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Non-pharmaceutical treatment options for
Alzheimer's care: Music and art therapy interventions

By

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Project submitted in partial fulfillment of the
requirements for the
Bachelor of Integrated Studies Degree

Regional Academic Outreach

Murray State University

April 30, 2018

Abstract

Dementia, specifically Alzheimer's disease may be one of the most misunderstood threat to the geriatric population. Alzheimer's disease is an indiscriminate disease, which may affect anyone, regardless of race, ethnic group, gender, and socioeconomic class. Although pharmaceutical intervention options may be available, they may not provide adequate means of addressing the symptomology associated with the disease. Alternative non-pharmaceutical interventions such as music and art therapies may be better suited for patients suffering from Alzheimer's disease. Research regarding music and art therapies as treatment options has yielded promising results. Furthermore, music and art therapies have thus gained popularity among geriatric care settings both as inpatient and in-home therapeutic wellness programs.

Alzheimer's disease is a terminal illness that effects not only the patient/client but negatively impacts family members, caregivers, health care practitioners, and local, national, and international communities. Alzheimer's disease accounts for roughly 60-80% of all dementia related cases contributing to an astonishing 123% increase in mortality rates due to Alzheimer's disease (Alzheimer's Association, 2018, Alzheimer's Disease & Dementia, 2018, Latest Alzheimer's Facts and Figures, 2018, Simpson, 2015). The prevalence of Alzheimer's disease has been on the rise over the past decades and shows no sign of slowing down. As the geriatric population continues to grow, the need for increased development and implementation of the therapeutic treatment programs for geriatric health care also increases. The current estimated cost of geriatric healthcare is \$277 billion dollars yearly, and that is projected to rise to nearly \$1.1 trillion (Alzheimer's Facts and Figures, 2018).

Alzheimer's is a largely misunderstood and complex disease. Research into the benefits correlated to the benefits of music and art therapy rest on a basic understanding of Alzheimer's disease. Therefore, fundamental background information such as the development, duration, diagnostic assessments, and symptomology of the disease must be addressed prior to discussion of the research literature. The increasing need to address symptomology and promote therapeutic healthcare options has been the catalyst for research in Alzheimer's disease.

Although not as extensive as pharmaceutical research, music and art therapy have shown better outcomes than pharmaceutical interventions. Non-pharmaceutical interventions are often easier to access and allows for an increased multi-disciplined healthcare approach, which promotes overall client/patient physical, emotional, and cognitive well-being (Allen-Burge, Stevens, & Burgio, 1999). Music and art therapy programs can also be utilized in various environments, such as institutionalized, clinical, and in-home settings, with varying degrees of

resources. Additionally, these types of therapies have “real world” applications which enhance a client/patient’s overall quality of life. Because the quality of life is largely compromised due to the deteriorating cognition and physical health caused by Alzheimer’s disease, such therapies are even more promising in their potential to help people affected by this condition

Alzheimer’s Disease

Background

Prior to the discovery of Alzheimer's disease, dementia related disorders had already been widely accepted psychiatric and medical notions. The cognitive and physical limitations and deterioration of an older adult was a characteristic of old age and thus, most of the population accepted senility as being a natural phase before death. It was during the late 19th century when many psychiatrists, medical doctors, and health care professionals began to make a distinction between normal aging and those individuals who displayed unwarranted psychiatric and behavioral symptomology not typical of the aging process (McInnis-Dittrich, 2012).

Alzheimer's disease is named after Dr. Alois Alzheimer, who first identified the disease in 1906 through his research into the relationship between a female client's psychiatric symptoms and the neurological abnormalities discovered during her autopsy (Brannon, Feist, & Updegraff, 2014; Gerow, Bordens, & Blanch-Payne, 2012; Kendall & Hammen, 1995). It was his post autopsy research that provided the evidence of neurofibrillary tangles and atrophy of the cerebral neurons caused by senile plaque deposits within the brain that established a clear distinction into Alzheimer’s disease pathology and normal aging (Kendall & Hammen, 1995; McInnis-Dittrich, 2012; Stewart, 2004; Townsend, 2014; Videbeck, 2011).

Stages

Alzheimer's disease is a progressive disorder that causes an increased decline in speech, motor function, and cognition with some patients exhibiting the development of personality and behavioral changes that may include paranoia, delusions or hallucinations (Berger, 2014; Hockenbury & Hockenbury, 2006; Kendall & Hammen, 1995; McInnis-Dittrich, 2012; Videbeck, 2010). Alzheimer's disease is often categorized as having three distinct stages or phases (mild, moderate, and severe), which range in severity, symptomology, and time frame congruent to disease progression (McInnis-Dittrich, 2012). The duration of the disease itself relies heavily on a client's individual mental and physical wellness. Alzheimer's disease is incurable and thus the client/patient progresses through the various stages or phases from mild, moderate and severe symptomology which ultimately results in patient death (Berger, 2014; Desai & Grossberg, 2005; Lancioni et al., 2013; McInnis-Dittrich, 2012).

The first stage or mild phase (usually under 5yrs.) is usually categorized by mild symptoms of memory loss and confusion, which may be beyond a client's normal past behavior (McInnis-Dittrich, 2012). The incidence of forgetfulness and cognitive impairment also becomes more apparent a few years following a diagnosis (Alzheimer's Association, 2018; Irish et al., 2006). The individual may also develop minor personality changes such as social isolation, irritability and withdrawal (Fukushima et al., 2016; Kendall & Hammen, 1995; Ledger & Bake, 2007; Pedersen, Andersen, Lugo, Andreassen, & Sütterlin, 2017). Family and friends are usually the first to see that an issue with memory and recall are present. An individual may not begin to acknowledge the early onset of Alzheimer's disease during this stage unless a diagnosis has already been made. Moreover, depressive and anxiety episodes may begin to surface once

diagnosis has been confirmed (Berger, 2014; Fukushima et al., 2016; McInnis-Dittrich, 2012; Videbeck, 2011).

The second stage or moderate phase (usually 10yrs.) is identified by moderate symptoms such as inability to retain information, memory recall, communication difficulty, and substantial cognitive function loss becomes more apparent (McInnis-Dittrich, 2012). Confusion, disorientation and wandering are indicative of the second stage (Alzheimer's Association, 2018). Depression, anxiety, and agitation become more prevalent (Lancioni et al, 2013; Zare, Ebrahimi, & Birashk, 2010). Physical limitation and deterioration become more pronounced during this stage. Many individuals are unable to live independently due to their inability to perform their activities of daily living (ADL's) with some clients developing incontinence in the later part of the second stage (Berger, 2014; McInnis-Dittrich, 2012; Videbeck, 2011).

The third stage or severe phase (roughly 2yrs) is associated with extreme cognitive and physical deterioration (McInnis-Dittrich, 2012). Total care is required due to the severity of the disease. The individual may be unable to walk, stand or sit and is often bedridden (Alzheimer's Association, 2018; McInnis-Dittrich, 2012; Videbeck, 2011). Verbal communication deteriorates and becomes non-existent (Dessa & Amir, 2014). Alzheimer's disease may not be the primary cause of death, but it plays a key factor due to the physical deterioration which compromises a client's ability to ward off other diseases and/or illnesses (Berger, 2014; Kendall & Hammen, 1995; McInnis-Dittrich, 2012; Videbeck, 2011).

Diagnostic Testing

The difficulty with diagnostic testing for Alzheimer's disease is that the only certain way of affirming the disease is after death through autopsy of the individual (Gerow et al., 2012; Kendall & Hammen, 1995; Stewart, 2004). Thus, testing for symptomology remains the only

avenue of approach to diagnosis. Furthermore, diagnosis must be obtained through a process of elimination with other medical and psychiatric disorders (Brannon et al., 2014; Kendall & Hammen, 1995; Stewart, 2004).

There appears to be no definitive way to test and diagnosis individuals with Alzheimer's disease and definitive evidence can only be ascertained through post-mortem investigation (Gerow et al., 2012; Kendall & Hammen, 1995; McInnis-Dittrich, 2012). Cognitive and memory testing and assessment tools such as the Mini Mental State Examination (MMSE), Wechsler Intelligence Scale 3rd Edition (WAIS-III), Wechsler Memory Scale (WMS), and the Benton Visual Retention Test may be employed to develop a baseline of cognitive functioning level and whether a pattern of mental functioning deterioration is evident after future testing (Desai & Grossberg, 2005; Hockenbury & Hockenbury, 2006; Palisson et al., 2015; Trull & Prinstein, 2013).

Cranial imaging testing must be undertaken for issues such as head injuries (contusions and lacerations) and cerebrovascular damage (occlusions, cerebral hemorrhage, stroke and tumors) before a misdiagnosis of Alzheimer's disease is made (Townsend, 2014; Trull & Prinstein, 2013; Videbeck, 2011). Furthermore, the structural brain changes and damage associated with Alzheimer's disease can be detected through various testing procedures. Magnetic resonance imaging (MRI) and computer-assisted tomography (CAT scans) can detect deficits in brain structure through brain imaging, positive emission tomography (PET) and single photon emission computerized tomography (SPECT) are the most recent neuroimaging tests that can help detect abnormalities in brain activity and irregular patterns of blood flow within the brain. (Brannon et al., 2014; Clark & Warren 2015; Hockenbury & Hockenbury, 2006; Kendall & Hammen, 1995; McInnis-Dittrich, 2012; Stewart, 2004; Takeda et al., 2010; Townsend, 2014;

Trull & Prinstein, 2013). These procedures can help map out the damaged areas and extent of damage within the brain as related to Alzheimer's disease characteristics.

Genetic Component

Research has found a correlation between genetic abnormalities and the increased risk for Alzheimer's disease. Although Alzheimer's disease is characterized as a geriatric disease it may manifest and develop in middle age (earlier-onset) which may be attributed to the trisomy-21 (Down syndrome) gene, or the inheritance of amyloid precursor protein (APP), presenilin 1, or presenilin 2 genes and genetic mutations in chromosomes 14 and 1 (Berger, 2013; Gerow, Bordens, & Blanch-Payne, 2012; Kendall & Hammen, 1995; Stewart, 2004; Townsend, 2014). However, most individuals develop Alzheimer's at a much later time. The APOE gene, primarily ApoE4 and variations in the SORL1 gene, have been shown to be contributing factors in late-onset development of Alzheimer's disease (Berger, 2013; Brannon et al., 2014; Townsend, 2014; Videbeck, 2010). It is important to stress that these specific genetic markers and/or abnormalities do not guarantee the development of Alzheimer's disease but are regarded as contributing risk factors.

Music Literature Review

Agitation/Aggression

One of the most problematic aspects of Alzheimer's disease is in the behavioral symptomology associated with the disease, the most prominent of unwarranted behavior is the agitative nature of the patient. The adverse consequences of agitation often leave the patient socially isolated due to his or her inability to work within a group setting and thus social interaction is limited, and many cognitive deficits become more pronounced (Cox, Nowak, & Buettner, 2011; Pedersen, Andersen, Andreassen, & Sütterlin, 2017).

The difficulty of dealing with the agitative, and at times chaotic nature of Alzheimer's is often considered the most challenging obstacle which often leads many caregivers with the sole option of utilizing a geriatric long-term care facility (Cox & Buettner, 2011; Hersh and Falzgraf, 2007; Kendall & Hammen, 1995; Videbeck, 2011). Furthermore, these unwarranted behaviors often place a larger burden on the health care professions who are responsible for client physical and mental well-being (Allen-Burge, Stevens, & Burgio, 1999; McInnis-Dittrich, 2012; Zare, Ebrahimi, & Birashk, 2010). The erratic nature and severity of the behavioral and psychological symptoms associated with dementia, particularly Alzheimer's disease, are often the targeted area of concern in therapeutic treatment research examining the preservation of client well-being (Fukushima et al., 2016; Pedersen et al., 2017; Takeda, Hashimoto, Kudo, Okochi, Tagami, Morihara, Sadick, & Tanaka, 2010; Remington, Abdallah, Melillo, & Flanagan, 2006).

Before going further, it is imperative to point out the common scales used by researchers to assess behavioral disturbances. Various therapist and caregiver scales exist such as The Cohan-Mansfield Agitation Index (CMAI), Neuropsychiatric Inventory (NPI), Neuropsychiatric Inventory-Nursing Home Version (NPI-NH), Functional Staging Scale (FAST), Behavioral Pathology in Alzheimer's Disease Rating Scale (BEHAVE-AD) are the most utilized measures (McInnis-Dittrich, 2012; Takeda et al., 2010; Trull & Prinstein, 2013). Furthermore, these assessment scales may be utilized in a natural or observable clinical setting (Trull & Prinstein, 2013). Moreover, the behavioral and psychological diagnostic testing and assessment method often varies depending on researcher preference and accessibility.

Research into the correlation between hormone levels attributed with aggressive behavior (testosterone and estrogen) between clients and music intervention has shown the positive influence of music intervention in diminishing aggressive behavior (Fukui, Arai, & Toyoshima,

2012). A study by Fukui, Arai, and Toyoshima (2012) which comprised of six female AD patients who had both estrogen and testosterone levels tested, through salivary samples, prior to and after each music intervention sessions ran a total duration of a month. The participants were grouped together during the study. Sessions of music interventions ran roughly an hour and were conducted under three different conditions. The three conditions and/or phases of the study were utilized to gather information on the different intervention style and participation salivary results. The first condition was a therapist introduction and questioning of participants. The second condition had the participants listen to 12 song musical selections performed by the therapist. The last condition was comprised of therapist intervention and musical selections.

The results concluded by Fukui, Arai and Toyoshima (2012) showed that estrogen levels decreased when the therapist intervention was conducted without musical intervention while an increase occurred once the musical condition was presented. The largest increase in estrogen and testosterone levels was evident with the third condition: therapist and music selection intervention (Fukui et al., 2012). The increase in both estrogen and testosterone levels, especially in older adults, has been linked to the beneficial property of diminished psychological distress and behavioral manifestations while promoting cognitive function in Alzheimer's patients (Fukui et al., 2012). Thus, the results of the study suggest that the correlation between music and therapist intervention demonstrated lowered behavioral and neurological disturbances.

The question whether music therapy is a viable alternative as a long-term behavioral intervention has often been a source of interest for many geriatric researchers. Ledger and Baker (2007) conducted a study to test the hypothesis of long-term music intervention in the reduction of aggressive and agitation levels in patients suffering from Alzheimer's disease. Their study comprised of 60 total participants separated into an experimental group, which attended weekly

music intervention sessions roughly 30-45 minutes and a control group which did not receive music intervention during the study.

After the 42-week study Ledger and Baker (2007) conclude through assessment of both experimental and control groups using the CMAI-long form, long-term behavioral interventions such as basic client nursing care with no musical intervention, was not as effective compared to short-term music therapy alongside basic geriatric care. Short-term musical intervention displayed lower incidents of agitated behaviors, primarily verbal aggressive behavior, and allowed for positive behavior outcomes (Ledger & Baker, 2007).

Zare, Ebrahimi, and Birashk (2010) examined the methodology and effect of music therapy on agitation in Alzheimer's patients' behavior. Their study comprised of 26 patients: 10 assigned to a control group, 16 assigned to the experimental group, which was then divided into four sub groups (individual-preferred music, group-preferred music, group-non-preferred music, and group-preferred music-group singing). Participants in the experimental groups received music therapy conducted in three phases: beginning, music therapy (1-month duration) and follow-up after music therapy. Results of the Cohen-Mansfield Agitation Inventory (CMAI), assessed by patient caregivers showed a statistical significant correlation between decreased agitation and receiving music therapy, primarily when the individual was able to choose the musical selections. Additionally, preferred musical selections in a group setting yielded lower incidents of agitative behaviors, especially in the follow-up (post-test) segment, as compared to the non-preferred musical selection group setting (Zare, et al., 2010).

An interesting study carried out by Cox and Buettner (2011) took a different approach and introduced live music in their music intervention to test whether results would yield positive behavior and diminish agitation and/or aggression in Alzheimer's patients. The study by Cox

and Buettner (2011) comprised of seven participants who attended four weeks of one-on-one music sessions which were broken down into three phases: pre-intervention (15 min observation), intervention (18 min. of 33 song performance), and post intervention (15 min. observation) for a total of 48 minutes. Negative agitative/aggressive behavior that was observed was assessed and recorded within the musical intervention and classified into four subtypes: physically non-aggressive, verbally non-aggressive, physically aggressive, and verbally aggressive in nature.

Results from the study demonstrated the decreased occurrence of negative behavior in all subtypes although those classified as verbally non-aggressive (repetitive unfavorable interruptions, and negativism) showed the most statistically significant decrease. The significant decrease in adversely negative behavior allowed both Cox and Buettner (2011) to conclude that live music interaction is a viable tool for curbing aggressive and agitative behavior in Alzheimer's patients. Moreover, the ability to have a cognitively stimulating environment in a controlled manner allows the client/patient an avenue of positive interaction which diminishes the incidents of negative behaviors and mannerisms.

Memory

The power of music as a way of evoking memory has always been a way of stimulating discussion between a client and his/her caregiver and helping to bridge understanding even when cognitive function is limited. Although memory deficits are more pronounced in Alzheimer's disease some aspects of memory centered around music may be deeply rooted and adaptable to the neurodegenerative aspects of Alzheimer's disease (Deason, Simmons-Stern, Frustace, Ally, & Budson 2012; Simmons-Stern, Budson, & Ally, 2010; Trimble & Hesdorffer, 2017). The introduction of a musical stimulus and "memory cues" may especially be beneficial for the

retrieval of autobiographical memories which may have been spared prior to the onset and progression of the disease through (Foster & Valentine, 2001; Haj, Postal, & Allain, 2012; Irish et al., 2006; Marshall & Hutchinson, 2001).

Foster and Valentine (2001) were interested in whether musical stimulation through the use of background music vs environmental noise (cafeteria noise) was a determinant factor for autobiographical memory recall in patients suffering from dementia. The study was comprised of 23 dementia participants (7 high-ability and 16 low-ability) who were orally administered a 28-item autobiographical questionnaire. The questionnaire was divided into three areas: remote, medium-remote, and recent participant life eras. Four distinct auditory conditions: familiar music (Vivaldi's "*Winter*"), novel music (Fitkin's "*Hook*"), environmental commotion, and silence were presented randomly (1-week intervals) (Foster & Valentine, 2001).

When music was introduced, there was a statistically significant improvement in autobiographical memory recall as compared to silence and the environmental condition (cafeteria noise). Furthermore, familiar music and novel musical selections were not as statistically different from each other as one would assume (Foster & Valentine, 2001). Results could be representative of how an auditorily structured environment can foster autobiographical memory recall among dementia patients, especially in a geriatric health care facility.

A complementary study to the Foster & Valentine (2001) study was undertaken by Haj, Postal, and Allain (2012). Haj, Postal and Allain (2012) were interested in the impact of specific musical selections on autobiographical memory recall for Alzheimer's patients. The study compared the effects when compared of silence and Vivaldi's "*Spring*". The study consisted of 12 Alzheimer's patients (10 female/2 male) and 12 healthy adults (9 female/3 males) who were asked to describe various aspects during their lives (5min duration) to test autobiographical

memory recall and randomly assigned (4 Alzheimer's and 4 healthy adults) to three conditions (silence, preferred music, and Vivaldi's "*Spring*" selection) administered with a one-week grace period between each condition.

Results of the three condition sessions supported the hypothesis that Alzheimer's patients performed better when a musical stimulus was present than in silence. Additionally, autobiographical memory recall was higher when participants were able to select their preferred musical selection (Haj, Postal, & Allain, 2012). Thus, a stronger correlation to the benefits of music therapy interventions exist when the client/patient has a voice in the therapeutic relationship.

A study conducted by Simmons-Stern, Budson, and Alley (2010) was conducted to determine whether music therapy, primarily music processing was a factor for Alzheimer's patients in acquiring additional information via "encoding". Hockenbury and Hockenbury (2006), point out, "Encoding refers to the process of transforming information into a form that can be entered and retained by the memory system" (p. 242). Furthermore, Simmons-Stern, Budson and Alley (2010) sought to investigate whether memory deficits and deterioration associated with Alzheimer's disease had any bearing on how AD patients processed and retained information through the process of musical intervention.

The study was comprised of 12 healthy participants (4 male/8 female) and 12 participants diagnosed with Alzheimer's disease (9 male/ 3 female) who were presented with four line snippets of 80 unfamiliar children's songs administered in two phases: study phase (visual representation of 40 song lyrics accompanied by 20 spoken and 20 sung recordings repeated twice) and the testing phase (visual presentation with no accompaniment) (Simmons-Stern, et al., 2010). During the test phase participants were asked whether the 80 song lyrics (visual

representation with no audio stimulus) had been previously administered or presented for the first time (Simmons-Stern, Budson, & Ally, 2010).

The results of the Simmons-Stern, et al. (2010) study was able to support their hypothesis that memory recall was significantly improved for Alzheimer's patients when audio stimulation (spoken and sung recordings) was introduced during the initial study phase via visually presenting the lyrics along with the auditory presentation of the music. Moreover, Alzheimer's participants also showed significantly higher recall accuracy when the sung recordings (.40%) were utilized as compared to the spoken accompaniment (.28%) suggesting that musical stimulation can help Alzheimer's patients "encode" and retrieve verbal information more readily when compared to visual stimulation alone (Simmons-Stern, Budson, & Ally, 2010).

Deason, Simmons-Stern, Frustace, Ally, and Budson (2012) conducted a follow-up study to the Simmons-Stern, et al. (2010) autobiographical memory recall study. Interest was placed on whether a gap in introduction (study phase) and testing (test phase) would yield different results than those from the original Simmons-Stern, et al. (2010) study. Twelve healthy male patients took part in the follow-up study, which mirrored the original Simmons-Stern, et al. (2010) conditions. The distinctive conditions of the Deason et al. (2012) were a one-week delay which was introduced between the study phase and the testing phase, and a lack of audio recordings (sung nor spoken) were present during the testing phase.

The results of the current study were compared to the original data obtained from Simmons-Stern et al. (2010) study to see whether an association of memory "encoding" and familiarity for the healthy participants would yield different results due to the one-week time gap and no audio/musical accompaniment during the testing phase. Results of the Deason et al. (2012) study help demonstrate how a time gap between study and testing phase limits memory

“encoding” and familiarity. The study concluded that the healthy adults had relatively similar performance scores to the participants with Alzheimer’s disease. This suggested that adding the element of familiarity triggers a different aspect of memory in both healthy adults and those experiencing Alzheimer’s disease (Deason et al., 2012).

Cognitive Well-being

Music therapy is a vital tool towards cognitive stimulation for patients/clients with Alzheimer’s disease. Thus, musical interventions may foster an increase in communication (verbal/non-verbal), attention span, memory encoding, and engagement (Särkämö et al., 2016; Trimble & Hesdorffer, 2017). In a therapeutic setting, musical interventions may prolong cognitive function against neurological degradation associated with Alzheimer’s disease and other dementia related disorders (Marshall & Hutchinson, 2001; McInnis-Dittrich, 2012). Furthermore, music therapy may provide an avenue of increased concentration and effort in assigned tasks while stimulating clearer thought processes for Alzheimer’s patients (McInnis-Dittrich, 2012; Videbeck, 2011).

A study by Satoh et al. (2015) was aimed at investigating what type of correlation singing training would have on Alzheimer client cognition and whether any other viable benefits would be present. The experimental group was comprised of 10 Alzheimer’s patients (4 males/6 females) who were divided into three small groups while 10 Alzheimer’s patients (2 males/8 females) made up the control group. The control group did not receive musical intervention as compared to the experimental group who received a weekly (one day) 1-hour musical intervention session for six months. Satoh et al. (2015) constructed the sessions into four distinct parts: voice training (15min.), former session review (15 min.), practice session (20 min.), and

recreational time (10 min.). Individuals in the experimental group were also given the task of singing at home for a minimum of 20 minutes three times per week for the duration of the study.

Caregivers were an important asset for pre and post assessment and grading for both the experimental and control groups. Furthermore, Satoh et al. (2015) relied heavily on the Neuropsychiatric Inventory (NPI), Barthel Index, Instrumental Activities of Daily Living (IADL), Disability Assessment for Dementia (DAD), and the Zarit Burden Interview (ZBI) for subject pre and post assessment and grading alongside the Rivermead Behavioral Memory Test (RBMT), Mini-Mental State Exam (MMSE), and the Japanese Raven's Colored Progressive Matrices (RCPM) for intellectual/memory function and psychomotor processing speed.

Results of the study indicated a decrease in completion time for the Japanese Raven's Colored Progressive Matrices examination indicating an increase in psychomotor speed and efficiency, which was the primary premise of the study. The underlying benefits of the musical intervention, which were of significant interest to Satoh et al., demonstrated a positive correlation between musical intervention (singing) and improvements in patient well-being which were evident in decreased scores on the Neuropsychiatric Inventory, and Disability Assessment for Dementia. Another interesting side note is that caregiver interviews during post assessment/grading indicated a positive increase in social engagement and client self-worth when musical intervention was present in the experimental group as compared to the control group participants (Satoh et al., 2015).

A study conducted by Palisson, et al., (2015) sought to discover whether musical intervention was relative to an increase in verbal learning in Alzheimer's clients due to mnemonic binding. The study was comprised of 12 Alzheimer's patients (experimental group) and 15 healthy adults (control group) who were asked to learn eight lines of three different texts

presented in various forms: spoken, musical (*Ode to Joy* by Beethoven), and spoken with a silent move accompaniment (*Modern Times* by Charlie Chaplin). During the initial study/learning “encoding” session, visual representation of the text was presented corresponding with their assigned auditory form and the participants was asked to repeat each line of text presented before moving on to other lines of texts to ensure familiarity and recollection (3-line minimum).

Assessment of the participant’s learning/study “encoding” ability was based on the number of lines he/she was able to successfully recite with a minimum of 60% accuracy before moving forward with the remainder of the lines of text (Palisson et al., 2015). The secondary assessment (immediate recall score) was conducted under the premise of words the participant was able to immediately recall during the initial learning/study phase, which was scored as a percentage of correct recollection. Lastly, subjects were tested on a percentage of correct word recollection after a 5-minute time lapse (delayed recall score).

Results of the study showed a statistically impressive immediate and delayed correct word and line recollection/retention percentage (both control and experimental groups) in both immediate and delayed recall assessment when music intervention was present during the learning/study “encoding sessions. Results of the Palisson et al. (2015) seem to suggest that verbal episodic memory is improved through musical mnemonic processes.

Social Validation/ Self-worth

Music seems to have the power to invoke strong emotions, which often lie beneath the surface. The different tones, pitch, and rhythm that comprise a musical selection often provide the client a chance for dialogue, even when verbalization has been compromised. Music therapy intervention can also be a deterrent for client apathy (Buettner, Fitzsimmons, Atav, & Sink, 2011; Särkämö, Altenmüller, Rodríguez-Fornells, & Peretz, 2016; Satoh et al.,

2015). It is through the memory enhancing properties associated with music therapy where discourse between caregiver and patient can flourish and a deeper understanding of the patient can lead to increased cognition, social interaction, patient self-esteem and patient self-worth (Arroyo-Anlló, Díaz, & Gil, 2013; Dassa & Amir, 2014; Dickens, Richards, Greaves, & Campbell, 2011; Lancioni et al., 2013; McInnis-Dittrich, 2012; Palisson et al., 2015; Satoh et al., 2015).

Additionally, musical intervention strategies may increase group cohesiveness within long term care facilities (Rylatt, 2012). The symptomology associated with Alzheimer's disease often leads to social isolation, which may compound the negative effects of the disease and further client cognitive and physical limitations (Dickens et al., 2011; Takeda et al., 2010). Music therapy within a group setting provides the patients an escape from a mundane schedule and allows for social interaction as opposed to social isolation. The increase in social interaction also provides the patients with a sense of safety allowing for further dialogue development and trust with caregivers (Takeda et al., 2010).

Lancioni, et al. (2013) conducted research on the differential impact of an active vs. passive musical intervention for Alzheimer's patients. The study consisted of 10 Alzheimer's patients (8 female/2 males) who attended 11 individualized musical intervention sessions (3-10 daily) under three conditions (active, passive, and no musical stimulation on the fifth day). Additionally, six participants received 5-minute sessions compared to 4 subjects who received 10-minute sessions of both active and passive musical stimulation.

Assessment of the study was conducted under three grading rubrics: characteristics of positive engagement (favorable verbal and motor expression), microswitch responses (direct individual engagement allowing the participant to play a 15-second segment of musical

selection) and a social validation assessment 6 item questionnaire (140 independent graders via video recordings and field notes pre and post intervention). Results of the study presented statistical evidence of the increased incidents of positive engagement when music was available via microswitch activation frequency. Likewise, independent graders assessed the active condition as superior to the passive condition for encouraging client engagement and wellness (Lancioni et al., 2013).

An interesting study conducted by Dassa and Amir (2014) sought to explore whether conversation in Alzheimer's patients would improve via the singing of familiar songs. Six Alzheimer's clients were selected to attend group music therapy sessions (45 minute, 8 sessions twice a week) for a duration of a month. It is noteworthy to point out that the study was conducted in Israel and thus the songs used in the study are pertinent to Jewish culture and Israeli nationalism. Dassa and Amir (2014) took this into consideration when choosing the 16 musical selections. The musical selections were classified as patriotic, socially centered, personal, and lullabies.

Conversation among the participants and therapist during the music therapy sessions began to grow as participants sang along to the pre-recorded musical selections providing evidence to the validity that music is instrumental in encouraging conversation among Alzheimer's patients (Dassa & Amir, 2014). Different themes emerged among the conversations the subjects engaged. Dassa and Amir (2014) further classified them as relating to the song itself (patriotic, socially engaging, residential setting, and musical experiences) and relating to the group musical activity (producing client well-being, self-esteem, and sense of belonging). Results of the study emphasized the usefulness of musical selections to elicit memories that

support group interaction and cohesiveness and improve client self-worth. Moreover, the study supported the use of group music therapy as a deterrent to social isolation.

Paula Rylatt (2012) conducted a study to evaluate the correlation between creative therapy and therapeutic benefits for dementia patient administered by a competent and experienced multitier healthcare team. The researcher further defined creative therapy as the implementation of music, drama, and dance in a therapeutic setting designed to support physical, emotional, cognitive, and social well-being in specific patient populations. Rylatt (2012) selected ten distinct health care practitioners (1 nurse, 5 care facilitators and 4 community support employees) to take part in the evaluation, assessment, observation, and implementation of the creative therapy study. Furthermore, these preselected individuals had taken part in training exercises in creative art implementation and practice methods to enhance their skill sets.

Rylatt (2012) utilized two different geriatric facilities (unit A and unit B) which tailored to both daily and in-patient care as the settings for the creative therapy interventions. Fifteen subjects at unit A and 22 at unit B were selected to take part in the study. The researcher conducted 32 sessions divided between both unit A (14 sessions) and unit B (18). Participants attended weekly (3 times a week) creative therapy sessions (30 min duration) for an eight-week period consisting of musical interventions tied to dance, stretching, and object manipulation (Rylatt, 2012). Additionally, observational field notes, photographs, and health care employee interviews were used to generate results from the study.

Although neurological deterioration associated with Alzheimer's disease detracts from creative self-expression and engagement, the participants in the study demonstrated higher levels of self-expressive engagement, and overall enjoyment episodes during the creative therapy intervention sessions (Rylatt, 2012). Evidence of increased non-verbal and verbal

communication was also a valuable outcome of the sessions. Furthermore, the researcher stressed that all incidents of positive manifestations contributed to overall well-being and increased self-worth. Rylatt (2012) also concluded that increased creative self-expression, communication, participant engagement (individualized and group setting) and enjoyment can all be viable therapeutic benefits when administered by a competent and experienced multidiscipline treatment team.

Art Literature Review

Agitation/Aggression

The agitative and aggressive behavior in Alzheimer's clients is a pressing concern among health care practitioners who often find it difficult to work around such temperaments. Art therapy as a therapeutic medium holds some of the same properties as music therapy when it comes to the treatment of behavioral and psychological symptomology. The use of art can often curtail negative behaviors while promoting positive conduct among patients suffering from Alzheimer's disease (Allen-Burge, Stevens, & Burgio, 1999; Ehresman, 2014; Marshall & Hutchinson, 2001; McInnis-Dittrich, 2012; Remington et al., 2006; Wang & Li, 2016). Thus, the introduction of art therapy becomes a viable tool for caregivers and clients in fostering a stable/safe environment. This promotes client well-being while helping to prevent caregiver burnout and sustain a favorable therapeutic relationship (Chancellor, Duncan, & Chatterjee, 2014; Ehresman, 2014; Fukushima et al., 2016; Hersch & Falzgraf, 2007; McInnis-Dittrich, 2012; Remington et al., 2006; Stallings & Thompson, 2012; Walsh et al., 2011; Wang & Li, 2016).

A case study conducted by Tisah Tucknott-Cohen and Crystal Ehresman (2016) sought to discover whether art therapy would decrease incidents of unwarranted agitative, aggressive, and

self-harm incidents associated with Alzheimer's disease symptomology. The individual selected for the study was a female patient from a long-term care facility diagnosed with late stage Alzheimer's disease whose negative behavior (agitation, aggression, and self-harm) had become more prevalent. The participant was referred to as "Mrs. M" by Tucknott-Cohen to maintain confidentiality. Weekly art intervention sessions (45minutes once a week) were conducted for 17 weeks in hopes of facilitating an emotional release and curtailing some of the negative behaviors expressed by "Mrs. M". The researchers recorded any unwarranted negative behaviors observed prior, during, and after each session in addition to reporting such actions to the medical and administrative staff to ensure "Mrs. M's" mental and physical wellness. Art intervention sessions were conducted in an unrestrictive manner to allow for client creativity, dialogue, and increased sense of independence.

The researchers discerned that negative behaviors would often dissipate or lessen to a desired degree when sessions were conducted allowing for a correlation pattern to develop between the intervention and more desirable behavior. Tucknott-Cohen and Ehresman (2016) concluded that the creative process of art allowed "Mrs. M" an avenue of emotional release, which was evident in positive physical and mental manifestations. Additionally, the nurturing nature of the art sessions helped curtail the inner frustration and anxiety held by "Mrs. M" and promoted a stronger therapeutic relationship between therapist and client (Tucknott-Cohen & Ehresman, 2016).

Ellen Stewart (2004) aimed at discovering whether art therapy intervention would decrease incidents of unwarranted negative behavior in geriatric patients diagnosed with a dementia related disorder (Alzheimer's). For her investigation, Stewart (2004) selected three participants (1 male/2 females) were for observation and assessment due to high incidents of

negative behavioral and psychological symptomology (agitation, restlessness, and anxiety). The participants resided in a geriatric nursing home and participated in both individual and group art sessions. Natural observation and case notes were utilized to document negative behavior and subject participation.

Results of the Stewart (2004) study indicated a decrease of negative behavioral and psychological manifestations among dementia and Alzheimer's patients in relation to art therapy intervention. All participants seemed to demonstrate an eagerness to engage in the artistic interventions after initial introduction to the activity had been established. Stewart stressed that participant attitudes remained positive and engagement curtailed displays of negative behavioral and psychological symptomology. Furthermore, the positive climate remained high despite disease progression such as verbal expression and cognitive function decline.

Social Validation/Self-worth

The use and ability to create art does not require great skill nor advanced training which makes it highly successful in promoting and extending psychosocial well-being for Alzheimer's patients even after diagnosis. Artistic interventions have a therapeutic value in fostering self-validating among Alzheimer's patients while increasing aspects of client self-worth (Ehresman, 2014; Marshall & Hutchinson, 2001). Regardless of the tools utilized during the sessions (watercolor, collage, paint, sculpture) and the predetermined style (free form, assisted, task oriented) or form (structured and non-structured) art therapy interventions can be an essential tool in minimizing social isolation and increasing client engagement both in individual and group settings (Beard, 2011; Ehresman, 2014; McInnis-Dittrich, 2012; Safar & Press, 2011; Stallings & Thompson, 2012; Stewart, 2004; Wang & Li, 2016). Moreover, artistic interventions can be conducted both in institutional and home-based settings which may improve the therapeutic

relationship between caregiver and client (Dickens et al., 2011; Ehresman, 2014; Safar & Press, 2011; Stallings & Thompson, 2012; Stewart, 2004; Walsh et al., 2011).

Even when verbal communication may be limited, especially in the later stages of Alzheimer's, art can still be self-expressive tool for clients (Chancellor, Duncan, & Chatterjee, 2014; McInnis-Dittrich, 2012; Safar & Press, 2011; Takeda et al., 2010). Self-expression that allows patients a sense of control within a rigid, intimidating, and frightening environment where they may not be able to orient themselves due to the cognitive and physical deterioration caused by the disease.

A case study conducted by Kutac and Miller (2015) sought to provide evidence of the correlation between artistic intervention and social validation and engagement among participants. The study was comprised of a healthy geriatric control group and an experimental group of Alzheimer's patients who worked with a professional sculptor in the construction of a 3D model for a single session. The materials used for the construction of the model (wooden blocks, various paints, paper plates, and chicken wire) were chosen for their simplicity and malleable properties (Kutac & Miller, 2015).

Although the quality and style among the groups differed, which was to be expected (due to the cognitive limitations of the Alzheimer's group), the creativity and participation among both groups showcased an increase in socialization and partnership. Kutac and Miller (2015) were able to conclude that art intervention, specifically as a group activity, supports social engagement for Alzheimer's patients.

A pilot study supervised by Seifert, Spottke, and Fliessbach (2017) sought to discover whether sculptural activities would have positive effects on the mental and emotional well-being of Alzheimer's patients. A total of 12 male participants were selected for the study and were

split into an experimental group (6 subjects) and a control group (6 subjects). The experimental group attended 2-hour sessions once a week for a 13-week sculpting course as opposed to the control group who performed simplistic recreational activities (singing, painting/coloring, card/board games). Researchers selected wooden blocks as the medium for the sculpting activities due to their simplicity, which would not overburden the subjects yet still allow for creative engagement. The researchers conducted participant assessments (comprised of a custom informal questionnaire) and observations for the day before, during, and after sessions were conducted to gather information on various aspects of client emotional well-being, self-reliance, and self-esteem.

Seifert et al., (2017), concluded that the experimental group displayed higher positive emotional manifestations related to self-reliance, self-esteem, and self-worth during the sculpting session as compared to the control group. Additionally, results indicated that positive emotional well-being and self-esteem was evident even after the completion of each individual session with a continuous trend of increase towards the conclusion of the study.

An interesting study conducted by Walsh et al., (2011) sought to explore late-stage Alzheimer's patient's responses in relation to creative bonding interventions utilizing art activities (which may be implemented in a multifaceted approach). Four geriatric residents (3 females and 1 male) participated in three weekly, individualized creative bonding interventions for thirty minutes each. The study utilized three artistic activities, progressing in difficulty from a self-portrait activity to the creation of monoprints and finally to the most complex activity of creating "ribbon gems".

The researchers employed both field notes and a video camera for data collection and analysis of observations throughout the intervention sessions. Walsh et al., (2011) were able to

distinguish six distinct themes (trusting, thirsting, following, connecting, choosing, and reminiscing) develop during the interventions which were then grouped into two specific clusters (trusting/thirsting/following cluster and connecting/choosing/reminiscing cluster) correlated to subject intervention behavior. The researchers followed the development and engagement themes/clusters and concluded that creative artistic activities helped promote a bonding experience between researchers and patients evident through patient mannerisms and behaviors. The researchers also collaborated with two independent geriatric health care professions who, after review of the field notes and videotapes, saw the positive impact of the artistic activities as an avenue for interaction, and allowing for improved patient well-being and feelings of self-worth.

Cognitive Well-being

The use of art therapy as a creative medium to maintain and improve cognitive well-being in Alzheimer's patients has yielded positive outcomes. The creative process facilitates cognitive stimulation which is a viable tool against cognitive atrophy attributed to Alzheimer's disease (Buettner et al., 2011; McInnis-Dittrich, 2012; Stallings & Thompson, 2012). The ability to create and interact in artistic activities helps stimulate brain function, in both the frontal and temporal lobe by increased synaptic connections (Ehresman, 2014; Safar, & Press, 2011; Trull & Prinstein, 2013; Wang & Li, 2016). Therefore, the cognitive stimulation associated with art therapy may slow down cognitive decline while promoting cognitive engagement in fostering cognitive well-being. Art therapy interventions may also foster the rediscovery of past skills and abilities in Alzheimer's patients/clients (Beard, 2011).

A groundbreaking study was undertaken by Rusted, Sheppard, and Waller (2006) in an effort to determine whether short-term and long-term art therapy yields higher levels of client

well-being as compared to generalized recreational activities. Twenty-one patients completed the study (45 had originally been selected, but circumstances prevented their completion) with a duration of nine months of 1hr group (maximum of six participants) sessions (Rusted, Sheppard, & Waller, 2006). The researchers conducted participant assessments prior to (baseline) and at various times through the study (10, 20, and 40 weeks), and two follow-up assessments (1 month and 3months) upon conclusion of the study to observe both immediate and long-term effects on subject well-being was evident in both the artistic and recreational groups. The investigators utilized the Bond-Lader Mood Scale, duration of in group session participation, and statistical analysis for in-session subject assessment and employed the Cornell Scale for Depression (CSDD), Multi Observational Scale for the Elderly (Moses), Mini-Mental State Exam (MMSE), Rivermead Behavioural Memory Test (RBMT), Tests of Everyday Attention (TEA), and Benton Fluency Task for outside session subject evaluation.

Results of the Rusted, Sheppard, and Waller (2006) study demonstrated that both short and long-term manifestations of mental and physical well-being, group interaction, increased temperament, and decreased depression were evident within the artistic intervention group as compared to the recreational activity group which lacked long-term effectiveness. Furthermore, positive incidents of well-being in the art therapy group were not only sustained but exhibited an upward swing correlating to the number of sessions suggesting that artistic intervention may be viable as a client intervention tool (Rusted et al., 2006). Additionally, the art therapy group showed increased mental activity and cognition scores over the course of the study as compared to the activity group, suggesting an impact in mental function stimulation.

One aspect of increased cognitive stimulation is its impact on a client's overall quality of life. Thus, the fundamental aspect of a treatment option for Alzheimer's disease lies with its

effectiveness in stabilizing and/or increasing a patient's quality of life (McInnis-Dittrich, 2012; Simpson, 2015; Videbeck, 2011). It was upon this premise that Hattori, Hattori, Hokao, Mizushima, and Mase (2011) based their research. The researchers sought to investigate the effect art therapy has on client well-being, Quality of Life (QOL) and mental (cognitive) well-being as compared to simple math exercises.

Thirty-nine participants were randomly selected into both an experimental art therapy group (9 males/11 females) and calculation control group (9 males/10 females) who participated in weekly 45-minute group sessions for twelve weeks. The researchers utilized simplistic coloring and drawing activities for the experimental group while the control group performed simple mathematical calculations. Hattori et al., (2011) utilized the Geriatric Depression Scale (GDS) and Apathy Scale (Japanese Version) to test vitality and mood while Quality of Life (QOL) was assessed through the (SF-8). The Mini-Mental State Exam (MMSE) was utilized to assess cognitive function prior to and upon completion of each session.

Results from the Hattori et al., (2011) study demonstrated a larger increase in cognitive function in the calculation (control) group as compared to the artistic (experimental) group, which was indicative of assigned tasks for the two distinct groups. Nevertheless, the mental quality of life assessment for the artistic group showed increased improvement and sustainability. The interactive artistic interventions demonstrated a correlation between mental (cognitive) stimulation and increases in overall well-being (Hattori et al., 2011). Additionally, results of the study indicated a statistical improvement in the Quality of Life, mood and vitality coupled with a decrease in apathy and depression for the artistic intervention (experimental) group which helps promote self-worth and self-validation for Alzheimer's patients (Hattori et al., 2011)

Reminiscence

One of the biggest aspects of art therapy, especially in a geriatric setting, is the way in which artistic modalities allow for memory evoking within a client/patient (Ehresman, 2014; McInnis-Dittrich, 2012; Marshall & Hutchinson, 2001). Regardless of the medium used, art allows the client/patient the chance to reminisce on past experiences such as family, friends, relationships, hobbies, employment, and locations. Artistic interventions allow for both positive and negative memories to surface, which can yield a deeper understanding of a client/patient's inner world (Chancellor et al., 2014; Ehresman, 2014; McInnis-Dittrich, 2012; Walsh et al., 2011). Furthermore, discourse following a reminiscing intervention can allow caregivers and health care practitioners a deeper understanding of the client/patient, which may be effective in sustaining and improving patient mood and cognition (Chancellor et al., 2014; McInnis-Dittrich, 2012; Wang & Li, 2016).

Reminiscence is also an important asset that applies to group engagement, primarily in mild to moderate stage Alzheimer's, when members collaborate on artistic activities. Through memory discourse, clients can share personal and memorable memories, which fosters emotional well-being (Marshall & Hutchinson, 2001; McInnis-Dittrich, 2012; Wang & Li, 2016).

Moreover, memories allow the clients to escape to a time where the damaging symptomology of Alzheimer's disease and uncertainty of life was not a heavy burden.

A study conducted by Meguro, Ishizaki, and Meguro (2009) sought to explore and investigate the importance of collage as a means of reminiscence and expressive undertones in Alzheimer's clients. Twenty patients (17 females/3 males) took part in selecting and constructing individual collages from preselected magazine pieces onto drawing paper. It is interesting to note that the preselected pieces had been cut out by the participants in the early

stage of the disease (Meguro, Ishizaki, & Meguro, 2009). The researchers assessed the participants on different variables associated with the construction of individual collages such as participant difficulties due to neurological limitations, underlining themes, client contentment and attitudes.

Meguro, Ishizaki, and Meguro (2009) pointed out how participants demonstrated a simplistic and unorganized manner in the construction of collages. These observations support the evidence of neurological decline in executive function due to Alzheimer's disease. The researchers also ascertained that different underlying reminiscence themes were central to the collage. These themes were divided into reminiscence of family and friends, past occupations, and spirituality. Furthermore, the researchers reveal a shift in themes in correlation to the progression of the disease. Spirituality was a central theme in early stage Alzheimer's while occupation, family and friendships reminiscence took precedence. Additionally, participants were observed displaying pleasant physical expression and behavior when reminiscing. Meguro, Ishizaki, and Meguro (2009) concluded that art therapy, primarily collage activities, allow for client introspection through reminiscence which may provide insight into their inner world.

A study conducted by Jennifer Stallings (2010) attempted to demonstrate whether art intervention therapy, primarily collage, was a viable tool for dementia clients. Three participants (2 females/1 male) took part in two individualized sessions a week apart. Stallings (2010) utilized clinical observations, field notes, and the Landgarten Magazine Photo Collage (MPC) assessment to gather information on client performance, interaction, and reminiscence incidents attributed to the collage activity.

Results of the Stallings (2010) study demonstrated a strong correlation between the collage activity and client reminiscence. Reminiscence was evident in both collage construction

and dialogue attributed to specific memories such as past occupations, achievements, disappointments, likes and dislikes, and family and friends. Collage was a viable tool in fostering reminiscence in all three participants who took time to verbally express these memories to the researcher.

The collage activity allowed the participants to have a sense of control, which prompted their willingness to participate in the sessions and share their memories. Moreover, Stallings (2010) pointed out how the collage activity allowed one of the participants to express his memories despite suffering from verbal limitations (aphasia) in a non-verbal context. These findings promote the importance of art therapy, especially collage activities, in client reminiscence and the dialogue that results from client memories.

Questionnaire

Due to the increased needs of Alzheimer's clients, options such as geriatric health care placement and home-based home care have come to the forefront of discussion. Although research indicates an increase in music and art therapy in health care settings, the author was interested in "real world" applications. Moreover, the author sought to discover whether health care practitioners, primarily those involved with music and/or art therapy programs, would have varied degrees of agreement and/or disagreement with the research literature.

Participants

A group of therapeutic recreational health professionals (6 females) took part in the small-scale survey. All participants were actively involved with the development, implementation, and maintenance of activities geared towards patients suffering from various mental illness and/or cognitive disorders to include dementia and Alzheimer's disease. Participants were all employed at a psychiatric hospital located in Kentucky which also

maintains a geriatric nursing facility on the same campus. Clinical experience and employment at the facility varied for participants. However, these factors along with age, gender, educational level, etc., were not assessed due to the complexity of outcomes which would be generated.

Method

The participants were administered a survey questionnaire about the relevance and effectiveness of music and art therapies as treatment options for Alzheimer's disease, primarily in an institutional setting. The questionnaire was comprised of 10 open-ended questions and a Likert-style scale on six categories related to music and art therapy effectiveness/ineffectiveness. Due to work schedules and availability participants were asked to fill out the questionnaire at their own convenience. Open-ended questions in the questionnaire were utilized to foster dialogue and elicit reputable responses. Participants returned the questionnaire roughly 2-weeks after receiving and completing the form.

Participant Questionnaire Sample

How aware do you think healthcare professionals, primarily mental health practitioners, are of alternative therapies such as music and art therapy?

How are and where might providers get information about or training in these therapies?

Do you believe there is a positive or negative bias towards the use of these therapies or a neutral attitude?

What are your thoughts about the effectiveness of these therapies for treating dementia related disorders such as Alzheimer's disease?

In your opinion, what should the goals of implementing a music/art therapy program within a clinical setting?

How do you believe music/art therapy support/address a client's emotional well-being?

Describe some negative outcome or obstacles you feel are relevant to music/art therapies?

Although cost effective, music/art therapy programs are not as widely used or limited within health care settings. Why may that be the case?

What are your thoughts about the amount of research that has and continues to grow towards the effectiveness or ineffectiveness of music/art therapy for clients suffering from dementia related disorders?

In your opinion, what should be the avenue of approach when implementing music/art therapy as an in-home treatment option for caregivers?

How would you rate the effectiveness of music/art therapies with clients experiencing dementia, primarily Alzheimer's disease?

(1=strongly disagree, 5=strongly agree)

Life review/memory evoking strategy?

Social interaction/social isolation prevention?

Behavioral symptomology (agitation, aggression, acting out)?

Client cognition?

Recreational therapeutic program?

Clinical interaction (staff/caregiver/client) and cohesiveness?

Results

It was quite interesting to note that all participants held similar opinions regarding music and art therapy. All participants felt that both music and art therapies were underutilized in healthcare settings even though the incidents of positive therapeutic client interaction exist.

Furthermore, participants favor an increase in the implementation of these programs/therapies in both an institutional and in-home treatment setting. Participants also encourage other geriatric

and mental health care practitioners and/or facilitators to take time out to research the effectiveness of non-pharmaceutical/alternative treatment options such as music and art therapy to enhance client care. The participants emphasize the use of educational mediums such as research articles, internet search engines, continuing education units (CEU's), health care fairs and conferences as viable tools for novice and expert health care practitioners to gather information and discover new perspectives on music and art therapy effectiveness and therapeutic trends associated with their implementation. Some of the participants pointed out that the collaboration between health care practitioners in geriatric and mental health settings allow for improved therapeutic modalities to be discussed, examined and reviewed allowing for "real-world" applications becoming more applicable.

The participants also pointed out that there seems to be a steadfast negative bias associated with music and art therapy due to misinformation and/or lack of knowledge which often hinder the advancement of both music and art therapy. These negative biases often become the largest obstacles to the development and utilization of these programs. The negative biases held by many health care professionals may be attributed to the underpinning notions that these types of therapeutic systems may be primarily viewed as forms of entertainment rather than therapeutic modalities. Most of the participants emphasize that unlike recreational music and art activities which are used to placate clients, music and art therapy in an institutional setting are geared to elicit client stimulation while providing a therapeutic medium for coping skill development, reminiscence, and client engagement while promoting positive well-being. These viewpoints seem to corroborate the literature discussing the distinctions between music and art therapy compared to everyday recreational activities geared to a geriatric population.

The participants were also quite adamant that negatively held biases, particularly by administrators and physicians, contributed to the underdevelopment therapeutic programs utilizing these therapies through stringent facility bureaucracy within an institutional setting. Participants often felt at odds with other health care workers who view pharmaceutical interventions and environmental controls as more viable. They believe these attitudes thus inhibit therapeutic music and art programs from being fully equipped and functional and an appropriate level. Some participants suggest that this is especially true within government funded institutions.

A negative bias into the efficiency of both music and art therapy also becomes an obstacle for research by means of underfunding of federal, state, corporate, and institutional research grants into music and art therapy effectiveness for dementia, primarily Alzheimer's disease. Some participants felt that most grant funding organizations are motivated to continue current therapeutic and pharmaceutical trends due to their established body of research. Moreover, one participant stressed the complexity and effort undertaken in research grant writing and submission which may not be feasible for active practitioners with stringent work schedules or contractual clauses from their employer.

The participants all seem to agree that research in the effectiveness and real-world applications of both music and art therapy as they correlate to Alzheimer's disease treatment is limited. They point out that as the geriatric population increases, and Alzheimer's disease comes to the forefront of political debate, new and continued increases in research will develop. In the eyes of the participants, new research into alternative/non-pharmaceutical treatment options such as music and art therapies may curtail some of these negative prejudices and promote a multi-disciplined approach to Alzheimer's care.

When it came to the issue of the goals in implementing a music/art therapy intervention program in a clinical and in-home setting, the participants shared the same views. Top priorities identified included the need to provide a safe and nurturing plan of action, a client-based medium of self-expression, and promoting well-being while fostering the therapeutic relationship between caregiver and client. Although resources (materials, personnel, recreational rooms) are more varied and accessible in an institutional/clinical setting, the familiarity and client-oriented atmosphere of an in-home setting may help facilitate therapeutic goals with limited resource availability. One participant suggested that a more intimate relationship may arise between caregiver and client from the personalized therapy interventions which may yield greater benefits during and after sessions.

The participants stressed the positive implications of utilizing music and art therapy within an institutional setting. Many of the participants have seen positive self-expressive incidents for many Alzheimer's patients residing in the facility. Through musical and artistic interventions, some clients exhibited a greater sense of self-worth and lower behavioral and psychological incidents, which is consistent with the results of the research literature. Some of the participants relate this to the calming and positive memory evoking qualities associated with certain musical and artistic mediums.

An interesting point the participants expressed was the need to be cautious with implementing certain musical arrangements and artistic mediums within intervention settings/sessions. Consistent with the research literature, the participants emphasized a need in efforts to consider client preferences to avoid confrontation and cause excessive stress. Some of the participants, akin to the research literature, also pointed out that negative connotations may also be linked to specific art work and/or musical pieces. Furthermore, these negative emotional

correlations may increase behavioral and psychological manifestations, which would devalue the music and art therapy interventions. One participant stressed the need to consider a client's background, medical, psychological, and social history prior to conducting artistic and musical interventions to facilitate a personalized care plan in both institutional, clinical, and in-home settings.

All participants stressed a need to establish a practical and client-appropriate working environment to maximize music and art therapy intervention benefits. Some of the participants felt that measures such as volume level and environmental distractions should be taken into consideration prior to and during music therapy intervention sessions. It was suggested that these steps would provide a calming and therapeutic environment, which does not detract but enhances the benefits associated with music therapy. Additionally, some participants urge that artistic materials (wood, stencils, paints, adhesives, and scissors) should be suitable to a client's cognitive and physical abilities; doing so would help avoid client frustration and agitation due to inability to properly utilize the materials and would also ensure a safe environment for the client. One participant pointed out that the benefits of art therapy may be limited by the somewhat customary practice of using overly simplistic materials, such as crayons with patient's whose cognition and physical abilities are not fully compromised by the disease.

Conclusion

The benefits of using music and art therapies in Alzheimer's treatment is remarkable. Research literature associated with the use of music and art therapies suggest a therapeutic benefit from utilizing these types of programs. Although music and art therapy research are not as abundant as mainstream pharmaceutical treatment options, it does not take value away from the research that slowly continues to be conducted. Nonetheless, a push in geriatric health care,

especially Alzheimer's disease treatment, will become an issue of political, financial, and institutional concern, which will facilitate an increase in non-pharmaceutical and alternative/complementary treatment interventions.

The "real world" application of music and art therapy allows for a broadening of accessibility for music and art therapy interventions. A multidiscipline health care approach in the development, implementation, and maintenance of music and art therapy programs can promote a sustainable client/patient plan of care. Furthermore, institutional, clinical and in-home settings may all function as appropriate environmental avenues for client therapeutic intervention. Music and art therapies do not require extensive equipment or materials, which makes them an ideal medium of intervention and treatment. These therapies allow for a simplistic, calming, and client-centered or small group approach, which often yield increased benefits as they avoid excessive environmental disturbances and promote a calming, safe atmosphere. Furthermore, both music and art therapies may be tailored to the cognitive, physical, and symptomology associated with the progression of the disease.

A patient's improved well-being, social interaction/engagement, reminiscence, self-validation and self-worth, and diminished negative behaviors (agitation, aggression, and acting out) are all viable benefits of both music and art therapy interventions. The overwhelming need for the utilization of these programs ultimately lies in improving a client's quality of life. It is necessary to understand that client deterioration continues until his/her death. Therefore, health care practitioners must also take measures to assure the client maintains a sense of self and meaning until the end of functional life, to the maximum extent possible. Therefore, music and art may provide an escape of the inevitable and aid the client in attaining a sense of closure.

Caregivers also reap substantial benefits from the implementation and utilization of music and art therapy interventions. Improved individual and group cohesiveness allows for improved dialogue between caregiver and client. Through this process, a deeper understanding into the unmet needs and concerns of the client may be addressed even when client communication is limited. The increased positive reinforcement of the therapeutic relationship also helps foster a deeper understanding of a client's inner world. This in-turn allows for a less stressful environment for the caregiver, which may diminish incidents of caregiver burnout.

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