentioned that withdrawn residents became more responsive and residents with disturbing behaviour became quieter. They also reported that the implementation of *snoezelen* resulted in a more relaxed working style, but that they were still able to get their work finished, e.g., because they were less hindered by disturbing behaviour of residents. The results of the process evaluation are in conformity with the more objective results of the intervention study. The video-analysis showed that CNAs succeeded in performing a more resident-oriented approach, combined with the application of multi-sensory stimuli. Nonverbal and verbal communication of both CNAs and residents improved, although the increase of residents' verbal communication was limited, as expected. Ward and video-observations confirmed that particularly withdrawn and disturbed behaviours of residents seemed to be sensitive to the *snoezelen* approach. Finally, the analysis of the questionnaire on work-related outcomes showed that CNAs seemed to notice the influence of *snoezelen* especially on these behaviours and experienced less problems in handling these at post-test. Experimental CNAs also showed increased levels of satisfaction with regard to the quality of care, contact with residents and satisfaction with self-development. We also found decreased levels of emotional exhaustion and stress reactions.

These positive findings raises the question which mechanisms are underlying the success. Further inquiries on the separate results show that they seem to be more closely connected than was hypothesized in advance, as will be explained below.

Demented nursing home residents usually cannot be expected to initiate communication; they are more likely to respond to the encouragement of other persons. The behaviour of demented elderly is mainly reactive and they are often unconscious of their reactions. Therefore, the efforts of caregivers to facilitate residents' responses might even be more important than in other care settings. Kitwood's Dialectical Framework appeared to be an appropriate theoretical model, in which the effect of caregivers' behaviour on demented residents' behaviour is acknowledged (Kitwood 1993a; 1993b; 1996; 1997; 1998). Kitwood argued that a central role in caregivers is to recognize the richness of a person. The 'positive person work (PPW)' of caregivers in dementia care include caregivers' behaviour that is conductive to the improvement and maintenance of the residents' well-being. The essence of 'positive person work' is the interaction, initiated by caregivers, according to each individuals' needs, personality and abilities. The direct and pleasurable

stimulation of the senses, in a way that accords with the values and scruples of the person with dementia, is an indicator of 'positive person work' too (Kitwood, 1997). The present study showed that the *snoezelen* care model indeed fit the premises of the Dialectical Framework, although some adaptations were made. Where Kitwood tends to emphasize the destructive influence of negative caregivers' behaviour, our study results enhances the facilitating influence of positive caregivers' behaviour. Especially the improved performance of positive caregivers' behaviours seems to be a conductive factor towards improved behaviour and mood of the demented elderly.

We also analysed caregivers' and residents' behaviour by using an adaptation of the Roter Interaction Analysis System (RIAS), which has the advantage of not only measuring provider communication, but also patient communication (Roter, 1989). From another point of view, namely that of communicative behaviour, the RIAS-analysis also gave insight in positive and negative behaviours of caregivers and residents. A major characteristic of the RIAS is that it makes a distinction between instrumental (task-related) and affective (socio-emotional) communication, both necessary in the provision of dementia care. Instrumental communication aims to structure the encounter, to inform the resident, to provide practical service and to involve the resident in the care (e.g., by giving autonomy). Affective communication is important in the building of a relationship, in which the resident has a sense of being understood (Bensing, 1991; Kruijver, 2001). In addition, nonverbal communication was measured that is considered to be important for the establishment of the nurse-elderly relationship (i.e., eye-contact, affective touch and smiling). With regard to caregivers' communication, the results pointed in the same direction as the results of the analysis according to Kitwoods' approach to dementia care: Caregivers showed an increase of positive nonverbal and verbal communication. Residents, in turn, showed mainly an increase in nonverbal communication.

For the analysis of the effects of *snoezelen* on the quality of working life, we built on the model of Arts et al. (2001) and assumed a relation between the intervention (implementation of *snoezelen*), workload and psychological outcomes of work (see figure 1.2 in Chapter 1). Although this relationship probably exists, the model seems to be too limited. The original model does not take into account:

- The effects of organisational changes on CNAs' psychological outcomes and resident outcomes
- The effects of improved caregivers' behaviour, caregiver-resident communication and resident outcomes on CNAs' psychological outcomes such as job satisfaction, stress reactions and burnout
- The effects of improved quality of working life on the quality of caregivers' behaviour and on caregivers' and residents' communication

- The effects of improved quality of working life on resident outcomes
- The effects of improved psychological outcomes of CNAs and resident outcomes on workload

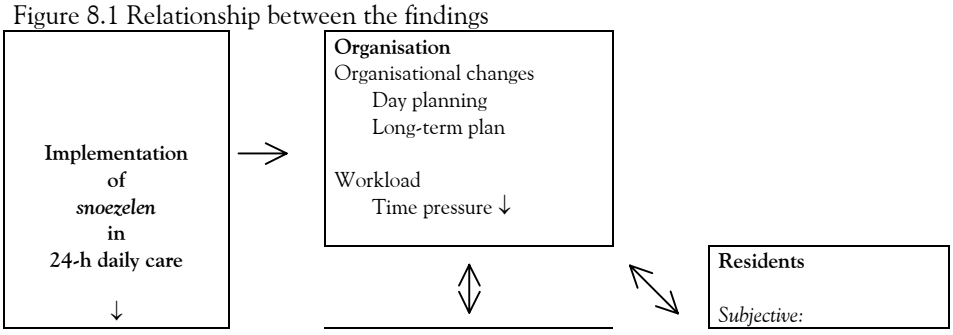
This indicates that the model to increase the residents' quality of life (see figure 1.1 in Chapter 1) is also too limited. The model does not take into account:

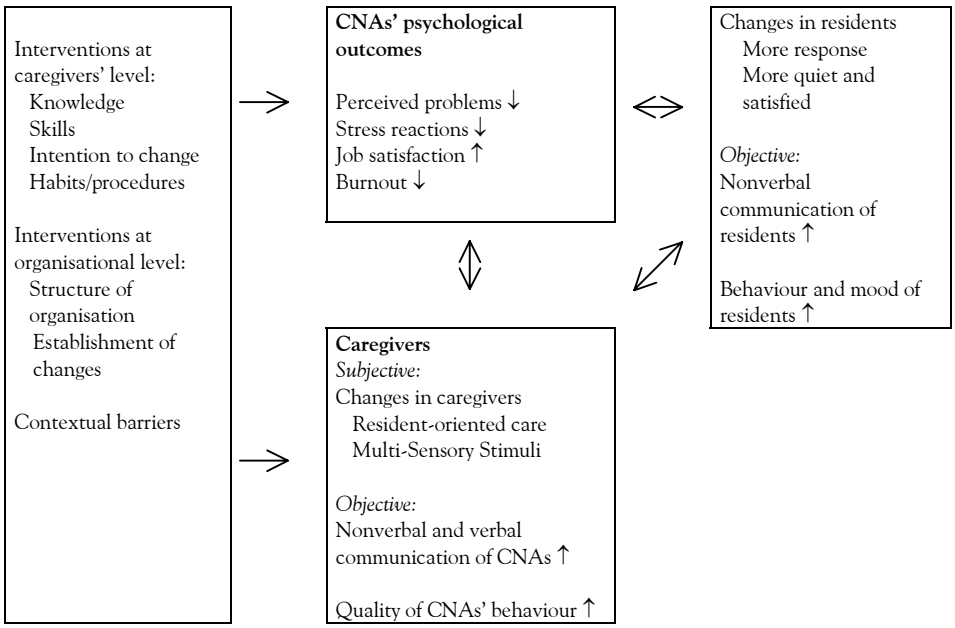
- The effects of organisational changes and changes in workload on the quality of caregivers' behaviour, on caregiver-resident communication and, finally, on resident outcomes
- The effects of improved CNAs' psychological outcomes on the quality of caregivers' behaviour, on caregivers' and residents' communication and, finally, on resident outcomes

In conclusion, the hypothesized research models to increase the residents' quality of life (see figure 1.1 in Chapter 1) and the caregivers' quality of working life (see figure 1.2 in Chapter 1) does not completely fit the study results. Figure 8.1 shows the interrelationship that seems to exist between results of the present study.

All factors mentioned in figure 8.1 might reinforce each other in circular processes. How exactly the factors relating workload, resident outcomes and (psychological) caregivers' outcomes are intertwined, remains indeterminate. Caregivers, for instance, mentioned that their attitude towards working under time pressure had changed during the implementation period. Though the training was intended to change this attitude, we do not know whether this was a separate contribution of the training and/or whether this finally induced improved psychological caregivers' outcomes (e.g., stress reactions, job satisfaction). It might also be possible that the awareness of decreased disturbing behaviours of residents directly attributed to improved psychological work-related outcomes and, consequently, to the reported changes in workload, such as diminished perceived time pressure. Most likely however, all factors contribute in some way to the positive findings in other factors.

Figure 8.1 Relationship between the findings






Consequently, the implementation of a new care model requires (management) attention at all levels, i.e., caregivers' level, residents' level and organisational level to achieve long-lasting, positive changes in the quality of care. This conclusion is in accordance with the experiences regarding the implementation of a new care model, as recently described by De Lange (2004). Factors that promoted successful implementation as planned were enthusiastic ward leadership and consultants who were involved and who had time to support the implementation. Factors that hindered the introduction were changes in ward or team leadership, loss of trained carers, working with temporary staff and arrival of new staff who had not been trained. Holtkamp (2003) identified constant attention from the different levels of management as essential to motivate staff members to apply complex interventions. Schrijnemaekers (2002) also stated that organisational changes are often needed and strengthened the importance of the stimulating and facilitating role of management. This might only be achieved by the development of an implementation strategy before the start of the intervention. The stepwise implementation cycles, including identification of obstacles, development of implementation strategies and process evaluations (Grol, 1997;. Grol et al., 2000), might be helpful, but have to be initiated by the management. The model for Implementation of Change in Health Care (ICHC-model) (Theunissen et al., 2003) appeared to be useful in the present study to evaluate the implementation process, but might also be used by management members to evaluate change processes in daily practice.

The results of the present study give no insight in the actual effective ingredient of the *snoezelen* intervention. In other words, to what extent a resident-oriented approach or the application of sensory stimuli separately have contributed to the effectiveness of the care model is not evident. It seems plausible that the combination of individualized care and a 24-h comprehensive care plan combined with multi-sensory stimulation have contributed to the success. In future, more research is needed to unravel the specific effective elements of *snoezelen* in the care for demented elderly.
The present study also does not give a deeper understanding of more or less effective indicators of 'positive person work'. It is possible that some indicators of 'positive person work' are more decisive to achieve positive resident outcomes than others. This also has to be elaborated in future research.

### *Relevance of the study*

The number of new cases of dementia increases every year and was estimated at 4.6 million worldwide in 2000. The prevalence of dementia increases strongly with age, resulting in about 6.1% of the population above 65 years affected with dementia (Wimo et al., 2003). Dementia is often accompanied by behavioural and psychological disturbances that can be highly problematic to patients and their (formal and informal) caregivers. Institutionalization in a nursing home is usually delayed as long as possible and generally only occurs when the social environment is no longer able to care for the person with dementia (Finnema, 2000). Due to the ever increasing group of dementia patients and the problematic behaviours that often accompany the illness, there are about 27,000 dementia patients residing in Dutch nursing homes. The cognitive disturbances and the accompanying behaviour problems might have an (extremely strong) effect on the quality of life of nursing home residents and their caregivers. Even modest improvements in behavioural disturbances can markedly improve their quality of life (Schrijnemaekers, 2002). Formerly, nursing home care was mainly aimed at hygiene and good nutrition (De Lange, 2004). During the last decade of the 20$^{th}$ century, criticism of the conventional task-oriented approach to dementia care arose. As there were no pharmacological solutions to dementia, the development of non-pharmacological, psychosocial interventions has grown rapidly in recent years. New ideas have particularly developed on the way caregivers should deal with dementia patients to increase the well-being of demented residents. These ideas are mostly based on the principles of 'person-centred' care (Kitwood, 1996; 1997; 1998). The underlying philosophy of *snoezelen* is in conformity with such developments.
Many caregivers are enthusiastic about the newly developed psychosocial methods (Schrijnemaekers, 2002). However, scientific evidence for these methods, e.g., validation, reminiscence, gentle care or *snoezelen*, is limited. This might keep nursing home managers from investing in the implementation of new care models. One way

to support organizations and nurses who are often confronted with difficult behaviours is through the development of evidence-based guidelines. The present study contributes to the development of such guidelines in daily dementia care and can therefore be considered as very relevant for psychogeriatric care.

The foregoing chapters provided a lot of significant changes in favour of the experimental group, indicating that the application of integrated *snoezelen* has advantages above the application of usual care. However, 'significant' does not automatically mean 'clinically relevant'. Therefore, the question arises whether the study results are clinically relevant. There are arguments to state they are.
Previous research shows that it is very difficult to establish improvements at residents' level. Dementia residents are not able to self-report their feelings or well-being. This makes measurements of mood and behaviour of demented elderly extremely complicated. Our systematic review of the amount of scientific evidence of the effectiveness of 13 psychosocial methods that usually reduce depression, aggression and apathy in demented people revealed that in more than half of the included studies, aiming to improve depressed, aggressed or apathetic behaviour, no effects at all were found (Verkaik et al., submitted). After assessment of the scientific quality of the studies (Best Evidence Synthesis), only four studies remained in which positive effects of a method were found on apathy (two studies), depression (one study) and aggression (one study). The review indicates how difficult it is to detect changes in residents' behaviours. This is supported by Schrijnemaekers et al. (2002), who stated, after a literature review of the effectiveness of validation, that 'the better the study, the less favourable the outcomes (on residents JvW) were'.
The present study was of high quality and appeared to be one out of a few that did succeed in finding effects at residents' level. From the perspective of care, these are important, clinically relevant findings. In the first place, the intervention has positive effects on residents' behaviour. Problematic behaviours are diminished and residents have more human dignity. The communication of both residents and caregivers improves, resulting in improved social interaction between residents and caregivers, but maybe also between residents and family members or within the group of residents. These improvements could be reached without increased use of medication. According to CNAs, the use of medication even decreased (Van Weert et al., 2004). Next to positive resident outcomes, the intervention also positively effected CNAs quality of working life, which is, in our opinion, clinically relevant too. These positive findings could be established without negative effects for the (management of) care organizations, so the results seem to be of importance and relevant for the development of quality care.

Another reason to state that the results are clinically relevant is that the analyses were conducted from various points of view, but they all pointed in the same

direction. Qualitative as well as quantitative analysis, interviews, questionnaires, observations on the ward by the residents' own caregiver and video-observations by independent observers, the results showed no contradictions, but confirmed and deepened earlier findings. Subjective experiences of caregivers, detected by attending the follow-up meetings, were confirmed by more objective observations. Also, the results of the objective, computerized coding of nonverbal and verbal communication were to a large extent confirmed by the more subjective assessment of the quality of caregivers' behaviour and the behaviour and mood of the nursing home residents. This (unexpected) harmony between the findings might even be the strongest indicator for the clinical relevance of the results.

### *Comparison with previous studies on snoezelen*

*Snoezelen* was developed in the Netherlands, and quickly gained a significant following in Europe and later in the United States, Canada and Australia. Still, there is a certain polarity in beliefs about the potential advantages of *snoezelen.* While most previous studies indicate positive outcomes, the concept of *snoezelen* is not without its critics. Some criticize the low scientific quality of the studies (e.g., weak control conditions, limited number of sessions and use of descriptive data) while others criticize the artificiality of *snoezelen* (Burns et al., 2000).

#### Scientific quality of *snoezelen* research

Studies into the use of multi-sensory environments for the elderly are seen in the occupational therapy field and increasingly in the nursing field. Until now, the evidence has been rather limited due to the lack of thorough research (Burns et al., 2000). The scientific quality of the present study is better than that of most of the previous studies and our results support the findings from earlier studies. The majority of the previous studies did indicate positive outcomes following exposure to *snoezelen*, although mainly investigated in a special *snoezel* room. The within-session positive effects from the studies referred to the residents' behaviour and mood (e.g., increase in psychological well-being, enjoyment, contentment, happiness and calmness) as well as adaptive and performance skills (e.g., better able to follow directions, improvement of communicative behaviours, decrease of disruptive behaviours) (Chitsey et al., 2002; Spaull and Leach, 1998). The within-session results of the current study are in conformity with other studies of lower scientific quality. Moreover, our study indicates that a generalizing effect on mood and behaviour of demented residents can be achieved. This has hardly been reported before, and brings us to the supposed artificiality of *snoezelen.*

#### The artificiality of *snoezelen*

Most studies describe the *snoezelen* environment as a special room incorporating equipment such as revolving colour wheel projector, sprays of fibre optics, large

water tubes with constantly moving bubbles, soft relaxing background music, an oil burner for aromatics and various other aids. Some authors suggest that *snoezelen* must be an intrinsic core of the overall philosophy that pervades a care unit rather than a package that is confined solely to a particular room. When sensory experiences are only offered in one room, our capacity to recognise the multi-sensory nature of all rooms and all places might be numbed (Burns et al., 2000). The current study subscribes to this view. With multi-sensory stimulation incorporated in the 24-h daily care, the resident stays in a multi-sensory environment all day. A special *snoezelen* room can have additional value, but is not definitely required. The strengths of the approach is its application throughout the day. The study results show that the implementation of the integrated *snoezelen* care model has succeeded in effecting a positive change in caregivers' behaviour, residents' behaviour and work-related outcomes. The definition of *snoezelen* as an integrated approach in 24-h dementia care might have accounted for the generalizing effects we have found. Therefore, it seems worthwhile to broaden *snoezelen* to a multi-dimensional concept, i.e., a total package that has to be applied throughout the day by all caregivers involved, including a resident-oriented attitude and multi-sensory stimulation. The latter doesn't have to be a 'high-tech' package. The present study shows that simple attributes in the environment of the residents, combined with creativity of caregivers, can be sufficient.

### *Comparison with previous studies on integrated emotion-oriented care*

A resident-oriented attitude is a prerequisite for the application of *snoezelen.* The application of 24-h *snoezelen* seems to have similarities with integrated emotion-oriented care, a 24-h approach that fits best in a resident-oriented environment and combines validation with other psychosocial approaches, such as sensory stimulation and reminiscence (Schrijnemaekers, 2001). Both forms of dealing with dementia are based on respect for the person with dementia and his or her perception of the reality, new forms of communication and attention to life history and individuality of the person with dementia (De Lange, 2004). Integrated emotion-oriented care has been defined as: 'The integrated application to the individual nursing home residents with dementia of emotion-oriented approaches and communicative skills, taking his feelings, needs and physical and intellectual limitations into account, with the objective of providing him with the support he needs in adapting to the consequences of his condition to enable him to retain a feeling of security and personal dignity' (Van der Kooij, 2002, p24). The underlying philosophy of both *snoezelen* and integrated emotion-oriented care is compatible with developments in dementia care to 'person-centred' care as described by Kitwood (1996; 1997; 1998).

**Quantitative studies**

Finnema performed a RCT in 16 psychogeriatric nursing home wards (n=146) and Schrijnemaekers et al. in 16 homes for the aged (n=151) (Finnema, 2000;

Schrijnemaekers, 2001; 2002). They both used, like we did, outcome measures from the BIP, CMAI-D and CSDD-D, that are the most sensitive, reliable and valid scales available in Dutch (Schrijnemaekers, 2001). However, the results of these quantitative studies provided limited support for the effectiveness of emotion-oriented care, which is not in conformity with the present study.

**Length of implementation period**

An explanation might be found in the length of the implementation period. In Finnema's study, the follow-up measurements took place after seven months and in Schrijnemaekers' study after three, six and twelve months (Finnema, 2000; Schrijnemaekers, 2001; 2002). A seven-month implementation period proved to be too short to implement the new care model satisfactorily, which might be the same with twelve months. Finnema (2000) stated that the limited effects on the health of the nursing assistants was possibly related to the relatively short implementation period of seven months and recommended that a larger percentage of nursing assistants should receive extensive training. Our post-test measurements were conducted 18 months after the start of the implementation. A longer implementation period would have caused too many dropouts (loss to follow-up). A shorter implementation period has methodological advantages, but was expected to be too short to manage the change process. The length of the implementation period appeared to be sufficient to detect meaningful changes, although participating wards indicated that, in their eyes, further improvements can be made in the future. The implementation and establishment of a new care model, such as *snoezelen,* is a continuing process, that requires constant attention over years.

**Emotion-oriented care**

Another reason for the limited evidence in the above mentioned studies might be the specific content of the method. As mentioned earlier, the intervention used in the present study was practical, close to the experience of the CNAs and seemed to fit the competence of CNAs. Integrated emotion-oriented care might require more specific skills of caregivers to integrate aspects of different psychosocial approaches, such as validation, reminiscence, gentle care and sensory stimulation (Finnema, 2000).

**Supervision**

The amount of support might also have been of influence. Finnema (2000) recommended intensive supervision of the application of a new care model. Hallberg et al. (1993) also found that a year of systematic clinical supervision was needed to effect changes in the caregivers' experience of strain. Burgio (1990) found that individual feedback on staff performance was necessary to change staff behaviours and maintain the skills. Formal staff management by supervisory nursing staff,

designed to maintain training effects over time, appeared to be more effective for maintaining and even improving communication skills of dementia caregivers over time than usual supervisory routine (Burgio et al., 2002). Other recent literature too emphasizes to combine skill training with intensive guidance. Achieving the goals of a program requires a clear management vision, support on different levels (e.g., management and ward level), practical training and shared responsibility for the resident (Burgio et al., 2001; Keough et al., 2002). These conditions were fulfilled in the present study (Van Weert et al., 2004).

**Homogeneous sample**
Finally, the homogeneity and severity of dementia of the study population might have influenced the results. Schrijnemaekers (2001) included residents in homes for the elderly, who usually have less cognitive impairment and behavioural disturbances. Finnema's (2000) sample consisted of nursing home residents with mild to (very) severe cognitive impairment. In our study, only residents with moderate to severe dementia fulfilled the inclusion criteria. Residents with mild cognitive impairment were excluded from the study.

In conclusion, the combination of a relatively unambiguous method, a longer implementation period, supervision of almost complete teams and a relatively homogeneous research population might account for the more positive results in the present study.

**Qualitative studies**
The quantitative study of Finnema (2001) was part of a larger study into the effectiveness of integrated emotion-oriented care (Dröes et al., 1999; 2002). This study also contained a qualitative part in four experimental and four control wards. The results revealed that residents of the experimental group performed better in the adaptive task 'Maintaining emotional balance' (expressing oneself, remaining balanced, manifesting acceptable emotions) and 'Developing an adequate relationship with nursing assistants'. The study concluded that training courses in integrated emotion-oriented care did cause carers to work in a more emotion-oriented way, though there were differences between wards and individual nursing assistants (De Lange, 2004). The present study into the effectiveness of *snoezelen* was extended with a qualitative investigation in two experimental and two control wards. This study also concluded that nursing assistants of the experimental wards performed a more resident-oriented approach after the implementation of *snoezelen*, although there was room for further improvement. Caregivers especially improved in showing more positive behaviour, such as making contact (Vruggink, 2004).

## Methodological considerations

This study helped to answer relevant questions about the care for demented nursing home residents and led to additional knowledge. The great challenge for the care sector is to develop guidelines to determine which approach should be recommended for whom and when. Only when researchers anticipate as much as possible the major methodological problems, scientific research can really contribute to the development and improvement of the care for persons with dementia (Finnema, 2000). This study into the effects of *snoezelen* in dementia care indeed proved to be complex and, consequently, has some limitations. The strengths of this study relate to its elaboration on previous experiences and findings.

### *Strengths of the study*

The present study has scientific assets, that many other studies in this field lack, e.g., a control group design was carried out. By using multilevel analysis, the study followed the 'intention-to-treat' principle. By using video-observations, blind assessments were possible. These elements can be considered as indicators for the scientific quality. Two factors are identified, that seemed to be the most decisive success factors of the study.

First, extensive attention was paid to the success of the implementation of *snoezelen* on the participating wards. Almost complete teams were involved in the training and the implementation on the ward. The training not only aimed to improve the knowledge of the caregivers, but also succeeded in motivating staff members to apply the new care model. At the end of the training, 97% intended to perform what they had learned in practice. The *snoezel* methodology was very practical and applicable in 24-h daily care. The methodology includes a lifestyle history interview with family members and a stimulus preference screening. This allows staff to find out, rather easily, a lot about the preferences and desires of the resident, e.g., which stimuli residents find pleasurable. Therefore, the intervention was optimally tailored to the needs of individual residents. Earlier studies also describe that sensitive, planned application is preferable above a standardised approach. Caregivers should take the findings relating to residents' perception into account, because too rigid a formula could detract from the flexible approach indicated by the patient-led philosophy (Hope, 1998; Lancioni, 2001). Hope (1998) also recommended to deliver *snoezelen* within a plan of care, by the same individual, to facilitate deeper insights into the resident's response, or within a team of carers who have access to information on an individual resident's response. Our intervention included all these aspects.
Many intervention studies do not examine whether the intervention was delivered as intended. There is also not always attention for the adherence of caregivers to the principles underlying the intervention, or, in other words, for the extent to which caregivers indeed have changed their behaviour towards the required performance. A successful implementation as well as adapted caregivers' behaviour are important

prerequisites to reach the final aim of improved well-being of residents. In the present study, all steps that have to be made from 'knowing' and 'knowing how' to 'showing' are carefully followed by the teacher as well as the researcher. This makes the results easier to interpret, but might also have helped the experimental wards to sustain the efforts.

Secondly, our study was unique in the second-by-second real-time observation in the natural setting by video-recordings during daily care. The use of video-recordings was a rather new and useful instrument in studying psychogeriatric care. Video-recordings allow for a blind assessment, which has additional value for the methodological strength of the study, as will be discussed in more detail in the next paragraph. The results of the ward observations could be confirmed by the results of the independent video-observations. Moreover, video-recordings can be analysed in detail and be watched over and over again, which promotes a secure assessment. The establishment of acceptable to good inter-observer reliability scores further increases the reliability of the results.
Another major advantage of video-recordings is the possibility to assess nonverbal behaviour. Affective behaviour is important in all caregivers' behaviour and mainly communicated by nonverbal behaviour. It determines the quality of the caregiver-patient relationship and the quality of care, as has previously been described in other care settings (Bensing, 1991). The video-recordings enabled the research team to carefully assess nonverbal communication and the quality of (affective) caregivers' behaviour. In recent literature, describing resident-CNA interaction in nursing homes, it is recommended to include possibly important nonverbal components of social interaction such as eye contact and non-task-related comforting touch in future observational research (Burgio et al., 2004). The present study is, as far as we know, the first to have made such a detailed analysis of nonverbal communication in dementia care.
For the assessment of the video-recordings, different measurements were used. The measurements were split up between three observers. One of the observers was trained to rate all measurements of the observation protocol, but the other two only rated specific parts. Therefore, the quality of caregivers' behaviour, for instance, was often assessed by another observer than the residents' behaviour and mood in the same video-recording. This has advantages above participated observations. When one rater does all assessments, there is a chance that the assessment of a measurement will be influenced by the assessment of another instrument (e.g., when the quality of CNAs behaviour would be rated as high quality, resident behaviour could be rated more positively too). When the measurements are separate, this potential bias might be avoided.

### *Limitations of the study*

The practical and complex methodological difficulties one has to overcome in conducting research into the effects of psychosocial approaches in psychogeriatrics are numerous: the degenerative process of dementia, the high morbidity among people with dementia, the hectic work situations of caregivers in nursing home care complicating the implementation process of care innovations, and the scarcity of appropriate measuring instruments, in particular instruments measuring positive behaviours (Finnema, 2000; Verkaik et al., submitted). Consequently, the study has some limitations.

The first limitation is the 'blindnessward' of the assessors on the wards and the self-reporting of the CNAs about the quality of their working life needs attention. The observations of residents' behaviour were conducted by CNAs, who were not blind to the intervention. This implied the risk of biased assessments on the experimental wards. A solution to this problem is hard to find. Bringing in external assessors from outside the nursing home would complicate the observation process, because of the unfamiliarity of these assessors with the residents. To deal with this problem, Finnema (2000), who also used CNA-assessments of residents' behaviour, investigated whether participation in the study influenced the judgement of CNAs, by asking an independent CNA from another ward, who was stationed on the research ward for two weeks, for a second opinion on 15 percent of the residents. No indications were found that the judgement of the first CNA-assessor deviated systematically from the assessment of the independent CNA-assessor.
In the current study, we took precautions with regard to the ward observation, such as hiding outcome measurements between other measurements. The CNAs did not know which outcome measures were selected for our study, but effects were only found on selected outcomes. Moreover, video-recordings were used in addition to the ward observations. They were assessed by independent observers who were blind to the condition. The results of the video-observations showed no contradictions with the ward observations and inter-observer reliability was sufficient to good.
On account of all these considerations, no substantial bias is assumed.

The outcome measures regarding the quality of working life could not be blinded too, because the only way to measure perceived quality of working life is by asking the CNAs themselves. As a precaution of overestimated effects, we have included complete scales into the questionnaire, although we did not expect effects on all subscales. We considered, for instance, the subscales 'satisfaction with promotion opportunities' and 'satisfaction with clarity at work' less relevant for the study than 'satisfaction with contact with residents' and 'satisfaction with quality of care', but we nevertheless included all items into the questionnaire. The effects found were in conformity with the effects assumed. The effects might also be overestimated, because some CNAs left the ward after the pre-test, which might possibly be related

to a negative attitude towards *snoezelen*. According to the head nurses, the implementation of *snoezelen* influenced the decision to quit in five CNAs. This indicates that the application of *snoezelen* is not suitable for all caregivers. However, the majority did succeed in changing their attitude to resident-oriented care (Van Weert et al., 2004) and the loss-to-follow-up due to structural dropout was almost equal for the experimental and the control group. Therefore, we assume no substantial bias.

Secondly, we aimed to compare the *snoezel* care model to the usual, 'real-life', daily dementia care. Therefore, the control condition consisted of usual care, and not of a modified care model. The implementation of *snoezelen* on the experimental wards aroused new enthusiasm in staff members. This might be subsumed within the 'Hawthorne effect' and may explain some of the results. Caregivers who get the opportunity to follow a training may have an improved job satisfaction regardless of the content of the training. Therefore, the differences between treatments and controls might be partly explained by the higher level of attention and training received by the treatment group. If the 'Hawthorne effect' would explain all the results of the present study, this effect would have occurred in other studies too. Schrijnemaekers et al. (2003) found only limited differences on work-related outcomes, despite additional attention and education in the experimental group compared to 'usual care' in the control group. Moreover, our results were not marginal, but convincing and in conformity with the findings of the parallel studies. Therefore, the 'Hawthorne effects' is not assumed to explain all the effects in the present study.

Thirdly, the results might be biased because dropouts were substituted by newly included residents and CNAs, although the multi-level model takes into account the data of completers (included in pre-test and post-test) as well as non-completers (included in pre-test or post-test). To detect the patterns in both groups, subgroup analyses were done.

The subgroup analyses of background characteristics of residents showed that there were no significant differences regarding background characteristics between completers and non-completers of the experimental group and the control group in the pre-test and the post-test, except for age: the newly included participants of the experimental group were older than those of the control group. Although age does not appear to be a factor of significance for care dependency (Jirovec, 1993; Dijkstra, 1998), the difference was accounted for in the analyses. Other relevant background variables were also included in the adjusted analysis to correct for differences in the residents' conditions and background characteristics.

Subgroup analysis of background characteristics of CNAs showed that, in the post-test, completers of both the experimental group and the control group had significantly longer been employed at the ward than newly included CNAs, as was

expected. In the experimental group, completers had also more experience than newly included CNAs. The differences were accounted for in the analysis.
Furthermore, post-hoc subgroup analyses were done with regard to the variables that showed significant changes. The results of subgroup analysis on resident outcomes showed no improvements in the control group, neither for completers (included in pre-test and post-test), nor for non-completers (only included in pre-test or post-test). The subgroup analysis within the experimental group showed mainly improvement or no differences. On two outcomes (loss of decorum, responding to speaking) there was a deterioration from pre- to post-test in the subgroup of completers, but the deterioration was smaller in the experimental group than in the control group.
The results of the questionnaire with regard to work-related outcomes showed no differences between the subgroup of completers and the subgroup of non-completers, neither in the experimental group, nor in the control group. The majority of the outcome measures with regard to the quality of CNAs' behaviour still showed a significant treatment effect within the subgroup of completers. Three sub-items of positive person work ('distraction', 'empathize' and 'accusation') showed a trend instead of a significant effect ($P<.10$). Only one sub-item ('withholding') did not reach a significant level any more, which can be explained by reduced power.
Taking into account all these factors, we suppose no large bias of the results by dropouts and newly included residents and CNAs.

Fourthly, the results need to be interpreted with caution as the experimental group of residents appeared to show more behavioural problems at baseline than the control group of residents. We have no clear explanation for the differences in baseline measurements. Unexpected selection bias might have occurred. E.g., the experimental wards might have been might have been more stimulation to legal guardians of 'difficult' residents when family members started talking about the informed consent than the control group. Yet, the disordinal interactions (reverse development of scores of experimental and control group) instead of 'regression to the mean' still accounts for convincing results in our study.

An additional potential limitation was the contamination risk. The recruitment of an experimental ward and a control ward at the same nursing home had the advantage that the experimental group and the control group were highly comparable in terms of capacity, staff-client ratio, service types and other (organisational) characteristics. However, there was a risk that caregivers in the control ward would start implementing *snoezelen* on the control ward, even though they agreed not to do so. This is a potential threat to the study's internal validity.
The alternative of randomizing groups to nursing homes also presents methodological problems, including the difficulty of finding nursing homes that are

equivalent on all factors that might affect outcome (Burgio et al., 2000). To reduce the contamination risk in the present study, included nursing homes signed a cooperative agreement, in which they promised that the control wards would not apply *snoezelen* care during the study period. After 15 months, interviews were held with the head nurses of the control wards to find out whether the control wards indeed refrained from *snoezelen* during the study period conform to the cooperative agreement. The results revealed that on three control wards some CNAs started to apply parts of the *snoezel* methodology in the daily care (e.g., music, aroma). However, no one integrated these parts in an individual, resident-centred approach, nor integrated these structurally. As these are considered important conditions for *snoezelen* to be effective, we suppose no serious contamination risk on the control wards.

As this study has been using video-recordings, social desirability might have influenced CNA performance during the observations. Several authors have mentioned this potential bias. They concluded that the occurrence of performance bias in nursing research seems to be limited (Bottorff, 1994; Caris-Verhallen, 1999; Kruijver, 2001; VanHaitsma 1997). The CNAs in our study reported that they experienced some stress in anticipation, but that, on the whole, the video-taped morning care reflected the normal situation. Given the convincing results of the video-analysis, it seems not very likely that the effects we found were all caused by social desirability factors on the outcomes.

## Recommendations for future research

The present study was the first study to investigate the effectiveness of *snoezelen* as an *approach*, integrated in 24-h dementia care. Until now, *snoezelen* has only been studied as an *activity* in a special multi-sensory room. Although the results of the present study suggest effectiveness of integrated *snoezelen* in 24-h care, strong scientific evidence can only be established when the study results will be expanded in future. It is especially recommended to enravel the specific, effective ingredients of the *snoezel* intervention.

Most measuring instruments are intended to measure behaviour *problems* (Finnema, 2000). Future research should consider development and validation of additional measurement instruments that not only focus on negative behaviours of caregivers and residents, but also on the assessment of positive behaviours of caregivers and residents. The present study shows that positive behaviours of caregivers as well as residents are both amenable to change. However, sensitive, reliable and valid instruments that measure positive behaviour of caregivers and residents instruments were hardly available at the beginning of the study. The INTERACT scale, used to assess residents' behaviour during morning care, was the only appropriate

observation scale that included positive behaviours of residents as well as negative behaviours. The scale does not give sum scores and the item-by-item analysis increases the risk of a false-positive result (type I error) (Van Diepen et al., 2002). Although we found no contradictions with the ward observations, it is recommended to develop in future scientific research a scale which measures the same domains, but consists of multi-item sub-scales.
With regard to the assessment of caregivers' behaviour, a scale was developed, including positive caregiver behaviours, based on Kitwoods' Dialectical Framework. The findings support the utility of the scale in nursing research, however, further research is needed to describe other validation aspects. Recommendations for future research are additional tests on criterion-related validity, construct validity, intra-rater reliability and test-retest reliability. The present study also does not give a deeper understanding of more or less effective indicators of 'positive person work'. Future research has to elaborate the question whether some of these indicators (or combinations of these) are more decisive for well-being than others.

The aim of the video-recordings was to provide supplementary data to the observations on the ward with the advantage of blinded assessment. Yet, the videos were recorded during morning care, which is only a small part of the 24-h care. Since the use of video-recordings appeared to provide meaningful, additional information in the present study, it is recommended to extend the video-observations to other care moments in future research.

In the present study, the post-test was limited to one measurement. The measurement of outcome measures at different points in time could strengthen the results and give a more detailed insight in the minimal period needed for successful implementation. Measurement intervals are also recommended to investigate the (long-term) influence of integrated *snoezelen* on individual residents in order to find out whether some residents benefit more from the *snoezelen* intervention than others.

## Recommendations for implementation in practice

The results obtained in this study support the effectiveness of the application of *snoezelen* in 24-h care for demented nursing home residents. The implementation of *snoezelen* indeed indicates a surplus value on the mood and behaviour of demented elderly and the quality of working life of CNAs. Although the usefulness of the findings for clinical and research purposes needs to be interpreted with the study's limitations in mind, the study results support the implementation of non-pharmacological approaches, such as *snoezelen*, in the care for demented nursing home residents. *Snoezelen* might also be applied in other health care settings, such as homes for the elderly or home care.

To achieve a successful implementation of *snoezelen* in 24-h, psychogeriatric care, it is advisable to take the following, practical recommendations into account.

### *Preparation and embedding*

The start of the implementation has to be determined carefully. The implementation of the new care model has to be included in the policy of the central management, prior to the start of implementation. This includes the assessment of possible obstacles, proposals to solve or to minimize the obstacles and the fulfilling of conditions such as funding, facilities and personnel needs. The preparation takes about nine months. A serious barrier that often occurs, but is quite easy to avoid, is the implementation of several innovations at the same time. The implementation of a new care model requires, especially in the beginning, extra efforts. As the starting period might be crucial to successful implementation, it has to be avoided to start with an unstable team.

To embed the changes into the structure of the organisation, a long-term implementation plan, supported by the central management, is essential. This plan should include a time schedule, budget and structural training to establish the continuation of the project. Especially ongoing training of new team members is important to maintain the changes. The central management should also be aware of structural evaluations of the implementation process, as part of the implementation plan. The establishment of an official study group can be a practical tool for evaluation of the implementation process, adaptation of the plan and development of new strategies. A multidisciplinary approach is also essential to embed the new care model into the structure of the organisation. Involvement of other disciplines, such as activity therapist, occupational therapist, psychologist, psychomotor therapist, physiotherapist and physicians, is highly recommended.

Finally, the structural interest in and support of the caregivers by the central management seem to be important for them to feel valued and it stimulates them to adhere to the plan.

### *Training*

Underpinning of skills training by a 'person-centred' care philosophy is essential (Bryan et al., 2002). Training has to be organised for the complete team by a qualified professional trainer. The goal of the training should not only be to improve knowledge and skills, but also to achieve the motivation and the intention to change in caregivers. The latter is more difficult when only a few team members are attending the training. Although a training can be considered as the basis of the implementation, the 'real-life' implementation does not start until the end of the training. Often, caregivers find it very difficult to generalise the new knowledge to daily practice. The trainers' involvement during follow-up meetings might work as a 'catalyst' and provides useful, external supervision.

### *Stimulus preference screening and care plans*

Especially in the beginning of the implementation period, CNAs must get time to observe residents ('stimulus preference screening') and to write *snoezel* (care) plans. Head nurses should include this in the daily planning, to make sure that team members are indeed working on this. A stimulus preference screening contributes to a deeper understanding of the residents' situation and helps CNAs to understand what is important in elderly persons' lives. Primary caregivers, home care workers and other caregivers in dementia care might also use a screening of dementia patients in order know the patients' preferences or desires and to find out which stimuli or activities the patient finds pleasurable. This might help them to adapt to the patients' lifestyle and to fit the care to the patients' needs.

### *Supervision and support*

Studies that have used training techniques without follow-ups, have generally shown limited effect or an immediate effect, but no continued behaviour change among caregivers (Burgio et al. 2000; Caris-Verhallen, 1999; Kruijver, 2001; Schnelle et al., 1990; Schrijnemaekers, 2001). Burgio et al. (2000) compared a behaviour skills training package with a staff motivational system and without one and found that maintenance of CNAs' behaviour change was demonstrated more frequently in the group that received a staff motivational system. Supervision and support are very important to adhere to the changes. This includes feedback and support at different levels. CNAs should be given regular feedback or supervision. Kitwood (1997) advises one hour supervision per month for all employees in dementia care. Moreover, managers should coach the continuation of the implementation process, i.e., the head nurses should be supported by their supervisors in controlling the implementation progress. Supervision of head nurses by an independent, qualified person to support the head nurse in coaching the staff appears also to be very useful.

### *Organisational adaptations and time shift*

Successful implementation of *snoezelen* will automatically lead to organisational adaptations that provide for resident-oriented care. When, for example, a ward decides not to wake up residents, two CNAs won't have anything to do at 7:00 PM, and, therefore, adaptations in the daily schedule are needed. Moreover, time-investment has to be established for the different (care) moments. After all, some nursing tasks, such as those in the morning, might take more time with the *snoezelen* approach, whereas at other moments, time can be saved, e.g. because residents are more satisfied and relaxed. On the whole, increased responses of demented residents may only be reached by increased efforts of caregivers. Residents need time to assimilate to the CNAs' input and to be able to provide a reaction. Adequate facilitating of responses of demented residents will probably result in an increased

length of the contact or care. Previous literature often mention that when nursing home staff is trained, they need more time to master the new skills (Schnelle & Beck, 1999; Rogers et al., 1999). Burgio et al. (2000) recently succeeded in the improvement of communicating skills of CNAs during care routines without increasing the amount of time necessary to deliver the care, but residents in the intervention group showed no communication or behaviour changes during care routines. In conclusion, it seems likely that increased responses of demented residents can only be reached by increased (communicative) initiatives of CNAs. Therefore, extra time has to be invested at certain care moments. This implies that, if nursing homes want to implement *snoezelen* without expansion of staff, they have to think about the resident-caregiver interaction moments in which they want to make a time investment, e.g., morning care, evening care, meals or not specific care moments. With creativity, solutions can be found that are not difficult and not costly, e.g., when CNAs write their reports in the living room instead of in a separate office, residents might feel more in touch than when they sit alone in the living room.

Additional research is needed to build on our findings. In the meantime, this study indicates that the implementation of *snoezelen* in 24-h daily care improves the quality of life of demented nursing home residents and the quality of working life of nurses in psychogeriatric care.

# Samenvatting

In dit proefschrift worden de effecten van *snoezelen*, oftewel zintuigactivering, in de 24-uurszorg aan demente verpleeghuisbewoners bestudeerd. *Snoezelen* is in deze studie gedefinieerd als een benaderingswijze om door middel van actieve zintuigprikkeling een ingang te vinden in de belevingswereld van de demente oudere, met als doel het welbevinden te optimaliseren of in stand te houden. In dit hoofdstuk wordt een Nederlandstalige samenvatting van de onderzoeksresultaten gegeven. Er wordt ingegaan op de effecten van *snoezelen* op demente verpleeghuisbewoners (o.a. stemming en gedrag) en op zorgverleners (o.a. werkbeleving). Ook worden de effecten van *snoezelen* op de interactie tussen verzorgenden en bewoners beschreven.

## Inleiding (hoofdstuk 1)

In de inleiding van dit proefschrift zijn de aanleiding van het onderzoek en de onderzoeksopzet beschreven. Het is nog niet mogelijk om dementie te voorkómen of te genezen. In de laatste decennia zijn echter wel vormen van begeleiding ontwikkeld voor mensen met dementie die tot doel hebben om gevoelens van algemeen welbevinden van iedere individuele bewoner te bevorderen. Eén van deze begeleidingsvormen heet *snoezelen*, ook wel *zintuigactivering* genoemd.
*Snoezelen* is in het verleden bekend geworden als een activiteit, waarbij verstandelijk gehandicapten of demente ouderen meegenomen worden naar een speciale *snoezel*ruimte, waar hun zintuigen geprikkeld worden door bijvoorbeeld muziek, lichtballen, kleurenprojecties op de muur, tastmaterialen, een waterbed en/of aromastreamers. Uit eerder onderzoek is bekend dat *snoezelen* als activiteit in een *snoezel*ruimte een positief effect heeft op de stemming en het gedrag van bewoners, maar dat dit effect slechts kortdurend is. Vanuit deze wetenschap is de gedachte ontstaan dat het *snoezelen* geïntegreerd zou moeten worden in de 24-uurszorg, zodat er mogelijk een langer durend effect ontstaat. In het hier beschreven onderzoek is *snoezelen* daarom gedefinieerd als een benaderingswijze die door verzorgenden wordt toegepast in de dagelijkse 24-uurszorg. *Snoezelen* doet geen appèl op de cognitieve vermogens van demente ouderen. De persoon met dementie wordt niet gecorrigeerd, maar in zijn/haar waarde gelaten.

Het proefschrift start met een systematische literatuurstudie naar de effecten van dertien psychosociale begeleidingsmethoden, waaronder *snoezelen*, op apathisch, depressief en agressief gedrag bij dementie. Vervolgens is een gecontroleerd veldexperiment uitgevoerd waarin *snoezelen* werd geïmplementeerd op zes psychogeriatrische verpleegafdelingen. Deze afdelingen zijn vergeleken met zes controle afdelingen, die de gangbare zorg bleven leveren. Het doel van de studie was

om de effecten van *snoezelen*, geïntegreerd in de 24-uurszorg, te onderzoeken op (i) de verbale en non-verbale communicatie van zorgverleners en bewoners; (ii) de kwaliteit van het gedrag van zorgverleners; (iii) de stemming en het gedrag van demente verpleeghuisbewoners en; (iv) de werkbeleving van zorgverleners in de psychogeriatrie. Tevens is het implementatietraject op de experimentele afdelingen geëvalueerd.

De studie is uitgevoerd in zes verpleeghuizen, verspreid over Nederland, die elk een experimentele en een controle afdeling leverde. Op twee momenten werden metingen verricht: voorafgaande aan de implementatie (voormeting) en na 18 maanden (nameting). Bewoners werden alleen geïncludeerd wanneer vooraf schriftelijk toestemming verkregen was van de wettelijke vertegenwoordiger. Na de voormeting kregen de verzorgenden van de experimentele groep een cursus '*snoezelen* voor uitvoerenden'. Gedurende de implementatieperiode zijn ook drie *in-company* follow-upbijeenkomsten onder leiding van dezelfde trainer georganiseerd. Tevens waren er twee kaderbijeenkomsten waarin leidinggevenden en management van de deelnemende afdelingen bij elkaar kwamen ter ondersteuning van de implementatie.
Naast de kwantitatieve metingen vond een kwalitatieve analyse plaats van het implementatieproces om na te gaan in hoeverre de implementatie van *snoezelen* op de experimentele afdelingen geslaagd was. Hiervoor werden semi-gestructureerde interviews gehouden met de leidinggevenden van de experimentele afdelingen en/of de projectleiders en zijn de follow-up- en kaderbijeenkomsten bijgewoond.

Om de effecten van *snoezelen* op demente ouderen te bestuderen is gebruik gemaakt van gedragsobservatielijsten en video-opnames van de ochtendzorg. Aan de voormeting deden 125 bewoners mee (62 in de experimentele groep en 63 in de controle groep) en aan de nameting 128 (66 in de experimentele groep en 62 in de controle groep). Verzorgenden vulden gedragsobservatielijsten in over deze bewoners. Daarnaast konden 250 video-opnames gemaakt worden: 124 bewoners (van de 125) werden gefilmd in de voormeting en 126 bewoners (van de 128) in de nameting. Tussen de voor- en nameting vielen 66 bewoners uit, voornamelijk door overlijden. Daarom werden voor de nameting nieuwe bewoners geïncludeerd (n=69). Door gebruik te maken van een multilevel model kon alle beschikbare data gebruikt worden voor de analyses, zowel de gecorreleerde data van de *completers* (die aan de voormeting en aan de nameting meegedaan hadden) als de data van de *non-completers* (die alleen aan de voormeting of alleen aan de nameting meegedaan hadden). Deze methode voldoet aan het *intention-to-treat* principe. Er werden verschilscores berekend, waarbij het verschil tussen de gemiddelde score van de experimentele groep in voor- en nameting getoetst werd tegen het verschil tussen de gemiddelde score van de controle groep in voor- en nameting.

Om de effecten van *snoezelen* op de communicatie en het gedrag van zorgverleners te onderzoeken is opnieuw gebruik gemaakt van de video-opnames van de ochtendzorg. Aan de voormeting deden 117 verzorgenden mee (57 in de experimentele groep en 60 in de controle groep) en aan de nameting 121 (60 in de experimentele groep en 61 in de controle groep). Twaalf verzorgenden zijn twee keer gefilmd omdat er meer bewoners dan verzorgenden beschikbaar waren. In totaal vielen 37 verzorgenden uit tussen de voor- en de nameting. Daarom werden er 41 nieuwe verzorgenden geïncludeerd. Om het werken volgens de *snoezel* methode onder de knie te krijgen werden de nieuwe verzorgenden op de experimentele groep gecoacht op de werkvloer door hun leidinggevende of de coördinator zintuigactivering. Daarnaast woonden zij de follow-up bijeenkomsten bij die werden georganiseerd op de experimentele afdelingen. Door te kiezen voor een multilevel model kon alle beschikbare data gebruikt worden voor de analyses.

Om de effecten van *snoezelen* op de werkbeleving van verzorgenden te onderzoeken werd aan verzorgenden gevraagd een vragenlijst in te vullen. Voor de analyses van de voormeting werd gebruik gemaakt van 129 ingevulde vragenlijsten (64 uit de experimentele groep en 65 uit de controle groep). Voor de nameting werden 127 vragenlijsten geanalyseerd (64 uit de experimentele groep en 63 uit de controle groep).

## Literatuurstudie naar effecten van psychosociale methoden (hoofdstuk 2)

Om inzicht te krijgen in de wetenschappelijke onderbouwing voor de effectiviteit van 13 psychosociale begeleidingsmethoden om apathisch, depressief en agressief gedrag bij mensen met dementie te reduceren is een systematische literatuurstudie uitgevoerd. Hierbij werden de richtlijnen van de Cochrane Collaboration gebruikt. Tien elektronische databases werden doorzocht. Dit leidde tot 3.977 zoekresultaten. Na toetsing door twee onderzoekers bleven 19 studies over die aan alle inclusie-criteria voldeden. Deze studies werden vervolgens beoordeeld op hun wetenschappelijke kwaliteit en de resultaten werden samengevat. Om conclusies te trekken over de mate van bewijs voor de effectiviteit van elke psychosociale methode werden de resultaten van de studies daarna samengevoegd met een *Best Evidence Synthesis*.

De uitkomst van de literatuurstudie was dat er wetenschappelijk bewijs is dat personen met matige tot ernstige dementie (MMSE 0-17) en een hoge mate van zorgafhankelijkheid minder apathisch zijn wanneer zij verblijven in een *snoezel*kamer. Er is ook wetenschappelijk bewijs, zij het beperkt, dat personen met de ziekte van Alzheimer, die voldoen aan de DSM-III-R criteria voor ernstige of matige depressie en die thuis wonen met iemand die voor hen zorgt, minder depressief zijn wanneer

hun zorgverleners getraind zijn in het toepassen van de Plezierige Activiteiten Methode of de Probleem Oplos Methode, twee vormen van gedragstherapie. Als laatste is er wetenschappelijk bewijs, zij het beperkt, dat personen die in een verpleeghuis wonen, voldoen aan de DSM-III-R criteria voor de ziekte van Alzheimer, mobiel zijn, begeleidingsbehoeftig of licht verzorgingsbehoeftig zijn, maar relatief zware functionele beperkingen hebben, minder agressief zijn wanneer zij deelnemen aan psychomotorische groepstherapie.
Voor de andere tien psychosociale methoden was geen of onvoldoende wetenschappelijk bewijs dat deze apathie, depressie of agressie bij mensen met dementie gunstig beïnvloeden.

## Evaluatie van het implementatieproces (hoofdstuk 3)

*Hoofdstuk 3* beschrijft het implementatieproces op de experimentele afdelingen.
In totaal hebben 80 zorgverleners (waarvan 59 verzorgenden en zes leidinggevenden) deelgenomen aan de training '*snoezelen* voor uitvoerenden', die werd gegeven door Bernardus Trainingscentrum/ Fontis. De *in-company* training bestond uit vier wekelijkse bijeenkomsten van vier uur met huiswerk opdrachten. De training is geëvalueerd met behulp van een vragenlijst. De deelnemers vonden de training informatief, toepasbaar, praktisch, interessant en goed aansluiten bij hun deskundigheid en werksituatie. De meerderheid voelde zich aan het eind van de training voldoende uitgerust om het nieuwe zorgmodel in de praktijk te implementeren en had de intentie om het geleerde daadwerkelijk in de praktijk te gaan brengen. De gemiddelde beoordeling van de training op een schaal van 0 tot 10 was 8,4.

Aan het einde van de training werd een werkgroep ingesteld die maandelijks de voortgang op de afdeling zou evalueren en zo nodig bijstellen. Volgens de *snoezel*methode werd een levensloop anamnese afgenomen bij familieleden van deelnemende bewoners en werden de bewoners systematisch geobserveerd om erachter te komen op welke zintuigprikkelingen zij goed reageerden en welke minder bij hen pasten. De resultaten van de observaties werden opgeschreven in een *snoezel*plan en geïntegreerd in het *snoezel*verpleegplan.
Om inzicht te krijgen in het implementatieproces op de experimentele afdelingen werden de follow-up bijeenkomsten bijgewoond (drie per afdeling plus twee algemene bijeenkomsten) en semi-gestructureerde interviews (zes in totaal) gehouden. Voor het identificeren van bevorderende en belemmerende factoren werd het model uit de ZonMw Implementatiemonitor gebruikt (Theunissen e.a., 2003).

De training werd beschouwd als een belangrijke bevorderende factor voor een geslaagde implementatie, in eerste instantie voor het opdoen van de benodigde kennis en het motiveren van het team, maar ook als de basis voor het veranderen

van gewoontes. De follow-up bijeenkomsten werden met name motiverend gevonden om door te gaan met de implementatie en het veranderen van gewoontes. Individuele coaching en feedback (supervisie) bleken essentieel om de veranderingen daadwerkelijk in te bedden in de dagelijkse praktijk. Conform de *snoezel*methode rapporteerden de meeste zorgverleners hun (observatie) bevindingen in het *snoezel*verpleegplan, dat bedoeld was om daadwerkelijk veranderingen in de zorg te bewerkstelligen, ook wanneer de zorg door bijvoorbeeld oproepkrachten verleend werd. Volgens de teamleden zorgde deze werkwijze er ook voor dat zij meer gingen praten over probleemgedrag van bewoners en vaker discussieerden over mogelijke oplossingen, zowel informeel (bijvoorbeeld tijdens de koffiepauze) als formeel (bijvoorbeeld tijdens het multidisciplinair overleg (MDO)). Dit werd eveneens beschouwd als een bevorderende factor om veranderingen vast te houden en verdere verbeteringen door te voeren.

Vier verpleeghuizen schreven een lange termijn implementatieplan, inclusief tijdschema en begroting, hetgeen beschouwd kan worden als een bevorderende interventie in de organisatiestructuur die nodig is om de geïmplementeerde veranderingen te bestendigen. Drie verpleeghuizen hadden concrete plannen om de implementatie van *snoezelen* na afloop van het onderzoek voort te zetten op andere verpleegafdelingen. Vier afdelingen deden (grote) investeringen (bijvoorbeeld *snoezel*kamer, *snoezel*badkamer), terwijl op twee afdelingen de zintuigactivering met name in de benaderingswijze en in de dagelijkse omgeving gezocht werd.

Naast bovenstaande bevorderende factoren werden ook een aantal belemmerende factoren genoemd door de zorgverleners van de experimentele afdelingen. De werkdruk was een faalfactor op alle deelnemende afdelingen. Met name in de eerste fase van het onderzoek, toen de observaties van de bewoners veel tijd in beslag namen (10x een uur), was er niet altijd voldoende tijd. Ook periodes van onderbezetting, bijvoorbeeld tijdens vakanties, bij vacatures of bij ziekte, verstoorden het implementatieproces van tijd tot tijd. Twee afdelingen meldden ook een gebrek aan beleid en ondersteuning van het management.
Het implementatiemodel liet zien dat deze contextuele factoren, die niet altijd gemakkelijk op te lossen zijn, het implementatie proces beïnvloedden. Wanneer er echter een balans was tussen belemmerende en bevorderende factoren was het nog steeds mogelijk om tot een geslaagde implementatie te komen. Wanneer er echter te veel belemmerende factoren zijn dienen deze eerst aangepakt te worden, bij voorkeur voor de start van de implementatie.

De resultaten lieten zien dat de implementatie van *snoezelen* in de 24-uurszorg leidde tot een verandering van taakgerichte zorg naar bewonersgerichte zorg op alle experimentele afdelingen. In de ogen van de zorgverleners had de implementatie van

*snoezelen* ook geleid tot positieve effecten bij de bewoners. Twee soorten veranderingen bij bewoners werden veelvuldig genoemd. Ten eerste vonden verzorgenden het gemakkelijker om contact te krijgen met bewoners en reageerden de bewoners (daardoor) meer. Ten tweede vonden verzorgenden dat bewoners die hinderlijk gedrag vertoonden, zoals agitatie, rusteloosheid of agressie, rustiger en tevredener waren geworden.

Wat betreft organisatorische veranderingen die waren doorgevoerd noemden verzorgenden de verandering in de dagplanning, en met name het 'loslaten van de klok', het meest opvallend. Verzorgenden vonden dat ze daardoor minder gestresst waren gaan werken, hetgeen in hun ogen een positief effect had op zowel de bewoners als henzelf.

Concluderend slaagden alle deelnemende afdelingen erin de overstap te maken van taakgericht werken naar bewonersgericht werken, hetgeen een voorwaarde is voor het toepassen van *snoezelen*. De combinatie van implementatie activiteiten uit de verschillende niveaus uit het implementatiemodel bleek het meest effectief om blijvende veranderingen te bewerkstelligen.

## Effecten van snoezelen op de communicatie tussen verzorgenden en bewoners tijdens de ochtendzorg (hoofdstuk 4)

In *hoofdstuk 4* zijn de effecten van de implementatie van *snoezelen* op de communicatie tussen verzorgenden en bewoners tijdens de ochtendzorg beschreven. Hiervoor werden 250 video-opnames (124 uit de voormeting en 126 uit de nameting) van de ochtendzorg geobserveerd door onafhankelijke observatoren die gebruik maakten van het gecomputeriseerde observatiesysteem 'Observer' en het Roter Interaction Analysis System (RIAS). De verzorgenden uit de experimentele groep vertoonden in de nameting een significante toename in het aankijken van de bewoner, in affectief aanraken en in lachen (non-verbale communicatie). Verbaal was er een toename in het maken van een sociaal praatje, het geven van bevestiging, het praten over zintuigactivering, het geven van informatie over de ochtendzorg en het faciliteren van autonomie. Ook het totaal aantal verbale uitingen nam toe. De veranderingen in de non-verbale en verbale communicatie van verzorgenden hadden een bevorderende invloed op de communicatie van de bewoners. De video-observaties wezen uit dat bewoners langer oogcontact hadden met de verzorgenden en meer lachten. Verbaal was er, in vergelijking met de controle groep van bewoners, een afname van het aantal negatieve uitingen (tegenwerpingen en boosheid) en een toename van autonomie (mening geven, keuze maken). De ochtendzorg nam in de experimentele groep na afloop van de implementatie echter meer tijd in beslag. Dit geeft aan dat positieve effecten kunnen worden bewerkstelligd in de communicatie tussen verzorgenden en bewoners tijdens de ochtendzorg op voorwaarde dat er een

tijdsinvestering gedaan wordt op zorgmomenten met één op één zorg, zoals de ochtendzorg.
Concluderend tonen de resultaten van deze deelstudie aan dat verzorgenden de communicatie principes die aan *snoezelen* ten grondslag liggen 18 maanden na de start van de implementatie daadwerkelijk toepasten. Positieve veranderingen werden zowel gemeten bij verzorgenden als bij bewoners.

## Effecten van snoezelen op het gedrag van verzorgenden tijdens de ochtendzorg (hoofdstuk 5)

In *hoofdstuk 5* is beschreven in hoeverre verzorgenden van de experimentele afdelingen er daadwerkelijk in slaagden de kwaliteit van hun gedrag tijdens de ochtendzorg te verbeteren door het aannemen van een bewonersgerichte(re) attitude. Hierbij werden opnieuw de 250 video-opnames van de ochtendzorg (124 in de voormeting en 126 in de nameting) beoordeeld door onafhankelijke observatoren. Zij gebruikten een 4-puntsschaal, die was ontwikkeld voor deze studie. De schaal had tot doel om de kwaliteit van het gedrag van verzorgenden tijdens de zorg aan demente verpleeghuisbewoners in kaart te brengen en was gebaseerd op het *Dialectical Framework* van Kitwood. De schaal bestond uit 10 items met positief gedrag van verzorgenden en 12 items met negatief gedrag van verzorgenden. Voorbeelden van positief gedrag waren erkennen/respecteren, aansluiten op de mogelijkheden van de bewoner, meegaan in de belevingswereld en empathie tonen. Voorbeelden van negatief gedrag waren infantiliseren/betuttelen, negeren, sneller gaan dan de bewoner aankan en niet ingaan op wensen/initiatieven van de bewoner. Daarnaast werd het aantal zintuigprikkels tijdens de ochtendzorg geteld.
De resultaten lieten zien dat verzorgenden uit de experimentele groep in de nameting daadwerkelijk een meer bewonersgerichte attitude hadden tijdens de ochtendzorg, terwijl de verzorgenden van de controle groep weinig veranderingen lieten zien. De totaalscore van 'positief gedrag' was in de experimentele groep significant verbeterd. Daarnaast was er een verbetering op alle sub-items van positief gedrag in de experimentele groep. De totaal score van 'negatief gedrag' was significant afgenomen. Een meer gedetailleerde analyse liet zien dat dit werd veroorzaakt door een afname van negatief gedrag in de experimentele groep op vier sub-items en een toename van negatief gedrag in de controle groep op vier andere sub-items. Tenslotte was het aantal expliciet aangeboden zintuigprikkels in de experimentele groep toegenomen.
Concluderend lieten de resultaten van deze deelstudie zien dat de implementatie van *snoezelen* leidde tot positieve veranderingen in het gedrag van verzorgenden tijdens de ochtendzorg.

## Effecten van snoezelen op de stemming en het gedrag van demente verpleeghuisbewoners (hoofdstuk 6)

In *hoofdstuk* 6 is ingegaan op de vraag of de implementatie van *snoezelen* ook leidde tot een positieve verandering in de stemming en het gedrag van demente verpleeghuisbewoners. Om de effecten van *snoezelen* op patiëntenuitkomsten te onderzoeken werd gebruik gemaakt van (i) gedragsobservaties op de verpleegafdeling en (ii) video-opnames van de ochtendzorg. Bij beide metingen werd gebruik gemaakt van bestaande gedragsobservatielijsten, die in eerder onderzoek voldoende betrouwbaar waren bevonden. De observaties op de afdeling werden gedaan door de verzorgenden. Daarnaast werden de hierboven genoemde video-opnames van de ochtendzorg geobserveerd door twee onafhankelijke observatoren. Zij gaven een oordeel over de stemming en het gedrag van de bewoner tijdens de ochtendzorg.
De resultaten lieten een significante verschilscore in het voordeel van de experimentele groep zien op de effectmaten apathisch gedrag, decorumverlies, opstandig gedrag, agressief gedrag en depressief gedrag, zoals gemeten tijdens de observaties op de afdeling. Deze beoordelingen betroffen het ('gegeneraliseerde') gedrag van de bewoner in de twee weken voorafgaande aan het invullen van de lijst. De beoordelingen van de observatoren over het gedrag van de bewoners tijdens de ochtendzorg wezen uit dat er significante verschilscores waren in het voordeel van de experimentele groep op een aantal uitkomstmaten voor welzijn en adaptief gedrag. In vergelijking met de controle groep die de gangbare zorg kreeg, waren de bewoners van de experimentele afdelingen in een betere stemming. Zij hadden meer plezier tijdens de ochtendzorg, waren tevredener, hadden een betere relatie met de verzorgende en spraken vaker in volledige zinnen. In vergelijking met de voormeting en met de controle groep was de experimentele groep tijdens de ochtendzorg minder verveeld, inactief, minder vaak verdrietig, vertoonde minder weerstand en minder klaaggedrag.
Er werden subgroepanalyses gedaan in de subgroep van *completers* (geïncludeerd in voormeting en nameting) en de subgroep van *non-completers* (alleen geïncludeerd in de voormeting of in de nameting) op de variabelen waar een interactie-effect gevonden was. Hieruit bleek dat de controle groep geen verbeteringen vertoonden, noch de groep van *completers*, noch de groep van *non-completers*. De experimentele groep vertoonde veelal vooruitgang. Alleen in de subgroep van *completers* werd op enkele uitkomstmaten achteruitgang gemeten, maar de achteruitgang was kleiner in de experimentele groep dan in de controle groep.
Concluderend ondersteunden de bevindingen van deze deelstudie de effectiviteit van *snoezelen* op de stemming en het gedrag van demente verpleeghuisbewoners. *Snoezelen* in de 24-uurszorg verminderde met name teruggetrokken gedrag (zoals apathie) en hinderlijk gedrag (zoals agressie) en bevorderde gevoelens van welbevinden.

## Effecten van snoezelen op de werkbeleving van verzorgenden (hoofdstuk 7).

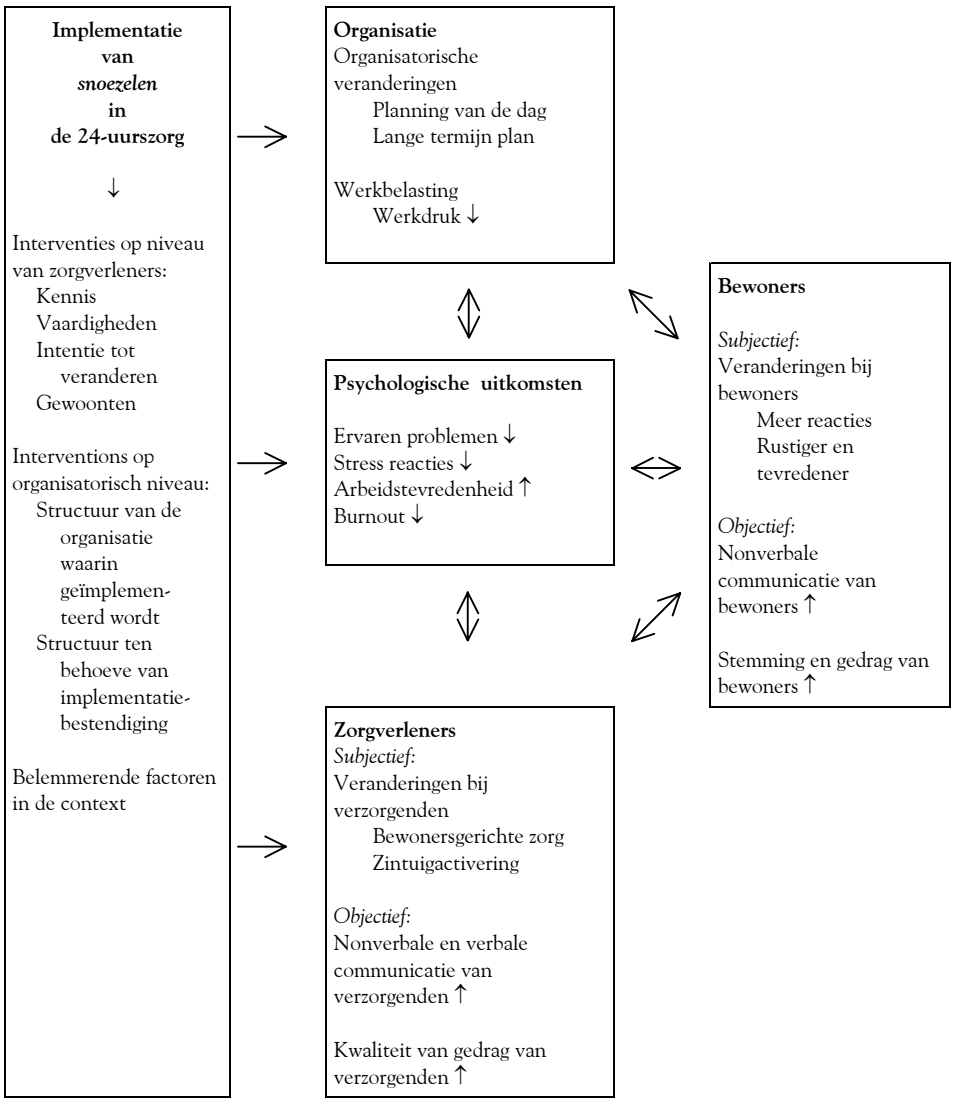
In *hoofdstuk 7* zijn de effecten van *snoezelen* op de werkbeleving (kwaliteit van de arbeid) van verzorgenden gepresenteerd. Hiervoor werd aan verzorgenden gevraagd om een uitgebreide vragenlijst in te vullen tijdens de voor- en de nameting, waarbij gebruik gemaakt werd van bestaande meetinstrumenten die in eerdere studies voldoende betrouwbaar waren gebleken.

De verzorgenden in de experimentele groep hadden in de nameting een significant betere score op de schaal voor stress reacties, de *burnout* subschaal 'emotionele uitputting' en de arbeidstevredenheid subschalen 'tevredenheid met de kwaliteit van zorg', 'tevredenheid met het contact met bewoners' en 'tevredenheid met groeimogelijkheden'. De totaalscore voor arbeidstevredenheid was eveneens verbeterd in de experimentele groep. Daarnaast werd een significant interactie-effect gemeten op twee sub-schalen voor ervaren problemen van verzorgenden in de zorg aan demente ouderen, namelijk: 'problemen door gebrek aan tijd' en 'gebrek aan zelfvertrouwen en onzekerheid in de zorg'. Ook ervaarde de experimentele groep in de nameting, in vergelijking met de controle groep, minder problemen met specifieke gedragingen van demente ouderen (met name met depressief gedrag, decorumverlies en rusteloos gedrag). Tenslotte lieten de resultaten een significante verbetering zien in het voordeel van de experimentele groep op de subschaal 'werkdruk'. 'Inspraak' en 'problemen met de taak' vertoonden eveneens een interactie-effect, maar dit werd veroorzaakt door een afname in de controle groep en niet door een toename in de experimentele groep.
Concluderend lieten de resultaten van deze deelstudie zien dat de implementatie van *snoezelen* in de 24-uurszorg een positief effect had op de werkbeleving (kwaliteit van arbeid) van verzorgenden.

## Samenvatting en discussie (hoofdstuk 8)

In *hoofdstuk 8* is een samenvatting gegeven van de belangrijkste resultaten, gevolgd door een reflectie op de gebruikte theoretische modellen. Hoewel oorspronkelijk uitgegaan werd van verschillende modellen om de kwaliteit van leven van bewoners en de kwaliteit van arbeid van verzorgenden in kaart te brengen, wezen de onderzoeksresultaten erop dat de modellen nauw samenhangen en elkaar waarschijnlijk over en weer beïnvloedden. Verzorgenden gaven bijvoorbeeld aan dat zij na de implementatie van *snoezelen* minder werkstress ervaarden. Hoewel het een doel van de training '*snoezelen* voor zorgverleners' was om 'de klok los te laten' en relaxter te werken, kunnen meer factoren dan alleen de training invloed hebben gehad op verminderde stress reacties. De afname van moeilijk of hinderlijk gedrag van bewoners kan hier bijvoorbeeld ook aan bijgedragen hebben.

Figuur 1 Relaties tussen de onderzoeksresultaten




Op grond van de studieresultaten kon geen definitief uitsluitsel gegeven worden over meer of minder doorslaggevende factoren. Wel werd verondersteld dat alle factoren uit het schema in meerdere of mindere mate van invloed waren op andere factoren.

Het werkzame mechanisme wat aan het effect van de *snoezelen* interventie ten grondslag lag, kon op basis van de onderzoeksresultaten niet definitief vastgesteld worden. Nader onderzoek is nodig om uit te vinden in welke mate de

bewonersgerichte houding van verzorgenden, de gerichte zintuigactivering of een combinatie van beide bijdroegen aan het effect.

Daarna is ingegaan op de klinische relevantie van de studie en zijn de onderzoeksresultaten vergeleken met eerdere studies naar het effect van *snoezelen* en het effect van geïntegreerde belevingsgerichte zorg, een interventie die veel raakvlakken vertoont met *snoezelen* in de 24-uurszorg. Geconcludeerd werd dat de volgende factoren waarschijnlijk hebben bijgedragen aan het succes van de interventie die in dit proefschrift is onderzocht: De relatief eenvoudige methodiek, die dicht staat bij de alledaagse praktijk in de zorg, een langere implementatieperiode dan in eerdere studies, coaching en supervisie van vrijwel complete teams en een relatief homogene onderzoekspopulatie (matig tot diep demente verpleeghuisbewoners).

Vervolgens is gereflecteerd op de gehanteerde methoden van onderzoek. De belangrijkste sterke punten van het onderzoek waren de aandacht voor het implementatieproces en het gebruik van video-opnames, waardoor geblindeerde en gedetailleerde effectmetingen gedaan konden worden.
De belangrijkste aandachtspunten waren de niet-geblindeerde effectmetingen door verzorgenden op de afdeling, de keuze voor 'gangbare zorg' als controle interventie in plaats van een placebo interventie, de vervanging van uitvallers door nieuw geïncludeerde bewoners en verzorgenden, mogelijke selectie bias, het contaminatierisico en sociaal wenselijk gedrag bij video-opnames.

Tot slot zijn aanbevelingen voor toekomstig onderzoek en aanbevelingen voor de praktijk gedaan.
Voorwaarde voor het vinden van positieve effecten is dat de implementatie goed voorbereid, begeleid en ondersteund wordt door zowel het centrale management, de leidinggevende van de afdeling en het afdelingsteam, niet alleen op de korte termijn, maar zeker ook op langere termijn. De implementatie dient opgenomen te worden in het beleid(splan) van het centrale management, waarin ook de te bereiken doelen en taaktoewijzingen opgenomen zijn. Er dient tevens aandacht besteed te worden aan het identificeren van mogelijke belemmeringen, het vooraf zoeken naar potentiële oplossingen voor deze belemmeringen, het vaststellen van de voorwaarden waar de organisatie aan moet voldoen en het zorg dragen voor de benodigde middelen die bij aanvang van de implementatie voor handen dienen te zijn. In het lange termijn beleidsplan dienen onder andere een tijdsplanning, structureel budget (bijvoorbeeld voor training van nieuwe teamleden) en structurele evaluaties van het verloop opgenomen te zijn. Het heeft de voorkeur om zoveel mogelijk disciplines te betrekken bij de implementatie.

De start van de implementatie dient zorgvuldig gepland te worden. Voorkomen moet worden dat er meerdere zorginnovaties tegelijkertijd geïmplementeerd worden of dat het team waar de innovatie ingevoerd gaat worden instabiel is. Het hele team behoort betrokken te worden bij de implementatie. Bij voorkeur wordt het team ook gezamenlijk getraind. Een training dient niet alleen kennis en vaardigheden te vergroten, maar ook de teamleden enthousiast te maken, weerstanden weg te nemen en te motiveren het geleerde toe te gaan passen in de praktijk.
Follow-up bijeenkomsten met dezelfde trainer zijn zeer stimulerend om door te gaan met de implementatie en steeds nieuwe doelen te bereiken. Structurele coaching en feedback zijn essentieel op diverse niveaus: Op het niveau van de leidinggevende die het proces op de afdeling dagelijks moet begeleiden, bijvoorbeeld door de zorgmanager en/of door een onafhankelijke persoon in de organisatie. Maar ook op het niveau van de teamleden die het in de praktijk uit moeten voeren, bijvoorbeeld door de leidinggevende van de afdeling of door een onafhankelijke persoon (bijvoorbeeld projectleider zintuigactivering). Tot slot zijn structurele evaluaties van het implementatieproces nodig, bijvoorbeeld door een interne werkgroep, waarbij de doelen zo nodig bijgesteld worden.

Hoewel aanvullend onderzoek nodig is om de huidige onderzoeksresultaten te bevestigen en verder uit te bouwen, kan de verpleeghuiszorg de resultaten gebruiken om de kwaliteit van zorg aan demente verpleeghuisbewoners te verbeteren. *Snoezelen* heeft niet alleen een positieve invloed op hun kwaliteit van leven, maar ook op de kwaliteit van de arbeid van verzorgenden in de psychogeriatrische zorg.

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# Appendix 1

## Video observations

**Definitions for non-verbal communication categories to assess non-verbal communication of caregivers and demented persons**
Based on Caris-Verhallen (1999), Kerkstra et al. (1999) and Kruijver (2001)

| Abbreviations | Measurement (duration or frequencies) | Definition |
|---|---|---|
| **CNAs' nonverbal communication** | | |
| Eye-contact | Duration | Resident-directed gaze: the CNA is looking at the eyes of the resident |
| Instrumental touch | Duration | Deliberate physical contact, which is necessary in performing the nursing task |
| Affective touch | Duration | Relatively spontaneous and affective touch, which is not necessary for the completion of a nursing task. Affective touch shows empathy and intends to make contact with the resident |
| Smiling | Frequencies | Facial utterance of friendliness directed to the resident. |
| **Residents' nonverbal communication** | | |
| Eye-contact | Duration | CNA-directed gaze: the resident is looking at the eyes of the CNA |
| Smiling | Frequencies | Facial utterance of friendliness directed to the CNA. |

**Definitions for verbal communication categories within Roter's Interaction Analysis System (RIAS) to assess verbal communication of caregivers and demented persons** (in frequencies)
Adapted to dementia care from Roter (1987), Caris-Verhallen et al. (1998), Caris-Verhallen (1999) and Kerkstra et al. (1999)

| Abbreviations | Definition | Examples |
|---|---|---|
| **Affective communication (positive)** | | |
| Social | Social conversation, personal remarks, jokes, greetings, friendly statements and conversation about non-nursing topics, unrelated to health or social context | 'Good morning, how is it going?'<br>'Did you sleep well?'<br>'It's really nice weather today' |
| Validation | Emotion-oriented communication, acknowledging the (subjective) reality of a persons' feelings and adapting to this reality, whether 'true' or not | 'We can take it easy, your father is taking a cup of coffee in the meantime'<br>[in answer on residents' question about her (dead) father becoming impatient] |
| Agree | Shows agreement or understanding, paraphrase | 'Yes', 'I see', 'I know', 'hmmm' |
| Affection | Shows affection, empathy, emotional involvement, warmth, gratitude or reflection of feelings (pronounced affectively) | 'Are you feeling so sad now'<br>'It will work out, I'll help you'<br>'Thank you, you're so sweet' |
| Partnership | Shows partnership | 'We have done well together' |
| Sensory stimuli | Conversation about sensory stimuli | 'Do you like this smell?'<br>'Feel how nice and soft this jersey is' |
| Affective question | Affective question, question which intents to make real contact on an emotional level, question which shows emotional involvement with the other person | 'How do you feel?'<br>'Why are you so sad by now?' |
| **Affective communication (negative)** | | |
| Disapproval | Shows disapproval or criticism (moderately negative utterances) | 'I don't want to be washed'<br>'Don't pinch my arm, mrs. X' |
| Anger | Shows anger, irritation or reluctance (shows real negative emotions) | 'Stop it!', 'Keep your hands off me',<br>'You're a fright, I hate you' |
| **Instrumental communication** | | |

| Abbreviations | Definition | Examples |
|---|---|---|
| **(positive)** | | |
| Information and orients | Gives orientation or information on nursing and health, including statements telling the other what is about to happen | 'We are now going to the bathroom'<br>'Just brushing your hair and then we are ready' |
| Instruction | Gives instructions on morning care, instructing or dictating the other person to do something specific | 'Please, turn on your right side'<br>'Pick up your feet!' |
| Autonomy | C: Questions that asks for the residents' opinion in order to give the resident autonomy<br>R: Giving opinion by resident, making a choice | C: 'Would you like to wear this dress or this one?'<br>R: 'That one'<br>C: 'Do you want to take a shower?' |
| Ask for clarification | Bids for clarification, statements requesting for repetition of the other's previous statement | 'What did you say?' |
| Instrumental question | Other instrumental questions, questions on nursing and health | 'Does your knee still hurts?' |
| **Instrumental communication (negative)** | | |
| Knowledge | Providing factual knowledge/unnecessary cognitive information in the actual context, correcting the resident on cognitive facts | 'It's Wednesday today, not Monday'<br>'In six months, the euro will be introduced in Europe' |
| Closed question knowledge | Closed-ended questions on factual knowledge | 'Is Julie coming to visit you tomorrow?'<br>'Do you remember that Queen Beatrix celebrated her birthday last month?' |
| Open question knowledge | Open-ended questions on factual knowledge | 'What's your daughter's name?'<br>'What did you have for dinner yesterday?' |
| **Other communication** | | |
| Third person | Communication to a third person | 'Can you please give me a towel? (to another nurse) |
| Unintelligible | Not categorizable or unintelligible utterances | 'xxxx xxxx xxxx xxxx' |

C = CNA category, R=Resident category

**Definitions for 'Positive Person Work' and 'Malignant Social Psychology' categories to assess the quality of caregivers' b00ehaviour in dementia care** (on a four-point Likert scale)
Adapted from Kitwood (1997) (with the kind permission of the Open University Press / McGraw-Hill Publishing Company)

| Item | Definition |
|---|---|
| **Positive Person Work (PPW)** | |
| Recognition | Acknowledging a man or women who has dementia as a person, knowing that person by name and affirm him or her in his or her uniqueness |
| Negotiation | Consulting the person with dementia about his or her preferences, desires, and needs, rather then being conformed to others' assumptions |
| Enabling | Giving the resident the opportunity to take care of him- or herself as much as possible and just 'completing' the care when necessary. The caretaker takes notice of the possibilities of the resident, by which the actual interaction between caretaker and the person who needs care can be optimized. |
| Play | Showing spontaneity and self-expression (an experience that has value in itself), making jokes, laughing with the resident |
| Stimulation | Providing sensory stimuli or sensual information, without the intervention of concepts and intellectual understanding; for example through music, aromatherapy or massage. The significance of this kind of interaction is that it can provide contact, reassurance, and pleasure while making very few (cognitive) demands |
| Validation | Acknowledging the (subjective) reality of a person's emotions and feelings, and giving a response on the feeling level, without correcting the residents' reality. Validation involves accepting the subjective truth of a resident, attempting to understand a person's entire frame of reference, even if it is chaotic or paranoid or filled with hallucinations |
| Distraction | Distracting a resident in a positive way by guiding the conversation away from something unpleasant for the resident or to take the residents' mind off things. The aim of distracting is to influence mood and behaviour of the resident in a positive way |
| Empathize | Accepting the feelings and emotions of a resident and showing warmth and affection to cover the needs of a resident. |
| Making contact | Giving the resident attention as a person to explicitly make contact. Making contact means responding to what a resident indicates but also giving attention to a resident when he or she doesn't specifically asks for it |
| Respecting privacy | Treating a resident discreetly. Signs of respect of the privacy of a resident can be to close the door/curtains when a caretaker gives a resident a wash, not leaving a resident naked for an unnecessarily long period. |
| | |
| **Malignant Social Psychology (MSP)** | |
| Treachery | Using some form of deception in order to mislead or manipulate a person, or force them into compliance |
| Infantilization | Treating a person very patronizingly, as a parent who is insensitive or insecure might treat a very young child |
| Disabling | Not allowing a person to use the abilities that he or she does have; failing to help him or her to complete actions that they have initiated. Not taking notice of the possibilities of a person |

| Item | Definition |
|---|---|
| Prejudice | Not looking upon a resident and treating the resident as a human being or 'normal' person. Always thinking the resident is confused and doesn't understand anything. In the worst case, the resident is treated as an object, an alien or an outcast |
| Outpacing | Providing information, presenting choices, and so on, at a rate too fast for a person to understand; putting him or her under pressure to do things more rapidly then he or she can bear |
| Invalidation | Failing to acknowledge the subjective reality of a person's experience and especially what he or she is feeling |
| Ignoring | Carrying on (in action or conversation) in the presence of a person as if he or she is not there |
| Imposition | Forcing a person to do something, overriding desire or denying the possibility of choice on his or her part |
| Withholding | Refusing to respond to an ask for attention, or to meet an evident need; for example for affectionate contact |
| Accusation | Blaming a person for actions or failures of action that arise from his or her lack of ability, or his or her misunderstanding of the situation |
| Disruption | Roughly intruding on a person's action or inaction; crudely breaking his or her 'frame of reference' |
| Testing knowledge | Asking questions about (for a resident difficult) facts instead of trying to fit in the resident's environment |

**Definitions for behaviour/mood items within INTERACT to assess behaviour and mood of demented persons** (on a five-point Likert scale). Adapted from Baker and Dowling (1995)

| Item | Definition |
|---|---|
| **Mood** | |
| Tearful/sad | The person's face is down cast and miserable and/or has tears in their eyes or is crying. They may also verbalise that they feel unhappy |
| Happy/content | Person's facial expression is upturned or relaxed. They appear settled and are not expressing a desire to leave the situation they are in. |
| Fearful/anxious | The person is worrying and fretting and/or is frightened. This could be noted from facial expressions (frowning), posture (huddled and tense or fidgeting/shifting around a lot). They may also verbalise their worry/fear. |
| Confused | The person seems disorientated, not certain where he/she is, who the caregiver is and what she is doing. Can be noted by 'searching' facial expressions and by content of what they say. |
| **Speech** | |
| Talked spontaneously | The person spoke unprompted at times i.e. not in response to a question, or they took their own initiative to comment about something in the room or about caregivers' previous comment, or asked questions |
| Recalled Memories | The person remarked that an object, effect or activity reminded them of something. Perhaps the person elaborated on your recollection or prompting of a memory |
| Spoke clearly | The person's speech was easily heard and understood, and not muffled |
| Spoke sensibly | The person spoke sensibly and to the point. I.e. not bizarre, delusional or jumbled speech. If you know the person is not speaking the truth they would score badly |
| Talked with normal length sentences | When the person spoke they talked for the normal length of time rather than in short sentences or with occasional sounds |
| **Relating to person** | |
| Held eye contact appropriately | The person looked into your eyes when you were communicating with them or for the length of time you felt was normal. I.e. they did not continue fixing their gaze beyond a point that you felt comfortable with, or were unable to meet your eyes despite your efforts to engage eye contact |

| Item | Definition |
|---|---|
| Touching | This item attempts to measure the amount of 'intimacy' when relating to each other. 'Touching' included the person touching you, i.e. holding hand or touching shoulder to attract attention or emphasise speech. It may include them sitting with their arm around you. 'Touching' also includes the caregiver touching the other people in similar ways<br>NB If you feel the person was touching the caregiver in an 'inappropriate' way (sexual, or making you feel uncomfortable) or the person was uncomfortable with the caregiver touching them, please note this on the rating form.<br>'Inappropriate touching' is to be discouraged tactfully and professionally |
| Related well | You felt a positive rapport existed between the caregiver and the person. The person welcomed the caregivers' contributions and responded accordingly. They seemed 'easy to reach' or more 'accessible' rather then resisting the caregivers' attempts to gain a rapport |
| Co-operated | The person did not refuse to follow any directions the caregiver tried to impose. Tried to follow the suggestions the caregiver made |
| S: Listened to voice/ noise[a] | The person noticed caregivers' speech or other noises and was listening to it |
| S: Responded to speaking[a] | The person spoke in response to a question or to caregivers' speech |
| **Relating to environment** | |
| Tracked observable stimuli | The person appeared to follow observable stimuli in the room with their eyes. Observable stimuli could be significant objects or people moving before or around them |
| Touched objects/ equipment appropriately | Touched stimuli when it was offered to them for exploration. Used objects during an activity in the way they were intended for use |
| Attentive/ responding to/ focused on activity/ objects | Attention is focused upon what is going on before or around them and they are responding accordingly with their eyes or actions. They do not appear distracted |
| Comments or questions about activities/objects | The person asked questions about the activity or about objects, or made spontaneous comments about them. They expressed an opinion when asked about the stimuli or activity |

| **Need for prompting** | |
|---|---|
| Did things from own initiative | Responded verbally, with their eyes or with an action to events or objects without needing to be prompted, i.e. did things spontaneously |

| Item | Definition |
|---|---|
| Wandering / restless[b] | Wandering around without a purpose (i.e. not walking over to look at something of significance). Fidgeting, standing up and down, shifting posture a lot |
| Enjoying self[b] | The person is aware of surroundings and quite happy with it |
| Bored / inactive[a] | The person is not responding and aware of environment, slouched posture or sleeping when desired effect would be to stimulate this particular person beyond a habitually low level of stimulation. I.e. the person seems stimulated at a low level and in an undesirable way |
| Relaxed /content[b] | The person is relaxed and settled, at peace and possibly resting. This could be desired if they are usually overstimulated. I.e. the person seems stimulated at a low level which is seen as desirable |
| S: Alert / Active[c] | The person is actually responding to events and objects. I.e. the person is highly stimulated but in a desirable way |
| S: Verbal anger[d] | Accusing or threatening the caregiver verbally. Swearing, shouting or screaming. I.e. the person is highly verbally stimulated but in an undesirable way |
| S: Aggressive[e] | Accusing or threatening the caregiver physically. Acts of wilful violence or destruction. I.e. the person is highly stimulated but in an undesirable way |
| S: Negativism/ complaining[a] | Bad attitude, the person doesn't like anything, nothing is right, whining, complaining, e.g., about self, personal gripes, physical environment, the care or other people. |
| S: Reluctance[a] | Struggling, frustrating the caregiver in his or her plans, not willing to adapt to the caregivers' proposals, hindering the caregiver during the care. |
| S: Repetitious mannerism[a] | Stereotypic movement, such as patting, tapping, rocking self, fiddling with something, twiddling with something, rubbing self or object, sucking fingers, picking at self, clothing or objects, picking imaginary things out of air or off floor, manipulation of nearby objects in a repetitious manner (excluding repetitious words or vocalizations) |

[a] S=Study-specific, additional item

[b] Item description adapted (more narrative defined than in original INTERACT)

[c] S=Study-specific, additional item, isolated from original INTERACT item 'enjoying self, active or alert'

[d] S=Study-specific, additional item, isolated from original INTERACT item 'wandering, restless or aggressive'

[e] S=Study-specific, additional item, isolated from original INTERACT item 'wandering, restless or aggressive'

**Definitions for mood items within FACE to assess mood of demented persons**
(on a three-point Likert scale)
Based on Whaley and Wong (1987) and Volicer et al. (1999a; 1999b)

☹ If frown pre-dominated

😐 If the expression was neutral

☺ If smile pre-dominated

# Appendix 2

## Gedragsobservatielijst

In deze gedragsobservatielijst zijn de volgende meetinstrumenten gebruikt:

Gedragsobservatieschaal voor de Intramurale Psychogeriatrie (GIP) [Dutch Behaviour Observation Scale for Psychogeriatric In-patients (BIP)]. Verstraten & Van Eekelen (1987), Verstraten (1988).

Nederlandse versie van de Cohen-Mansfield Agitatie Inventarisatie (CMAI-D) [Cohen-Mansfield Agitation Inventory - Dutch version (CMAI-D)]. Cohen-Mansfield et al.(1989), Cohen-Mansfield (1991), De Jonghe & Kat (1996), Miller et al.(1995), Schrijnemaekers et al.(2002).

Nederlandse versie van de Cornell Schaal voor Depressie bij Dementie (CSDD-D) [The Cornell Scale for Depression in Dementia – Dutch version (CSDD-D)]. Alexopoulos et al.(1988), Droës (1996).

Zorg Afhankelijkheids Schaal voor demente verpleeghuisbewoners (ZAS) [Care Dependency Scale for demented in-patients (CDS)]. Dijkstra (1998), Dijkstra et al.(1999a; 1999b)

**CODE B2-6-☐☐☐** **B ☐V ☐K ☐**

**0=nee / 1=ja**

**CODE B1-6-☐☐☐**

# GEDRAGSOBSERVATIELIJST
# EN
# ZORG AFHANKELIJKHEID SCORE

## Observatielijst bewoner

**-ingevuld door verzorgende(n) van de afdeling-**

**Wilt u 'uw' bewoner de komende week zo goed mogelijk observeren en deze vragenlijst invullen.**
**De ochtend dat u gefilmd wordt kunt u de ingevulde vragenlijst meegeven.**
**(Het is de bedoeling dat de vragenlijst dan al ingevuld is.)**

Naam afdeling:
Naam bewoner:

Naam eerste verzorgende:
Naam tweede verzorgende:
*(alleen voor het invullen van de GIP; pagina 1 t/m 5)*

## Invuldatum: . . - . . - 2002

Voor vragen of opmerkingen kunt u altijd contact opnemen met:
NIVEL
Julia van Weert, tel. 030-2729661, E-mail J.vanweert@nivel.nl
Saskia Sep, tel. 030-2729804, E-mail S.sep@nivel.nl

In deze gedragsobservatielijst zijn de volgende meetinstrumenten gebruikt:

Gedragsobservatieschaal voor de Intramurale Psychogeriatrie (GIP) [Dutch Behaviour Observation Scale for Psychogeriatric In-patients (BIP)]. (Verstraten & Van Eekelen, 1987; Verstraten, 1988)
Nederlandse versie van de Cohen-Mansfield Agitatie Inventarisatie (CMAI-D) [Cohen-Mansfield Agitation Inventory - Dutch version (CMAI-D)]. (Cohen-Mansfield et al., 1989; Cohen-Mansfield, 1991; De Jonghe & Kat, 1996, Miller et al., 1995; Schrijnemaekers et al., 2002)
Nederlandse versie van de Cornell Schaal voor Depressie bij Dementie (CSDD-D) [The Cornell Scale for Depression in Dementia – Dutch version (CSDD-D)]. Alexopoulos et al., 1988 ; Droës, 1996)

Zorg Afhankelijkheids Schaal voor demente verpleeghuisbewoners (ZAS) [Care Dependency Scale for demented in-patients (CDS)]. Dijkstra, 1998; Dijkstra et al., 1999a; 1999b)

## GEDRAG (GIP)

**INSTRUCTIE:**
Bij het beantwoorden van de vragen van de GIP is het noodzakelijk dat dit door ***twee personen tezamen*** gedaan wordt.

**Verdere aanwijzingen voor het invullen van de vragen:**

- ☞ Geef voor iedere uitspraak aan in welke mate jullie de genoemde gedragingen **de laatste twee weken** bij de bewoner hebben waargenomen.
- ☞ Beantwoord iedere uitspraak door één van de vier antwoordmogelijkheden te **onderstrepen**.
- ☞ Wanneer jullie **twijfelen**, bijvoorbeeld tussen 'soms' en 'vaak', onderstreep ze dan niet beide, maar probeer toch tot 'n keuze te komen en onderstreep maar **één antwoord**.
- ☞ Sla geen uitspraken over. **Beantwoord ze allemaal**.
- ☞ Beantwoord de vragen op basis van wat jullie **zelf zien en meemaken** met de bewoner.

**Voorbeeld**
*Indien jullie van mening zijn dat de bewoner vaak zit te suffen, dan geven jullie dat als volgt aan:*
0 Zit te suffen
nooit - soms - vaak - altijd

1 Lijkt blij met bezoek van familieleden
nooit - soms - vaak - altijd

2 Neemt deel aan gezamenlijke activiteiten buiten de afdeling
nooit - soms - vaak - altijd

3 Is bereid om desgevraagd iemand te helpen
nooit - soms - vaak - altijd

4 Begint uit zichzelf een gesprek met anderen
nooit - bijna nooit - soms - vaak

5 Heeft contact met de verpleging (met of zonder woorden)
nooit - soms - regelmatig - altijd

6 Lijkt te luisteren naar wat anderen vertellen
nooit - soms - vaak - altijd

7 Kan met medebewoners heel goed opschieten
niemand - enkele - meerdere - de meeste

8 Toont interesse voor personeelsleden
nooit - soms - vaak - altijd

9 Reageert wanneer hij/zij aangesproken wordt
meestal niet - soms - meestal wel - altijd

10 Leest krant en/of tijdschrift
nooit - soms - regelmatig - vaak

11 Toont emoties bij niet-alledaagse of ingrijpende gebeurtenissen
nooit - soms - regelmatig - altijd

12 Reageert zichtbaar op muziek
nooit - soms - vaak - meestal

13 Kijkt op als er iemand binnenkomt of als er iets gebeurt
nooit - soms - vaak - altijd

14 Luistert naar de radio en/of kijkt televisie
nooit - bijna nooit - soms - vaak

15 Zit langdurig in dezelfde houding
nooit - bijna nooit - regelmatig - voortdurend

16 Zit te suffen
nooit - soms - vaak - altijd

17 Schrikt op uit een soort droomtoestand als hij/zij wordt aangesproken
nooit - bijna nooit - soms - vaak

18 Maakt een afwezige indruk
nooit - soms - vaak - altijd

19 Is overdag, indien wakker, klaar wakker
nooit - soms - vaak - altijd

20 Moet wakker geschud worden als men hem/haar wil bereiken
nooit - soms - vaak - meestal

21 Verkeert overdag in een droom- of trance-achtige toestand
nooit - soms - vaak - voortdurend

22 Suft weg tijdens gesprekken of bezigheden
nooit - zelden - regelmatig - meestal

23 Zit onderuit gezakt zonder moeite te doen rechtop te zitten
nooit - zelden - regelmatig - meestal

24 Besteedt zorg aan het uiterlijk
nooit - soms - vaak - altijd

25 Laat ongegeneerd boeren of winden
nooit - zelden - soms - vaak

26 Houdt zich aan de gewone omgangsvormen (groeten, danken, verontschuldigen)
nooit - soms - vaak - altijd

27 Laat vocht uit mond of neus gewoon lopen (zonder het af te vegen)
nooit - zelden - regelmatig - voortdurend

28 Probeert uit het huis te ontsnappen, uit verzet tegen het verblijf hier
nooit - bijna nooit - soms - regelmatig

29 Sputtert tegen als er wat gevraagd wordt
nooit - bijna nooit - soms - vaak

30 Houdt zich aan regels en gebruiken van de afdeling
zelden - vaak niet - meestal wel - altijd

31 Wijst hulp van het personeel van de hand
nooit - bijna nooit - soms - vaak

32 Werkt mee wanneer dat gevraagd wordt
nooit - soms - vaak - altijd

33 Trekt op de verkeerde plaats kleren uit (zonder seksuele bedoelingen)
nooit - bijna nooit - soms - vaak

34 Spreekt op een verwarde manier (bijv. mengt woorden en zinnen door elkaar, verzint nieuwe woorden)
nooit - soms - vaak - altijd

35 Geeft antwoorden die niets te maken hebben met wat gevraagd wordt
nooit - bijna nooit - soms - vaak

36 Kan de dingen zodanig duidelijk maken dat men begrijpt wat bedoeld wordt
nooit - soms - vaak - altijd

37 Urineert of defecteert op de verkeerde plaats
nooit - bijna nooit - soms - vaak

38 Kent andere bewoners bij naam
geen - een - meerdere - de meeste

39 Kent naaste familieleden bij naam
nooit - soms - vaak - altijd

40 Onthoudt wat gevraagd of opgedragen wordt
nooit - soms - vaak - altijd

41 Vergeet dat hij/zij hier opgenomen is (en niet bijv. op visite)
nooit - soms - vaak - voortdurend

42 Kent eigen naam
nooit - soms - meestal - altijd

43 Lijkt te vergeten waar hij/zij mee bezig is (bijv. met eten, koffiedrinken enz.)
nooit - soms - vaak - voortdurend

44 Geeft blijk de personeelsleden te herkennen
geen - sommige - meeste - allemaal

45 Wordt in de gaten gehouden om verdwalen te voorkomen
nooit - bijna nooit - regelmatig - meestal

46 Ziet bewoners of personeelsleden voor iemand anders aan
nooit - zelden - soms - vaak

47 Uit het gedrag is op te maken dat hij/zij op een andere plaats meent te zijn
nooit - zelden - regelmatig - meestal

48 Lijkt te beseffen welk tijdstip van de dag het is
nooit - soms - vaak - altijd

49 Uit het gedrag is af te leiden dat hij/zij het heden met het verleden verwisselt
nooit - zelden - regelmatig - voortdurend

50 Schuift met de voeten heen en weer
nooit - bijna nooit - soms - vaak

51 Herhaalt woorden, zinnen of stukken van zinnen
nooit - bijna nooit - soms - vaak

52 Praat of mompelt langdurig, tegen niemand in het bijzonder
nooit - bijna nooit - soms - vaak

53 Zit aan kleding,, dekens, tafelkleden e.d. te plukken
nooit - soms - vaak - voortdurend

54 Maakt langdurig dezelfde zinloze geluiden
nooit - bijna nooit - soms - vaak

55 Loopt rusteloos rond in huis
nooit - soms - vaak - voortdurend

56 Praat veel en snel
nooit - soms - vaak - meestal

57 Kan rustig stil blijven zitten/liggen
nooit - zelden - vaak - altijd

58 Gedraagt zich zenuwachtig
nooit - soms - regelmatig - meestal

59 Is te ongedurig om langere tijd met iets bezig te blijven
nooit - soms - vaak - altijd

60 Beweert in de gaten gehouden te worden
nooit - bijna nooit - soms - vaak

61 Zegt door anderen opzettelijk gekwetst te worden
nooit - bijna nooit - soms - vaak

62 Beweert verwaarloosd of slecht verzorgd te worden
nooit - bijna nooit - soms - vaak

63 Zegt bestolen te worden
nooit - bijna nooit - soms - vaak

64 Beweert dat anderen hem/haar niet mogen
nooit - bijna nooit - soms - vaak

65 Gedraagt zich wantrouwend tegenover personeelsleden
nooit - bijna nooit - soms - vaak

66 Gedraagt zich wantrouwend tegenover medebewoners
nooit - bijna nooit - soms - vaak

67 Zegt zich nutteloos te voelen
nooit - bijna nooit - soms - vaak

68 Zegt bang te zijn voor dingen die staan te gebeuren
nooit - bijna nooit - soms - vaak

69 Zegt zich neerslachtig te voelen
nooit - soms - regelmatig - vaak

70 Heeft een verdrietige gezichtsuitdrukking
nooit - soms - vaak - altijd

71 Lijkt zich ongelukkig te voelen
nooit - soms - vaak - voortdurend

72 Wordt snel verdrietig als iets tegenzit
nooit - soms - vaak - altijd

73 Gedraagt zich afhankelijk ten opzichte van het personeel
nooit - soms - vaak - altijd

74 Vraagt om geholpen te worden bij dingen die hij/zij zelf blijkt te kunnen
nooit - bijna nooit - soms - vaak

75 Vraagt personeelsleden om raad of advies
nooit - bijna nooit - soms - vaak

76 Probeert op alle mogelijke manieren de aandacht op zich te vestigen
nooit - bijna nooit - soms - vaak

77 Lijkt aarzelend of onzeker in het nemen van kleine beslissingen
nooit - soms - vaak - altijd

78 Raakt in paniek bij het verlaten van de afdeling
nooit - bijna nooit - soms - vaak

79 Laat merken bang te zijn voor bepaalde personen of dingen
nooit - bijna nooit - soms - vaak

80 Is plotseling angstig, zonder duidelijke reden
nooit - bijna nooit - soms - vaak

81 Is angstig in aanwezigheid van bepaalde andere patienten
nooit - bijna nooit - soms - vaak

82 Toont angst wanneer hij/zij door het personeel geholpen wordt
nooit - bijna nooit - soms - vaak

83 Is angstig in aanwezigheid van ‘onbekenden’
nooit - bijna nooit - soms - vaak

## AGITATIE (CMAI-D)

De volgende 29 vragen hebben betrekking op verbaal en non-verbaal agressief gedrag oftewel geagiteerd gedrag van de bewoner.

**INSTRUCTIE:**

☞ Geef aan **hoe vaak** het gedrag bij de bewoner voorkwam **de laatste twee weken** door **één** van de cijfers achter elke uitspraak **te omcirkelen**.

| | **Nooit** | **Minder dan eens per week** | **1 à 2 keer per week** | **Meerdere keren per week** | **1 à 2 keer per dag** | **Meerdere keren per dag** | **Meerdere keren per uur** |
|---|---|---|---|---|---|---|---|
| 1 IJsberen, doelloos rondlopen (evt. in rolstoel) | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 2 Verkeerd kleden of uitkleden | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 3 Spugen (ook tijdens maaltijden) | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 4 Vloeken of agressief woordgebruik | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 5 Voortdurend, buitensporig vragen om aandacht of hulp | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 6 Telkens herhaalde zinnen of vragen | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 7 Slaan (anderen, zichzelf of voorwerpen) | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8 Schoppen (anderen of voorwerpen) | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 9 Anderen aanklampen | 1 | 2 | 3 | 4 | 5 | 6 | |
| 10 Duwen (anderen) | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 11 Gooien met voorwerpen (b.v. eten) | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 12 Vreemde geluiden (b.v. vreemd lachen, huilen, kreunen) | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 13 Gillen, krijsen, schreeuwen | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 14 Bijten (anderen, zichzelf, voorwerpen) | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 15 Krabben (anderen, zichzelf, voorwerpen) | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 16 Weglopen (b.v. een andere kamer, gebouw) | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 17 Opzettelijk vallen | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

| | Nooit | Minder dan eens per week | 1 à 2 keer per week | Meerdere keren per week | 1 à 2 keer per dag | Meerdere keren per dag | Meerdere keren per uur |
|---|---|---|---|---|---|---|---|
| 18 Klagen, jammeren | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 19 Negativisme (b.v. negatieve houding, werkt niet mee, niets is goed) | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 20 Ongeschikte stoffen eten of drinken | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 21 Zichzelf of anderen bezeren (b.v. sigaret, heet water) | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 22 Verkeerd gebruik van voorwerpen (verplaatsen meubels, spelen met eten) | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 23 Voorwerpen verstoppen | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 24 Voorwerpen verzamelen | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 25 Voorwerpen verscheuren of eigendommen kapot maken | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 26 Telkens herhalende gedragingen (b.v. schuiven met voeten, plukken, wrijven, wiegen) | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 27 Verbale seksuele toenadering zoeken | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 28 Lichamelijke seksuele toenadering zoeken | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 29 Algemene rusteloosheid | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

## DEPRESSIE (CSDD-D)

Hierna volgen een aantal symptomen en kenmerken van depressie.

**INSTRUCTIE:**

☞ Uw beoordeling dient gebaseerd te zijn op symptomen en kenmerken zoals waargenomen in de **voorafgaande week**.

☞ Er dient **'afwezig'** gescoord te worden wanneer de **symptomen of kenmerken** het **resultaat** zijn van **lichamelijke beperkingen of ziekte.**

☞ Alleen indien u **nooit aanwezig** bent bij bepaalde gebeurtenissen (b.v. inslapen) kunt u **'niet te beoordelen'** omcirkelen.

| | Afwezig | Licht of wisselend aanwezig | Ernstig | Niet te beoordelen |
|---|---|---|---|---|
| 1 Angst (angstige gezichtsuitdrukking, peinzend, zorgelijk) | 1 | 2 | 3 | 4 |
| 2 Verdrietig (verdrietige gezichtsuitdrukking/stem, huilerig) | 1 | 2 | 3 | 4 |
| 3 Reageert niet op plezierige gebeurtenissen | 1 | 2 | 3 | 4 |
| 4 Prikkelbaarheid (gauw kwaad, slecht gehumeurd) | 1 | 2 | 3 | 4 |
| 5 Agitatie (rusteloos, handenwringen, haarplukken) | 1 | 2 | 3 | 4 |
| 6 Vertraging (trage bewegingen/reacties, langzame spraak) | 1 | 2 | 3 | 4 |
| 7 Meervoudige lichamelijke klachten (scoor 'afwezig' indien alleen maag-/darmklachten) | 1 | 2 | 3 | 4 |
| 8 Interesseverlies in gebruikelijke activiteiten (scoor alleen indien er een plotselinge verandering is opgetreden binnen een periode van 1 maand) | 1 | 2 | 3 | 4 |
| 9 Vermindering van eetlust (eet minder dan gewoonlijk) | 1 | 2 | 3 | 4 |
| 10 Gewichtsverlies (scoor 'ernstig' indien meer dan 2 kilo in 1 maand) | 1 | 2 | 3 | 4 |
| 11 Gebrek aan energie (gauw moe, niet in staat activiteiten vol te houden) (scoor alleen indien er een plotselinge verandering is opgetreden binnen een periode van 1 maand) | 1 | 2 | 3 | 4 |
| 12 Dagelijkse stemmingsschommelingen ('s morgens meer symptomen) | 1 | 2 | 3 | 4 |
| 13 Moeite met inslapen (later dan gewoonlijk voor deze persoon) | 1 | 2 | 3 | 4 |
| 14 Wordt 's nachts meerdere malen wakker (vroeger dan gewoonlijk voor deze persoon) | 1 | 2 | 3 | 4 |
| 15 Wordt 's morgens vroeg wakker (vroeger dan gewoonlijk voor deze persoon) | 1 | 2 | 3 | 4 |

## Lijst: Zorg Afhankelijkheid Score (ZAS-vpl)

**INSTRUCTIE**
Beoordeel de bewoner, die aan uw zorg is toevertrouwd, op elk van de 15 kenmerken van de zorgafhankelijkheidsschaal. Geef aan welke beschrijving het beste van toepassing is. Ga uit van de mogelijkheden die de bewoner bezit en niet zozeer van welke handelingen de verzorgende of verplegende overneemt. Probeer bij twijfel tussen twee beschrijvingen tot één keuze te komen, door in te schatten welke mogelijkheid de betreffende bewoner bezit.

Er zijn 15 kenmerken met ieder vijf criteria van zorgafhankelijkheid opgenomen in de zorgafhankelijkheidsschaal. Omcirkel het cijfer van het criterium welke het beste bij de betreffende bewoner past.

*Voorbeeld*

**1. Eten en drinken**
**De mate waarin de aan uw zorg toevertrouwde bewoner in staat is zelfstandig te voldoen aan de behoefte aan eten en drinken**

(Maak uw keuze door één van de cijfers te omcirkelen)
1. Bewoner is niet in staat eten en drinken zelfstandig tot zich te nemen.
2. Bewoner is niet zelfstandig in staat tot het opscheppen en het klaarmaken van eten en drinken; is in staat zelfstandig eten en drinken naar de mond te brengen.
③. Bewoner is met toezicht in staat tot het zelfstandig opscheppen, klaarmaken en naar de mond brengen van eten en drinken; kan hoeveelheid moeilijk bepalen.
4. Bewoner is in staat met beperkt toezicht zelfstandig te eten en te drinken.
5. Bewoner is in staat zelfstandig te voldoen aan de bereiding en de behoeft aan eten en drinken.

Geef van alle kenmerken een beoordeling, sla geen kenmerk over.

**1. Eten en drinken**
**De mate waarin de aan uw zorg toevertrouwde bewoner in staat is zelfstandig te voldoen aan de behoefte aan eten en drinken**

1. Bewoner is niet in staat eten en drinken zelfstandig tot zich te nemen.
2. Bewoner is niet zelfstandig in staat tot het opscheppen en het klaarmaken van eten en drinken; is in staat zelfstandig eten en drinken naar de mond te brengen.
3. Bewoner is met toezicht in staat tot het zelfstandig opscheppen, klaarmaken en naar de mond brengen van eten en drinken; kan hoeveelheid moeilijk bepalen.
4. Bewoner is in staat met beperkt toezicht zelfstandig te eten en te drinken.
5. Bewoner is in staat zelfstandig te voldoen aan de bereiding en de behoeft aan eten en drinken.

**2. Incontinentie**
**De mate waarin de bewoner het vermogen heeft de uitscheiding van urine en faeces willekeurig te beheersen**

1. Bewoner is niet zelfstandig in staat de uitscheiding van urine en/of faeces op te houden, is volledig incontinent.
2. Bewoner is niet zelfstandig in staat de uitscheiding van urine en/of faeces te regelen, zonder hulp en/of hulpmiddelen is spontane uitscheiding niet mogelijk.
3. Bewoner is in staat, mits volgens vaste patronen gestuurd, vrijwel continent te zijn.
4. Bewoner is in staat de uitscheiding vrijwel zelfstandig te regelen, doet dit soms op plaatsen die daar niet voor bestemd zijn.
5. Bewoner is in staat de uitscheiding zelfstandig te regelen.

**3. Lichaamshouding**
**De mate waarin de bewoner in staat is bij bepaalde activiteiten een juiste houding aan te nemen**

1. Bewoner is niet in staat zelfstandig van lichaamshouding te veranderen.
2. Bewoner is beperkt in staat zelfstandig een gewenste lichaamshouding aan te nemen bij activiteiten.
3. Bewoner is in staat een juiste lichaamshouding aan te nemen bij activiteiten, maar past dit onvoldoende zelfstandig toe.
4. Bewoner heeft weinig beperkingen in het zelfstandig aannemen van de juiste lichaamshouding.
5. Bewoner heeft geen beperkingen in het zelfstandig aannemen van de juiste lichaamshouding.

4. **Mobiliteit**
**De mate waarin de bewoner fysiek in staat is zich zelfstandig voort te bewegen**

1. Bewoner is immobiel en niet in staat tot zelfstandig gebruik van hulpmiddelen.
2. Bewoner is beperkt in staat zich zelfstandig voort te bewegen, maakt veelal gebruik van hulpmiddelen.
3. Bewoner is redelijk mobiel, eventueel met gebruik van hulpmiddelen.
4. Bewoner is in staat zich bijna zelfstandig voort te bewegen.
5. Bewoner is volledig in staat zich zelfstandig voort te bewegen.

**5. Dagnachtritme**
**De aard van het slaap-/waakpatroon (bioritme) van de bewoner**

1. Bewoner is niet gevoelig voor het dag- en nachtritme.
2. Bewoner is beperkt gevoelig voor het dag- en nachtritme.
3. Bewoner is gevoelig voor het dag- en nachtritme, heeft veel begeleiding nodig.
4. Bewoner is gevoelig voor het dag- en nachtritme, heeft weinig begeleiding nodig.
5. Bewoner heeft een normaal dag- en nachtritme, zorgt zelfstandig voor voldoende rust.

**6. Aan- en uitkleden**

**De mate waarin de bewoner beschikt over vaardigheden om zich zelfstandig aan- en uit te kleden**

1. Bewoner is niet in staat zich zelfstandig aan- en uit te kleden.
2. Bewoner is beperkt in staat zich zelfstandig aan- en uit te kleden, is niet in staat de logische volgorde van handelingen uit te voeren.
3. Bewoner is deels in staat zich zelfstandig aan- en uit te kleden, heeft toezicht en begeleiding nodig.
4. Bewoner is in staat zich vrijwel zelfstandig aan- en uit te kleden, heeft begeleiding nodig bij fijn-motorische vaardigheden.
5. Bewoner is in staat zich zelfstandig aan- en uit te kleden, beschikt over fijn-motorische vaardigheden.

**7. Lichaamstemperatuur**

**De mate waarin de bewoner in staat is zelfstandig de lichaamstemperatuur te beschermen tegen externe invloeden**

1. Bewoner is niet in staat zelfstandig gevoelens van koude en warmte aan te geven.
2. Bewoner is beperkt in staat zelfstandig gevoelens van koude en warmte aan te geven, is niet in staat zelfstandig gepaste maatregelen daartegen te nemen.
3. Bewoner is in staat zelfstandig gevoelens van koude en warmte aan te geven, is beperkt in staat zelfstandig gepaste maatregelen daartegen te nemen.
4. Bewoner is in staat zelfstandig gevoelens van koude en warmte aan te geven, is in hoge mate in staat zelfstandig gepaste maatregelen daartegen te nemen.
5. Bewoner is in staat volledig zelfstandig de lichaamstemperatuur tegen externe invloeden te beschermen.

**8. Hygiëne**

**De mate waarin de bewoner in staat is zelfstandig zorg te dragen voor zijn/haar lichaamsverzorging**

1. Bewoner is niet in staat zelfstandig een bijdrage te leveren aan de lichaamsverzorging, zoals wassen, tandenpoetsen, haren kammen et cetera.
2. Bewoner is beperkt in staat zelfstandig een bijdrage te leveren aan de lichaamsverzorging, doet dit niet uit zichzelf.
3. Bewoner is in staat zelfstandig een aantal handelingen rondom de lichaamsverzorging uit te voeren, toezicht en begeleiding is nodig.
4. Bewoner is in staat zelfstandig de meeste handelingen rondom de lichaamsverzorging uit te voeren, enig toezicht en begeleiding is nodig.
5. Bewoner is in staat volledig zelfstandig zorg te dragen voor de eigen lichaamsverzorging.

**9. Vermijden van gevaar**
**De mate waarin de bewoner in staat is zelfstandig voor zijn/haar veiligheid te zorgen**

1. Bewoner is niet in staat zelfstandig gevaar te onderkennen en te vermijden.
2. Bewoner is beperkt in staat zelfstandig gevaren in de omgeving te onderkennen en te vermijden, danwel zich te beschermen tegen eigen of andermans agressie.
3. Bewoner is in staat deels zelfstandig een aantal risicovolle situaties in de omgeving te onderkennen en te vermijden, heeft hulp nodig om zich te beschermen tegen agressie van anderen.
4. Bewoner is in staat vrijwel zelfstandig gevaar in de omgeving te onderkennen en te vermijden, danwel zich te beschermen tegen agressie van anderen.
5. Bewoner is in staat zelfstandig zorg te dragen voor de eigen veiligheid.

**10. Communicatie**
**De mate waarin de bewoner in staat is te communiceren**

1. Bewoner is niet in staat zich door middel van woorden te uiten, door lichaamstaal kan de bewoner zijn belevingen aan bekenden uiten.
2. Bewoner is beperkt in staat zich door woord en/of gebaar te uiten, maakt gebruik van klanken om zijn beleving te uiten, begrijpt door intonaties de boodschap die anderen willen overbrengen.
3. Bewoner is in staat middels woordjes en/of specifieke gebaren eigen bedoelingen te uiten, begrijpt korte eenvoudige woorden van anderen.
4. Bewoner is in staat zich door woord- en zin gebruik en/of gebaren te uiten, begrijpt eenvoudige taal en/of gebaren van anderen.
5. Bewoner is in staat zich door taal en/of gebaren te uiten, is in staat belevingen met anderen te delen.

**11. Contact met anderen**
**De mate waarin de bewoner in staat is tot het aangaan, het onderhouden en het afbreken van sociaal contact**

1. Bewoner is niet in staat zelfstandig contacten met anderen te leggen, reageert positief op prettige belevingen en/of negatief op onprettige belevingen.
2. Bewoner is beperkt in staat zelfstandig contacten met anderen te leggen, reageert op voor de bewoner belangrijke personen.
3. Bewoner is in staat tot het zelfstandig onderhouden van een beperkt aantal contacten met voor de bewoner belangrijke personen.
4. Bewoner is vrijwel zelfstandig in het aangaan, onderhouden en het afbreken van contacten, weet enigszins inhoud te geven aan deze contacten.
5. Bewoner is zelfstandig in het aangaan, het onderhouden en het afbreken van contacten, weet inhoud te geven aan deze contacten.

**12. Waarde en normbesef**
**De mate waarin de bewoner in staat is zelfstandig leefregels te hanteren**

1. Bewoner is niet in staat zelfstandig leefregels herkenbaar te gebruiken.
2. Bewoner is in staat een beperkt aantal leefregels binnen de woonunit te hanteren.
3. Bewoner is in staat zich te houden aan gestelde leefregels binnen de woonunit, een privacybesef is niet aanwezig.
4. Bewoner is zich bewust van de geldende leefregels, zowel binnen als buiten de woonunit, gedraagt zich er niet altijd naar, privacybesef is beperkt aanwezig.
5. Bewoner is zich bewust van de geldende leefregels, zowel binnen als buiten de woonunit, gedraagt zich er naar, verwoord de eigen behoefte aan privacy.

**13. Dagelijkse activiteiten**
**De mate waarin de bewoner in staat is zelfstandig deel te nemen aan ontspannende activiteiten buiten de woonunit.**

1. Bewoner is niet in staat zelfstandig een bijdrage te leveren aan het leefklimaat.
2. Bewoner is onder begeleiding in staat zelfstandig een aantal eenvoudige activiteiten uit te voeren.
3. Bewoner is in staat een aantal bezigheden zelfstandig uit te voeren, pakt deze alleen op indien de bewoner daartoe gestimuleerd wordt.
4. Bewoner is in staat gedurende een bepaalde tijd zich zelfstandig te concentreren op de dagelijkse bezigheden, ontleent eigenwaarde aan deze activiteiten.
5. Bewoner is in staat zelfstandig op gestructureerde wijze inhoud te geven aan de dagelijkse bezigheden, ontleent eigenwaarde aan het resultaat van zijn bijdrage daaraan.

**14. Recreatieve activiteiten**
**De mate waarin de bewoner in staat is zelfstandig deel te nemen aan ontspannende activiteiten buiten de woonunit.**

1. Bewoner is niet in staat zelfstandig invulling te geven aan zijn ontspanning; kan passief genieten van zaken die in de omgeving plaatsvinden.
2. Bewoner is beperkt in staat zelfstandig deel te nemen aan of aanwezig te zijn bij ontspannende activiteiten, geniet veelal van de dingen die er plaatsvinden.
3. Bewoner is onder begeleiding in staat zelfstandig deel te nemen aan recreatieve activiteiten, pakt deze activiteiten echter niet zelfstandig op.
4. Bewoner is in staat vrijwel zelfstandig invulling te geven aan de eigen vrijetijdsbesteding; is daarbij afhankelijk van begeleiding.
5. Bewoner is in staat zelfstandig invulling te geven aan de eigen vrijetijdsbesteding.

**15. Leervermogen**
**De mate waarin de bewoner in staat is om zelfstandig kennis en/of vaardigheden aan te leren, danwel het geleerde in stand te houden.**

1. Bewoner is niet in staat bestaande vaardigheden te onderhouden.
2. Bewoner is door veelvuldig herhalen in staat bestaande vaardigheden te onderhouden.
3. Bewoner is door herhalen in staat nieuwe eenvoudige vaardigheden aan te leren, aangeleerde vaardigheden dienen onderhouden te worden.
4. Bewoner is in staat nieuwe eenvoudige vaardigheden aan te leren, er treedt nauwelijks verlies van bestaande vaardigheden op.
5. Bewoner is in staat nieuwe complexe vaardigheden aan te leren, kent geen verlies van bestaande vaardigheden.

**Tot slot**

☞ Wilt u a.u.b. controleren of **alle vragen** zijn **beantwoord ?**

☞ **Hartelijk bedankt** voor het invullen van deze vragenlijst.

Eventuele vragen of opmerkingen:

# Appendix 3

## Vragenlijst verzorgenden

In deze vragenlijst zijn de volgende meetinstrumenten gebruikt:

Vragenlijst Beleving en Beoordeling van de Arbeid (VBBA) [Experience and Assessment of Work (VBBA)]. Van Veldhoven & Meijman (1994).

NIVEL Schaal voor Ervaren Problemen in de Zorg voor Demente ouderen (NSEP-ZD) [NIVEL Scale for Perceived Problems in Dementia Care (NSPP-DC)]. Kerkstra et al. (1999).

NIVEL Schaal voor Ervaren Problemen met Specifieke Gedragingen van demente ouderen (NSEP-SG) [NIVEL Scale for Perceived Problems with Specific Behaviours of demented patients (NSPP-SB)]. Kerkstra et al. (1999).

De Maastrichtse Arbeidssatisfactie Schaal voor de GezondheidsZorg (MAS-GZ) [The Maastricht Work Satisfaction Scale for Healthcare (MAS-GZ)]. Landeweerd et al. (1996a; 1996b).

General Health Questionnaire (GHQ-12) [General Health Questionnaire (GHQ-12)]. Koeter & Ormel (1987), Ormel et al. (1989a, 1989b).

Utrechtse Burnout Schaal (UBOS) [Maslach Burnout Inventory - Dutch version (MBI-NL)]. Schaufeli et al. (1993), Schaufeli & Van Dierendonck (1994, 1995, 2000).

**RESPONDENTNUMMER:**

**V2-6- ☐☐☐**

# VRAGENLIJST VOOR MEDEWERKERS VAN EEN PSYCHOGERIATRISCHE VERPLEEGAFDELING

NIVEL
Nederlands instituut
voor onderzoek van de
gezondheidszorg

Drieharingstraat 6
Postbus 1568
3500 BN Utrecht

Informatie bij:
Julia van Weert, onderzoeker
Tel. 030-2729661
E-mail: J.vanweert@nivel.nl

Januari 2003

## TOELICHTING

*Met behulp van deze vragenlijst wordt via uiteenlopende vragen geprobeerd een beeld te krijgen van het werk van verzorgenden en andere medewerkers[1)] die zorg dragen voor demente bewoners in het verpleeghuis. De bedoeling is zicht te krijgen op hoe verzorgenden omgaan met demente bewoners, welke problemen ze daarin ervaren en welke factoren deze omgang beïnvloeden.*

☞ Bij de meeste vragen kunt u kiezen uit een aantal antwoordmogelijkheden. Het antwoord geeft u dan door één bepaald cijfer achter de vraag te omcirkelen (zie voorbeeld).

---

***Voorbeeld***

*Hierna vindt u een uitspraak over uw werk. Het is de bedoeling dat u aangeeft wat uw persoonlijke mening is over deze uitspraak. Achter de uitspraak staan 5 cijfers. Boven deze cijfers staat de betekenis ervan aangegeven.*

| | volstrekt niet mee eens | grotendeels niet mee eens | noch mee eens/ oneens | grotendeels mee eens | volstrekt mee eens | |
|---|---|---|---|---|---|---|
| Mijn werk geeft mij veel voldoening. | | 1 | 2 | 3 | 4 | 5 |

*Indien u het met deze uitspraak grotendeels eens bent, dan omcirkelt u cijfer 4.*
*Op deze manier:*

| | | | | | | |
|---|---|---|---|---|---|---|
| Mijn werk geeft mij veel voldoening. | | 1 | 2 | 3 | ④ | 5 |

---

☞ Slechts bij enkele vragen moet u het antwoord zelf formuleren en invullen op de daarvoor bestemde stippellijn (bijv. vraag 3 van onderdeel A).

☞ Alle vragen zijn van groot belang voor het onderzoek. We willen u daarom verzoeken *géén enkele vraag* over te slaan.

☞ Vul de vragenlijst *individueel* in, want we zijn geïnteresseerd in *úw persoonlijke mening en ervaringen*.

Wij willen u bij voorbaat bedanken voor het invullen van de vragenlijst. Indien u vragen heeft kunt u altijd contact met ons opnemen. Bovendien zijn wij altijd geïnteresseerd in uw op- en aanmerkingen betreffende deze vragenlijst. Noteer deze dan op de laatste pagina van de vragenlijst.

Met vriendelijke groeten,

Julia van Weert
Saskia Sep

1) Waar in het vervolg van deze vragenlijst gesproken wordt over 'verzorgenden' worden ook andere medewerkers van de afdeling zoals voedingsassistent(e) of activiteitenbegeleider bedoeld.

## A. PERSOONLIJKE GEGEVENS

***INSTRUCTIE***
*We willen aan u een aantal persoonlijke gegevens vragen. Het is de bedoeling dat u het cijfer dat uw antwoord weergeeft omcirkelt. Bij een aantal vragen moet u het antwoord zelf invullen op de aangegeven stippellijn.*

**1 Wat is uw leeftijd?**

..... jaar

**2 Wat is uw geslacht?**

1 man
2 vrouw

**3 Wat is de hoogste opleiding die u heeft voltooid met een diploma?**

1 lager (beroeps)onderwijs, te weten.....*(naam opleiding)*
2 middelbaar (beroeps)onderwijs, te weten.....*(naam opleiding)*
3 hoger (beroeps)onderwijs, te weten.....*(naam opleiding)*
4 anders, namelijk.....

**4 Wat is momenteel uw functie?**

1 (waarnemend) zorgmanager
2 ziekenverzorgende en persoonlijk begeleider
3 ziekenverzorgende; geen persoonlijk begeleider
4 leerling
5 voedingsassistent(e)
6 I.D. werker
7 activiteitenbegeleider/coördinator AB
8 anders, namelijk .....

**5 Sinds wanneer bent u werkzaam op een <u>psycho-geriatrische afdeling?</u>**

datum: .....-.....-..... *(dag/maand/jaar)*

**6 Sinds wanneer bent u werkzaam op uw huidige <u>psycho-geriatrische afdeling?</u>**

datum: .....-.....-..... *(dag/maand/jaar)*

**7 Hoeveel uren werkt u gemiddeld per week?**

..... uren

**8 Heeft u wisselende of vaste diensten?**

| | | |
|---|---|---|
| 1 | wisselend | → *ga door naar vraag 10* |
| 2 | vast | |

**9** **Welke vaste diensten heeft u?**

1 dagdienst
2 avonddienst
3 nachtdienst
4 anders, namelijk.....

**10** **Heeft u na uw opleiding een of meerdere cursus(sen) over dementie gevolgd?**

1 ja, .....x (*aantal cursussen)*
2 nee

## B. BELEVING EN BEOORDELING VAN DE ARBEID

***INSTRUCTIE***
*Het doel van deze vragenlijst is om een nauwkeurig beeld te krijgen van de manier waarop u persoonlijk bepaalde aspecten van uw werk en werkomgeving beoordeelt.*

*Slaat u alstublieft geen vragen over en beantwoord alle vragen door **één antwoord** per vraag aan te kruisen. U kunt kiezen uit de antwoordmogelijkheden **'altijd', 'vaak', 'soms'** of **'nooit'.***

| | **Altijd** | **Vaak** | **Soms** | **Nooit** |
|---|---|---|---|---|
| **Werktempo en werkhoeveelheid** | | | | |
| Moet u erg snel werken? | 1 | 2 | 3 | 4 |
| Heeft u te veel werk te doen? | 1 | 2 | 3 | 4 |
| Moet u extra hard werken om iets af te krijgen? | 1 | 2 | 3 | 4 |
| Werkt u onder tijdsdruk? | 1 | 2 | 3 | 4 |
| Moet u zich haasten? | 1 | 2 | 3 | 4 |
| Kunt u uw werk op uw gemak doen? | 1 | 2 | 3 | 4 |
| Heeft u te maken met een achterstand in werkzaamheden? | 1 | 2 | 3 | 4 |
| Heeft u te weinig werk? | 1 | 2 | 3 | 4 |
| Heeft u problemen met het werktempo? | | 1 | 2 | 3 4 |
| Heeft u problemen met de werkdruk? | 1 | 2 | 3 | 4 |
| Zou u het kalmer aan willen doen in uw werk? | 1 | 2 | 3 | 4 |
| **Afwisseling in het werk** | | | | |
| Moet u in uw werk telkens dezelfde dingen doen? | 1 | 2 | 3 | 4 |
| Is voor uw werk creativiteit vereist? | 1 | 2 | 3 | 4 |
| Is uw werk gevarieerd? | 1 | 2 | 3 | 4 |
| Vraagt uw werk een eigen inbreng? | 1 | 2 | 3 | 4 |
| Doet uw werk voldoende beroep op al uw vaardigheden en capaciteiten? | | 1 | 2 | 3 4 |

| | | | | |
|---|---|---|---|---|
| Heeft u in uw werk voldoende afwisseling? | 1 | 2 | 3 | 4 |

| | **Altijd** | **Vaak** | **Soms** | **Nooit** |
|---|---|---|---|---|
| **Leermogelijkheden** | | | | |
| Leert u nieuwe dingen in uw werk? | 1 | 2 | 3 | 4 |
| Biedt uw baan u mogelijkheden voor persoonlijke groei en ontwikkeling? | 1 | 2 | 3 | 4 |
| Geeft uw werk u het gevoel iets ermee te kunnen bereiken? | 1 | 2 | 3 | 4 |
| Biedt uw baan u mogelijkheden voor zelfstandig denken en doen? | 1 | 2 | 3 | 4 |
| **Zelfstandigheid in het werk** | | | | |
| Heeft u vrijheid bij het uitvoeren van uw werkzaamheden? | 1 | 2 | 3 | 4 |
| Heeft u invloed op de planning van uw werkzaamheden? | 1 | 2 | 3 | 4 |
| Heeft u invloed op het werktempo? | 1 | 2 | 3 | 4 |
| Kunt u zelf bepalen hoe u uw werk uitvoert? | 1 | 2 | 3 | 4 |
| Kunt u uw werk even onderbreken als u dat nodig vindt? | 1 | 2 | 3 | 4 |
| Kunt u zelf de volgorde van uw werkzaamheden bepalen? | 1 | 2 | 3 | 4 |
| Kunt u meebeslissen over het tijdstip waarop iets af moet zijn? | 1 | 2 | 3 | 4 |
| Kunt u zelf bepalen hoeveel tijd u aan een bepaalde activiteit besteedt? | 1 | 2 | 3 | 4 |
| Lost u problemen in uw werkzaamheden zelf op? | 1 | 2 | 3 | 4 |
| Kunt u uw werk zelf indelen? | 1 | 2 | 3 | 4 |
| Kunt u zelf de inhoud van uw werkzaamheden bepalen? | 1 | 2 | 3 | 4 |
| **Problemen met de taak** | | | | |
| Moet u dingen doen in uw werk waaraan u een hekel hebt? | 1 | 2 | 3 | 4 |
| Krijgt u tegenstrijdige opdrachten? | 1 | 2 | 3 | 4 |
| Moet u uw werk op een andere manier doen dan u zelf zou willen? | 1 | 2 | 3 | 4 |
| Moet u werk doen dat u liever niet zou doen? | 1 | 2 | 3 | 4 |
| Heeft u conflicten met uw collega's over de inhoud van uw taken? | 1 | 2 | 3 | 4 |
| Heeft u conflicten met uw directe leiding over de inhoud van uw taken? | 1 | 2 | 3 | 4 |
| **Inspraak** | | | | |
| Kunt u met uw directe leiding praten over problemen op het werk? | 1 | 2 | 3 | 4 |
| Heeft u veel te zeggen over wat er gebeurt op uw werkplek? | 1 | 2 | 3 | 4 |
| Kunt u meebeslissen over dingen die met uw werk te maken hebben? | 1 | 2 | 3 | 4 |
| Heeft u invloed op de verdeling van het werk over u en uw collega's? | 1 | 2 | 3 | 4 |
| Kunt u met uw directe leiding voldoende overleggen over uw werk? | 1 | 2 | 3 | 4 |
| Kunt u meebepalen wat wel en wat niet tot uw taak hoort? | 1 | 2 | 3 | 4 |
| Kunt u meebeslissen over de aard van uw werkzaamheden? | 1 | 2 | 3 | 4 |

| | | | | |
|---|---|---|---|---|
| Heeft u rechtstreeks invloed op beslissingen van uw afdeling? | 1 | 2 | 3 | 4 |

## C. OMGANG DOOR VERZORGENDEN MET DEMENTE BEWONERS

***INSTRUCTIE***

*Hieronder staan een aantal uitspraken over eventuele problemen die u ervaart in de omgang met demente ouderen. Graag willen we van u als verzorgende weten in hoeverre u het met deze uitspraken (on)eens bent. Het gaat hier om* ***uw mening*** *gebaseerd op uw ervaringen in de praktijk met het werken met de demente bewoners* ***op uw afdeling.***

*Bij elke uitspraak kunt u door een cirkeltje om één van de cijfers* ***achter*** *de uitspraak aangeven in hoeverre u het met de betreffende uitspraak eens of oneens bent. De betekenis van de cijfers is als volgt:*

*1 = 'daar ben ik het volstrekt niet mee eens'*
*2 = 'daar ben ik het grotendeels niet mee eens'*
*3 = 'daar ben ik het noch mee eens, noch mee oneens'*
*4 = 'daar ben ik het grotendeels mee eens'*
*5 = 'daar ben ik het volstrekt mee eens'*

| | | *volstrekt niet mee eens* | *grotendeels niet mee eens* | *noch mee eens/ oneens* | *grotendeels mee eens* | *volstrekt mee eens* |
|---|---|---|---|---|---|---|
| 1 | ik heb doorgaans geen problemen in het leggen van contact met demente bewoners | 1 | 2 | 3 | 4 | 5 |
| 2 | ik houd onvoldoende tijd over om aandacht te geven aan demente bewoners | 1 | 2 | 3 | 4 | 5 |
| 3 | ik vind het moeilijk om kritiek te krijgen van de familie van demente bewoners | 1 | 2 | 3 | 4 | 5 |
| 4 | ik heb problemen met het inschatten van wat een demente bewoner wil | 1 | 2 | 3 | 4 | 5 |
| 5 | ik heb het gevoel dat ik tekortschiet in de zorg voor demente bewoners | 1 | 2 | 3 | 4 | 5 |
| 6 | ik voel me zeker bij het verzorgen van demente bewoners | 1 | 2 | 3 | 4 | 5 |
| 7 | ik kan het werk in mijn vrije tijd slecht van me afzetten | 1 | 2 | 3 | 4 | 5 |
| 8 | ik trek me het lot van de demente bewoners teveel aan | 1 | 2 | 3 | 4 | 5 |

| | | *volstrekt niet mee eens* | *grotendeels niet mee eens* | *noch mee eens/ oneens* | *grotendeels mee eens* | *volstrekt mee eens* |
|---|---|---|---|---|---|---|
| 9 | ik weet hoe ik moet reageren op het gedrag van demente bewoners | 1 | 2 | 3 | 4 | 5 |
| 10 | problemen met demente bewoners kan ik goed van me afzetten | 1 | 2 | 3 | 4 | 5 |
| 11 | ik heb geen problemen in de omgang met familieleden van demente bewoners | 1 | 2 | 3 | 4 | 5 |
| 12 | ik voel me vaak machteloos in de zorg voor demente bewoners | 1 | 2 | 3 | 4 | 5 |
| 13 | ik heb het gevoel dat de familie van demente bewoners teveel van me verwacht | 1 | 2 | 3 | 4 | 5 |
| 14 | ik vind het moeilijk om met demente bewoners te knuffelen | 1 | 2 | 3 | 4 | 5 |
| 15 | ik vind het vermoeiend om maar te raden wat een demente bewoner wil | 1 | 2 | 3 | 4 | 5 |
| 16 | ik weet niet of ik mijn werk goed doe | 1 | 2 | 3 | 4 | 5 |
| 17 | ik heb onvoldoende tijd om demente bewoners te helpen met eten | 1 | 2 | 3 | 4 | 5 |
| 18 | ik vind het vervelend wanneer contact met een demente bewoner alleen nog maar mogelijk is door middel van aanraking | 1 | 2 | 3 | 4 | 5 |
| 19 | ik maak me ongerust wanneer demente bewoners niet willen eten | 1 | 2 | 3 | 4 | 5 |
| 20 | ik hecht me emotioneel teveel aan demente bewoners voor wie ik zorg draag | 1 | 2 | 3 | 4 | 5 |
| 21 | ik weet zeker dat ik mijn werk goed doe | 1 | 2 | 3 | 4 | 5 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 22 | ik krijg van de demente bewoners veel waardering voor mijn werk | 1 | 2 | 3 | 4 | 5 |
| | | *volstrekt niet mee eens* | *grotendeels niet mee eens* | *noch mee eens/ oneens* | *grotendeels mee eens* | *volstrekt mee eens* |
| 23 | ik weet niet wat ik moet doen wanneer een demente bewoner niet wil eten | 1 | 2 | 3 | 4 | 5 |
| 24 | ik vind het belastend om rekening te houden met de wensen van de familieleden | 1 | 2 | 3 | 4 | 5 |
| 25 | ik vind het vervelend wanneer ik de hele dag alleen bezig ben met uitvoeren van zorgtaken | 1 | 2 | 3 | 4 | 5 |
| 26 | ik heb geen problemen met het vinden van een evenwicht tussen betrokkenheid en professionele afstand | 1 | 2 | 3 | 4 | 5 |
| 27 | ik twijfel regelmatig of ik demente bewoners wel goed begrijp | 1 | 2 | 3 | 4 | 5 |
| 28 | ik kan goed beoordelen wat een demente bewoner nog zelfstandig kan | 1 | 2 | 3 | 4 | 5 |
| 29 | ik lever een belangrijke bijdrage aan de kwaliteit van leven van demente bewoners | 1 | 2 | 3 | 4 | 5 |
| 30 | ik vind het moeilijk wanneer de familie zelf een aandeel van de zorg wil doen | 1 | 2 | 3 | 4 | 5 |
| 31 | ik vind dat ik teveel met mijn werk bezig ben | 1 | 2 | 3 | 4 | 5 |
| 32 | door het lage tempo van demente bewoners word ik vaak ongeduldig | 1 | 2 | 3 | 4 | 5 |
| 33 | ik doe wat ik kan voor de demente bewoners op mijn afdeling | 1 | 2 | 3 | 4 | 5 |
| 34 | ik weet hoe ik moet reageren in moeilijke situaties | 1 | 2 | 3 | 4 | 5 |
| 35 | ik weet meestal wel hoe een demente bewoner | | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | zich voelt | 1 | 2 | 3 | 4 | 5 |
| 36 | ik vind het frustrerend om demente bewoners zoveel mogelijk zelf te laten doen | 1 | 2 | 3 | 4 | 5 |

| | | *volstrekt niet mee eens* | *grotendeels niet mee eens* | *noch mee eens/ oneens* | *grotendeels mee eens* | *volstrekt mee eens* |
|---|---|---|---|---|---|---|
| 37 | ik beteken slechts weinig in het leven van demente bewoners | 1 | 2 | 3 | 4 | 5 |
| 38 | ik krijg van de demente bewoners niet het gevoel dat ze me dankbaar zijn | 1 | 2 | 3 | 4 | 5 |
| 39 | het communiceren met demente bewoners ervaar ik vaak als problematisch | 1 | 2 | 3 | 4 | 5 |
| 40 | ik vind het moeilijk te beoordelen in hoeverre demente bewoners zelfstandig kunnen eten | 1 | 2 | 3 | 4 | 5 |
| 41 | bij het overlijden van een demente bewoner van mijn afdeling, ben ik altijd erg verdrietig | 1 | 2 | 3 | 4 | 5 |
| 42 | ik stel betrokkenheid van de familie op prijs | 1 | 2 | 3 | 4 | 5 |
| 43 | door gebrek aan tijd heb ik het gevoel tekort te schieten in de zorg voor demente bewoners | 1 | 2 | 3 | 4 | 5 |
| 44 | ik voel me niet gewaardeerd door de familie | 1 | 2 | 3 | 4 | 5 |
| 45 | ik voel me machteloos wanneer ik demente bewoners niet begrijp | 1 | 2 | 3 | 4 | 5 |
| 46 | ik vind het moeilijk om te overleggen met de familie van de demente bewoners | 1 | 2 | 3 | 4 | 5 |
| 47 | als ik geen contact kan krijgen met demente bewoners, dan ervaar ik dat als een gemis | 1 | 2 | 3 | 4 | 5 |
| 48 | ik heb onvoldoende tijd voor activiteiten met demente bewoners | 1 | 2 | 3 | 4 | 5 |

## D. PROBLEMEN VAN VERZORGENDEN MET HET GEDRAG VAN DEMENTE BEWONERS

***INSTRUCTIE***

*Hieronder vindt u een lijst met gedragingen en kenmerken die kunnen voorkomen bij demente bewoners. We willen u vragen aan te geven **in hoeverre u moeite heeft** met deze gedragingen en kenmerken bij de omgang met demente bewoners op **uw afdeling**.*
*Omcirkel per gedraging/kenmerk het cijfer dat het beste uw mening verwoordt.*

***Let op:** Wanneer u bepaalde gedragingen en kenmerken **nooit** in de praktijk tegenkomt, dan vult u 'niet van toepassing' in.*
*De betekenis van de cijfers is als volgt:*

1 = 'daar heb ik geen moeite mee'
2 = 'daar heb ik weinig moeite mee'
3 = 'daar heb ik niet weinig maar ook niet veel moeite mee'
4 = 'daar heb ik veel moeite mee'
5 = 'daar heb ik heel veel moeite mee'

8 = 'niet van toepassing', want deze gedraging komt nooit voor'

| | | *geen moeite mee* | *weinig moeite mee* | *niet weinig niet veel moeite* | *veel moeite mee* | *heel veel moeite mee* | *komt nooit voor, dus n.v.t.* |
|---|---|---|---|---|---|---|---|
| **In hoeverre heeft u er moeite mee dat bewoners door oriëntatie stoornissen in tijd en plaats:** | | | | | | | |
| 1 | in het verleden leven (b.v. denken dat overleden ouders, partner, kinderen nog leven) | 1 | 2 | 3 | 4 | 5 | 8 |
| 2 | steeds naar huis willen | 1 | 2 | 3 | 4 | 5 | 8 |
| 3 | steeds vragen waar hij/zij momenteel is | 1 | 2 | 3 | 4 | 5 | 8 |
| **In hoeverre heeft u er moeite mee wanneer bewoners door geheugenverlies:** | | | | | | | |
| 4 | spullen kwijtraken | 1 | 2 | 3 | 4 | 5 | 8 |
| 5 | familieleden niet herkennen | 1 | 2 | 3 | 4 | 5 | 8 |
| 6 | confabuleren (gaten in het geheugen opvullen met verzinsels) | 1 | 2 | 3 | 4 | 5 | 8 |
| 7 | steeds dezelfde vragen stellen | 1 | 2 | 3 | 4 | 5 | 8 |

| | | *geen moeite mee* | *weinig moeite mee* | *niet weinig niet veel moeite* | *veel moeite mee* | *heel veel moeite mee* | *komt nooit voor, dus n.v.t.* |
|---|---|---|---|---|---|---|---|
| **In hoeverre heeft u er moeite mee wanneer bewoners door taalstoornissen:** | | | | | | | |
| 8 | geen gesprek kunnen voeren | 1 | 2 | 3 | 4 | 5 | 8 |
| 9 | constant dezelfde woorden of zinnen herhalen | 1 | 2 | 3 | 4 | 5 | 8 |
| 10 | niet duidelijk kunnen maken wat ze willen of bedoelen | 1 | 2 | 3 | 4 | 5 | 8 |
| 11 | de hele dag zwijgen | 1 | 2 | 3 | 4 | 5 | 8 |
| 12 | niet met andere bewoners kunnen praten | 1 | 2 | 3 | 4 | 5 | 8 |
| 13 | niet reageren op hun naam | 1 | 2 | 3 | 4 | 5 | 8 |
| **In hoeverre heeft u er moeite mee wanneer bewoners door verlies van fatsoensnormen:** | | | | | | | |
| 14 | naakt lopen | 1 | 2 | 3 | 4 | 5 | 8 |
| 15 | op willekeurige plaatsen urineren | 1 | 2 | 3 | 4 | 5 | 8 |
| 16 | kleding los knopen | 1 | 2 | 3 | 4 | 5 | 8 |
| 17 | met ontlasting smeren | 1 | 2 | 3 | 4 | 5 | 8 |
| 18 | handtastelijk zijn | 1 | 2 | 3 | 4 | 5 | 8 |
| 19 | onbehoorlijke taal uitspreken | 1 | 2 | 3 | 4 | 5 | 8 |
| 20 | erg slordig zijn op hun uiterlijk | 1 | 2 | 3 | 4 | 5 | 8 |
| 21 | ongepast reageren (bijv. lachen als reactie op vervelend bericht) | 1 | 2 | 3 | 4 | 5 | 8 |
| 22 | zich hinderlijk gedragen ten opzichte van medebewoners (dingen afpakken, zich met andermans zaken bemoeien) | 1 | 2 | 3 | 4 | 5 | 8 |
| **In hoeverre heeft u er moeite mee wanneer bewoners door hun ziekte-besef:** | | | | | | | |
| 23 | zich afhankelijk en klagerig opstellen | 1 | 2 | 3 | 4 | 5 | 8 |
| 24 | zich verzetten tegen verzorging | 1 | 2 | 3 | 4 | 5 | 8 |
| 25 | fysiek agressief zijn (slaan, knijpen, bijten) | 1 | 2 | 3 | 4 | 5 | 8 |
| 26 | pogingen ondernemen om weg te lopen | 1 | 2 | 3 | 4 | 5 | 8 |
| 27 | het personeel en medebewoners bedreigen met agressie | 1 | 2 | 3 | 4 | 5 | 8 |
| 28 | verbaal agressief zijn (schelden, | | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | schreeuwen) | 1 | 2 | 3 | 4 | 5 | 8 |
| 29 | depressief of apathisch zijn (somber, verdrietig, onverschillig) | 1 | 2 | 3 | 4 | 5 | 8 |
| 30 | angstig zijn | 1 | 2 | 3 | 4 | 5 | 8 |
| | | *geen moeite mee* | *weinig moeite mee* | *niet weinig niet veel moeite* | *veel moeite mee* | *heel veel moeite mee* | *komt nooit voor, dus n.v.t.* |
| 31 | achterdochtig zijn (bijv. anderen ervan beschuldigen dat zij de bewoner kwaad willen doen terwijl dit niet waar is) | 1 | 2 | 3 | 4 | 5 | 8 |
| 32 | doodswensen uiten | 1 | 2 | 3 | 4 | 5 | 8 |
| | **In hoeverre heeft u er moeite mee wanneer bewoners door emotionele labiliteit:** | | | | | | |
| 33 | plotseling kwaad worden | 1 | 2 | 3 | 4 | 5 | 8 |
| 34 | huilen bij de minste of geringste aanleiding | 1 | 2 | 3 | 4 | 5 | 8 |
| 35 | sterk wisselen in stemmingen ('Jantje lacht, Jantje huilt') | 1 | 2 | 3 | 4 | 5 | 8 |
| | **In hoeverre heeft u er moeite mee wanneer bewoners door onrust:** | | | | | | |
| 36 | constant rommelen | 1 | 2 | 3 | 4 | 5 | 8 |
| 37 | ronddwalen | 1 | 2 | 3 | 4 | 5 | 8 |
| 38 | loopdrang vertonen | 1 | 2 | 3 | 4 | 5 | 8 |
| 39 | 's nachts onrustig zijn | 1 | 2 | 3 | 4 | 5 | 8 |
| 40 | zinloze dingen verzamelen zoals papier, voedselresten etc. (verzamelwoede) | 1 | 2 | 3 | 4 | 5 | 8 |
| 41 | steeds dezelfde (overbodige) bewegingen of handelingen herhalen | 1 | 2 | 3 | 4 | 5 | 8 |
| | **In hoeverre heeft u er moeite mee wanneer bewoners tijdens het eten:** | | | | | | |
| 42 | weigeren te eten (niet willen eten) | 1 | 2 | 3 | 4 | 5 | 8 |
| 43 | eten uitspugen | 1 | 2 | 3 | 4 | 5 | 8 |
| 44 | niet in staat zijn om te slikken | 1 | 2 | 3 | 4 | 5 | 8 |
| 45 | motorische problemen hebben bij het verplaatsen van eten van het bord naar de mond | 1 | 2 | 3 | 4 | 5 | 8 |
| 46 | de mond open laten staan zodat het eten eruit valt | 1 | 2 | 3 | 4 | 5 | 8 |
| 47 | hun aandacht niet bij het eten kunnen | | | | | | |

| houden | 1 | 2 | 3 | 4 | 5 | 8 |
|---|---|---|---|---|---|---|

| | | *geen moeite mee* | *weinig moeite mee* | *niet weinig niet veel moeite* | *veel moeite mee* | *heel veel moeite mee* | *komt nooit voor, dus n.v.t.* |
|---|---|---|---|---|---|---|---|
| **In hoeverre heeft u er moeite mee wanneer bewoners tijdens de ochtendzorg (wassen en aankleden):** | | | | | | | |
| 48 | bang zijn om uit bed te vallen | 1 | 2 | 3 | 4 | 5 | 8 |
| 49 | niet willen meewerken | 1 | 2 | 3 | 4 | 5 | 8 |
| 50 | de aandacht er niet bij kunnen houden | 1 | 2 | 3 | 4 | 5 | 8 |
| 51 | weigeren om zich te douchen | 1 | 2 | 3 | 4 | 5 | 8 |
| 52 | agressief zijn (slaan, bijten, knijpen, spugen) | 1 | 2 | 3 | 4 | 5 | 8 |
| 53 | angstig zijn | 1 | 2 | 3 | 4 | 5 | 8 |
| 54 | ongeduldig zijn | 1 | 2 | 3 | 4 | 5 | 8 |
| 55 | kreunen | 1 | 2 | 3 | 4 | 5 | 8 |
| 56 | verbaal agressief zijn (schreeuwen, schelden) | 1 | 2 | 3 | 4 | 5 | 8 |
| 57 | suffen | 1 | 2 | 3 | 4 | 5 | 8 |
| **In hoeverre heeft u er moeite mee wanneer bewoners:** | | | | | | | |
| 58 | hallucineren (waarnemen van iets wat er niet is) | 1 | 2 | 3 | 4 | 5 | 8 |
| 59 | wanen hebben (een denkstoornis hebben waarbij de werkelijkheid wordt vervormd, bijv. ervan overtuigd zijn dat ze je willen vergiftigen of achtervolgen) | 1 | 2 | 3 | 4 | 5 | 8 |
| 60 | door stoornissen in handelen en herkenning niet aan activiteiten meedoen | 1 | 2 | 3 | 4 | 5 | 8 |

**61 Zijn er nog gedragingen die in de praktijk voorkomen en niet in bovenstaande lijst zijn vermeld?**

1 ja → *ga door naar vraag 62*

2 nee → *einde van dit gedeelte; ga door naar deel F*

**62 Zo ja, kunt u aangeven welke gedragingen dit zijn, en hoeveel moeite u ermee heeft?**

| **Gedraging** | *geen moeite mee* | *weinig moeite mee* | *niet veel niet weinig moeite* | *veel moeite mee* | *heel veel moeite mee* |
|---|---|---|---|---|---|
| . . . . . | 1 | 2 | 3 | 4 | 5 |
| . . . . . | 1 | 2 | 3 | 4 | 5 |
| . . . . . | 1 | 2 | 3 | 4 | 5 |
| . . . . . | 1 | 2 | 3 | 4 | 5 |
| . . . . . | 1 | 2 | 3 | 4 | 5 |

## E. TEVREDENHEID MET HET WERK

***INSTRUCTIE***
*De volgende vragen hebben betrekking op bepaalde aspecten van de werksituatie. Wilt u per uitspraak aangeven **hoe tevreden** u bent met het betreffende aspect?*

*Geef de mate van (on)tevredenheid aan door het omcirkelen van één van de cijfers achter elke uitspraak. De betekenis van de cijfers is als volgt:*

*1 = 'zeer ontevreden'*
*2 = 'ontevreden'*
*3 = 'neutraal' (noch tevreden, noch ontevreden)*
*4 = 'tevreden'*
*5 = 'zeer tevreden'*

| **Hoe tevreden bent u met** | | *zeer ontevreden* | *ontevreden* | *neutraal* | *tevreden* | *zeer tevreden* |
|---|---|---|---|---|---|---|
| 1 | de mate waarin u van te voren weet wat voor werk u opgedragen krijgt. | 1 | 2 | 3 | 4 | 5 |
| 2 | de mate waarin u over het algemeen tijd hebt uw bewoners goed te verzorgen. | 1 | 2 | 3 | 4 | 5 |
| 3 | de mate waarin u als verzorgende goede promotiemogelijkheden hebt in dit verpleeghuis. | 1 | 2 | 3 | 4 | 5 |
| 4 | de mate waarin het werk u het gevoel geeft dat u werkelijk iets kunt. | 1 | 2 | 3 | 4 | 5 |
| 5 | de mate waarin u uw collega's graag mag. | 1 | 2 | 3 | 4 | 5 |
| 6 | de mate waarin u individuele zorg-verlening aan uw bewoners kunt geven. | 1 | 2 | 3 | 4 | 5 |
| 7 | de mate waarin u de mogelijkheden hebt om vooruit te komen in dit verpleeghuis. | 1 | 2 | 3 | 4 | 5 |
| 8 | de mate waarin u uw bewoners graag mag. | 1 | 2 | 3 | 4 | 5 |
| 9 | de mate waarin u uw kundigheden en mogelijkheden kunt gebruiken. | 1 | 2 | 3 | 4 | 5 |
| 10 | de mate waarin u in uw werk kunt laten merken dat u uw collega's sympathiek vindt. | 1 | 2 | 3 | 4 | 5 |
| 11 | de mate waarin het afdelingshoofd op de hoogte is van de gang van zaken op de afdeling. | 1 | 2 | 3 | 4 | 5 |
| 12 | de mate waarin er vaste en duidelijk omschreven regels zijn waaraan u zich kunt houden. | 1 | 2 | 3 | 4 | 5 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 13 | de mate waarin u het gevoel hebt dat de leiding van de afdeling goed verloopt. | 1 | 2 | 3 | 4 | 5 |
| **Hoe tevreden bent u met** | | *zeer ontevreden* | *ontevreden* | *neutraal* | *tevreden* | *zeer tevreden* |
| 14 | de mate waarin er een rechtvaardig promotiebeleid in dit verpleeghuis gevoerd wordt. | 1 | 2 | 3 | 4 | 5 |
| 15 | de mate waarin uw werk het beste uit u haalt waartoe u in staat bent. | 1 | 2 | 3 | 4 | 5 |
| 16 | de mate waarin u verteld wordt wat er van u verwacht wordt. | 1 | 2 | 3 | 4 | 5 |
| 17 | de mate waarin u het gevoel hebt dat de bewoners u een geschikte “meid” of “kerel” vinden. | 1 | 2 | 3 | 4 | 5 |
| 18 | de mate waarin u te maken heeft met collega's die u graag mogen. | 1 | 2 | 3 | 4 | 5 |
| 19 | de mate waarin het afdelingshoofd zijn/haar vak goed verstaat. | 1 | 2 | 3 | 4 | 5 |
| 20 | de mate waarin u het gevoel hebt psycho-sociale begeleiding aan uw bewoners te geven. | 1 | 2 | 3 | 4 | 5 |
| 21 | de mate waarin u te maken hebt met bewoners die u graag mogen. | 1 | 2 | 3 | 4 | 5 |
| 22 | de mate waarin u al met al plezier heeft in uw werk | 1 | 2 | 3 | 4 | 5 |

## F. WERKSITUATIE

**1. Ervaart u uw werk als:**

1 te druk
2 druk
3 neutraal (niet te druk en niet te rustig)
4 rustig
5 te rustig

**2. Slaat u wel eens wegens drukte koffie- en rustpauzes over?**

1 zelden
2 af en toe
3 vaak
4 zeer vaak

**3. Hoe vaak kwam het de afgelopen 3 maanden voor dat u <u>persoonlijk</u> door personeeltekorten de werkdruk als (nog) hoger ervaarde dan gewoonlijk** (bijv. door ziekte van collega’s of onvervulbare

vacatures)**? Als dit wisselend was, schat dan het gemiddelde.**

1 af en toe (eens per maand of minder)
2 regelmatig (een paar keer per maand)
3 dikwijls (eens per week)
4 zeer dikwijls (een paar keer per week)
5 vrijwel dagelijks

**4. Wat is uw algemene indruk over uw werksituatie op dit moment in vergelijking met voorheen?**

| | zeer sterk verbeterd | sterk verbeterd | een beetje verbeterd | niet veranderd | een beetje verslechterd | sterk verslechterd | zeer sterk verslechterd |
|---|---|---|---|---|---|---|---|
| Mijn werksituatie is in vergelijking met /sinds juni 2001: | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Mijn werksituatie is in de laatste 3 maanden: | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

Indien u vindt dat uw werksituatie **veranderd** is in het laatste anderhalf jaar / in de laatste 3 maanden, kunt u dan aangeven **waardoor** deze verandering veroorzaakt is? (*formuleer uw antwoord zo bondig mogelijk)*
Laatste anderhalf jaar:

Laatste drie maanden:

## G. GEZONDHEID

***INSTRUCTIE***
*Wij willen graag weten hoe gezond u zich voelt en welke klachten **u de afgelopen paar weken** heeft gehad. Wilt u daarom **alle** onderstaande vragen beantwoorden door bij iedere vraag het antwoord dat het meest op u van toepassing is te omcirkelen. Denk erom dat het bij deze vragen uitsluitend gaat om klachten **van dit moment of van de afgelopen paar weken** en dus niet om klachten die u in het verleden ooit heeft gehad*

| | | | | |
|---|---|---|---|---|
| 1. Bent u de laatste tijd door zorgen veel slaap tekort gekomen? | Helemaal niet | Niet meer dan gewoonlijk | Wat meer dan gewoonlijk | Veel meer dan gewoonlijk |
| 2. Heeft u de laatste tijd het gevoel gehad dat u voortdurend onder druk stond? | Helemaal niet | Niet meer dan gewoonlijk | Wat meer dan gewoonlijk | Veel meer dan gewoonlijk |
| 3. Heeft u zich de laatste tijd kunnen concentreren op uw bezigheden? | Beter dan gewoonlijk | Net zo goed als gewoonlijk | Slechter dan gewoonlijk | Veel slechter dan gewoonlijk |
| 4. Heeft u de laatste tijd het gevoel gehad zinvol bezig te zijn? | Zinvoller dan gewoonlijk | Net zo zinvol als gewoonlijk | Minder zinvol dan gewoonlijk | Veel minder l zinvol dan gewoonlijk |
| 5. Bent u de laatste tijd in staat geweest uw problemen onder ogen te | Beter dan gewoonlijk | Net zo goed als gewoonlijk | Slechter dan gewoonlijk | Veel slechter dan gewoonlijk |

zien?

| | | | | | |
|---|---|---|---|---|---|
| 6. | Voelde u zich de laatste tijd in staat om beslissingen (over dingen) te nemen? | Beter in staat dan gewoonlijk | Net zo goed in staat als gewoonlijk | Wat minder goed in staat dan gewoonlijk | Veel minder goed in staat dan gewoonlijk |
| 7. | Heeft u de laatste tijd het gevoel gehad dat u uw moeilijkheden niet de baas kon? | Nee, had dat gevoel helemaal niet | Niet minder de baas dan gewoonlijk | Wat minder de baas dan gewoonlijk | Veel minder de baas dan gewoonlijk |
| 8. | Heeft u zich de laatste tijd alles bij elkaar redelijk gelukkig gevoeld? | Gelukkiger dan gewoonlijk | Even gelukkig als gewoonlijk | Minder gelukkig dan gewoonlijk | Veel minder gelukkig dan gewoonlijk |
| 9. | Heeft u de laatste tijd plezier kunnen beleven aan uw gewone, dagelijkse bezigheden? | Meer dan gewoonlijk | Even veel als gewoonlijk | Wat minder dan gewoonlijk | Veel minder dan gewoonlijk |
| 10 | Heeft u zich de laatste tijd ongelukkig en neerslachtig gevoeld? | Helemaal niet | Niet meer dan gewoonlijk | Wat meer dan gewoonlijk | Veel meer dan gewoonlijk |
| 11 | Bent u de laatste tijd het vertrouwen in uzelf kwijtgeraakt? | Helemaal niet | Niet meer dan gewoonlijk | Wat meer dan gewoonlijk | Veel meer dan gewoonlijk |
| 12 | Heeft u zich de laatste tijd als een waardeloos iemand beschouwd? | Helemaal niet | Niet meer dan gewoonlijk | Wat meer dan gewoonlijk | Veel meer dan gewoonlijk |

***INSTRUCTIE***
*De volgende uitspraken hebben betrekking op hoe u uw werk beleeft en hoe u zich daarbij voelt. Wilt u aangeven hoe vaak iedere uitspraak op u van toepassing is door steeds het* ***best passende*** *cijfer (van 1 tot 7) te omcirkelen.*

*1 = 'nooit'*
*2 = 'sporadisch' = een paar keer per jaar of minder*
*3 = 'af en toe' = eens per maand of minder*
*4 = 'regelmatig' = een paar keer per maand*
*5 = 'dikwijls' = eens per week*
*6 = 'zeer dikwijls' = een paar keer per week*
*7 = 'altijd' = dagelijks*

| | | Nooit | Sporadisch | Af en toe | Regelmatig | Dikwijls | Zeer dikwijls | Altijd |
|---|---|---|---|---|---|---|---|---|
| 1 | Ik voel me geestelijk uitgeput door mijn werk. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 2 | Aan het einde van een dienst voel ik me leeg. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 3 | Ik voel me vermoeid als ik 's morgens opsta en weer een werkdag voor me ligt. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 4 | Ik kan me gemakkelijk inleven in de gevoelens van de bewoners. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 5 | Ik heb het gevoel dat ik sommige bewoners te onpersoonlijk behandel. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 6 | De hele dag met mensen werken vormt een zware belasting voor mij. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 7 | Ik weet de problemen van de bewoners adequaat op te lossen. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

| | | Nooit | Spora-disch | Af en toe | Regel-matig | Dikwijls | Zeer dikwijls | Altijd |
|---|---|---|---|---|---|---|---|---|
| 8 | Ik voel me "opgebrand" door mijn werk. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 9 | Ik heb het gevoel dat ik het leven van andere mensen op een positieve manier beïnvloed door mijn werk. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 10 | Ik heb het idee dat ik onverschilliger ben geworden tegenover andere mensen sinds ik dit werk doe. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 11 | Ik maak me zorgen dat mijn werk me gevoelsmatig afstompt. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 12 | Ik voel me gefrustreerd door mijn werk. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 13 | Ik denk dat ik me teveel inzet voor mijn werk. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 14 | Het kan mij niet echt schelen wat er met sommige bewoners gebeurt. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 15 | Met mijn bewoners kan ik gemakkelijk een ontspannen sfeer scheppen. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 16 | Het werken met bewoners vrolijkt me op. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 17 | Ik heb in deze baan veel waardevolle dingen bereikt. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 18 | Ik voel me aan het eind van mijn latijn. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 19 | In mijn werk ga ik heel rustig om met emotionele problemen. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 20 | Ik heb het gevoel dat bewoners mij hun problemen verwijten. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

**Eventuele aanvullende op- en aanmerkingen kunt u hieronder en/of aan de achterzijde plaatsen. Wij zullen deze opmerkingen zeker lezen en betrekken in ons onderzoek.**

***U bent hiermee aan het einde van de vragenlijst gekomen. U kunt de vragenlijst opsturen in de antwoordenvelop naar het Nivel. Wij willen u heel hartelijk danken voor uw medewerking.***

# Dankwoord

"En nu de zon nog….!", zei een meestal zwijgzame, demente dame nadat zij tijdens zintuigactivering met bodylotion was ingesmeerd. En de zon wens ik iedereen toe die dit proefschrift mogelijk heeft gemaakt. In de eerste plaats de verzorgenden, die de spil vormden met hun inzet en moed om hun manier van werken op video op te zetten, onder de loep te nemen en te verbeteren of ellenlange vragenlijsten in te vullen. Ook dank ik de andere betrokken medewerkers van de deelnemende verpleeghuizen Zorgcombinatie Nieuwe Maas, locatie Zonnehuis te Vlaardingen, verpleeghuis Gooizicht te Hilversum, Stichting Zuidoostzorg, locatie Bertilla te Drachten, verpleeghuis Ter Reede (voorheen De Poort) te Vlissingen, Zorgcentrum Ter Weel te Goes en Zorgspectrum Westerhout, locatie Platanenhof te Alkmaar voor hun onmisbare ondersteuning.
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Geen promotie zonder de wetenschappelijke begeleiding van (co)promotoren. Ada Kerkstra en Jozien Bensing stonden aan de wieg van het onderzoek. Jullie geloof in mij werkte erg stimulerend. Later kwamen Miel Ribbe en Sandra van Dulmen het onderzoeksteam versterken. Jozien, bedankt voor de vrijheid die je gaf. Je overzag als geen ander de grote lijnen; als het nodig was, was je er. Miel, dank voor het enthousiasme dat je meebracht en je grote kennis van de verpleeghuiswereld. Sandra, jij was het dagelijkse aanspreekpunt en van grote waarde bij het redigeren van mijn (vaak veel te lange) artikelen. We vulden elkaar goed aan.
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Hoewel vrienden dit onderzoek (net als ikzelf) 'gewoon' als mijn werk zagen, wil ik zeggen hoe zeer ik hun vriendschap waardeer. Al meer dan tien jaar verwaarloos ik onze vriendschap met enige regelmaat, maar toch blijven jullie me trouw. Lieve vrienden, ik hoop jullie nog lang in mijn leven te houden. In mijn naaste omgeving ben ik een aantal ouders van vriendjes, waar Max en Kiri altijd welkom waren, zo langzamerhand als mijn eigen vrienden gaan beschouwen. Dank voor jullie opvang en steun.

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Lieve Bing, ik zou je huishoudelijke kwaliteiten kunnen roemen. Belangrijker vind ik echter je onvoorwaardelijke steun, waardoor dit proefschrift binnen vier jaar is afgekomen zonder al teveel stress op het thuisfront. Op mijn afstudeerfeest zei je tegen vrienden: 'Ik ben benieuwd wat ze nu weer wil… een tweede kind misschien of promoveren'. Beide wensen zijn nu vervuld. Ik ben benieuwd naar je voorspellingen op mijn promotiefeest…

Zo en nu de zon nog…….

# Curriculum Vitae

Julia van Weert werd op 1 november 1962 in Zundert geboren. Van 1975 tot 1981 doorliep zij het VWO (bêta) aan het Mencia de Mendoza Lyceum in Breda. Daarna volgde zij de opleiding Ergotherapie aan de Revalidatie Academie 'Hoensbroeck', waar zij in 1985 haar diploma behaalde. In de periode 1985 tot 1996 was zij in diverse revalidatiecentra en ziekenhuizen werkzaam als ergotherapeut en leidinggevende. Ze werkte onder andere in twee instellingen aan het opzetten van de afdeling revalidatie/ergotherapie (waarvan éénmaal in Sumatra, Indonesië).
Vanaf 1992 studeerde zij tevens Sociologie aan de Universiteit van Amsterdam. Deze studie, met als afstudeerrichting Verzorging en Beleid, werd in 1996 cum laude afgerond. Sindsdien is zij in dienst van het NIVEL (Nederlands Instituut voor Onderzoek van de Gezondheidszorg). Daar is zij bij diverse onderzoeken betrokken geweest naar de communicatie tussen zorgverleners (artsen, verpleegkundigen en verzorgenden) en hun cliënten. Eind 2000 startte het onderzoek naar de effecten van *snoezelen*, dat resulteerde in het proefschrift dat voor u ligt. Op dit moment werkt zij aan een onderzoek naar de communicatie met oudere patiënten tijdens verpleegkundige consulten ter voorbereiding op chemotherapie.

Julia van Weert was born in Zundert, the Netherlands, on November 1st, 1962. In 1981, she completed secondary school (VWO) in Breda. Then she followed higher vocational training to become an occupational therapist and graduated in 1985. From 1985 to 1996 she worked as an occupational therapist and supervisor in various rehabilitation centres and hospitals. In two centres, she worked on the development of a new division of rehabilitation/occupational therapy (one of them in Sumatra, Indonesia). From 1992, she also studied Sociology, specialising in Welfare and Management, at the University of Amsterdam. In 1996, she graduated with distinction. Since, she is employed at the Netherlands Institute of Health Services Research (NIVEL) in Utrecht. She has been involved in several research projects focusing on communication in healthcare between caregivers (physicians, nurses and nursing assistants) and their clients. From the end of 2000 she worked on the study into the effects of *snoezelen*, as reported in this thesis. At the moment, she is involved in a study into communication with elderly patients during nursing encounters preceding chemotherapy.