

Social dancing: a way to support intellectual, emotional and motor functions in persons with dementia

L. PALO-BENGTSSON¹ RN, B. WINBLAD¹ MD, PhD & S.-L. EKMAN² RN PhD

¹Department of Clinical Neuroscience and Family Medicine, Division of Geriatric Medicine, Karolinska Institute, Stockholm Sweden & ²Department of Nursing Science, Karolinska Institute, Stockholm, Sweden

Correspondence:

Liisa Palo-Bengtsson,
Department of Nursing Science
M98
Huddinge University Hospital
S-141 86 Huddinge
Sweden

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Dementia causes serious impairments and the inability to perform those activities which give meaning to a person's life. Therefore, these persons are in need of professional nursing care interventions as well as a special supporting environment. In this study, social dancing has been regarded as a nursing intervention that supports persons with dementia in nursing home settings. The aim was to find out how persons with dementia functioned in social dance sessions, in order to understand the reasons behind the use of social dancing as a nursing intervention in a nursing home setting. Six persons with dementia were videotaped during four dance sessions in one nursing home. The qualitative content analyses were carried out deductively, using a guide developed from the variables in the Gottfries, Bråne and Steen rating scale (GBS scale). The findings show that, for persons with dementia, retained abilities were prominent in dancing. It was obvious that social dancing was supportive and seemed to have meaning to both patients and their carers. Social dancing seems to be a nursing intervention that supports patients' positive feelings, communication and behaviour. The carers' preunderstanding of the patients' levels of dementia and the wholeness of the situation was of importance.

Keywords: Alzheimer's Disease, dementia, social dancing

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Introduction

According to the Diagnostic and Statistical Manual of Mental Disorders (APA 1994), the dementia disease causes intellectual impairment. Memory loss is one of the earliest, most obvious features of dementia. In addition to memory impairments, deficits in problem solving, abstract thinking, attention, language and motor function planning may also be evident (APA 1994). Delusions, hallucinations, activity disturbances, aggressiveness, affective symptoms, and agitation are also usual in the progression of Alzheimer's Disease (AD). The inability to recall recent events can be the cause of the most common

delusions, and this seems to increase over time (Winblad *et al.* 1994). Therefore, the person's experience of the world becomes fragmented (Asplund 1991) and the experience of time becomes distorted because the past, present and future are also experienced as fragmented (Zingmark 1994). However, persons with dementia may experience more than they appear to, as findings indicate that the complex qualities of someone's personality are better preserved than might be expected considering their disabilities (Kihlgren 1992, Ekman 1993).

According to Lawton *et al.* (1982), behaviour is affected by a combination of the person's competence to cope with her/his individual conditions and the environ-

mental pressure of the situation. Lawton *et al.* uses the term 'press' since this term indicates both positive, neutral and negative environmental factors. There is a reason to assume that some of the problems caused by dementia are connected with the care environment and with different nursing care interventions in nursing home settings, which can either over- or under-stimulate residents (Hepburn *et al.* 1995). Therefore, persons with dementia need a special supporting care environment for their full mental potential to be realized (Kihlgren 1992). In Sweden there are various care facilities for persons with dementia, e.g. nursing homes and group dwellings. Special Care Units (SCUs) for Alzheimer's patients have been designed to make it easier for cognitively impaired persons to adapt to the care environment and to live there. These units have been organized and provided in a manner that takes into account the patient's diminished capacities. The care environment in nursing homes has been explored in some studies which indicate that increased mental stimulation may enhance the psychological functions of persons with dementia (Bråne 1988). Indirect interventions, such as improving the environment in institutions and training of staff members, can improve demented persons' latent abilities (Kihlgren *et al.* 1994). The psychosocial care conditions have also been studied from the viewpoint of persons with dementia and their integrity (Norberg *et al.* 1987, Norberg & Sandman 1988, Hallberg 1990, Kihlgren 1992, Ekman 1993, Norberg *et al.* 1994). More research is needed to test models of appropriate care environments, which may lead to further understanding of how different nursing interventions should be implemented, how the carers should act, and what they have to know. According to Winblad *et al.* (1994), it may be possible to identify one or more syndromes in AD that can be mitigated with environmental support, including nursing interventions. Such interventions may improve the living conditions of both the patient and the carers. Therefore, it is reasonable to ask which nursing interventions give the best support to the patient.

Social dancing has been assumed in this study to be a kind of nursing intervention that can support the patient in communicating emotions and basic needs. It is regarded as a part of the nursing process, which also includes indirect nursing interventions, such as different environmental conditions that can be adjusted by the carers to the capacity of the persons with dementia. Nurses' opinions, ideas and beliefs about social dancing as a nursing intervention have been studied by Palo-Bengtsson *et al.* (1997). The results showed that the nurses recognized the positive value of dancing. Furthermore, they believed that it was possible, through

dancing, to meet the needs of the patients that were described by Henderson (1966) as basic requirements for professional caring (Palo-Bengtsson *et al.* 1997). A phenomenological study of social dancing in nursing-home settings described many beneficial interactions which could support the person with dementia (Palo-Bengtsson & Ekman 1997). The findings suggested that social dancing is a way of maintaining the meaning in communication between persons suffering from dementia. The social patterns, previously learnt, seemed to come to life, despite the patient's poor preconditions caused by the severity of the dementia. Therefore, it was important to find out what kind of abilities it is possible to support in dancing, despite the disabilities caused by dementia.

Few studies have investigated the reasons behind the use of social dancing as a nursing intervention in the work with persons with dementia. The aim of this paper is to find out how persons with dementia disease functioned in social dance sessions, using different aspects of the GBS rating scale in the analysis of the data.

The study was approved by the Ethical Committee at the Karolinska Institute in Stockholm.

Method

Context of the study

This study has been carried out in a nursing home in Stockholm. The nursing home includes three wards and one day-care unit specifically for persons suffering from dementia diseases. The unit is staffed day and night. The care personnel are usually specially recruited and trained in the care of dementia patients. Each resident has a designated contact-person, that is, a carer among the staff who has the primary responsibility for the personal care and well-being of that resident. The daily routine of the residents is based on the normal everyday activities for an elderly person. Occasionally some of the residents and their carers go out for a short walk in the park or go on day trips and excursions.

Dance sessions

Social dancing had been arranged once a month in this nursing home. The dance sessions are regarded as a natural part of regular duties, as they have been taking place for 10 years. The dance sessions are intended for all residents and their carers. The number of patients and carers varied in different dance sessions from 20 to 50 persons. The dance took place between 10.30 a.m. and 11.15 a.m. and lasted about 45 min. The dance took place

in a large entertainment hall that is also used for other activities, for example meetings with relatives and different artistic entertainments.

The dance music was performed by a local dance band. There were three male musicians in the dance band and a female vocalist, who also acted as an announcer. The music played was popular Swedish dance music. About half of the pieces were waltzes, the rest included foxtrots and tangos. The participants also had the chance to choose their favourite music. While dancing, the patients were mostly dressed in their personal clothing. Some of the carers dressed in their personal clothing but most of them wore their uniform.

Participants

Patients

The participants were chosen after consultation with the carers, who knew the patients well. They knew which patients usually participated in social dancing and liked to do so. Ten patients were chosen to be the study sample. These subjects and their relatives had also given their consent to the study, which made it possible to include them. Such a sample allowed for the risk that some patients would not be able to participate in dance sessions due to their fragile health status, as it was not possible to know whether the patient would be able or willing to participate in the dancing until the same day as the dancing was to take place. Six persons were included in the final study of persons with dementia. The choice was made after several viewings of the videotapes. Viewings showed that it was possible to follow the patients in dancing one by one. Four of them lived in the nursing home; the other two lived outside the institution, but participated in the day care programme for patients with dementia. As Table 1 shows, two of the subjects were men and four were women. The age range of the subjects was 76–88 years. Three of the patients participated in one dance session, one of them participated in two dance sessions and two participated in three dance sessions.

Table 1
Details of six persons with dementia (A–F) who participated in the study.

Individual	Sex	Age	Number of dance sessions
A	F	88	2
B	F	79	1
C	M	88	1
D	F	87	3
E	M	76	1
F	F	82	3

All of the patients met the Diagnostic and Statistical Manual of Mental Disorders (3rd edition, revised) criteria for dementia (APA 1987). The rating scale of Gottfries *et al.* (1982), the GBS rating scale, has been chosen because it made it possible to measure both the level of the patient's disabilities and symptoms before dancing and also their abilities as shown during the dance session. The investigation of reliability and validity of the GBS scale has been performed by the authors (Gottfries *et al.* 1982), who found acceptable validity and reliability for this scale and recommended it for clinical work with geriatric patients with dementia diseases. It was also important that the rating scale was easy to administer and could be handled by the carers before the dance sessions. The GBS scale is divided into four subscales, which estimate the motor, intellectual and emotional functions and symptoms characteristic of dementia syndromes. The scale contains 26 different items. A score of zero is equivalent to normal function or absence of symptoms, while a total score of 156 on the whole scale implies maximal presence of disabilities and symptoms. Bråne *et al.* (1989), Kihlgren (1992), Ekman *et al.* (1994) and Ragneskog *et al.* (1996), among others, have used the GBS scale in nursing care research.

During the same period that the video recordings were carried out, in February–May 1995, the patients were evaluated using the GBS scale by the carers, who knew them well. After the researcher had given the carers information about the use of the scale, the carers assessed the condition of the patients as it had been during the last month. They also had opportunities to contact the researcher if they felt uncertain in judging the items in the GBS scale. The purpose of the GBS scale was to map out and derive some information about the severity level of each patient's dementia. Table 2 shows the results of the GBS evaluation before dancing. As seen in Table 2, all of the patients had problems with their intellectual functions (high scores) and all of them had symptoms normal for dementia. Two of them were partly dependent on assistance in performing activities, and four were dependent but participated partly in nursing activities. One of them was nearly totally dependent on assistance in intellectual functions.

Carers

The carers who accompanied the patients to the dance sessions were all female nursing aides or enrolled nurses who worked at the nursing home. The first author discussed the purpose of video-recording several times with these carers before the first dance session. These carers had all worked for more than four years in the work-place and were used to accompanying the

Table 2
The results of GBS evaluation of six persons with dementia (A–F).

GBS items	Individual scores					
	A	B	C	D	E	F
<i>Motor functions</i>						
Motor insufficiency in undressing and dressing	1	0	5	0	4	0
Motor insufficiency in taking food	0	0	3	0	1	0
Impaired physical activity	0	0	3	0	0	0
Deficiency in spontaneous activity	2	1	4	1	2	0
Motor insufficiency in managing personal hygiene	2	1	4	0	4	0
Inability to control bladder and bowel	2	0	5	0	0	0
<i>Intellectual functions</i>						
Impaired orientation in space	3	1	6	2	6	2
Impaired orientation in time	4	3	6	4	6	3
Impaired personal orientation	2	0	0	0	4	2
Impaired recent memory	4	2	6	2	4	4
Impaired distant memory	2	2	0	1	4	4
Impaired wakefulness	0	0	4	0	0	1
Impaired concentration	2	1	4	0	6	4
Inability to increase tempo	2	0	2	0	6	4
Absentmindedness	2	0	2	1	6	5
Long-windedness	4	0	4	0	6	4
Distractibility	2	2	2	0	4	4
<i>Emotional functions</i>						
Emotional blunting	2	0	0	0	0	2
Emotional lability	2	0	2	1	2	1
Reduced motivation	2	3	0	0	6	2
<i>Symptoms common in dementia</i>						
Confusion	2	0	4	0	4	2
Irritability	1	0	1	3	4	2
Anxiety	4	0	4	2	2	2
Agony	2	0	2	0	2	2
Reduced mood	2	0	2	2	4	3
Restlessness	1	4	3	1	0	0
Total GBS points	52	20	78	20	87	52

patients to the dance hall. All of them had long experience of dementia care and knew the patients' backgrounds, previous lives and interest in music and dancing.

Some other participating carers, such as an occupational therapist, nursing students and carers from other wards, also featured in some of the analysed videotapes, because of their interaction with the subjects.

Data collection

The dance sessions were video-recorded during four different events in February–May 1995. One video-camera was used and all video-recordings were performed by the first author.

Analysis

The method used for analysis in this study can be described as qualitative content analysis, adapted from various works on content analysis (Weber 1990, Waltz 1991, Morgan 1993, Manning & Cullum-Swan 1994, Morse 1994). Analysis of the content proceeded deduc-

tively, getting ideas from the items in the GBS scale. The GBS scale has been used for two different purposes in this study and this needs to be clarified here. First, the GBS scale was used for evaluating the patients' levels of dementia before the dance sessions. Second, the items in the GBS scale were used to identify the patient's abilities/disabilities while dancing. The different items in the GBS scale were used as the criteria to delimit the content of the data to be examined, and not for obtaining quantitative measurable outcomes. It was also interesting to study to what extent the patient's abilities could be seen when dancing. This reflection was made because the naïve seeing of the videotapes show that the patients' abilities in dancing were prominent, despite their level of dementia as measured with the GBS scale.

Comparisons between the numerical scores in the GBS scale and the non-numerical analysis of the dancing were not made as they were not considered meaningful. The evaluations of the GBS scores and the content analyses of the dancing had different contexts and were carried out by different persons. The numerical scores were judged over a period of less than a week by the carers who knew the patients well.

Content analysis involves a multi-step procedure that is guided in all its aspects by the purpose of the study; Waltz (1991) describes the three analysis steps.

Step 1. Defining the content to be examined

The content to be examined is the information recorded about the four video-recorded social dance sessions. The videotapes were transcribed to form a written manuscript, first by following the patients individually and then the couples formed by the patients and their dance partners. These manuscripts and the videotapes contained the whole of the data that was to be analysed.

Step 2. Identifying the characteristics of different aspects in the guide

The guide, which lists the set of different attributes used in the analysis, was developed from the original GBS scale (Gottfries *et al.* 1982). Four (of 26) variables, motor insufficiency in undressing/dressing, taking food, and managing personal hygiene, and inability to control bladder and bowel, were excluded, since they were irrelevant to dancing. The items concerning intellectual functions (impaired orientation in space, in time, personal orientation, recent and distant memory) correlated with functions in dancing that were different to those in the original GBS scale, and were therefore developed into other aspects. For example, the item 'impaired orientation in time' was measured in the GBS scale through the patient's capacity to know the 'watch time', but in the dancing, it was analysed through his/her capacity for timing. The item 'recent memory' was measured in the GBS scale through the patient's capacity to tell about recent events; in dancing, it was analysed by the patient's capacity to remember his/her place in the dance hall. However, the researches avoided making any quantitative comparison between the different functions measured in different situations and the analysis was not made in precise numeral measurement. The guide is presented in Appendix 1.

Step 3 Performing the content analyses

Each subject was shown and analysed individually on the videotapes and in the written manuscripts. The researcher performed the analysis using the guide for identifying different attributes referred to the guide, if the functions and symptoms common in dementia, and the signs of abilities/disabilities were presented in the film and in the manuscript.

Findings

Results of the analysis of video-recorded dance sessions

Motor functions

The *physical activity* was noted as good in dancing, because the patients required little physical support from the carers and they moved flexible in dancing. All the patients' *spontaneous activity* seemed to be good, when they heard the tones of the dance music and moved their bodies to the rhythm of the music.

Intellectual functions

The patients' *orientation in space* was seen in relation to their capacity to move in the dance hall. They functioned well within the area concerned for dancing and could also return to the seating place where they had sat before the dancing. All the patients were conscious about *timing* and the rhythm in dancing. The *personal orientation* was not possible to notice in dancing, because it was not possible to see if they had accurate knowledge of himself/herself. Note was made of their *recent memory*, based on their memory of their seating place in the dance hall. Some of them were able to remember their seating place, while some of them needed help from the carers. Over all, it was natural for male patients to escort the dance-partner back to their places and for female patients to be escorted. Their *distant memory* was seen to be supported in dancing, as the patients showed ability in dancing and had the capacity to remember old social patterns as well as old songs and melodies in dancing. They seemed to be able to show their social role as talented dancers. All the patients showed *wakefulness*: they were fully awake, with no sign of drowsiness. All the patients were able to keep their *concentration* in dancing. They never lost their concentration before, during or after the dancing and they seemed to pay attention when somebody invited them to dance and showed their competence in dancing. They seemed to be alert in order to control their own dancing. Some of them also seemed to be concentrated on making and maintaining social contacts, by paying attention to the invitation to dance. Dancing and the dance music stimulated their concentration and attention to their dance partner. The patients moved quickly in dancing in different rhythmic forms and were also able to *change the tempo* in dancing. The ability to react quickly to changes in different rhythmic forms and their body control showed that they had the ability to increase the tempo autonomously. They were *collected*, which indicated that they experienced dancing as purposeful and meaningful. It seemed that the some of the patients were capable of expressing what they wanted in dancing

without any *long-windedness*, but this ability was difficult to see. The dancing engaged them, so they showed no sign of *distractibility*.

Emotional functions

All the patients were able to *show emotions* such as joy and happiness in dancing. The positive emotions were prominent, but they were also able to show negative emotions. Despite stiff facial expression, it was possible to see that they were feeling happiness and satisfaction. They showed their kindness to the carer when, for example, they gave a hug. One woman showed negative emotions in leaving her male dance partner alone on the dance floor. The patients seemed to be able to show joy through dancing, which it was possible to see when they smiled and laughed during the dance. One of the patients whistled and sang all the time. Dancing seemed to support the patients in showing positive emotions in communication with each other and they were able to *control their emotional reactions* in an appropriate manner. The patients seemed to communicate their emotions through joyful and trustful communication. They smiled and laughed together and sang dance melodies. Social dancing also seemed to support the patients in showing positive feelings towards each other by dancing together. Some female patients danced together and the male patients invited female patients to dance. The patients seemed to be *motivated* when the carer allowed them to take over the initiative in dancing. One woman sat alone by the side, had a serious expression and never clapped her hands. She nevertheless showed motivation when she was invited to dance by her own carer. Some of the patients sat by the side of the dance floor. The cause seemed to be either normal physical tiredness and adaptation to their own weakness or that they were not invited to dance. It seemed that they were also motivated to listen to the music and watch the band, who played familiar dance music.

Different symptoms common in dementia

The patients showed only signs of *confusion* during the dance session. Two of the female patients showed *irritability*. For example, one of them started a negative interaction with a carer directly on entering the dance hall. The negative interaction decreased when her 'own' carer invited the patient to dance. At first she looked unresponsive but her expression changed during the dance. Some of the patients showed *anxiety*. For example, one of them communicated that she did not like to dance close to anybody. The carer allowed her to dance at a distance through only holding her hands. At first, this interaction was impersonal, but after some time

both the patient and the carer showed that they really enjoyed dancing and that they had fun together. The patient showed her satisfaction when she smiled but she did not applaud after having finished the dance. Two of the female patients showed *agony* or mental discomfort in dancing. One of them showed negative emotions by leaving her male dance partner alone on the dance floor. Two of the patients showed expressions of seriousness, which might be interpreted as *reduced mood*. For example, one of them did not like to be with the others in the ring dance. This could mean that she experienced reduced mood, as well as autonomy in deciding what she liked to do. One of the patients showed severe *restlessness* during the dance session. For example, she could not sit still and made constant movements to stand up during the conversation in the dance hall. On one occasion, she walked out of the room. The carers had to go after her and bring her back to the dance session.

Discussion

This study is in accordance with the results of the earlier studies of Palo-Bengtsson *et al.* (1997) and Palo-Bengtsson & Ekman (1997).

Social dancing increased physical activity, as it was possible for persons with dementia disease to move freely in dancing. Muscular tonus, stance, basic movement styles and gestures once learned are, like any physical activity, the essential component not only of personal identity but also of social and cultural identity (Thomas 1993); therefore it can be seen that social dancing supports personal and cultural identity in persons with dementia. However, changes such as increased muscular tonus and impaired gait have the potential to affect the ability of persons with dementia to move themselves (Doble *et al.* 1997). Therefore, there are difficulties in ensuring that physical activities for persons with dementia disease are meaningful, and there is the risk that they will receive too little physical support in nursing home settings.

Social dancing seemed to support spontaneous activity and stimulated patients to communicate with others; for example, when the male patients invited the female patients to dance. Persons with dementia disease lose their social role functions and social competence, which may result in a more isolated and vulnerable care situation (Lökk 1991). The dance music as well as the whole dance session can be interpreted as being important for spontaneous activity in patients with dementia; however, this also seemed to be dependent on the supporting environment. The 'own' carer were familiar with the patient's level of dementia disease and their personal life

stories, and they also had a good preunderstanding of the care situations.

The patients showed that they were oriented in the dance hall and that they were conscious about timing in dancing. They also recognized their fellow patients and their carers. They were aware of rules during the dance session, acting and reacting accordingly. An assumption was made that acting in dancing is closely connected with one's urge to establish his or her values and meanings and, as Laban (1960) claims, one moves in order to satisfy a need. The shapes and rhythms in dancing show the moving person's attitude in a particular situation and his other state of mind. According to Wallin (1991), music is conditioned by biological microsystems of a more complex nature, such as the flow of consciousness. Intrinsic feelings in the form of moods can be re-performed, recombined and even developed into increasing complexity (Wallin 1991).

Social dancing seems to have a function of reminiscence. According to Borell (1992), several aspects of motor memory are well preserved in dementia. For example, persons with AD show intact learning of motor procedures. Motor activity is an integral part of dancing. The patients' feelings of identity were activated when they remembered the social skills and procedures, which gave them the chance to reintegrate their memories from earlier years in social dancing. Social dancing gave an opportunity for the patients to keep up the skills previously learnt.

The patients seemed to be able to keep their concentration in dancing, and thereby were able to increase the tempo.

By communicating their emotions it was possible for the patients to become aware of, and to express, their feelings. This shows that dancing was an intervention that helped the patients to express themselves non-verbally. They were also able to share experiences with others, and make, maintain and end contact independently, as well as give meaning to that contact.

They were motivated to dance, which resulted in taking initiative and showing autonomy built on trustfulness. Social contacts could be of very great importance for persons with dementia, due to their usual inability to take the initiative to make social contacts and their dependency on the staff.

It was difficult to identify symptoms common in dementia during the dance sessions. Positive behaviours were prominent in dancing, because the patients' impairments and symptoms common in dementia were not obstacles to the dancing. When the patient showed anxiety, the carer knew how to manage the situation in a positive way. Therefore it is possible to argue that they

made the best interpretation of the whole care- and dance-situation. Their preunderstanding of the patient's situation was a link between the patient's level of disease and the interpretation of the patient's personal history. Consequently, social dancing could be a very useful tool for maintaining social contacts in the care of persons with dementia, as well as the supporting the need to maintain the patient's autonomy, provided that the carers have a preunderstanding of the patient and the care situation. The philosophical ground for preunderstanding is that the wholeness of the situation in dancing includes more than the present situation, comprising also the history of the care of persons (Nerheim 1996). In accordance with Gadamer's (1986) philosophy, we believe that no understanding would be possible if the interpreter is not at the same time part of the historical continuum which he/she and the phenomenon he/she studies share. The very idea of situation means that we are not standing outside it, which would make us unable to have any objective knowledge of it. We are always within the situation and to throw light on it is a task that is never entirely completed.

This study has demonstrated the importance of the carer's knowledge of the patient's level of disease and the patient as a person. According to Gadamer (1986), a person who has no horizon is a man who does not see far enough. To have a horizon means not to be limited to what is nearest but to be able to see beyond it. The carer who has such a horizon knows the relative significance of everything within the patient's everyday world. This was illustrated when the patient showed signs of symptoms common in dementia and the negative process was changed to positive experiences.

According to Henderson (1966), the aim of professional nursing care is to support the patients in helping themselves to a state of independence, provided that they have the necessary strength, knowledge and will. The carers made it possible in social dancing for the patients to participate in recreational activities outside the facility, while still under the carers' supervision. It is reasonable to assume that social dancing is a nursing intervention that can satisfy patients' basic needs, helping provide what Henderson (1966) has described as the basic requirements for professional caring.

Conclusions

It was obvious that social dancing was supportive, and this seemed to explain the use of social dancing as a nursing intervention, provided that the carers had certain preunderstandings about the patient and his/her dancing. In social dancing, the patients' behaviour showed that

their individual competence and the environmental 'press' (according to Lawton *et al.* 1982) were in accordance. It was possible to make the conclusion that persons with dementia disease were exempted from confrontation with their diminished capabilities and negative feelings in social dancing.

It is important to create nursing interventions and a care environment that does not constantly bring to the patients' minds their cognitive disabilities, and where the patients have a chance to compensate for the difficulties they have. This study indicated that the patients' intellectual, emotional and motor functions were preserved and supported in dancing. While dancing, the carers make it possible for persons with dementia to protect themselves, as far as possible, from being confronted with their diminished capabilities and negative feelings, thus avoiding unnecessary dependence. Therefore it can be recommended that the carers use social dancing intentionally as nursing intervention.

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Appendix 1

Attributes developed from the original GBS instructions

Attributes developed from the original GBS scale	Attributes seen in dancing	Results
<i>Motor functions</i>		
Physical activity	Does the patient walk/dance unaided, or require physical support?	Good physical activity
Spontaneous activity	Does the patient sit inactive or bestir himself/herself?	Good spontaneous activity
<i>Intellectual functions</i>		
Orientation in space	Does the patient use the whole dance hall for dancing?	All the patients functioned well within the area concerned for dancing
Orientation in timing	How conscious is the patient about timing and rhythm in dancing?	All the patients were conscious about timing and rhythm
Personal orientation	Had the patient accurate knowledge of him/herself?	Difficult to see
Recent memory	Does the patient remember her/his seating place in the dance hall and recognize her/his fellow patients and carers?	Some of the patients remembered the seating place and fellow-patients
Distant memory	Does the patient remember old social patterns, dance steps and songs? How competent is the patient in dancing?	All the patients remembered old social patterns. Some of them were very competent in dancing
Wakefulness	Does the patient show any drowsiness?	No signs of drowsiness
Concentration	Does the patient concentrate?	All the patients concentrated
Ability to increase tempo	Does the patient move quickly, react to different rhythmic forms or increase tempo?	All the patients increased the tempo
Absentmindedness	Does the patient dance and move purposefully and remain collected?	All of the patients were collected
Long-windedness	How capable is the patient of expressing what she/he wants?	Difficult to see
Distractibility	Does the patient pay attention?	All the patients paid attention
<i>Emotional functions</i>		
Emotional blunting	Does the patient show joy, fear, anger, etc.?	All the patients showed joy, some of them fear, anger, etc.
Emotional lability	Does the patient control her/his emotional reactions?	All the patients seemed to control their emotional reactions
Motivation	Does the patient show motivation?	All the patients, except one woman, showed motivation
<i>Other symptoms common in dementia</i>		
Confusion	Does the patient show any signs of confusion?	No signs of confusion
Irritability	Does the patient show any signs of irritability?	Some signs of irritability
Anxiety	Does the patient show any signs of anxiety?	Some signs of anxiety
Agony	Does the patient show any sign of mental discomfort or panic?	Some signs of agony
Reduced mood	Does the patient show any sign of depression?	No signs of depression
Restlessness	Does the patient show any sign of restlessness?	Some signs of restlessness