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Option 1: The Effectiveness of Dance Movement Therapy with
Elderly Women Who Have Dementia

Han Wang

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Introduction

Research shows that in 2015, there was one new case of dementia somewhere in the world every three seconds. This is four times as much as new cases of HIV/AIDS (Wortmann, 2016).

As our world population rapidly ages, the number of people who develop dementia is also growing. The chance for elders developing dementia at the age of 65 is 1 in 15, increasing to 1 in 3 for those over 85 years old (Wortmann, 2016).

Dementia brings significant impacts to patients and their families as well as to our society. For those who have dementia, they are losing the control of their own life, for the families who care for the dementia patients, they are facing the emotional, physical and financial challenge. For the society to provide the support for the growing number of patients in need of care is also challenging. Dementia care already costs more than the combined costs of cancer and heart diseases in the countries with the highest incomes (Wortmann, 2016). According to my own experiences as an intern at an elderly residential house and my family's experience, I saw how challenging it is to deal with dementia and how difficult it is to find the right services and the right care for people with dementia.

Dementia is a progressive condition in which changes in cognition and emotional regulation decrease a person's ability to function in daily life, which has significant implications for psychological well-being. Also, people who have been diagnosed with dementia can face major issues from language and communication difficulties to memory loss as the illness progress. This often causes anxiety and depression (Hamill et al, 2011). Therefore, it is vital for

people to understand and develop different forms of psychological interventions for dementia patients.

Research shows that weekly dance activities were enough to change brain growth factors that support brain plasticity for seniors. It can activate the areas in the brain associated with perception, emotions, executive function, memory and motor skills (Forster, 2013). Dance movement therapy (DMT) is regarded as a useful and appropriate intervention for those who find words difficult, those with cognitive impairments, or those who find it difficult to express and explore their emotions. It's also combined both physical and psychological benefits. Therefore, it is possible that DMT has positive effects such as delaying cognitive deterioration, increasing social interaction, reducing anxiety etc. for people who are suffering from dementias.

Research suggests for elders younger than 90 years old, gender does not make much difference on the incidence of dementia. However at the age of about 90, men seem to have a lower risk than women. Over the age of 90 years, the incidence of Alzheimer's disease was higher for women than for men. The risk of vascular dementia was higher for men than for women across all age groups (Ruitenberget al., 2001). The incidence of different types of dementia for men and women could be different also men and women are interested in different DMT activities, these all could be the factors that affects the final results in this paper, therefore this research will only focus on the effectiveness of DMT as the intervention for female elders with dementia.

Literature Review

Description of Dementia

The World Health Organization (2019) states that "Dementia is one of the major causes of disability and dependency among older people worldwide," Dementia is a collective name that describes a group of symptoms associated with a degenerative brain syndrome. It affects thinking, behavior, emotional or other thinking skills, which affects a person's ability to perform in daily activities (Alzheimer's Association, 2019). There are many kinds of dementia, such as Alzheimer's disease, frontotemporal dementia (FTD), creutzfeldt-Jakob disease (CJO), Lewy body dementia (LBD), Vascular dementia, Huntington's disease (HD), Mixed dementia, Parkinson's disease dementia, etc. Alzheimer's disease is the most common type, 60 to 80 percent of the dementia cases are due to Alzheimer's disease (Plassman et al. 2007). Vascular dementia is the second most common dementia type, and it occurs after a stroke. Lewy body dementia is the third most common cause of dementia, accounting for 5 to 10 percent of cases (Alzheimer's Association, 2019).

Brain Basics and Dementia Effects.

The symptoms of dementia are caused by physical changes in the brain. The brain is the most powerful organ in the human's body, and it includes three main parts: cerebrum, cerebellum, and the brain stem. The cerebrum fills up most of the skull; it controls remembering, problem-solving, thinking, feeling and movement. The cerebellum sits at the back of the human skull. It is involved in coordination and balance. The brain stem sits in front of the cerebellum,

and beneath the cerebrum. It controls breathing, heart rate, blood pressure, and other automatic functions. It also connects the brain to the spinal cord. An adult human brain contains about 100 billion nerve cells, more than 100 trillion points connect the nerve cells. The neurotransmitters travel across the synapse, carrying signals to other cells. The damages caused by dementia interferes with brain cells' ability to communicate with each other. When brain cells have trouble to communicate, thinking, feeling, language and other abilities can be affected. Neurons are the main cells that are affected by dementia. It leads to nerve cell death and tissue loss throughout the brain. Over time, nearly all of the brain functions are affected by the damage of the brain caused by dementia. Different type of dementia damages particular regions of brain cells. For example, Alzheimer's disease often first damages the brain cells in the hippocampus region, which is the center of learning and memory (Dementia Alliance International, 2017).

Symptoms of Dementia.

Many dementias are progressive and gradually get worse because it is not a normal part of the aging process, and the symptoms can vary greatly. To be considered to have dementia, at least two of the following core mental functions must be significantly impaired (Alzheimer's Association, 2019).

- Memory - memory loss, having problems with short-term memory, such as continuing to ask the same question.
- Communication and language - cannot find the right words or cannot understand other

people's words.

- Ability to focus and pay attention – such as having difficulties with what used to be routine tasks.
- Reasoning and judgement
- Visual perception

In addition, people with dementia may also experiencing symptoms such as mood swings and personality changes (Karkou & Meekums, 2017).

Treatments for dementia

A NIH Consensus Conference concluded that currently there are no known effective preventive strategies and there are no treatments demonstrated to alter the pathophysiology of dementia (Bethesda & Maryland, 2010). Although some medication, such as cholinesterase inhibitors, may have a positive impact on some aspects of behavioral and cognitive function for some patients, the clinical impact of these medication treatments remains modest and controversial (Raina, 2008). Besides, a recent study shows that several previously recommended for the treatment of behavioral and psychological symptoms of dementia have either unacceptable adverse effects or uncertain efficacy (Weintraub et al., 2010; Fox et al., 2012).

The limitation of the efficacy of pharmacologic treatment is an emphasis on the role of non-pharmacologic treatments and caregivers to take care of patients with dementia. The term “non-pharmacologic” essentially encompass all interventions that are not captured in a pharmacopeia, including dance movement therapy. According to previous studies and articles, dance movement

therapy can be used as an intervention for people with dementia (Hill 1999; Kowarzik, 2004).

For both pharmacologic and non-pharmacologic interventions, the central premise is that although the pathophysiology cannot be altered, caregivers or therapists can help patients adapt to functional limitations and thereby delay the progression of disabilities caused by dementia (Verbrugge & Jette, 1994).

Description of DMT

Dance movement therapy (DMT) is a form of psychotherapy, one of the applied arts therapies. The American Dance Therapy Association (ADTA) defines dance/movement therapy as the psychotherapeutic use of movement to promote emotional, social, cognitive and physical integration of the individual (ADTA). Dance movement therapy is focused on movement behavior as it emerges in the therapeutic relationship between clients and therapists (ADTA). DMT can be practiced in mental health settings, rehabilitation, medical, educational and forensic settings, nursing homes, day care centers, disease prevention, health promotion programs, and private practice. It is regarded as a useful intervention for individuals with developmental, medical, social, physical and psychological impairments, especially for those having difficulties in expressing and exploring their needs and emotions with verbal language and those with cognitive impairment (Karkou & Sanderson, 2006; ADTA). According to clients' needs, DMT interventions can last from weeks to years, and can be used in individual, pair, or group therapy sessions. Each session normally lasts from 30 to 90 minutes and often meets weekly (Karkou & Meekus, 2017). Karkou(2017) mentioned three types of models that are mostly used in DMT

field. The first model describes approaches that rely on movements engagement and focus on specific movement qualities and themes, such as therapists using Laban movement analysis system to analyze client's movements. Second type model is non-verbal interaction between the client(s), and therapist, the mirror technique developed by American DMT trailblazer Marian Chace is a good example of this type of approach. The third model is the client(s) in the presence of the therapist and using movement improvisation during a focus on internal experience. Such as Authentic movement, it is a form that the therapist observes clients' movement improvisation while using the self as an empathic witness, a technique developed by Mary Whitehouse (Karkou & Sanderson, 2006).

Body-mind connection.

From a frustrated child's kick to adults taking deep breaths to calm their nerves, the body-mind connection is everywhere in our daily life experiences. Scientists from different fields are now starting proposing their theories of the body-mind connection, this growing attention to the mind-body connection brings an exciting time for the DMT field. The field holds the theoretical and practical knowledge about body-mind connection for over half a century while other fields are only beginning to understand. DMT has worked from the premise that body, mind, and spirit are interconnected and use movement to further this connection in individuals (American Dance Therapy Association).

DMT field has a lot of studies, and other literature exploring or explaining the knowledge of body and mind, with many relevant statements from the articles:

1. “Functional and expressive aspects of movement are in an intimate relationship,” movement combines purpose and motivation from inner to outer (Hackney, 2000, p. 40). When movements help individuals with their need, it serves a functional purpose; meanwhile the effort and quality of movement can be expressive. Such as holding a pen show the functioning part of movements, and holding a pen very tightly could mean a person is nervous which is the expressive side of the movement. Hackney also claimed that “Inner impulses are expressed in outer form. Involvement in the outer world, in turn, influences inner experiences” (Hackney, 2000, p. 40).
2. Individuals use movement communicate their inner states with the outside world. Marian Chace has mentioned that “dance is communication and thus fulfills a basic human need” (Chaiklin, Schmais & Lohn., 1993, p. 77). To considering movement as communication, the purpose of an individual’s moves must be conveying information to others. Such as children can use movements to express their needs and feeling without knowing the words, or adults use movements to emphasize their words, etc. There is an interesting study that has been done to test the hypotheses that people use gestures in order to communicate with others. The researchers let blind and sighted children responded to a series of reasoning tasks, and they found that the children gestured at a similar rate whether they are sighted or blind. The results show that the gesture appears to be integral to the speaking process itself (Iverson & Goldin-Meadow, 1998).
3. Movements reflect who we are, and it can reveal one’s personality, mood, motivation, etc.

Different from communication that we mentioned in point 2, when the individual is not expressing their inner states aloud consciously or unconsciously, movements still shows information about the person regardless of their intentions. Body movement, postural attitudes, physical alignment reflect an individual's mental state (Levy, 2005). Chaiklin and Schmais (1993) also mentioned in their book that distortions in body shape and functions are maladaptive responses to individuals personality, experience, and preference manifest. Studies show that body movement, postures, efforts reflect an individual's mental state, personality, and other information. Such minimal arm swing, slumped posture and slower body speed are common movements in individuals diagnosed with depression and people induced to sadness (Lemke, 2000; Michalak et al. 2009).

4. Since the mind and body are strongly connected with each other, when one of them changes, it automatically impacts the other. Dance movement therapists often use this character of the body-mind connection and focus on a change in the client's movement quality without requiring them to be conscious of those changes. It is assumed that movement ability changes or bodily functions changes may have significant psychological ramifications, such as how limited mobility can cause a feeling of helplessness. At the same time, increased movement ability or movement qualities can widen mental perspective (Bartenieff & Lewis, 1980). Therefore, increasing the clients' movement repertoire is often as a treatment goal in DMT session (Acolin, 2016).
5. An individual's body awareness contributes to healthy functioning and cognitive control.

Individuals can practice detecting and discriminating feelings to be more aware of their own emotions in order to gain the skill of conscious control and regulate their own emotions. Mindfulness (Germer, 2005) and Authentic Movement (Levy, 2005) are two among many methods that are used to achieve body awareness in DMT sessions. I use Authentic movement in my DMT sessions with dementia patients sometimes. Authentic Movement can be hard to apply to this population because I have to wait for the right moment. For example, I remember a beautiful moment in one of my sessions. I was working with a group of dementia patients, and we were moving along with some very gentle music, everybody was following my movements. Then I noticed one of the clients closed his eyes and started to move his arms with very light effort, and looked like he is flowing in the air. I just observed him and kept quiet for a while to give him space and opportunity to be aware his body by himself and also give me a chance to know him better.

The therapeutic relationship.

The foundation of psychotherapy is rooted in human relationships, therefore the therapeutic relationship is the basic framework of any treatment approach as it leads to therapeutic changes and can be healing in and of itself (Gelso, 2014; Norcross & Wampold, 2011). It has already developed from Freud's emphasis transferred to Rogers's genuine interpersonal relationship (Horvath, 2005). In DMT treatment sessions, the relationship between clients and therapist can also be developed as a therapeutic movement relationship (TMR); it is one of Marian Chace's four core concepts (Chaiklin & Schmais, 1993). Levy also indicated that

engaging in a therapeutic movement relationship as a tool of acceptance and communication was Marian Chace's revolutionary contribution to the DMT field. TMR is taught to all DMT students as a fundamental concept. However, there is no clear and concise definition of therapeutic movement relationship founded in DMT field yet, and it is often called therapeutic relationship instead of therapeutic movement relationship in DMT literature. Empathy is the foundation of a therapeutic relationship, and it improves the effectiveness of the relationship (Federman, 2011). In DMT sessions, empathy is established through the movement connection between therapist and clients, such as the therapist experiences an "embodying of client's feelings, emotions, and movement qualities," showing that empathy is necessary for therapeutic changes (Chaiklin & Schmais, 1993).

The use of movements in DMT.

DMT uses the body and encourage clients to use movements, it expected to have some physiological benefits associated with exercise, also may have positive effects on cognitive functions (Colcombe & Karmer, 2003).

In regard to the developmental aspect of the movement, DMT believes that there is a normative development progression of healthy movement; if a person experienced trauma during one of the developmental movement stages, the movement development may get disrupted during growth. For example, an adult's child-like behavior or movements might come from trauma experiences as a child. The human body is integration. It is integrated by brain, limbs, torso and other body parts; movements are supporting the conscious or unconscious integration

of the whole body (Meekums, 2005). Through movement can help integrate as a whole, it can lead to significant therapeutic change (Acolin, 2016). Peripheral theories of emotion argue that emotions come from bodily responses. In the neurophysiological field, Damasio claimed that emotions are generated by the brain's reading the state of the body through interoceptive and proprioceptive afferent input. The information that the brain receives represents unconscious emotions which manifest as conscious feelings. Therefore emotions could be regulated through deliberate control of body movements, and its consequent proprioception. This concept is used in DMT sessions. Therapists guide clients to move specific ways to explore and practice unfamiliar movement patterns, help clients process, regulate certain emotions, and experience unaccustomed feelings (Shafir, 2016).

DMT is body focused intervention, "Body focusing increases the ability of clients to detect and discriminate feelings" (Pallaro, 1996, p115) The detecting and discriminating of feelings can help individuals consciously control and regulate emotions.

It is also possible to use dance with elders to evoke their experiences when they were younger of social dancing and the pleasures that this brought (Karkou & Meekums, 2017; New-Bluestein & Chang, 2017). Although for elders with dementia, it may impossible to remind them of their dance memories their body might have the ability to bring the feelings back.

Why DMT Can Be an Effective Intervention for Dementia

More and more people have been diagnosed with dementia worldwide, there is a growing need for treatments and services that focus on issues beyond pharmacological treatment.

Therefore it is meaningful to find engaging and suitable psychotherapeutic interventions to improve dementia patients and their caregivers' life quality, emotional expression, stimulation of cognition, and physical well-being, while also preventing and managing behavioral and psychiatric difficulties. Considering dementia patients' verbal language, memory and other cognitive abilities, approaches that use non-verbal languages, focus on body-oriented can be effective treatments (Newman-Bluestein & Chang, 2017). Therefore dance movement therapy is a suitable intervention for dementia treatment, as it provides the opportunity for individuals with dementia to be truly present, engage in their senses, and to tap into their independence, individuality, and self-awareness (Hornthal, 2019). It can provide more than medication, which is mostly focused on reducing cognitive deterioration. Dance movement therapists treat individuals as a whole, not only working on the cognitive functions but also helping clients address their feelings, emotions, social and physical aspects (Karkou & Meekums, 2017).

Psychological benefits.

Reduce Anxiety, depressive symptoms, enhance mood.

Elders who are diagnosed with dementia often face major loss as their dementia progresses. Language loss, confusion, communication difficulties, memory loss and the feeling of losing control of their life little by little can cause major anxiety and depressions (Garner 2004; Meisen 2006). Dementia patients not only have to deal with the permanent nature of their dementia symptoms but also have to face future deterioration. Not able to express their feelings with verbal language as the illness progresses makes it even more complex and challenging to

deal with (Cheston, 1998). In addition, it can be very difficult to find effective psychological treatment for a dementia patient's as their illness progresses since their cognitive ability declines significantly.

Since our body and mind are strongly connected with each other, when one of them changes it automatically impacts the other (ADTA). This feature of DMT is ideal for dementia treatment. A DMT therapist can focus on changing client's movement quality, rhythm, effort without requiring clients to be conscious of these changes, and it can still create a positive impact on the mental health level. Furthermore, in DMT sessions dementia clients are encouraged to move their bodies, and when we engage in movement, our bodies release chemicals called endorphins that help us relieve pain, stress and produce a feeling of euphoria (Samvedna Care, 2017).

Expression.

It is possible to effectively communicate with individuals with dementia through alternative approaches and therapies. Dance movement therapy is one of those approaches. It provides an outlet for dementia patients to express their feelings and emotions(Hornthal, 2019). Nystrom and Lauritzen believe that there are three expressive modes were used to support communication in the DMT group with clients who have dementia. This includes speech dialogues, where therapist and clients use gestures and other body movements to help compensate verbal communication. For example, I tap the chair while I am inviting group members to have a sit so that she can receive the information both verbally and visually. It helps

them understand better; movement fantasy, where they use movement to express and communicate feelings and emotions. To give an example for some of the group members, finding the right words to express themselves is extremely hard due to dementia. The DMT group can evoke their body movements and make them feel more comfortable with doing movements. So they might clap hands or raise their arms when they are saying "good." So the other people in their group can tell that they are showing different levels of "good," happy or other emotions. Which also make them feel better because their feelings are not trapped inside of their bodies.; and the last approach involves song and music (Nystrom & Lauritzen, 2005).

Communication, connections, social interaction.

One of dementia's consequences is that it can significantly affect patients' communication with others due to their decreased capacity to verbally communicate, which can be very frustrating for both the clients and their families/caregivers. Because of the limitation of other abilities, dementia patients' body movements seem to play an even more important role in their communication with others.

In DMT, most of the time the therapist is focused on the body, which means a lot of the work it takes place on a nonverbal level. Although speech does occur, it usually takes a subordinate role to the clients' different body movements (Nystrom & Lauritzen, 2005). One of the fundamentals of DMT is that dance is a way of communication, this nonverbal communication has been described and analyzed by DMT tradition in terms of synchrony (space, rhythm, effort) and symbolization (Schmais, 1985). This nonverbal communication can be a new

way for dementia patients to communicate and express emotions, as dementia significantly affects language and cognitive awareness (Hornthal, 2019). Hornthal (2019) also mentioned that DMT is an effective intervention can engage and encourage individuals with dementia to communicate. Chaiklin (1975) summarized Marian Chace's clinical practice on the communicative aspect of body movements:

Since muscular activity expressing emotion is the substratum of dance, and since dance is a means of structuring and organizing such activity, it might be supposed that the dance could be a potent means of communication with, and reintegration of, the seriously ill mental patient. (p. 71)

Synchrony is at the core of any encounter between people, this is even more so for people with dementia (Kendon, 1970). During DMT intervention, clients with dementia engaged predominantly with synchronic movements and results showed that it seemed like the synchrony was helping dementia clients to stay in the interactive field (Nystrom & Lauritzen, 2005).

Lyons and Karkou et al. (2018) reviewed articles and studies in DMT field, concluding that for people with dementia, dance movement therapy is an enjoyable, empowering experience that can help them create connections between their thoughts, feelings and physical sensations. Just like how a brain stores memories, the human body (and senses) have a memory as well. In DMT session music and movement can help dementia clients evoke memories or feelings that mind doesn't remember (Gogliotti, 2017).

Maintain and at times improve memory and cognitive functioning.

Dance movement therapy can maintain and at times improve dementia client's memory and cognitive functions (Hornthal, 2019).

Assessment tool.

The movement reflects one's personality, mood. It shows information about one person regardless of the individual's intention. Therefore movement can be an assessment tool for therapists to understand their clients better (ADTA). Kowarzik's (2006) observations indicated that DMT could be used to assess the client's physical and emotional expressions and communication skills. Such as in a DMT session through movement, the therapist can tell a client's physical ability by observing their facial expressions and motor patterns to help structure the future sessions and have a sense of client's emotional states. Observation is especially for clients who have difficulty communicating and understanding verbal language (i.e. clients with dementia). Therapists can also practice empathy by observing, imagining, or mirroring clients movements and posture (Shafir, 2016).

Physiological benefits.

Although the purpose of dance movement therapy is not to practice dance techniques, it is still an intervention that uses movement as the primary medium to address psychosocial goals and concerns, and clients are encouraged to use movements during the session. Therefore some positive physical changes can be expected in the DMT session. For elders, falls and unstable balance is always high on the rank of serious clinical problems and considerations. Research shows that dance-based exercise approaches can improve strength, endurance, body mechanics

and can significantly reduce the fall risk for the elderly population (Rubenstein, 2006).

The use of music.

Although music is not necessary for DMT sessions, it is very common for the therapist to use music when working with dementia clients. Studies show that music therapy is closely aligned to DMT, the combination these two disciplines may have positive effects in improving language skills, enhancing social functioning and reducing behavioral symptoms associated with dementia (Vink et al., 2003). Nystrom and Lauritzen's three expressive modes in DMT also mentioned song and music, they believe that use music can stimulate dementia clients' memory of song and music fragments, especially when they sing along with the music and accompanied with body movements, music seem remind them feelings that their body remembers and help them uniting functions of rhythm (Nystrom & Lauritzen, 2005).

Reduce stress for Family/caregivers.

For dementia patients, families and caregivers, the diagnosis of dementia have already caused severe mental distress. The care work for dementia patients can be isolating, complicated and unpredictable, and during the process of dementia care the families or other caregivers may also face other emotional difficulties and significant issues of loss (McCurry, 2008). All of these factors can cause caregivers mental health illness and possibly impact the life quality and overall well-being of dementia patients. On the other hand, caregivers attending to the relational world of dementia patients and the environment of caregiving in service provision are very important for dementia patients. Research shows that maintenance of a dementia patient in the community

is more related to the well-being and attitudes of families and other caregivers than factor such as the severity of dementia (Clare & Shakespeare, 2004). Therefore addressing both dementia patients and their caregivers' emotional well-being in order to reduce pathological grieving and feelings of isolation is very importance (Meisen, 2006).

Methods

The experiential part of this study was conducted in a residential house in New England; participants were all from the memory care service in the residential house. A small group of six people attended, including four people with dementia and two staff caregivers. All participants were female.

Elderly females with moderate to advanced dementia, who were suffering from emotional distress such as isolation and anxiety were suitable for this group. All of the participants are Caucasians who speak English and were formally diagnosed with dementia.

The therapy was provided by a dance movement therapist in training and supervised by a licensed dance movement therapist. Two other caregivers from the residential house also joined the sessions. A therapy area was established in the facility, which was a safe, quiet, and relaxing, and provided enough space for all clients to move together. The therapist would use props such as scarves, balloons, parachutes, and musical instruments in the group activities, which improved the atmosphere, cohesion, engagement, and attention of the group.

Circle dance is very common in many different cultures, encouraging togetherness, connection, acceptance, support and well-being. It is focused on participation, not performance,

because everyone is involved in the circle. It is an accessible type of dance for individuals and groups of all abilities; it was a suitable approach to use in DMT sessions with elderly living with dementia (Hamill et al., 2011). Everyone is seated due to some of participants' poor mobility and balance. The music used for this group mainly comes from the era familiar to the clients to help them feel a connection with the group and thus feel more secure, more at ease and more comfortable to express their feelings through movements or language. Like what read in the literature, when the clients hold each other's hands in a circle, they move with others and mirror under the same rhythm. All of which help decrease communication difficulties caused by language and cognitive impairment due to dementia, and reestablish a new attachment and connection with others as well as the outside world.

Structure of the intervention sessions

The dance movement group met once a week and was open to other residents who lived in the residential house as well. There were eight sessions and each session last for 45 minutes. The sessions were structured the same every time, including warm-up, theme intervention, and closure.

1. Warm-up: the session began with the therapist briefly introducing herself to the group, and welcoming everybody by going around to each member of the group and mentioning their names. Then in the body warm up afterward, the clients took deep breaths and moved their body from side to side, slowly warming up all parts of their bodies from fingers to toes. The therapist often adopted some imaginative ways in order to be more understandable to help

the clients move their bodies, for example, the clients were asked to imitate playing the piano by moving their fingers, swimming by moving their arms, and turn to the person beside them and say hello which made them do gentle spine twist and move lower backs.

The body warm ups were conducive to establishing trust and a sense of identity among the group, preparing the clients for effective intervention both mentally and physically.

2. Theme intervention: each session had a different theme; the themes were selected by the therapist's reflection on individual's feelings, thoughts, memories and interactions, and consideration of the holidays, weather and other factors that related to clients' daily life. Movement styles, activities, music, and props were also based on different themes. For example, during the week of Valentine's Day, the theme of intervention session was love. We used music like "I'll always love you," "Everybody loves somebody," etc. Six to seven dances were introduced and practiced with the music. The therapist explained the theme of the songs and movements, the clients mirrored or created their own movements to explore and experience the theme. The group used a heart shape plush as a prop for that day, and each group member had a turn to hold the heart plush and did a movement that represented the feeling of love. The rest of the group mirror the movement he or she just did, and then sent the plush and their love to the next person. One of the group member held the heart plush and give herself a big hug, and another person blew a big kiss to the whole group. Some of the participants with severe dementia could not fully understand the activity, but the rest of the group mirrored whatever they did when they were holding the heart. For example,

one of them just smiled when she got the heart plush, so the group mirrored her smiling face. They were free to stand up and dance during the group if they want to, sometimes they had staff help them when they need it. They were encouraged to express themselves freely, sing along with the music, hold hands, make eye contact, mirror therapists' or other group member's movements in order to express their feelings and stimulate social interactions. The clients tended to be more engaged and interactive with others when they heard familiar music or activities that they could easily get involved in.

3. Closure: after the dances and other activities, everybody sat back on their chairs so everyone in the group could see other group members and the therapist. I shared my own feelings and thoughts about each session through movements or words, I like to let them know they made this group very meaningful, I was lucky to be there with them and they brighten my day every time. I also asked the group members to share their thoughts and feelings at the end of each session; they could also share it through movements or verbal language. Then at the end, I invited everyone in the group to take deep breaths together. After each session I also helped clients transfer to their next location, which is the dining room. Sometimes during the transition, clients and the therapist sang songs that we just danced to in the group.

Results

Participants

All the participants smiled more often after and during the intervention, and at least half of the patients have an improved quality of life as reported by the staff and their family members.

For example, one of the staff members reported that the residents often have a better mood after the DMT group, and interact with others more often. They also mentioned that the group helped them build a closer relationship with the residents, in which the residents are comfortable to ask for help when they need it. I observed that at least half of the patients had more body movements in their daily lives, and the whole group was supersized because one of the group member would make some drastic movements in the group session which she could not normally do. The staff caregivers who participated in the group also said that they had a better mode of communication and built more emotional connections with the clients.

General Observation and Finding

During the intervention treatment, there were many social interactions between the participants as well as between the participants and the therapist, with moments of empathy, support, acceptance, attention to oneself and others. According to the observation and notes of the therapist, as well as the information provided by two caregivers involved in the treatment, DMT helped patients with dementia improve mood, concentration, social interaction, and provided an effective mode of communication to help the clients and those around them establish emotional connections.

The dance movement therapy group provides a way and place for the clients to communicate with each other. However, I observed that in general there was basically no interaction when the clients did not involve in an activity. Even when they were sitting on the

same sofa, they were just sitting in a daze or doing their things just wrapped up in their own world. In the DMT group, there were many opportunities for them to hold hands, look each other, mirror, dance and sing together. These were naturally and easily expressed by the participants themselves without make women feel more confused or stressed with their declining cognitive abilities. All the group member would concentrate on the activities, make eye contact, and dance spontaneously with the props. The group member felt secure and relied on this weekly group, which was very supportive and receptive to others. Some people would share pictures of their family with the group, or compliment and applaud when someone danced in the center of the circle. The intervention of the therapist and the information provided by the two staff caregivers indicated that the intervention group made them pay more attention to the clients' emotional needs which are sometimes overlooked in the care work. Before the DMT intervention most of the care work for the staff was focused on the most basic needs of the clients, such as eating, taking medicine, drink water and bathing. The group helps them to realize that there were further difficulties with their emotional attention coupled with significant declines in language abilities and cognitive abilities among patients with dementia, which also need to take care. The caregivers also said that the clients had a better relationship with them after attending the group, with more emotional connection and effective communication, which made their work easier. Similar to the literature, During or after the group, the caregivers' emotions had a direct or indirect impact on the emotion and living quality of the patients with dementia.

Individual Observation and Findings

Four people living with dementia joined this group, their ages ranged from 76-79 years old.

Two of the participants had good physical performance but limited cognitive ability, only understanding short words and sentences, which made it difficult to express their feelings and needs in words and made them very confused and insecure most of the time in their daily life. As could be easily seen from their facial expressions, they both had high anxiety, and one of the participants would sometimes be late for or miss the group session due to her anxiety. However, when in the intervention treatment group, they seemed to be relaxed, always smiling and making movements to the music. One person enjoyed dancing very much and did not stop dancing as long as the music was playing. While the other group member spent most of their time mirroring the therapist's moves, she would spend most of her time in the middle of the circle making up her own moves and enjoying her own dancing with praise from the therapist and other group members. She would also try to make eye contact with other members and invite her friends to dance with her. One of her best friends, another participant in this group, would always stand up and dance with her. Like the literature mentioned, to these two participants, the DMT group helped them relax, have a sense of security, express themselves, communicate and interact with others and build up their self-confidence.

The third participant had a good cognitive ability, yet she believed that she was not physically fit enough to move, so she would not mirror the therapist in the group session.

However, she would always show up on time, enjoy watching others dance, and praise and

applaud others from time to time. She also mentioned by herself that the DMT intervention group improved her mood, and she highly enjoyed watching others dance in the group.

Another participant used a wheelchair, and she had relatively good cognitive ability but limited physical ability to move and difficulty communicating clearly. Sometimes she looked tired in the morning, and she usually rested with her eyes closed in the first few minutes of the group. Then she would slowly get carried away and swing her fingers or feet to the rhythm of music, with simple moves but dancing freely within herself. This work was always so meaningful to me when I saw her open her eyes and try to move her body in the wheelchair. She would always look at me with concentration, and try to move with me. Whenever I made eye contact with her, she would always respond with a beautiful smile. She was fully focused on movement activity. During an activity with balloons as props, which she loved the most, she would raise her right arm very high, stretch her whole body, use her feet to push the pedals on the wheelchair, and try to reach the balloon. She surprised everyone by did such radical movements, as the whole time the staff and I thought her body was not able to do many movements. Maybe she did not realize that her body could do it either, she seemed surprised by herself as well. That was a big moment we had in these DMT sessions.

Discussion

With more and more people diagnosed with dementia, it is necessary to find an effective therapy for patients with dementia and their families. The study discusses the changes in living quality and emotional expression, as well as impacts on cognitive ability and physical

performance for patients with dementia through dance movement therapy and the effects on dementia caregivers. Although this was a small group and was not a formal study and most of the conclusions are obtained through comparative observation which I did during and after the dance movement therapy intervention, my notes of each participants mood changes, physical performance, frequency of social interaction, verbal or non-verbal communications of each session and information gathered from participants' caregivers and families. Many of the observations presented in the article are valuable and worthy of further study and provides references for practitioners to develop similar intervention measures.

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