



Dancing in response to Dementia: Preserving the dignity of life in decline

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Abstract

As Singapore faces an increase in its ageing population, dementia can no longer be treated as an individual's neurological ailment. Instead, the sociological structures that pose challenges in caring for persons with dementia need to be addressed. Person-centered care and positive person work are theoretical approaches to change institutional structures towards the recognition of personhood in persons with dementia. In this study, creative movement interventions carried out with persons who have mild to moderate dementia created opportunities for positive person work to take place, positing limited but possible improvements in participant well-being and reduced perceptions of burden of care among care-givers.

Ageing in Singapore

In 2004, the Singapore government set up the Committee on Ageing Issues (CAI) in response to the reality of Singapore's ageing population. While 8.4 percent of the population were aged 65 and above in 2005, CAI (2006:2) reported that this percentage will increase to 18.7% by 2030. In absolute terms, the number of senior citizens in Singapore will increase from 296 900 in 2005 to 873 300 in 2030.

The marked increase in the percentage of persons above 65 forebodes a number of challenges that Singapore as a society will face. Dementia, defined by the Alzheimer's Association¹, as the decline of mental ability severe enough to interfere with daily life, is a condition which many of Singapore's elderly may suffer from. The "Well-being of the Singapore Elderly" (WiSE) study conducted in 2013 and released in 2015 by the Institute of Mental Health (IMH) reported that dementia was prevalent in 10% of those aged 60 and above. Based on the latest population statistics of 2014², this means that a total of 43 160 out of 431 600 seniors above the age of 65 is likely to suffer from dementia. By 2030, this number would have doubled to 87 330. There is thus an urgent need for various economic and social sectors to respond to the elderly in Singapore, particularly those who suffer from dementia, in order to preserve the dignity and well-being of a significant percentage of our population in the future that is soon to come.

¹ <http://www.alz.org/what-is-dementia.asp> accessed 3rd July 2015.

² <http://www.singstat.gov.sg/statistics/latest-data#15> accessed 3rd July 2015

It was noted by CAI (2006:i) that by 2012, the first batch of baby-boomers would have reached the age of 65. This batch of elders would have been part of an evolving education system, contributing to Singapore's economic progress and expansion. They are thus better educated, more affluent and healthier (CAI 2006:4). Heok (2010:3) calls this particular group of elders the "new-old". Compared to the generation of elders before, the "new-old" are less influenced by traditional values with regards to ageing which calls for a withdrawal from the social world in preparation of a spiritual transition. Better education, health and affluence translate into new needs and desires that the "new-old" of Singapore might come demand. The elderly in Singapore is neither a group who should be nor wish to be left in a corner to grow old and decline. Regardless of physical or mental decline, the "new-old" of Singapore will likely seek out what they need to maintain their well-being and remaining abilities. What we witness now is a new culture of ageing defined by terms such as 'active ageing' or 'successful ageing', which aim to defy the onset of age and deny the eventuality of death and decline (Minkler & Fadem 2002:231). What cannot be denied, however, is the onset of eventual decline. The acknowledgement of dementia and its personal and social significance, in the era of this new culture of ageing, is thus all the more urgent to establish ageing as a process which preserves dignity along with decline. This is especially so as young-old Singaporeans become old-old, or, enter into the 4th age and are unable to keep up with the demands of active ageing. The acknowledgement and acceptance of dementia is thus a means of fighting ageism and the fear of inevitable incapacity, contributing to an individual's sense of life's fulfillment along with physical and mental decline. Yes, there is dementia, but there is still life that is yet to be lived and not abandoned because of it.

Coping with Dementia

Despite an acceptance and acknowledgement of the condition of dementia, the demand of dementia care is a challenging one. Each person with dementia exists within a circle of kinship – of family members of which one of them is most likely the main caregiver. It is commonly known that caregivers suffer from stress and depression (supporting evidence). It can be further deduced that the presence of dementia in the home can affect the home environment and the family members residing in the home, making it potentially more stressful. This stressful home environment can create further mental issues among family members and the person with dementia, such as frustration, agitation, depression and hopelessness.

There is therefore an urgent need to think of ways to cope with the demands of dementia, a positive and supportive environment can be created for the person with dementia and her circle of kin and carers. To find a way to care for a person with dementia in a positive manner enables the family to cope with its stressful negative impact, transforming the negative experience into positive ones that create an appreciation, rather than a rejection, of the aged person with dementia. The mental and social well-being of the family is thus not shattered, but is instead preserved and possibly enhanced despite the demands of dementia.

In Singapore, Changi General Hospital aspires to deliver the best patient care with passion and empathy. There is a focus to promote holistic, patient-centred care for eastern Singapore through the integrated services and innovative facilities³. The Community Psychogeriatrics Programme (CPGP) of CGH helps bridge the transition of care into the homes by providing home-based clinical visits for older patients with mental problems. Non-pharmacological approaches goes hand-in-hand with pharmacological ways of optimizing the well-being of the persons with dementia and minimizing the carers' stress. CPGP also provides training, consultation and support for community eldercare agencies in their management of persons with dementia. There is an emphasis on the personhood of the individuals being cared forth, creating positive attitude among the care staff and adapting an environment that is dementia-friendly built to enhance the day-today living experiences of the person with dementia.

The following sections detail an approach and theory of care for persons with dementia, putting forward creative movement as a means of positive person work and care as observed from a series of creative movement sessions conducted with patients of Community Psychogeriatrics Programme of Changi General Hospital, Singapore.

Life With Dementia: Hanging on to one's self

Persons with dementia are not always recognized for their personhood. "Personhood" (Kitwood 1997:2) takes on its core meaning from three areas of discourse. Firstly, from one that is transcendent, recognizing the sacredness of being and life. Secondly, one that is ethical, which affirms the value of every person, who should be treated with respect. Lastly, "personhood" takes its definition from social psychology, which grounded in empirical methodology, puts forward the position of the person as an individual in a social group, with roles to play that contribute to the self-esteem, integrity and the stability of one's sense of self.

The personhood of those with dementia has unfortunately been undermined by clinical and psychiatric treatment that ignores the personalities, experiences and interpersonal relations of persons with dementia. Such treatment views dementia as an irreversible

³ The integrated building of CGH provides a conducive healing environment for patients with dementia. There is an availability of sensory rooms that allow the uses of multisensory environment to engage the individuals and reduce the onset of behavior of concerns. Presence of living areas encourages active participation of the persons with dementia to assist their transition back to their home. There are Dementia care champions among the nursing staff who helps to provide person-centred care for the individual. Dementia counseling are also offered to the carers and their family members to bridge the knowledge gap about dementia and the associated behaviours, hoping to empower the carers in their coping with the care burden back home.

ailment of malfunctioning neurology. The diagnosis of dementia is thus somewhat fatal, resulting in the image of dementia as a “death that leave the body behind”, without any sign of “cure, help or hope” (Kitwood 1997:37). This particular diagnosis of dementia also produces what Kitwood (1997:45) has termed “malignant social psychology”, which refers to that actions and attitudes of other people, including care-givers, that disable the personhood of those with dementia. These actions and attitudes overlook the agency of patients with dementia, treating them with an air of neglect and indifference while performing basic duties of care-giving, such as feeding, clothing and toileting. Actions of “malignant social psychology” include

Denial of individual’s agency and personality	Infantilization, disempowerment, out-pacing, invalidation, objectification, ignoring, withholding.
Defining the individual as ‘disabled’	Labeling, stigmatization, accusation, imposition, disparagement.
Belittling the individual	Banishment, mockery.
Imposing power over the individual	Treachery, intimidation, imposition, disruption

Table 1: Summary of characteristics of “malignant social psychology” adapted from Kitwood (1997: 46-47)

Ironically, it is the actions and attitudes of “malignant social psychology” that results in the loss of self, which has inaccurately been associated with as a symptom of dementia (Kitwood 1997:51, Sabat & Harrè 1992:459). Dementia, which no doubt has neurological causes, is aggravated by the social environment which continuously denies the person with dementia of any agency, imposing instead labels of disability and disempowerment that dehumanize the individual towards a state of vegetation and eventual death. Sabat & Harrè (1992:445) argue that selfhood is publically demonstrated though interpersonal interactions, which displays a person’s agency through expressions of pleasure, doubt, anger or responsibility. The onset of dementia, which may produce cognitive or behavioural problems in terms of memory loss, impairment in information-processing, word finding, or sequencing of linguistic and non-linguistic motor actions, does not imply the loss of selfhood. In their research study with individuals who have suffered brain injury, together with their social workers and care-givers, Sabat & Harrè (1992:459) clearly state that

“...the self of personal identity remains intact even in the face of quite severe deterioration in other cognitive and motor functions...”

They also emphasize that it is the “cooperation of others in the social sphere” which allows for the personae, or “repertoire of selves” (Sabat & Harrè 1992:459) to be publically presented and manifested even at later stages of cognitive deterioration. Clearly, the loss of self, so acutely associated with persons with dementia, is not directly linked to the progression of the ailment, but is directly related to the behavior of those who are linked to their social lives instead.

Life With Dementia: Enhancing Life

It is thus necessary to better understand the experience of a person with dementia beyond technical treatment to consider the social factors involved in caring for a person with dementia. Kitwood (1997:79) locates three areas that map out the experience of dementia. The first area is that of “feelings” that are associated with clear meaning, such as frustration at being unable to drive. The second refers to “global states”, which are made up of raw emotions that are not attached to specific meaning but are associated with a “high level of arousal of the sympathetic nervous system”. General confusion is also experienced along with high levels of arousal. The third area refers to “burnt-out states”, where the nervous system has been through a high level of arousal for a long period of time. The burnt-out condition thus takes the form of the depletion of personhood, with the vegetative state being an extreme result of this condition (Kitwood 1997:80). Persons with dementia can go through any of these three areas at any given point in time, experiencing a variety of emotions, sometimes simultaneously. Kitwood (1997:80) posits that it is possible for a person with dementia to “rement” and reacquire meaning-making capabilities. This boldly suggests that the condition is not one of irreversible deterioration, but with the right approach and care, the person with dementia is able to continue to engage with life meaningfully through a process of rementing.

What would encourage this process of rementing? Kitwood (1997:81) suggests that an honest, loving response to the five needs of “comfort, attachment, inclusion, occupation and identity” is necessary for persons with dementia who are unable to meet these needs independently. The needs of each and every individual will depend on that person’s life history and personality, with the manifestation of needs being more acute as cognitive impairment becomes more advanced. The calming of anxiety, stable attachment to another, being part of a shared life of a group, being occupied with work or leisure and the recognition of one’s life history and personality can transform fear, confusion and anger into a positive experience of rementing instead.

While there have been numerous medical-scientific studies into the technicalities of dealing with dementia as a disease, Kitwood and Bredin (1992) propose a coherent theory of care which addresses the needs of persons with dementia. This theory is grounded in the concept of personhood and well-being. The theory of dementia care put forward by Kitwood (1997:89) locates “positive person work” as a means of enhancing the interpersonal experiences of persons with dementia. Positive person work is made up of the ten characteristics as summarized below:

Recognition	Person with dementia is acknowledged as a person through personal greetings or acts of careful listening.
thNegotiation	Person with dementia is consulted about his/her preferences, desires and needs.
Collaboration	Person with dementia works alongside another over a task.

Play	Person with dementia is spontaneous and confidently self-expressive.
Timalation	Person with dementia interacts in a sensuous or sensual way, such as aroma therapy or massage.
Celebration	Interaction with persons with dementia is celebratory and convivial.
Relaxation	Person with dementia feels relaxed in the presence of others.
Validation	The feelings and responses of the person with dementia are validated as real and truthful.
Holding	Both psychological and physical holding. Person with dementia is safe and secure despite moments of vulnerability.
Facilitation	Person with dementia is enabled to complete activities which he/she cannot do independently.

Table 2: Adapted from Kitwood's (1997:89) listing of 10 types of positive interaction for positive person work.

To apply the theory of dementia care through positive person work, Kitwood (1997:92) suggests taking note of how particular activities or interactions manifest particular characteristics of positive interaction. A person-centered approach to dementia care provides positive forms of social interaction between the person with dementia, which strengthens, rather than undermines, the person's sense of self or personhood. The ambience, attitudes and environment which surrounds the person with dementia through person-centered care thus relegates the attitudes of malignant social psychology to obscurity, providing opportunities for a continuous engagement with life and the possibility of rementing.

Dancing In Response To Dementia

Kitwood (1997) acknowledges that more research is needed to measure the impact of positive person work on persons with dementia to determine its impact on the process of rementing. He suggests a need for a new cultural understanding of dementia which tears down the barriers that portray persons with dementia as hopeless cases of inevitable deterioration. This cultural transformation would take on board activities, such as those of the arts, seriously, as possible social prescriptions which enable positive person work to take concrete and routine form in care settings.

Indeed, researchers have been making their case for the arts to be a means of intervention for persons with dementia. Literature on "dance/movement therapy" typically focuses on the process oriented and expressive value of dance for persons with dementia (Beard 2011:641). These reports reflect reduced agitation, improved cognitive, emotional and physical integration and increased self-care practices. The main benefits reported from "dance/movement therapy" lie in the area of communication, interaction and reminiscence, where participants are able to express thoughts, memory and emotions in both verbal and non verbal ways (Beard

2011:641). For example, it is evident in a study by Kayoko (1997: 294) that the sequence of a dance movement therapy session, which comprises a pre-warm-up of greetings, warm-ups, theme development and closing, was able to revitalize and reintegrate the participant's personal experience and also improve social relationships for a group of Japanese seniors with dementia. Through the process of dance movement therapy, which focused on a local cultural theme of festivals, participants were able to narrate their own stories of reminiscence, thus reconnecting with their personal inner world and connecting, through communication with the outer world. In this study, Kayoko (1997:295) notes that the facilitators of dance movement therapy paid close attention to the feelings and movement which arose naturally from the group, guiding them in an exploration of these feelings and movement. The session, while sequenced, was hence improvisational to be able to respond to the agency and personalities of the participants.

Hayes & Povey (2011) also emphasize the need for empathy and unconditional positive regard which facilitators must maintain in using the creative arts for dementia care. In describing possible movement approaches for persons with dementia, they place greater emphasis on activities which encourage social interaction, such as "holding hands", or "reaching out", together with activities that enable the participant to stand tall and to "take a stand" (Hayes & Povey 2011:85). In terms of themes, there is a focus on aspects of celebration, together with the use of multi-sensorial approaches, such as scent and sound along with the dance activities. Their belief is that through music and movement, participants reconnect with the sense of life within themselves and connect with others around them.

The Bradford Dementia Group (2001) clearly advocates that healing art therapies are a means to achieve person-centered dementia care. Building from the five needs of "comfort, attachment, inclusion, occupation and identity" (Kitwood 1997:81), Shustik & Thompson (2011:52) posits that kinesthetic movement enhances a memory awareness in the body, thus "facilitating the maintenance of a sense of identity". Spontaneity and play, along with rhythm and rhythmic movement integrates the self, encouraging participants to communicate with the rest of the group, thereby growing links of attachment and inclusion. This leads to a greater sense of security and comfort within the group, as participants feel they are occupied in an activity which is "personally significant" and draws on their abilities and powers (Kitwood 1997:83, Shustik & Thompson 2011:63).

In all of the above literature, focus has been given to the description of the dance sequence and its subsequent personal and social benefits experienced by the participants with dementia. Another range of studies focuses on the impact of physical and motor ability of the elderly participants as a result of a dance movement intervention. In a study by Krampe et al (2010) for example, a dance-based program for frail elderly reflect positive improvement in the functional status of the participants' gait and balance, with the participants themselves reporting improved ability in these two areas. Similarly so, a study by Wu et al (2010) which looks into the

effect of Chinese Yuanji-Dance on the elderly report improved cognitive and perceptual-motor functions of the participants which reduced response time in the event of a fall, thereby possibly preventing a fall. A study by Ferrufino et al (2011) further suggest that contemporary dance, because of its focus on motor improvisation, is able to improve postural control and thus prevent falls. Additionally, Janyacharoen et al (2013) studied 18 sessions of Thai dance over 3 weeks for Thais over the age of 60 and found that participants' physical ability improved in terms of lower limb strength and flexibility.

In all of the above examples, there appears to be a dichotomy in the presentation of findings. While studies on dementia heavily focus on the analysis of person-centred work and personal-social outcomes of care, studies on dance with the elderly clinically rely on results which scientifically show an improvement in the body's physical ability. It is understandable that studies on dementia refrain from focusing on ability and improvement, or cure, as the whole thrust of person-centered care is to focus on the person whilst accepting the cognitive and physical limitations of persons with dementia. This study however proposes to combine the two approaches. In its analysis of an 8 week creative movement intervention on a group of 11 persons with mild to moderate dementia, it will present evidence of positive person work and well-being in the creative movement sessions and also make use of clinical tests to locate any impact on the participants' physical gait and grasp abilities. For the moment, it is not clear if one will be co-related to the other – or in other words, that personal and social well-being leads to an improvement or at least a maintenance of existing physical abilities. This study thus hopes to shed some light on the impact of creative dance movement on the personal, social and physical well-being of persons with dementia.

Research Design and Method

A total of 13 potential participants were gathered at the start of the creative movement interventions which comprised of 8 weekly sessions lasting an hour, held between April to June 2015 at the Changi General Hospital, conducted by The Arts Fission Company Ltd. 2 however did not participate at the first session as one was agitated and another did not display any interest. Of the remaining 11 participants, data analysis was conducted from 9 of them who attended all 8 sessions. 2 participants were unable to complete the 8 sessions as one had suffered a stroke and another had suffered a fracture from a fall at home. Of the 9 participants, 2 were male and 7 were female. 5 had mild dementia while 4 had moderate dementia. 6 were Chinese, 2 Malay and 1 was Eurasian. The youngest in the group was 69, and the oldest 89. The average age of the group was 80.4.

The participants were recruited based on the following inclusion and exclusion criteria:

- Inclusion criteria : patients 65 year old and above, diagnosed with mild to moderate dementia, independent in ambulation or requiring minimum assistance

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- Exclusion criteria : individuals with cancer, end-stage renal failure, severe hearing or visual impairment, progressive neurological conditions like Parkinson’s Disease, as well as those who are violent or suicidal

Suitable persons with dementia were invited to a welcome session explaining what the study was about and would entail. Written consent was obtained from the participant as well as the family caregiver. It was explained that participants would go through 8 sessions of creative movement conducted by professional dance artistes. These sessions would take place weekly, each lasting an hour. Each session will be video-recorded. Well-being profiling for each participant will also take place at every session.

A mixed methodology was employed for the study of the eventual 9 participants with dementia. Quantitative data analysis was performed on the pre- and post- intervention scores of the individuals on the various scales that measure the domains of well-being, quality of life and the physical and cognitive ability. Qualitative data collected via pre and post feedback log by observers and dancer facilitators, together with video recordings of all sessions was collated and analysed. Ethical approval for this research was sought for and approved by the Centralised Institutional Review Board (Singhealth) prior to commencement of the project.

The following lists the other objective quantitative scales that were performed on the participants before the start of the 1st session and at the end of the 8th session :

- Gait Speed
- Hand Grip strength test
- Functional independence measure
- QOL –AD
- Zarit burden scale

The quantitative data collected was collated and tabulated, with changes in the pre- and post-scores determined statistically using the statistical package of social sciences. Qualitative data was gathered from observations collated through journaling (by the dance facilitators) as well as an observational log⁴ which was used to record the well-being profile of each participant during each session. The qualitative data collected was collated and analysed for trends. An audit trail of the means of arriving at the findings was kept and how interpretation was achieved documented.

Design of Creative Movement Sessions

The following table provides a summary of the design and sequence of the creative movement sessions:

⁴ *The Well-Being Profile developed by Bradford Dementia Group.*

Dimensions of space used for each session:

An indoor badminton court, of around 1200 sq feet, was used for each session. The floor was parquet. Sturdy chairs without armrests were brought in for each participant and arranged in a circle. The space was air-conditioned. The space was enclosed with no windows around the room.

Sitting arrangement of participants:

As Singapore is a multi-racial society, participants came from all walks of life and spoke in different languages and dialects. While most of the participants could speak English, a number could only converse in Mandarin or Malay. By session 4, participants were arranged in a manner which brought the Mandarin speaking participants closer together as a group to facilitate better communication between participants and facilitators. Refer to Annex 1.

General sequence of activity over 60 minutes:

1. Ice-breaker
2. Warm-up
3. Experiential/sensory segment
4. Creative movement and dance
5. Cool-down
6. Goodbye-dance

Movement sequence for 1, 2, 5, and 6 were generally the same throughout the 8 sessions while music used for 1, 2, 5 and 6 were also meant to be the same pieces except when small changes took place as indicated in the individual log record of each session. The objective was to provide certain familiar routine and order for the participants. The experiential/ sensory segment and the creative movement/dance were varied according to the themes planned for each session.

General sequence of ice-breaker activity:

The first 10 minutes of each session started with an ice-breaker activity. Participants sat in a circle and 2 balls were passed from one person to another in the one direction, and subsequently in opposite directions. Whoever held the ball when the music stopped would take the ball and perform a series of body stretches with prompting from the facilitators.

Objective: Trains eye-hand coordination. Helps participants to focus on a moving object and learn to be alert with responding action (as in passing the ball onwards to the person sitting next to him or her).

Music used for ice-breaker activity:

Echoes of Spring by Willie "The Lion" Smith
The Lion and The Lamb by Willie "The Lion" Smith
The Entertainer by Maple Leaf Ragtime Band

Something Doing by Maple Leaf Ragtime Band

Note: music tracks with similar tempo were interchangeably used to maintain the pacing of ball passing.

General sequence of warm-up activity

The following 15 minutes of each session was made up of the following sequence:

- Rubbing the hands together to generate warmth of the palms and press palms to warm the various body parts (face, neck, stomach, etc)
- Head and upper torso moving in different directions
- Leg movement: lifting leg while seated; stand up and step forward and to the sides
- Free moving around while standing and holding arms with each other

The sequence was introduced by encouraging participants to imagine how they might prepare to go out of their homes for a walk, and what they might encounter during the walk. For example, participants were asked to imagine and physically show how they might open the door of their house and look above at the leaves of the trees as they took a walk outside.

Objective: a series of mainly upper torso stretching, bending and twisting exercises to loosen up the limbs, neck and torso while in sitting position (as quite a few participants have problem standing and keeping their balance while moving). The exercises progress from hands to arms to torso and neck and head help the participants to prepare mentally and physically for more creative movement to come later in the session. The exercises are set and repeated for each session to establish familiarity of movement routines of the session.

The use of imagery also enabled participants to connect the physical movement to a personal narrative, thereby encouraging play, imagination and connection to past experiences (of going out for a walk) alongside the physical benefits of the warm-up sequence.

Music used for warm-up activity:

Sessions 1-3:

Dream of Cherry Blossoms by Evelyn Glennie
Sunflower Slow Drag by Maple Leaf Ragtime Band
The Cascades by Maple Leaf Ragtime Band
The Entertainer by Maple Leaf Ragtime Band

Sessions 4-8:

The warm-up musical sequence changed to flowing piano ballet-class music, with

the intention to solicit the sense of grace and beauty that would better transport the participants to a sonic environment through imagery. The music progressed into more lively and clearer drum pulses towards the end.

Plies, Alternative music by Robert Long
Lullaby by Phillip Tan
Over the Rainbow by The Piano Guys
Island Groove by Mickey Hart

General themes covered over the 8 weeks for main improvised activity

(20-25mins):

Week 1-3: Round objects
Week 4: Food
Week 5: Outings
Week 6: Sports
Week 7: Scents
Week 8: Sound

For details to each week's thematic approach, please refer to Annex 2.

General sequence for cooling down activity and goodbye dance:

The final 10 minutes of the session was made up of the following sequence:

Cooling down: Deep breathing exercises with arm movement to reinforce the inhale and exhale processes; ending with humming with eyes and mouth closed to experience the facial vibration generated by the humming action

Music used: Skylark by Yehudi Menuhin and Stéphane Grappelli
Serene long phrasings in music to reinforce deep breathing in the cool down process

Goodbye dance: A handshaking dance taught to participants. The handshaking is reminiscent of social occasion when people greets each other or bid farewell

Music used: Chocolate by Marisa Monte
The Brazilian beats generate fun and happy tempo and the lyrics is associated with sweets.

Findings and discussion

The following scores were obtained from the quantitative scales performed at the start of the 1st session and at the end of the 8th session:

Functional Independence Measure score (FIM)	<p>At 1st session, median = 118, ranged from 65 to 124</p> <p>At 8th session, median = 120, ranged from 72 to 124</p> <p>Improvement not found to be of statistical significance</p>
Hand grip strength	<p>Improvement in grip strength of both dominant and non-dominant hand</p> <ul style="list-style-type: none"> ○ Dominant hand (right hand) <ul style="list-style-type: none"> ▪ At 1st session, average = 13.27kg ▪ At 8th session, average = 13.94kg ○ Non-dominant (left hand) <ul style="list-style-type: none"> ▪ At 1st session, average = 11.08kg ▪ At 8th session, average = 11.89kg <p>Improvement not found to be of statistical significance</p>
Gait speed (4metre walk test)	<p>Nil change in the average gait speed at 1st and 8th session</p> <ul style="list-style-type: none"> ○ Average = 0.69 m/s ○ At 1st session, ranged from 0.21 to 1.11m/s ○ At 8th session, ranged from 0.14 to 1.23m/s <p>No significant change in the average gait speed for the participants</p>
Zarit Burden Scale	<p>Complete data only from 6 of the participants</p> <p>Reduction in carer's stress</p> <ul style="list-style-type: none"> ○ At 1st session, median = 23, ranged from 1 to 40 ○ At 8th session, median = 17, ranged from 2 to 43 <p>Improvement not found to be of statistical significance</p>
Well-being Profile	<ul style="list-style-type: none"> ○ At 1st session, positive indicators' average 5.9, negative indicators average 2. ○ At 8th session, positive indicators' average 7.6, negative indicators' average 0.

Table 3: Summary of quantitative scores

The above findings reveal some improvement in FIM and the Zarit Burden Scale, suggesting that creative movement can help in improving the functional performance of the person with dementia and thus reducing the

perceived burden of care required from the carers. While the improvement is not found to be of statistical significance, these findings are similar to a study conducted at the Singapore General Hospital in 2013 by Gabriel et al where the Alzheimer’s Disease Quality of Life Inventory (ADQoL) was administered to 10 participants and the caregivers and the Neuropsychiatric Inventory (NPI) administered to the caregivers over a 6 week creative movement intervention conducted by Arts Fission. ADQoL results showed a significant difference between pre and post total quality of life score as rated by participants [t(9) = 2.849, p=.019]. The study also noted that caregivers reported a general decrease in the frequency and the severity of inappropriate behaviours following the workshop but with only one significant finding in total NPI frequency and severity scores [t(9) = 3.077, p=.013]. Both studies are in concordance to suggest that the intervention can contribute to a better quality of life as reported by the participants and also assist in alleviating their stress and feelings of burden in their care-giving.

Quantitatively, the above reports thus indicate that creative movement interventions do have a possible positive impact on the functional and behavioural aspects of life for persons with dementia. Qualitatively, based on an analysis of video recordings and the feedback log by observers and dance facilitators, positive person work was evident over the 8 weekly creative movement sessions. Examples of aspects of positive person work witnessed during the creative movement sessions have been summarized in the table below:

Recognition	Facilitators greeted participants individually by name at the start of each session. Participants listened to each other’s suggestions for movement. Participants also interacted one-to-one as they partnered one another for the goodbye dance at the end of each session.
Negotiation	Facilitators included one participant’s request for ballroom dancing during two of the sessions.
Collaboration	Participants held hands to carry out a movement that requires a circular formation. More alert participants also actively helped less able participants complete a movement.
Play	Participants were encouraged to explore the sound of various instruments at the session on sound. Some participants also playfully responded to one another, such as throwing kisses at each other or throwing the ball playfully to another.
Relaxation	Participants became more relaxed during the warm-up sessions, where they visualized going out for a walk. Participants also became more relaxed over the 8 sessions as they got to know the facilitators and each other better.
Facilitation	Participants with moderate dementia were encouraged by the facilitators to complete the movement when they seemed lost or unable to complete the action.

Table 4: Summary of examples of positive person work witnessed during the creative movement sessions.

The indicators of positive person work gives evidence to an environment that was clearly social and interactive for both the persons with dementia and their care-givers. The interactive quality of the creative movement sessions broke the ice among participants, who became more relaxed with others over the 8 weeks. Some participants eventually greeted each other and held independent conversations with one another before the sessions started each morning. Care-givers shared how their charges were excited about attending the session and took pains to dress up for it. Some care-givers also took part in the sessions alongside their charges, giving them verbal and non verbal positive encouragement and support. As care-givers were encouraged to sit in during the sessions, many started to chat with one another, exchanging information of activities and how their mother or father, or charges (in the case of foreign domestic helpers), were coping. These positive forms of social interaction strengthened the personhood of both the person with dementia and their care-givers, as the group started to recognize and respond to one another with encouragement and support. Not once was any participant or care-giver left isolated, made to feel disabled or judged to be incompetent.

The social experience of a creative movement intervention is thus different from one-to-one clinical or physiotherapy appointments where the emphasis is focused on individual medical or clinical care. Creative movement not only engages and has the potential to improve an individual's physiological abilities, it has the potential to enhance cognitive functioning through imaginative and expressive activities which, in an interactive environment, encourages pro-social behaviour that promotes mutual support and recognition of personhood. Both the qualitative and quantitative findings of this study suggest that the creative movement sessions have made a positive impact on individual persons with dementia through the set up of a socially interactive environment which instigated occasions for positive person work to take place. Both participants and care-givers thus shared a sense of well-being from the positive environment, which likely improved the behavioural and functional response on the part of the participants during the sessions, thereby influencing the perceived levels of burden of care experienced by the care-giver. This study however is limited by its small sample size, and conclusive evidence of co-relations between well-being, improved participant response and reduced perceptions of burden of care cannot be made, but can only be tentatively suggested.

Future research to develop conclusive findings on the effects of creative movement interventions on persons with dementia should therefore consider a larger sample size, a programme with increased regularity of creative movement sessions per week and a creative movement / dance movement therapy programme which structurally builds on the cognitive, expressive, physical and social responsive abilities of the participants over time.

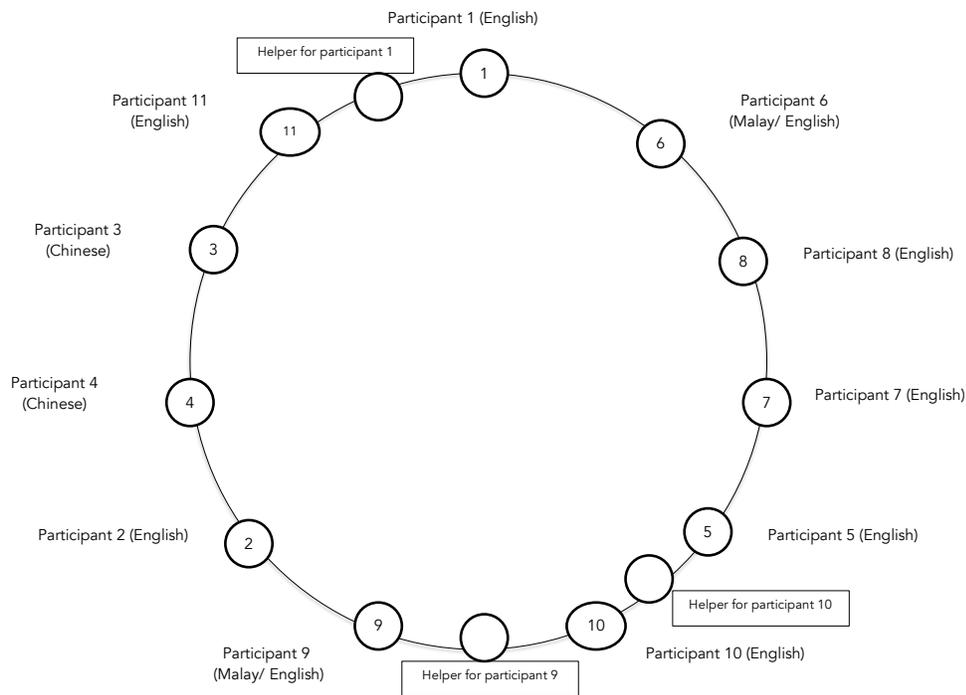
Conclusion

Dementia is not merely the ailment of an individual who becomes invalidated from life at the moment of diagnosis. As Singapore's population ages, dementia is a social issue where social institutions, from the state to healthcare agencies to families, have to find ways of coping with the increasing numbers of elderly with dementia. Medical approaches to dementia can address neurological and physical conditions of the individual. These approaches however are limited in their response to psychosocial stresses and distress caused by the presence of dementia to both the affected individual and their circle of kinship. This paper supports the approach of positive person work and person-centred care in the treatment of persons with dementia. Through creative movement interventions, persons with dementia and their care-givers experience a socially interactive environment that is positive and supportive, thereby suggesting an enhancement of well-being among persons with dementia and reduced perceived levels of the burden of care among their care-givers.

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Annex 1: Seating arrangement



Annex 2

The following table tracks weekly thematic approaches and their corresponding improvised activities which took place after the warm-up activity:

<p>Week 1 Round Objects</p>	<p>Experiential/sensory activity: The 11 participants were divided into two smaller groups. Heavy pebbles and the light papier-mâché eggs were passed around among the two groups. Facilitators encouraged responses from the participants</p> <p>Creative movement/dance activity: Facilitators led participants (now sitting back in one big circle) to perform certain hand gestures and movement in reference to the shape and weight of the round objects, e.g. heavy vs light, small and large size, and relevant actions like crack open the egg, drop and catch the heavy pebble.</p> <p>Music used:</p>
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	<p><u>This Never Happened Before</u> by Paul McCartney The lyrical and calming ballad aids the slow performing of arm movement</p>
Week 2 Round Objects	<p>Experiential/sensory activity: Continued with sharing of round objects with heavy papier-mâché eggs. Origami objects like paper bird and folded prawn were placed inside the two big papier-mâché eggs.</p> <p>Creative movement/dance activity: Facilitators and participants talked about the paper bird and prawn found inside the eggs but some participants' engagement were waning and drifting a bit; the conversation eventually shifted to the topic to food the movement of cooking or boiling an egg was introduced</p> <p>Music used: <u>Por Una Cabeza</u> by <i>Carlos Gardel</i> Latin music and tempo tend to bring on bright and happy mood</p>
Week 3 Round Objects	<p>Experiential/sensory activity: Continued with colorful plastic eggs. Everyone got to pick one plastic egg and each opened the shell and played with hitting the halved shells together.</p> <p>Creative movement/dance activity: Participants tried</p> <ul style="list-style-type: none"> • Tapping the halves of the eggshells • Tapping feet on the floor • Trying out fast and slow rhythms <p>Music used: Vardarito by Gidon Kremer</p>
Week 4 Food	<p>Experiential/sensory activity: The session was divided into two groups. Everyone picked their eggs, opened them and found the specific picture inside the egg. Participants were encouraged to devise related gestures or movement in reference to the food picture he or she took out from the plastic egg. Eg: One participant initiated movement on how she made her instant coffee every morning. Facilitators helped the participants to put their movement responses into short movement phrases and taught it to other team members in the same group.</p> <p>Creative movement/dance activity: Food-inspired movement phrases were shared and performed for each other when all rejoined the big movement circle.</p>

<p>Week 5 Outings</p>	<p>Experiential/sensory activity: “All in a Day’s outing” is a theme about making an everyday trip out and about. The topic was based on cutout pictures showing different locations and gathering. The pictures were placed inside the plastic eggs which each individual received and plied open. The Facilitators encouraged the participants to talk about the outing shown in his or her picture. Participants were eager to share about their experiences to the facilitators and with one another.</p> <p>Creative movement/dance activity: The group performed the movements created by participants.</p>
<p>Week 6 Sports</p>	<p>Experiential/sensory activity: In reference to the SEA Games taking place in Singapore, movements connected to different kinds of sports were used and incorporated into a “sports dance”. A handmade cardboard paddle is brought in alongside a pingpong paddle, couple tennis balls and pingpong balls, and a soft toy soccer ball to experience the various sport games.</p> <p>Creative movement/dance activity: Sports movements</p> <p>Music used: <u>Penny Lane</u> by The Beatle The song has a happy joyful beats to encourage performance of gestures and movements.</p>
<p>Week 7 Scent</p>	<p>Experiential/sensory activity: With the aim to trigger off personal memory through the physical act of smelling, various spices like cinnamon powder and sticks, cloves, fresh jasmine blossoms, small kaffir limes (with rinds scrapped off from the fruits), lemon grass essential oil, and even an empty jar of Vicks menthol as scent material were shared among the participants. All the scent material were placed inside small clear glass jars and spread out on a long table. Everybody just sat around the long table and shared and smelt the different spices and herbs. Participants engaged in conversation about the names of herbs and spices and how to use them in cooking.</p> <p>Creative movement/dance activity: The creative movement comprised some of the participants’ animated gestures and moves and the Facilitators helped to incorporate them into a short dance sequence which everyone shared by performing it together around the table.</p>

	<p>The movement sequence included the followings:</p> <ul style="list-style-type: none"> Rolling the lime Pounding the herb Breaking the cinnamon sticks Sprinkling the spices Stirring the pot with boiling soup <p>No music was used as participants were very excited in using gestures and movement to relate to the scented material on the table.</p>
<p>Week 8 Sound</p>	<p>Experiential/sensory activity: Small handheld percussion instruments were brought into the last session to explore the audio response of the participants with creative sound-making. The instruments included various sizes of brass singing bowls from Nepal, wood block from Bali, small handheld drums from Japan with attached beads that hit the drum when twisting the hand, different small sizes of brass hand bells and a leather strip of tingling bells from Myanmar.</p> <p>The instruments are laid out on the long table and all participants sat around the table taking turns to use different mallets/sticks to strike on the instruments and explore making different kinds of sound. The idea is not so much about playing in the conventional rhythmic way but more to produce sounds with basic nuances like loud, soft, and long echoey sounds in space. Participants responded playfully to the instrument, banging on them spontaneously.</p> <p>Creative movement/dance activity: Three hand gestures of striking and playing on the instruments were made into a short dance phrase for all to perform with music.</p> <p>Hitting actions (the bowl) with forearm and hand Then shaking the hands (the bell) continuously End with twisting (the drum) the hands</p> <p>Music used: <u>Unsquare Dance</u> by The Dave Brubeck Quartet The opening hand-claps in this piece of music stimulates and reinforces the audio and tactile sensation experienced earlier in the creative session of hand-strike percussion instruments.</p>

