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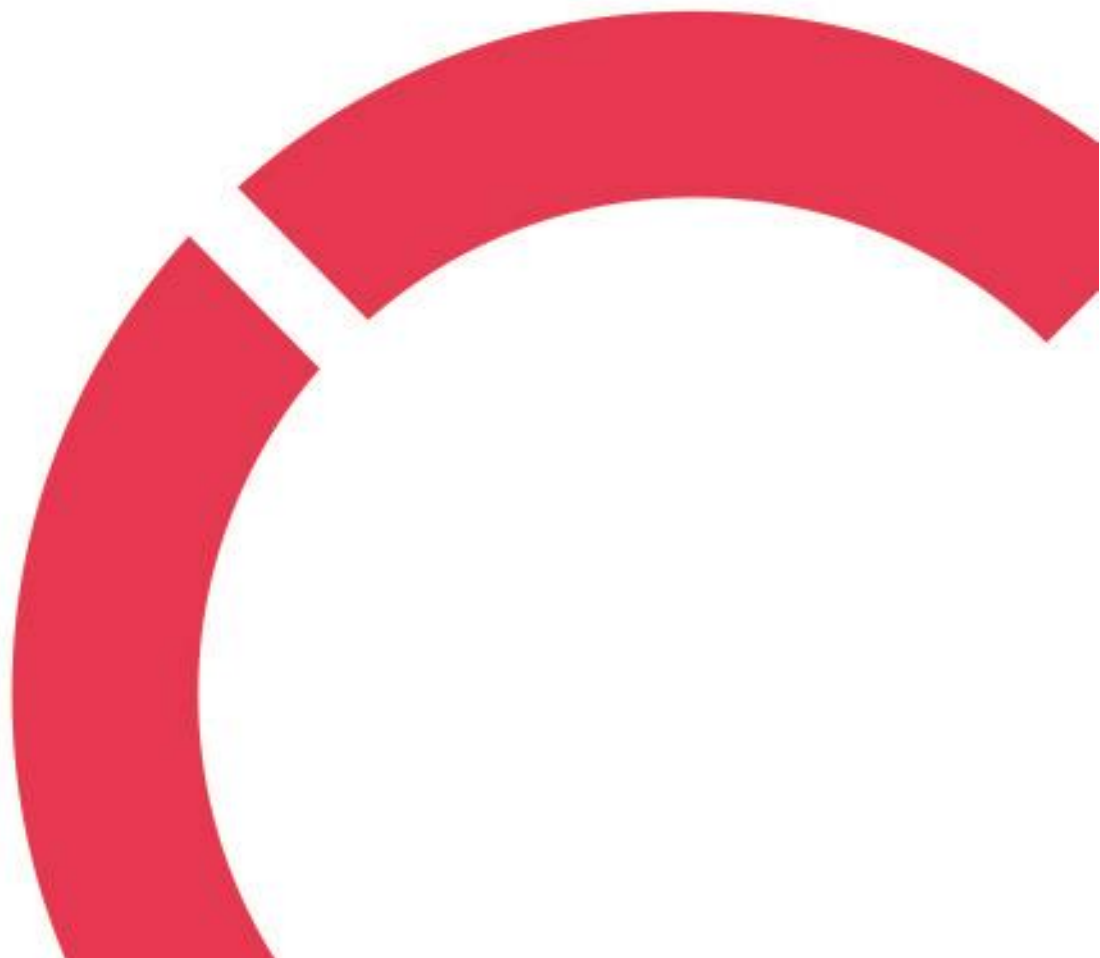
**NURSING INTERVENTION IN MANAGING BEHAVIORAL
CHANGES IN ALZHEIMER CLIENT LIVING AT HOME**

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ABSTRACT

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<p>The purpose of this thesis was to examine non-pharmacological nursing interventions in managing behavioral changes in Alzheimer’s clients living at home. The aim was to provide the current evidence-based knowledge of the nursing intervention in managing behavioral changes in Alzheimer’s clients using music, art, culture, and other therapies as a non-pharmacological approach and how it can help to maintain and promote the quality of life of clients living at home. The research questions were what nursing interventions are used in managing behavioral changes in clients with Alzheimer's disease and how does managing behavioral changes with non-pharmacological methods help the clients living at home.</p> <p>On the basis of a literature review, the authors of this study performed qualitative research. Strict inclusion and exclusion criteria were used, and a content analysis approach was used to analyze the study results. The authors made use of a variety of databases, including PubMed, CINAHL, Sage Journals, and Science Direct. In addition to the aforementioned academic databases, reliable sources on the internet, such as InfoFinland and Muistiliitto, which had the most recent information, were also used.</p> <p>The research examined how to manage behavioral changes in Alzheimer's clients at home. The purpose was to examine non-pharmacological interventions for managing behavioral changes and improving their life span. The findings suggests that three nursing interventions those of modifying and supporting, emotional support, and activities and therapies may help caregivers and nurses care for Alzheimer's clients. The findings also showed how managing behavioral changes with non-pharmacological methods helps Alzheimer’s clients to maintain mental health, increase client interaction via art therapies, and improve the effectiveness of nurse intervention. According to the results, nonpharmacological treatments are beneficial and should be promoted more than pharmacological methods. There should be more research on it, and it should be utilized since evidence suggests that it improves the interpersonal skills of the clients. They are also economical in nursing care and should be used more often.</p>		

<p>Key words Alzheimer’s disease and homecare nursing, Alzheimer disease, role of nurse and non-pharmacological treatment, art therapy, culture, music, Alzheimer patients and nursing intervention, behavioral changes and Alzheimer, managing Alzheimer at home, nursing interventions and Alzheimer</p>

ABSTRACT
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1 INTRODUCTION

Alzheimer is a brain disease that slowly affects the brain and makes simple activities and tasks difficult. It is the root cause of dementia. Alzheimer burdens loved ones and society at large in terms of care and cost. There are three stages of Alzheimer's disease, from the early stage to the late or severe stage, and some people can experience these stages in a short time. (Alzheimer's Association 2019.).

The number of people with Alzheimer's disease is on the increase, with women being more affected than men, and most of these people end up living in home care as they cannot take care of themselves after a while, especially at an older age when the disease has deteriorated. According to Muistiliitto, there were about 193,000 identified cases of memory diseases in 2015. 14,500 Finnish population have been identified with Alzheimer or related disorder. (ASOF 2015.). Home care nursing is economical, and every Alzheimer's client prefers to be at home. The number of deaths due to the disease is 121,499 per year globally. (Kenneth 2016.).

Pharmacological approach has shown to be effective yet has its own limitations therefore, nurses are looking for other approach to solve the behavioral changes especially in agitated client, hence, the need to try nonpharmacological such as music, art and culture. The non-pharmacological approach has produced productive results; it has been shown to reduce the figment of negative imagination, visions, and illusions, which are the advanced symptoms of Alzheimer disease. (Chen, Liu, Lin et al. 2014.).

The purpose of this study was to find a non-pharmacological method for managing behavioral changes in clients with Alzheimer's living at home, to improve their quality of life and prolong their lifespan. The writers have been working with the elderly and have noticed that aside from a pharmacological approach, there should be other ways an Alzheimer client can be cared for, hence, the purpose of this study. The aim of this study was to better understand the nursing intervention in managing behavioral changes in clients with Alzheimer's using music, art, or culture as a nonpharmacological approach. The working life partner was Centria University of Applied Sciences, as this information benefitted the nursing students and the currently practicing nurses, as behavioral changes in Alzheimer's disease are very common and all are not aware of how to manage those symptoms, so this thesis benefitted all in managing those changes, which helped to prolong their lifespan.

2 ALZHEIMER DISEASE

Alzheimer disease is a brain disease also known as a degenerative disease, which means that it becomes more and more serious over time. Symptoms usually occur due to the destroyed nerve cells, which are involved in the processes of learning, thinking, and in cognitive activities. People usually suffer from Alzheimer's symptoms for many years. Alzheimer disease is mortal. (Alzheimer's Association 2019.).

Memory loss, including biographical and episodic memories, as well as troubles in interacting with the outside environment are all caused by Alzheimer's disease. This is due to the fact that Alzheimer's disease is indeed accompanied by problems in speech, behavior, and other areas of life. Realization of intellectual deficiencies, judgment, and upcoming memories were the things that most troubled the clients. Having knowledge of one's identity and having a mental image of one's body were the elements with the least amount of disruption. (Arroyo-Anllo, Diaz & Roger 2013.).

Scandinavian countries have been shown to have some of the highest rates of Alzheimer's disease globally. Finland as a country has the highest rate of Alzheimer's disease, all thanks to the skillful ways in which the disease is being diagnosed and assessed, unlike most other countries. (Chandler 2015.). The Baltic Sea, which is one of the most contaminated water bodies, has been shown to contribute to the rate of Scandinavia's Alzheimer disease. The Baltic Sea has been known to accumulate waste and pollution. Most times, the recycled water is not well treated and is not fit for consumption; this is the reason for the possible transmission of different diseases, with Alzheimer inclusive. The disease is rooted in Prion, a protein that can change form and shape. Prion can be found in organs like the brain and in the skin. Most of the fish in the Baltic Sea are contaminated as they consume the waste that is thrown into it. As people consume these fish, they get infected gradually; this is how Alzheimer's disease originated and continues to gradually degenerate in people. (Chandler 2015.).

The number of people living with Alzheimer's is increasing dramatically due to the aging population in Finland, and it is expected to double in the years to come. It is expensive taking care of Alzheimer people yearly both those at their homes and those in elderly homes. There are non-profitable organizations that have been set up to take care of Alzheimer disease and their loved ones. (Koljander 2019.) They do this by enhancing their memory through various programs, forming smaller groups so

they can interact better within themselves. They also give counselling and guidance to their caregivers. Finland is one of the countries that takes better care of Alzheimer clients.

2.1 Behavioral changes in people with Alzheimer Disease

Alzheimer disease is usually related to non-cognitive behavioral changes. Several different types of non-cognitive behavior changes have been identified, like sleeping disorders, restlessness, sadness, aggressiveness, depression, psychosis, agitation, apathy, wandering around or sleeping problems, and emotional distress. These symptoms mainly have significant effects on the client's quality of life, which also increases the stress of the caregivers, nursing staff and the cost of treatment. It has been noticed that giving more attention to behavior changes can help in the early diagnosis of the diseases. (Victoroff, Lin, Coburn, Shillcutt, Voon & Ducharme 2017.).

2.1.1 Diagnosis, Causes and Risks

Biomarkers are the biological factors that can be mostly used to indicate, to measure the occurrence or absence of the disease, risk of disease onset or progression (Alzheimer's Association 2019). Systematic screening is important while diagnosing for behaviors, as it helps with early detection, proper management, and to treat immediately. Behavioral changes are mainly noticed by family members and medical staff and brought to the doctor's attention. (Gitlin, Kales & Lyketsos 2013.). The causes of Alzheimer disease are based on age related brain changes and a combination of genetic, changes in the environment, and factors affecting lifestyle (Alzheimer's Association 2019). The factors that cause the behavioral changes in Alzheimer clients are medical illnesses like infections or other mental illnesses, pain, malnutrition, sleeping disorders, physical factors, and environmental factors like excessive noise. (Loi, Eratne, Kelso, Velakoulis & Looi 2018). Changes in behavior increase the risks of clients engaging in activities that are dangerous and accelerate the development of the disease, which restricts their freedom. (Gitlin et al. 2013).

2.1.2 Stages

Behavior changes can occur at any stage of the disease, and some changes can occur more frequently than others. In the early stages, apathy and depression are usually noticed. In moderate to severe stages, aggressive behaviors, hallucinations, and delusions are more usual. Indifference is a more common family issue and the most common and long-lasting behavioral symptom in all stages. Agitation, like emotional distress, commonly occurs in the middle to late stages. (Gitlin et al. 2013.).

2.2 Pharmacological approach

It is possible to treat some of the symptoms of Alzheimer's disease using pharmaceutical interventions, although these treatments are not very effective. (Arroyo-Anllo et al. 2013.). Neither of the drug treatments that are now accessible for Alzheimer's are able to slow down or halt the loss and deterioration of neurons, which triggers Alzheimer's symptoms and ultimately leads to the fatality of the illness. There are a few medications available for the management of Alzheimer's disease. Some pharmaceuticals reduce the intensity of symptoms by raising the levels of brain chemicals known as neurotransmitters, but these effects are only temporary. The efficacy of these medications differs from individual to individual, and their effects only last for a short period of time. (Alzheimer's Association 2019.).

The problem of creating medicines that are helpful for Alzheimer's disease is compounded by a number of different variables. Such considerations are slow paced of selecting the respondents to medical studies, the gap that exists in information regarding the specific genetic alterations and biochemical reactions inside the central nervous system which end up causing Alzheimer's disease, and the reasonably long time is required to notice if a new therapeutic care impacts the course of the disease. The use of biomarker testing will be very necessary in order to determine which clients are already in the early stages of the disease and need to get therapies as soon as they become accessible. In addition, the use of biomarkers will be essential for tracking the progress of therapy. Already, they are playing a significant part in the creation of new drugs. This is due to the fact that they allow scientists to only select clients with the Alzheimer's brain alterations that the medicine is intended to effect for medical studies. It is possible that the diagnostic test or others that are most beneficial may change based on the stage of the illness and other circumstances. (Alzheimer's Association 2019.).

There is a possibility that the pharmacological effects are affected by factors such as age and gender. Interventions both pharmacological and nonpharmacological, as well as combinations of others, might

potentially provide clients with Alzheimer's disease with more therapy options. So, the authors choosed a non-pharmacological approach for the research. (Theleritis, Siarkos, Katirtzoglou & Politis 2016.).

2.3 Non-pharmacological approach

Non-pharmacological therapy refers to multiple methods that involve some interaction with the client's physical and social environment to reduce behavioral symptoms. For example, computer-based memory training, art therapy to vent negative emotions; listening to favorite music to awaken client's memories; and combining special lights to reduce sleep disturbances. (Alzheimer's Association 2019.). Validation therapies, such as simulating existence therapy, reminiscence therapy, aromatherapy, and light therapy to reduce behavioral symptoms. (Tible, Riese, Savaskan, & Gunten. 2017.). Art therapy helps to deal with nurse client communication issues (Wang & Li 2016). The goals of non-pharmaceutical methods include preventing and controlling, reduction of behavioral changes, reducing the nurse's anxiety, and prevention of harm to clients and caregivers. Non-pharmacological treatment is recommended as a first line treatment as it does not have any side effects. (Gitlin et al. 2013.).

In the absence of effective treatment for the causes of Alzheimer's disease, nonpharmacological interventions have prompted increasing scientific interest in cognition and behavioral techniques for individuals with dementia. Nonpharmacological interventions may vary in terms of the degree to which the program is individualized, the content of the activity, and the nature of the facilitation. A broad array of such interventions has been developed over the past two decades, such as cognitive training, sensory stimulation, music therapy, and motor stimulation. (Arroyo-Anllo et al. 2013.).

2.4 Role of a nurse

Nursing is a diverse field which includes tasks like promoting health, preventing disease, educating, diagnosing, rehabilitating, and lot more. The goal of a nurse is to reduce the burden and maintain the client's independence in daily life as much as possible. (Jurczak, Porzych & Szabela 2014.). Prevention of behavior changes, adaptation, and flexibility should be key elements of interventions in improving the lives and quality of clients and their caregivers. The main goals of nurses are to

maintain the efficiency of clients, if possible, delay the onset of negative behavioral symptoms of the disease, ensure the safety of clients and their relatives, early detection of complications and make appropriate adjustments to the treatment environment. (Jurczak et al. 2014.).

2.5 Home care

Municipalities in Finland provide a variety of services for the elderly to make their lives simpler and to allow them to remain in their homes for as long as feasible. Home care for the elderly is organized by municipalities and includes daily help and nursing at the residence. Home services, home nursing, and support services are all included in home care. Home services include assistance with daily routines such as bathing, dressing, and eating. Nursing and rehabilitation services are provided at home in the form of home nursing. A doctor issues a home nursing referral. Meal preparation, shopping, cleaning, security, and transportation support services are available. (InfoFinland 2021.).

On the requirement for home care, the municipality's home care unit should be contacted. A cost is charged for municipal home care. When home care is provided on a regular basis, the cost of the service is influenced by your income and that of your spouse. Everyone pays the same amount for temporary home care. One may also receive a service voucher from the municipality, which can be used to purchase services from a municipality-approved service provider. It is possible to receive an allowance for informal care (omaishoidontuki) for a family member who needs assistance on a regular basis and whose care is binding and difficult. (InfoFinland 2021.).

3 PURPOSE, OBJECTIVES AND RESEARCH QUESTIONS

The purpose of this thesis was to examine the non-pharmacological nursing interventions in managing behavioral changes in Alzheimer's clients living at home. The aim was to provide the current evidence-based knowledge of the nursing interventions in managing behavioral changes in Alzheimer's clients using music, art, culture, and other therapies as a non-pharmacological approach. and how it can help to maintain and promote the quality of life of clients living at home. This study can be useful for family caregivers, both practicing nurses and nursing students, to develop nursing interventions and to promote strategies addressing the health and well-being of clients. Centria University of Applied Sciences was chosen as the working life partner because this thesis will help nursing students in the future in guiding family members and managing behavioral changes.

This study's research questions are:

1. What nursing interventions are used in managing behavioural changes in clients with Alzheimer's disease?
2. How does managing behavioural changes with non-pharmacological method helps the clients living at home?

4 METHODOLOGY

This thesis was carried out using a literature review. The purpose was to get the reader up to date on nursing intervention in managing behavioral changes in Alzheimer's clients. The literature review also included the theoretical framework as a backbone for this thesis and how this thesis contributed to the field of nursing. The data was gathered from different sources which were relevant to the research questions. Inclusion and exclusion criteria were used to ensure the quality of the data. The data was analyzed through the literature review method to achieve research goals.

4.1 Literature review

A literature review is explained as a systematic way of synthesizing and gathering the previous research on the relevant topic. By combining all the results and viewpoints from numerous theoretical findings, a literature review can approach research questions with the power that no single study has done before on a similar topic. A literature review is an excellent method for synthesizing research results to prove evidence at a higher level and to reveal areas that require more research. The principles of an academic review rely on the work that was previously done, the content of the previous findings, and on the clarity of the report. Based on the aim of the review, researchers can use many developed strategies, standards, and guidelines which are specially needed for conducting a literature review. (Synder 2019.). A literature review can be used as a basis for establishing practice and policy guidelines, developing information, and obtaining evidence of impact. (Pare & Kitsiou 2016.). They also serve as the roots for future research and theory (Synder 2019).

4.2 Data collection

The data collection was conducted through the narrative literature review. Data was collected from the reliable databases that were available from Centria University of Applied Sciences. Databases that were used in this thesis were PubMed, CINAHL, Sage Journals, Science Direct, InfoFinland and Muistiliitto databases which had the most recent information about the chosen topic. The data selection was based on research questions and to limit the range of articles, keywords like Alzheimer, Art therapy, culture, music and Alzheimer patients and nursing intervention, non-pharmacological

treatment, role of a nurse, home-dwelling, managing behavioral changes were used. To limit the data selection, the keywords were also combined such as Alzheimer disease AND homecare, behavioral changes AND Alzheimer, managing Alzheimer at home, Alzheimer AND home care nursing, Alzheimer disease, role of nurse AND non-pharmacological treatment, Nursing interventions AND Alzheimer. Sage Journal had numerous articles in English language and related to nursing science.

TABLE 1. Results of data search

KEYWORDS	SCIENCE DIRECT	CINAHL	SAGE journals
Alzheimer's disease and home care	2	43	20
Behavioral changes and Alzheimer	82	49	17
Managing Alzheimer at home	9	45	16
Alzheimer and home care nursing	1	6	21
Alzheimer disease, role of nurse and non-pharmacological treatment	1	258	13
Nursing interventions and Alzheimer	56	87	29
Art therapy, culture, music and Alzheimer patients and nursing intervention	79	0	39

In (TABLE 1) the number of articles that were found according to the keywords can be seen. The measures that were carried out in this search involved using the keywords and reading abstracts in searching for the titles of articles that were important to this study. One of the major importance of reading the abstracts was, it helped the reader to have an idea of what the article was about and what should be expected. The authors used 20 articles for the research question. The list of articles was attached as (APPENDIX 1).

The inclusion and exclusion criteria were used to eliminate the articles that were not relevant to the subject, which can be seen below in (TABLE 2). The time frame for the articles was from 2012 to 2021. The information that was gathered from the different databases was utilized in analyzing and implementing the study.

TABLE 2. Inclusion and exclusion criteria.

INCLUSION	EXCLUSION
Articles published from 2012 – 2021.	Articles published before 2012.
Articles that were written in English language.	Articles written in other languages.
Articles available in full text and freely accessible to read.	Articles that are not freely and easily available in full text.
Articles related to Alzheimer disease and nursing science.	Articles that are not related to the research topic.
Peer reviewed and evidence-based articles.	Not peer reviewed and non-evidence-based articles.
Studies considered qualitative and quantitative approaches.	Studies with other than qualitative and quantitative approaches.
Articles that were answering the research questions	Articles that were not answering the research articles.

4.3 Data analysis

In nursing studies, qualitative content analysis was mostly used. Qualitative content analysis is a method currently available to analyze data and to explain its importance. It can be used in an inductive or deductive way. The process of induction and deduction in content analysis includes three main stages like preparation which means collecting, selecting and understanding the data; organization which includes open coding, class creation and abstraction; and results reporting. In deductive content analysis, the organization stage includes the development of a classification matrix, in which all information is reviewed for content. (Elo, Kääriäinen, Kanste, Pölkki, Utriainen & Kyngäs 2014.). The data was collected from the Centria University of Applied Sciences databases. The data was analyzed through inductive content analysis.

TABLE 3 Examples of meaning units, condensed meaning units and codes.

Meaning unit	Condensed meaning unit	Code
Educational research could help determine the type of additional		Improve patient's skills with education.

training needed to improve their skills to meet the specific needs of people with ADRD.	Educational study aid in determining the type of training required to increase their abilities.	
Taking a detailed history and performing a sound clinical investigation including the patient and their family or care team are essential.	A thorough medical history and clinical examination with the patient's family.	Medical history and examination
Caregivers may increase the daily functioning of the apathetic patient by directly prompting patients to initiate activities, using visual cues to behaviors, and setting up routines for daily activities.	Patients were more engaged when they heard live interactive music.	Patients engaged with live interactive music

The data was then arranged into meaning units, each of which corresponded to a single phrase or sentence, as can be seen in (TABLE 3). The meaning units were combined into 26 codes, 6 subcategories, and 2 main categories. The content of the data that was gathered served as the basis for the naming of the categories. The procedure of analysis was carried out by two authors (LC & GO), and it was constantly checked by the supervisor (PH), in order to maintain double coding and accuracy, as well as to increase the result's trustworthiness.

5 FINDINGS

Results revealed detailed research for material and literature in managing behavioral changes in Alzheimer's client living at home. The number of elders with Alzheimer's disease is increasing globally. Findings are organized according to the two research questions in this thesis. And the research questions were: what nursing interventions are used in managing behavioral changes in clients with Alzheimer disease and how does managing behavioral changes with non-pharmacological method helps the clients living at home?

TABLE 4. Nursing interventions with Alzheimer clients behavioral change management

Main Category	Nursing interventions with Alzheimer clients behavioral change management		
Sub-categories	Modifying and supportive strategies	Strategies of emotional support	Strategies of activities and therapies

TABLE 5. Non-pharmacological methods with Alzheimer clients that help in behavioral change management

Main Category	Nonpharmacological methods with Alzheimer clients that help in behavioral change management		
Sub-categories	Maintaining mental health	Effectiveness of nursing intervention	Stimulating client's interaction through art therapies

The results to the research questions can be seen in (TABLE 4) and (TABLE 5) which are described in greater detail in the following sections of the research.

5.1 Nursing interventions with Alzheimer clients behavioral change management

Alzheimer's disease is characterized by a high prevalence of distressing and difficult-to-manage behavioral symptoms. The techniques adopted by the nurse in order to deal with these changing

behaviors might have an effect on the overall health of both the client and the caregivers involved in the care process. (Polenick, Struble, Stanislawski, Turnwald, Broderick, Gitlin & Kales 2018.). For nurses, it was crucial to understand the client and their caregivers as well as recognize any behavioral signs in order to provide appropriate care. The management of changing behavior involves a focus that is client- and caregiver-centered and interventions that provide clients with satisfaction and ease the strain on caregivers are essential. The provision of psychoeducation to clients as well as caregivers might benefit in the management of changing behaviors. Alzheimer clients who undergo therapy for managing behavioral symptoms see improvements in their depressive, anxiousness, aggressiveness and restlessness symptoms. (Tible et al. 2017.).

Music therapy is one example of a psychosocial therapies that may help preserve or improve cognitive function, sensory, emotional, and social capacities as well as lessen the impact of various behavior problems (Guetin, Charras, Berard, Arbus, Berthelon, Blanc, Blayac, Bonte, Bouceffa, Clement, Ducourneau, Gzil, Laeng, Lecourt, Ledoux, Platel, Thomas-Anterion, Touchon, Vrait & Leger 2012). An essential component of nursing care for clients diagnosed with Alzheimer's disease is the prevention or postponement of their admission to a nursing home (Porter, Miller, Lane, Cornman, Sarsour & Kahle-Wroblewski 2016). It has been shown that non-pharmaceutical therapies can have a favorable influence on the quality of living and overall health of individuals who have Alzheimer's disease. Listening to music, that is music therapy, generalized sensory stimulation, light treatment with precaution, since some clients can show significant anxiety, virtual presence therapy, and therapies of validation are all examples of effective interventions that can be used to lessen reactive behaviors. (Meyer & O'Keefe 2018.).

In nursing interventions, it was essential to use cultural adaptation to understand oneself and evaluate others. As clients with Alzheimer's disease in advanced stages are frequently unable to convey their problems, worries, or desires, it is imperative that representatives analyze the client's situation and detect signs that could possibly be troublesome. Issues with judgement was typically associated with inability in communicating, leading in doubt about the existence of the trouble or signs or the rationale for a particular conduct. Usually, healthcare providers and care givers were able to assess signs in clients with communication challenges or inability to interact. Nonetheless, some professionals had a hard time recognizing the existence of signs, such as discomfort, shortness of breath, and sickness, leading to difficulties in assessing the suitable care for the clients. It is absolutely necessary to receive on-going training on how to use the different therapies for the successful integration of the client-

centered strategy. (Hodiamont, Hock, Ellis-Smith, Evans, Wolf-Linder, Jünger, Diehl-Schmid, Burner-Fritsch & Bausewein 2021.).

5.1.1 Modifying and supportive strategies

The behavioral symptoms of the client's Alzheimer's disease were managed by guiding the caregivers through the modification of connections inside the care environment, such as by easing interaction. Caregivers also modified the care setting, such as by using handwritten cues, engaging in activity, by laughter, by managing self-care, and by providing social protection. The care environment was modified to include the implementation of a daily schedule and the use of cues to avoid problematic behaviors. These kinds of techniques are preventative and shows that the caregiver is aware of the client's behavioral issues. Therefore, caregivers might be benefited from therapeutic counseling in the adoption of measures for modifying the environment that have a higher or lower likelihood of being effective. (Polenick et al. 2018.). The nurses highlighted that it was more necessary to simply organize the client's everyday life as well as the routine as a whole as opposed to doing anything particularly noteworthy. (Noriko, Maiko & Hiroki 2016).

Alzheimer clients may experience less anxiety and strain as a consequence of caregiver interventions, which may lead to changes in the client's behavioral symptoms. These favorable benefits may also be attributable to the caregiver's elevated tolerance for the client's behavior problems. (Xiangfei, Jianping, Huanhuan, Dongfei, Yingnan, Yijing, Zhang, Zehui & Jiao 2021.). The things from client's everyday lives are used in reminiscence therapy to trigger client's memories and help them develop an appreciation for the past. This approach has the potential in improving one's mood. The efficacy of the treatment is improved when combined with psychoeducation and family counseling. The impact is noticeable and important. Individual psychotherapy might be helpful for caregivers since they are at risk of becoming depressed themselves while providing care for a loved one. (Tible et al. 2017.).

The primary ways via which music therapy exerts its effects are through psychological, emotional, and physiological. It consists of a number of procedures that are able to react in response to certain therapeutic goals. Sessions of music therapy showed a reduction in mood swings, which are frequently connected to restlessness. (Guetin et al. 2012.). The desire for activity that provided daily pleasures or stability was well satisfied by the support and exercise interventions. The desire for physical activity was addressed by the exercise and support interventions, which also placed an emphasis on

participating in activities together. Client's living with Alzheimer's disease found the workouts more appealing when they included items such as a ball, weight training, and stretchy items. The demand for self-sufficiency, the maintenance of interests, as well as the adaptation to physical constraints were all well handled by physiotherapy. (Leven, Lange, Prick & Pot 2016.).

Nurses may ponder about modifying and combining different treatments in order to effectively control pain and discomfort in clients with Alzheimer's disease. They also personalize the treatment according to the client's cognitive performance and specific requirements. To increase a client's likelihood of adhering to the care plan and to make the treatment more effective in mitigating changes in behavior associated with Alzheimer's disease, the intervention should be individualized to the client's present level of cognitive functioning. (Liao, Parajuli, Jao, Kitko & Berish 2021.). Support groups could be beneficial in helping clients in managing behavioral disorders when they include regular meetings and offer possibilities for interacting with other members to share continuing emotional support or practical help. (Polenick et al. 2018). Clients with Alzheimer disease may benefit by maintaining a regular diet that has a greater amount of proteins and less carbs. It is possible that the management of behavioral symptoms can be improved by making changes to one's way of life, diet, and the environment around them, such as engaging in physical activity, engaging in cognitively stimulating activities, and by socializing with others. (Theleritis et al. 2016.). Support services for caregivers are also essential to the provision of ongoing care at home for clients diagnosed with Alzheimer's disease. (Porter et al. 2016).

5.1.2 Strategies of emotional support

It is essential to provide caregivers with counselling and emotional support since the situation has the potential to be exhausting for those providing care. It was shown that clients with Alzheimer's who live at home may have a higher quality of life when they participate in coping strategies-based on caregivers family's treatment and activities that are tailored and specifically designed for both client's and their caregivers. (Tible et al. 2017.). As the illness progresses and the client's behavior problems deteriorate or becomes more common, the care providers can experience an increase in distress, which may result in an increase in the amount of difficulty they have in giving care to their loved ones (Porter et al. 2016). Exercising, musical therapies, psychosocial therapies, reminiscing therapies, and validating therapies are some examples of strategies that provide emotional support. All these therapies had potential in alleviating behavioral problems. (Meyer & O'Keefe 2018.).

Music is a powerful instrument that may be used to evoke feelings in the client and promote verbalization from them. Sessions of music therapy provide clients with the chance to form social connections, engage in expressive and communicative activities, and do so in a manner that takes into consideration their emotions and affective lives. The client's history is taken into consideration while selecting music for them, to ensure that the selection may appeal to the client's most basic necessities, such as the maintenance of their identities. The emotional states that are provoked by music include a way to enhance the cognitive abilities and episodic memories, as well as a means to convey emotions as powerful as happiness, health, comfort, or calmness, that are frequently hindered as the disease progresses which affects the interaction, cognitive processing, and psychological behavioral abilities of clients. During a musical therapeutic session, clients diagnosed with Alzheimer's disease who have light to moderate cognitive problems are able to externalize their feelings, which opens up the way for the beginning of a connection that is both responsive and supporting. When the condition has progressed to a higher level, music becomes an important instrument that facilitates non-verbal interaction. (Guetin et al. 2012.).

It is common to have feelings of isolation in connection with anxious thoughts. As a result, nurses made sure to reassure clients and their loved ones that they were not alone in their emotional and physical states and made sure that they understood that they can contact nurses and other professionals. The client and their family were informed by the nurses that they may contact the professional at any time, particularly in the event of an emergency. (Noriko et al. 2016.). It could be feasible to regain the physical and emotional ability of the care provider to deal with the behavior problems if the caregiver engages in strategies such as actively engaging in valuable non-care tasks, maintaining a healthier lifestyle such as receiving sufficient amounts of sleep and exercise, and taking a rest from providing care for the client. (Polenick et al. 2018).

Therapies of music, psychology and reminiscing were effective in treating emotional problems. Musical and virtual presence treatments have generally favorable effects on lowering responding behaviors, and it is not particularly difficult to put these therapies into practice. The benefits of these treatments may be attributed to a number of factors, the most important of which is the capacity to form connections with other people via reminiscence and emotional expression. (Meyer & O'Keefe 2018.). Psychosocial therapies indicate that improving abilities in behavior control might minimize the amount of emotional distress caused by restless behaviors (Trivedi, Braun, Dickinson, Gage, Hamilton, Goodman, Ashaye, Iliffe & Manthorpe 2018).

5.1.3 Strategies of activities and therapies

Activity-based strategies have a variety of possible benefits, such as elevating mood, making necessary stimulation more accessible, and offering meaningful activity, all of which have the potential to reduce the severity of behavior problems. (Polenick et al. 2018). It was shown that thinking about the past might improve cognitive abilities and lessen the effects of depression. It is possible that periodic retrieval might help clients remember and retain relevant information. The use of music therapy may result in a decrease in both the frequency and severity of behavioral disturbances. Clients may improve their cognition and socialization using reality orientation methods. Reality orientation reorients clients chronologically and visually through neurosensory stimuli. Two complementary methods have been shown to work. An informally organized reality orientation in which care personnel constantly tell clients of their identity, location, and moment. And a systematic or classroom reality orientation, wherein clients gather daily in a class to practice temporal and spatial knowledge and discuss the latest public interactions or individual tales using boards or papers. (Cammissuli, Danti, Bosinelli & Cipriani 2016.).

One sort of reminiscence therapy is directed by a person's free recollection, while the other makes use of a biography review technique. Reminiscence therapy may be performed in one-on-one or group settings, and it can be subdivided into two categories. The initial kind of treatment often consists of clients attending group sessions minimally at least every week, during which they are pushed to discuss about previous activities, incidents, and experiences. The other enables clients to actively seek episodic memory and reconstruct their life narrative, giving them a sense of agency in the process. Performing a biography review often involves compiling a life diary out of personal mementos such as photos, music, and images, among other things that may act as a memory assisting replacement device. (Cammissuli et al. 2016.).

The psychodynamic method might place an emphasis on the individual's sense of identity by reviewing previous events that have the potential to arouse emotions of satisfaction and fulfillment. Therapies are organized in the form of individual or group sessions. Sessions of listening to music often include active or passively taking in a variety of musical genres via the medium of listening songs. Clients who suffer from Alzheimer's disease have shown promising results by using music as a therapy to alleviate symptoms, including feelings of depressiveness and anxiousness. (Cammissuli et al.

2016.). Tailored therapies were much more beneficial in alleviating challenging behaviors like anxiety. Activities that are tailored to the preferences and abilities of clients are included in tailored sessions, as educational opportunities and emotional support are designed to fulfill the requirements of caregivers. (Xiangfei et al. 2021.).

The utilization of home-based behavior management approaches, care provider intervention or training staff in good communication, client-centered care, Alzheimer's care planning against agitation, and therapy of music against agitation and anxiety are all examples of strategies that may be used. The provision of social counselling, the coordination of help, and support for both clients and caregivers may be incorporated into psycho-educational therapies. When used in conjunction with other methods, reality orientation treatment is more successful in elevating one's mood and reducing the severity of behavior problems. The goal of the client approach is to address outstanding issues by promoting and positively affirming the expression of emotions in the client. Reducing irritation through positively affirming the voicing of emotions may be beneficial. (Tible et al. 2017.). When it comes to the management of clients' sleep and general wellness with Alzheimer's disease, non-pharmacological approaches like timed light therapy, physical exercise, and sleep knowledge are considered promising options for clinicians to take into consideration. (Gibson, Gander, Dowell & Jones 2016).

It has been shown that including non-pharmacological interventions like exercise and occupational therapy into treatment plans for clients with Alzheimer's disease may enhance both cognitive capacity and functional ability at a reduced cost. Education may concentrate on tasks involved in day-to-day life. For example, practicing treatments like the utilization of navigator or even other non-pharmaceutical therapies that target residential care might be a practical and cheap method to enhance the quality of residential care in the context of behavioral management. (Mary, Davis, Zhiqiang & Lu Jun 2021.). The exercising and supporting therapies included playing ball, weightlifting, and rubber bands for flexible, balanced, strengthening, and endurance exercise and included psychosocial support, communicative skills, and assistance in arranging fun things. Occupational therapy improved self-caring in a wide range, including teaching to operate the television remote with direction signs, taking a bike tour that would be concern free for the care givers at house by trying to take a very known path and making use of a phone, and assisting with maintaining a daily details of the program and plan with just an independently suited strategy. This intervention for clients with Alzheimer and their caregivers and occupational therapies combine diverse activities, psycho education, and care for emotional state to assist clients in adjusting to the consequences of diseases in every day's life. (Leven et al. 2016.).

Positive emotions may be prompted in those living with Alzheimer's disease by the use of their inventiveness and interaction. The use of creative endeavors like songs, movie theater, singing and dancing, composing, and artistic expression as part of Alzheimer's treatment is gaining widespread acceptance. These forms of art depend on the client's capacity to make findings, encourage talks, participate in worthwhile tasks, and offer things that are fantastic in their presence. Art is used in the program retention identities as a way to offer enjoyable tasks for clients with Alzheimer's disease and for caregivers and caregivers are also properly trained in how to facilitate these events in the comfort of their own homes. (Mondro, Connell, Li & Reed 2018.).

Ear acupressure, musical therapies, massage, personalized pain intervention, drawing, personalized assistance robots, cognitive-behavioral therapy, games, and client-centered environmental programs all helps to reduce pain. Alzheimer's clients benefit from back and lower extremity massage. Alzheimer's client's desires improve as the behavior symptoms gets better. Thus, taking individual tastes into account could also improve musical therapy in a positive way. Client-centered listening to music is non-invasive, simple to administer, and reduces pain. Tailored therapy reduces Alzheimer's pain. (Liao et al. 2021.).

Caregivers utilized environment techniques, for example an everyday routine, in order to minimize the manifestation of behavior issues. In order to alleviate the behavioral issues, caregivers used several diversionary tactics. It is essential for the clients and the caregiver to have a healthy attitude of humor towards one another. Some of the strategies included doing things at a more leisurely pace, clarifying interactions, and permitting behavioral signs to emerge when they did not constitute a threat. It is possible for environmental techniques to lessen the possible factors of behavior problems, thereby reducing the number of such signs and symptoms. (Polenick et al. 2018.).

Music, visual engagement, virtual presence, and validated therapy lowered reactive behaviors the best. Remembrance and cognitive stimulation increased cognition, whereas light treatment and exercise supported everyday life. Light therapy needs to be used carefully, as for some clients it can trigger restlessness and anxiety. Occupational therapies involve visual engagement, Snoezelen, changes in the environment, and caregiver education. Interventions with music must include singing a song, hearing, presenting, or getting engage in rhythm exercise. (Meyer & O'Keefe 2018.).

Music therapies may help clients retrieve forgotten memories of important events of life and persons, which can improve their mood, behavior, personal experiences, and personal background. Music can

improve biographical memory retention in early disease clients through its presence in quiet environment. In the presence of music, Alzheimer clients had a substantial decrease in worry, indicating that music may enhance biographical recall of information by reducing anxiety. Due to its similarity and reliability, music may bring back memories, feelings, motives, and emotions in Alzheimer's clients. Hence, musical programs may increase an Alzheimer client's mood and bodily awareness regardless of familiarity. (Arroyo-Anllo et al. 2013.).

Clients had increased levels of favorable involvement as a result of live interactive music. It seems that listening to music and cognition restoration are both beneficial. For the Alzheimer's client who is uninterested in their activities and has a lack of motivation, it may be helpful for them to work with a therapist who is innovative and is knowledgeable about the client's hobbies. Clients with Alzheimer's disease may find more motivation via the use of biography-oriented mobilization and physical activity. The efficacy of therapeutic activities, especially the ones that are delivered on an individual basis, could be the strongest that is currently available. In addition, education is needed to assist families in identifying the behavioral signs in their loved ones. For instance, apathetic clients are sometimes labeled as being sluggish or argumentative, thus family's needs assistance in these areas. (Theleritis et al. 2016.).

Therapies are more customized and takes into consideration the client's prior choices as well as environmental circumstances that might have an impact on indifference. Caregivers have the potential to improve the function of an indifferent client by actively urging clients to begin tasks, making use of visual signals to influence behaviors, and putting up schedules for everyday routines. (Theleritis et al. 2016.). It is possible that music therapies like rhythms may help therapists improve their approach in interacting with Alzheimer's clients in the future (Allen-Williams 2013).

5.2 Non-pharmacological methods with Alzheimer clients that help in behavioral change management

Non-pharmacological therapies have the ability to lessen the severity of behavioral problems and alleviate their adverse effects. For the management of behavioral signs in Alzheimer's clients, non-pharmaceutical approaches that target behavioral difficulties and include caregivers may prove to be significantly more beneficial than pharmaceutical treatments. (Xiangfei et al. 2021.). Holistic methods, brief psycho treatment, cognitive approaches, and alternate approaches are the four major types that

may be used to classify non-pharmaceutical treatments. Real oriented and cognitive therapy were related to a great increase in both cognitive and behavioral functioning in clients with minor to severe Alzheimer's disease, and they were shown to be effective in perpetuating concurrent pharmaceutical therapy. (Arroyo-Anllo et al. 2013.).

There is substantial evidence to suggest that engaging in regular exercise might enhance behavioral development in Alzheimer's clients and decrease symptoms of the disease (Tible 2017). A social activity that fosters interaction and the connection between caregivers and clients is facilitated by the power of music (Guetin et al. 2012). When it comes to managing the wellness of clients with Alzheimer's disease, non-pharmaceutical treatments are seen as promising options for clinicians and caregivers to explore (Gibson et al. 2016). The goal of psychosocial treatments is to lessen the severe impact of Alzheimer's disease on the day-to-day lives of clients living with the disease and the people who care for them informally. (Leven et al. 2016).

There is a reason to be optimistic about the use of non-pharmaceutical therapies in the improvement of pain management among this group. Non-pharmaceutical therapies are a more reliable first alternative for the management of pain; nevertheless, interventions based on evidence for clients living with Alzheimer's disease have not yet been produced. Non-pharmaceutical therapies have indeed been thoroughly investigated on cognitively impaired older persons, and the results have shown that these treatments are effective in alleviating pain, sadness and anxiousness, and increasing essential functions in Alzheimer's clients. (Liao et al. 2021.). It is better to use non-pharmacological methods for reducing behaviors that are responsive, improving and maintaining functional ability, and lowering the incidence of emotional issues. It is encouraged to use therapies such as light, music, validation, sensory stimulation, and virtual presence to lessen the severity of responsive behaviors. (Meyer & O'Keefe 2018.). When it comes to managing the overall health of clients with Alzheimer's disease, non-pharmaceutical therapies are methods that are helpful, diverse, and have the potential to be cost-effective. (Cammisuli et al. 2016.).

Multiple nonpharmaceutical interventions, such as kit-based activity, multisensory stimulation, cognitive communication plans, art therapies, real-time interactive music, cognitive stimulating therapies, personalized occupational therapies, coordinated care interventions, personalized cognitive rehabilitation, and physical exercise were beneficial in decreasing behavior problems in clients with Alzheimer disease. (Theleritis et al. 2016.).

5.2.1 Maintaining mental health

In Alzheimer's care, a genuine collaborative relationship that includes trust is becoming more essential. It is reasonable to anticipate that believing the therapists will enable the client to experience less distress and anxiety, therefore achieving a certain level of emotional availability. (Deygout & Auburtin 2020.). Increased counseling and support for families may result in long-term improvements in lowering caregiver stress. These results can be attributed to the fact that family members can benefit from enhanced counseling and support. (Trivedi et al. 2018). Musical therapy helps clients feel less anxious, relieves times of depressiveness and violent behavior, and considerably improving client's emotions, interactions, and levels of autonomous. (Guetin et al. 2012).

In addition to making everyday living feasible and pleasant, nurses helped to reduce client's levels of worry. The nurses made attempts to cautiously approach out to alleviate the worry of the client's and their families, tried to change the view of the situation, and generated peace as a method to ease the client's and family's anxiety. In order for clients to successfully gain back their emotional balance and consistency and to celebrate the happiness of still being alive, a strategy that involved planning client's everyday lives and routines proved to be beneficial. This method also served to divert the client's focus away from nervousness. (Noriko et al. 2016.). The behavioral symptoms of Alzheimer's disease, which includes sadness, difficulties in falling asleep, laziness, anxiety, and aggression, are recognized to be significantly more burdensome for care providers than the client with Alzheimer's disease's functional and cognitive issues. It has been proven that the existence of behavioral signs might worsen the difficulties in both the emotional and physical aspects that are encountered by caregivers and their families. Increased distress that is associated with managing behavioral problems is the single best predictor of caregiver troublesome, depression, and physical illness for those who provide care for their loved ones. As a direct consequence of this, the likelihood of individuals with Alzheimer's disease being admitted to a nursing home rises. (Porter et al. 2016.).

Clients suffering from Alzheimer's disease had less discomfort after receiving reflexology treatments. This approach is not only simple to carry out, but it is also unobtrusive and does not need for any specialized equipment or additional room. As a result, medical professionals or care providers may think about offering this intervention to clients with Alzheimer's disease in order to alleviate their discomfort and anguish symptoms. (Liao et al. 2021.).

The use of laughter, caring for self, and social support were cited as helpful in survival strategies by caregivers for dealing with the everyday problems posed by challenging behaviors. Strategies like having to move at a slower speed, easing interaction, and permitting behavioral signs to arise while they do not present any harm could assist in preventing anxiety for both partners in care by preventing future conflict. These measures have the potential to lessen the severity of behavioral problems by lowering levels of the stresses that lead to their manifestation. These prior approaches could help their caregivers feel less stressed out about their responsibilities. The distraction methods that were utilized as a reaction to behavioral signs that were already present were not always helpful. It is possible that distraction methods only provide temporary relief from behavioral problems, or that they lead to a never-ending cycle of behavior that has to be redirected, which is stressful for the caregivers. It is possible that having an attitude of humor assists combat the stress associated with providing care by allowing caregivers to maintain a holistic understanding on the difficulties associated with actions issues. (Polenick et al. 2018.).

The importance of caregivers prioritizing their own care was emphasized throughout the behavior process for change management. Importantly, research has shown that when Alzheimer's clients utilize adult day programs, their caregivers have reduced levels of negative affect as well as less exposure to stresses connected to caregiving. In a related manner, it has been shown that creating space for leisure and social activities might work as a stress absorber for caregivers. This is in contrast to the fact that activities limitation due to caring responsibilities has been associated to lower mental and physical health in caregivers. The psychological and behavioral symptoms of Alzheimer's disease are managed by family caregivers via the use of approaches that reduce anxiety and respond to the requirements of both partners in care. It is necessary to provide regular clinical treatment in addition to therapies that are specifically designed to increase caregiver health. (Polenick et al. 2018.).

Because it causes the production of chemicals like dopamine, it is well recognized that physical activity has a beneficial impact on the mind. Musical therapies have the ability to lower the levels of stressful hormones that stimulates memories and, when performed in a group context, promote social relationships, all of which may have an effect on depressed behaviors. Psychological therapies are useful in helping clients with Alzheimer's to alleviate their feelings of worry and sadness. Therapies such as cognition behavior therapy, mindfulness therapy, interpersonal psychotherapy, counseling or supportive therapy, and so on are all included in this category of treatment. It is advised that individuals engage in cognition and memory therapy, exercise, and light therapy in order to preserve and improve their physical and mental abilities. The processes behind each of these treatments are

vastly different. (Meyer & O'Keefe 2018.). Individuals who have been diagnosed with Alzheimer's disease or another dementia may benefit from participating in a non-pharmaceutical activity which is supportive in care designed to boost their sense of self-worth and reduce anxiety. (Deygout & Auburtin 2020.).

5.2.2 Effectiveness of nursing intervention

It is possible that clients will benefit from treatments that are effective in addressing the outcomes of caregivers; however, the impact on the primary caregiver must be big enough with adequate follow-up to notice a meaningful change in clients. (Xiangfei et al. 2021.). Cognitive-behavioral treatments emphasize the physician's behavior and interactions. The physician's trust and confidence throughout the therapy are crucial to therapeutic success, and a strong physician-client working partnership involves emotive characteristics like trust. Building trust initially creates the therapeutic link. In a non-judgmental setting, the connection may be crucial to care. Empathy strengthens the therapeutic bond and is essential for cognitive behavioral therapy. Research shows that client-perceived empathy increases trust. Once the client sees the therapist is now on the client's side and appreciates the intriguing experience, trust is built. Regardless of whether the therapist's proposal is really not pleasant, the client may typically accept it. Trust requires mutual promotion. An honest, non-judgmental cooperation might entail the client and therapist taking chances to build trust. Trust requires risk. Trust reduces both risk and uncertainty. Trust is hope about another's goodness and ability. Optimism distinguishes trust from dependency. (Deygout & Auburtin 2020.).

Family members that are caregivers education that addresses disruptive behavior and triggers may enhance results. Alzheimer's clients with behavioral issues benefit from nurses and occupational therapists. Family caregiver's willingness to adopt non-pharmaceutical treatments and build a common vocabulary regarding psychological and behavioral symptoms requirements and interactions is crucial. Multisensory therapies assisted Alzheimer's clients to pay more attention and feel better. Multi-modal and art therapies may decrease apathy and enhance life quality and mental wellbeing. Caregivers can reduce behavioral problems by targeting behaviors issues and triggers. Advanced caregiver training may help lessen family members stress and troublesome behaviors and can help target behavioral issues in order to reduce them. Caregivers will, to utilize non-pharmaceutical strategy preparedness impacts behavioral problems results. (Trivedi et al. 2018.).

Intensive behavior management enhances client and caregiver's relationships, mood, and behavioral discomfort that can reduce depression and long-term care placements. Intensive depression prevention counselling improved tolerance, competency, and support seeking. Organizational treatments use behavioral interventions, effective communication skills, coping methods, and lifestyle guidance to diagnose, assess, and manage behavioral issues. Increasing physician sessions assists to minimize family caregiver sadness and enhance care quality. It includes mobilizing, local service optimization, coping guidance, skill building, and behavioral management. Integrated and comprehensive methods, including targeted treatment and individualized problem behavior targeting, make these therapies effective. (Trivedi et al. 2018.).

Tailored exercise programs promote involvement and minimize shadows, constant repetition, and anxiety. It can enhance caregivers subjective stress and abilities with better knowledge of techniques. Improving coping mechanisms for minimizing feelings of social isolation and providing assistance with physician and an unofficial support were the primary goals of a telephone intervention concentrated on handling behavioral issues, helping to promote expertise and coping skills for disruptive behavior, changes in the personality of the client, and strengthening coping skills. (Trivedi et al. 2018.).

The health of family caregiver's wellbeing includes sadness, anxiety, and responses to disruptive behaviors, which can be improved through participation in psychoeducation programs that emphasize real concern techniques, emotion-centered coping, strengthening abilities to deal with disruptive behaviors, systematic evaluation with coping mechanisms, as well as recognizing causes, preparing to handle when problems fluctuate, and predicting stressful circumstances. Community-based mental health nurses get training on intervention techniques, giving them a better ability to cope with undesirable behaviors, despite the fact that lengthy treatments are necessary. Easily available and frequent phone interactions of prolonged time among clinicians and care givers and probably low coping therapies reduced family caregiver's depression and enhanced responses to care recipient behaviors. (Trivedi et al. 2018.).

A skill building environment at home helped family caregivers create a supportive and positive atmosphere that minimized challenging behavior and the deterioration of functional ability. The strategy included specialized training, regular home visits, and phone calls. It improved family caregiver well-being and reduced pressure. Maintaining other effective results, like decreased caregiver stress in handling troublesome behaviors, may need more regular physician interaction and

continuous skill building. It also offers behavior management, family-based therapies, phone systems, and skills training. Race and the care receiver's connection may affect psychosocial treatments. Hazard identification, focused training, supports, and training opportunities addressed to family members that is for caregiver's security, social protection, and managing behavior problems and depression. Standardized parts of longer care duration are needed to offer family caregivers efficient, scientifically proven interventions. Evidence proves multi-faceted therapies that improve family caregiver abilities and educate them on managing and coping with behavioral symptoms. (Trivedi et al. 2018.).

Effective therapies need teaching family caregivers to concentrate on problem behaviors and possible stressors and to prepare for changing symptoms. It is also vital to evaluate family caregiver's willingness to participate in such activities for behavioral symptom management, as it affects the results. Health experts may give effective, low-cost coping programs. (Trivedi et al. 2018.). Caregivers will be prepared for their loved one's behavior if they are considered and counselled. Since it's frequently overwhelming for caregivers, nurses should provide basic knowledge, counselling, and emotional and moral support. Psychosocial therapies reduce caregiver's sadness and postpone client's institution admission. A different kind of care intervention that targets sexual disinhibition and vocalization can be of greater assistance in comforting the clients. (Tible et al. 2017.).

It is indeed vital to consider the requirements, features, and interests of Alzheimer's clients and their informal caregivers to provide an individual approach. Individual care requires knowing an Alzheimer's client's histories, needs, qualities, and choices. Regrettably, while therapies are provided to clients with Alzheimer in clinical settings, their necessitates, qualities, and desires are usually not thoroughly reviewed to decide the therapy that can be suitable for the client therefore it is critical to ensure that interventions suit the client and are chosen appropriately for the therapy to be effective. (Leven et al. 2016.). Educating caregivers on innovative ways to connect with their care receivers at home may enhance the overall quality of life of Alzheimer's clients and their care givers. (Mondro et al. 2018).

Nurses often help clients and families to manage anxiety. In addition to establishing trust, making a fac-to-face connection with the client and their family was crucial. Nurses needed to recognize anxiety symptoms in other ways. Nurses must listen and communicate with clients and families. The nurses spent a considerable amount of time listening to the client and family talk concerning about themselves, their experiences, and their lives and disease, especially at the start of their relation. Nurses learned about the client and family's perspectives via listening. This insight let the nurse sense

their concern and behavioral problem, analyze it, and choose how to treat it. Nurses have to know the client well to detect behavioral symptoms like anxiety and others. (Noriko et al. 2016.). Alzheimer clients require fewer doctor visits and may experience less psychological stress when at home, thereby saving on medical costs (Suzuki, Yokote & Takahashi 2013).

In order to effectively manage behavioral changes, a multidisciplinary team of unlicensed and licensed health care professionals as well as informal caregivers, that are frequently members of the client's own family or close friends, must be involved over an extended period of time. The treatment effects for clients with Alzheimer's disease and the caregivers who take care of them might benefit from the evidence-based therapies. (Mary et al. 2016.). Nurses may use several interventions to alleviate Alzheimer client's discomfort, depending on their cognitive capacity and necessities. To establish relationships with clients, nurses should learn about their interests, behavior problems, individual interests, and history. A nurse must collaborate with Alzheimer clients and their loved ones to identify their preferences and desires. This improves commitment and therapeutic results again. Client's reactions to the interventions must be frequently assessed, and other treatments should be taken into account if the result is unsatisfactory. (Liao et al. 2021.).

Caregivers employ several methods to minimize or reduce behavioral problems based on their loved one's requirements. The results imply that regular clinical visits should include assistance in their execution and assessment. (Polenick et al. 2018.). Occupational treatment significantly improves Alzheimer's client's behavior issues. Psychological therapies help Alzheimer's clients lessen their depressive and anxious behaviors. (Meyer & O'Keefe 2018.). Counselling or other psychological tactics are used in psychological therapies. A psychologist is needed for these sessions, but nurses should examine the benefits of such treatments for sadness and anxiety in Alzheimer's clients. The therapy of reminiscence is entertaining and stimulates conversation by evoking good and happy memories. (Meyer & O'Keefe 2018.). Physical and occupational therapies increase intellectual abilities and behavior problems in Alzheimer's client's cost-effectively. An educational investigation might indicate whether further training is required to fulfill Alzheimer's client's requirements. (Mary et al. 2021.).

Ketone generation and carbohydrate limitation might help the ketogenic diet to treat and prevent Alzheimer's disease. There should be assessment of preventive steps effectiveness. Current nutritional modifications may lessen the frequency of Alzheimer disease, with hereditary variants aggravating this

and current carbohydrate-rich diets may increase Alzheimer's risk. The ketogenic diet with carbohydrate limitation may help in managing the disease. (Broom, Shaw & Rucklidge 2018.).

Non-pharmaceutical therapies are a form of alternative approaches and must be adapted on an individual basis, depending on the client's health issue and resistance, adherence to therapies, severity of symptoms, obtainable hygienic and expert assets, as well as the caregiver's treatment dedication and assistance. The treatment of Alzheimer's disease using reminiscence therapy has already seen widespread adoption. The goal of the psychodynamic method is to include the illness process while also aiming to reduce emotional suffering, develop suitable coping skills, and to replace those skills. Clients learn to recollect knowledge for prolonged times. Due to the substantial deterioration of memory formation in Alzheimer disease, rehabilitation strategies concentrating on actual information learning, such as housekeeping items or caregiver names, are major challenges. Multidimensional evaluation is needed to choose the appropriate non-pharmaceutical interventions and should be selected on an individual basis. (Cammissuli et al. 2016.). The intervention made it possible to engage in activities together and to regain a sense of unity. (Leven et al. 2016).

5.2.3 Stimulating client's interaction through art therapies.

Art therapy is one example of a non-pharmacological treatment that has the potential to improve a client's cognitive performance. This occurs when a client's levels of stress, anxiety, and restlessness are reduced, and they become more calm and serene. It has been shown that engaging in creative activities may improve behavioral symptoms, as well as a client's quality of life in terms of their social connections and their level of self-esteem. The vast majority of the clients find it more fascinating and interesting. The most beneficial types of art therapy are painting and coloring, which are both examples of expressive arts. (Breehan, Angel & Chatterjee 2014). Arts programs for clients and caregivers are appealing because they provide socialization, creativity, and help with continuous learning. The arts improve caregiver and client's relationships. Art has the ability to raise self- and world-awareness. It offers an abundant therapeutic environment for clients with Alzheimer's. Art programs help Alzheimer's clients, and their loved ones connect emotionally. It enhanced involvement and awareness, and caregivers enjoyed sharing an event with their family member. (Mondro et al. 2018.).

Art therapy showed caregivers how to improve their interactions and actions with their loved ones in order to communicate more perfectly. Caregivers improved their interaction abilities by researching more about their partner's cognitive capabilities. Art helps caregivers to be more tolerance, demonstrating the program's ability to assist care providers improve their relationships with clients. (Mondro et al. 2018.). Paintings, sculpting, sketching, coloring, collages, playing music, listening to music and poems, writing songs, or doing dramatic dance might be beneficial forms of treatment that fall under the umbrella of creative arts therapies. Intellectual engagement is a sort of exercise for mental health that has been shown to improve a person's ability to communicate and connect with others, ultimately leading to an increase in their life's satisfaction. When a client with Alzheimer's disease or their caregivers have difficulties communicating, it may be very upsetting for all parties involved. Communication is the foundation upon which all relationships are built. It is well recognized that engaging in conversation about one's personal experiences and previous events during remembrance therapy is not only entertaining, but it also has the potential to improve one's ability to communicate and their cognitive function. (Meyer & O'Keefe 2018.).

The neurodegeneration disorders add anxiety and discomfort, and a multimodal stimulation like art therapy as a substantial influence on the stress that is caused as a consequence of these diseases as well as the quality of life was affected as a result. This therapy places an emphasis on the client's active participation in the creative process as a means of guiding them through the process of self-realization and, eventually, regaining their self-esteem. Consequently, individuals who have been diagnosed with Alzheimer's may increase their sense of self-worth and overall health by engaging in creative tasks, which result in feelings of joy and help minimize feelings of worry. Art therapy that focuses on improving one's self-esteem has, been proven to raise overall levels of self-efficacy. (Deygout & Auburtin 2020.).

Art therapy's success is mostly therapist-based, and the therapist's relationship and flexibility are more essential than the client's for improved client results. To create trust, the art-therapist should sketch or paint while discussing. Using family-related or deeply personal memories to boost memory should be emphasized. The clients must also be orally and gradually encouraged to develop their creativity visually by using particular elements from their lives and their favored colors, as colors remain constant despite the condition and contribute to the sensuous components of making art. Art therapy concentrates on self-worth and actions. It was reported that trust was the factor that had the greatest influence on the desire to respond. Empathic, person-centered care-built client trust. The client gradually learned to pay attention to himself and accept himself like everyone else. Trust is believing

in a person's capabilities before their actions. Trust revived self-confidence by connecting the individual to themselves. The client gradually adopted the therapist's unconditionally positive attitude toward themselves and their thoughts and was ready to go ahead in the path. Self-confidence activates the client. When the client started listening to their emotions, the client became more responsive. (Deygout & Auburtin 2020.).

Clients may express aesthetic pleasure via art therapy because they share a common visual aesthetic experience. The therapist hoped to reawaken their imagination world by choosing art that complemented their surroundings. Most clients shared their compassion and aesthetic sentiments with the therapist, motivated by trust. Aesthetics goes beyond technique. In art therapy, the assisting connection is intimate. Trust, empathy, and compassion are keys to therapeutic intimacy. Modern art therapies support this exchange for learning goals, and both skilled and unskilled therapists are trusted. Treatments focused on emotions includes partners and needed the client's consent, involvement, mentoring, and training. Positive emotions promote creation and healing. A trusting connection with the therapist may boost self-esteem and physical participation in art therapy. Empathy was needed to build client trust in therapy sessions. Trust helps to activate confidence, which prompts physical participation in creation of arts, which reduces fear and stimulates client contact. (Deygout & Auburtin 2020.).

It has been shown that music therapy can be both calming and exciting. The majority of Alzheimer's clients benefit from music's ability to provide psychological and emotional assistance. Both within the meetings themselves and directly just after session, the use of musical therapies and other multisensorial stimulating approaches has shown to be useful in lowering agitative and inappropriate behavior. (Tible et al. 2017.). Meetings of interactive musical therapy promotes the body's movement, as well as inventiveness, and may improve one's perception of themselves as well as their ability to socialize. This approach is especially useful in the case that a person has lost or is developing a deficiency in their speech or in their interaction abilities since it focuses on hearing, interaction, interchange, playing a game, and on enjoyment. Alzheimer's clients may benefit from the organization of both space and time provided by the musical rhythm. The ability to communicate verbally may be the initial ability affected by Alzheimer's disease, although it often takes much longer for clients to lose their overall melodic and rhythmic abilities. (Guetin et al. 2012.).

Musical therapy is a new field that uses song to improve socializing, interaction, teamwork, and expressiveness. Such an alternate approach assists in restoring memories by triggering personal

experiences along with individual identity and self-acceptance. It also activates interactive abilities that were lost in Alzheimer's disease, resulting in loneliness due to a gradual lack of communication. Musical therapies appear to be a beneficial approach also in the severe level of the disease as it mainly focuses upon depressive and anxious behaviors, and moreover activates mind and allows clients to present themselves orally, enhancing their interaction abilities and everyday autonomous. (Cammisuli et al. 2016.).

Listening to music looks beneficial as well as less hazardous between all therapies. Despite considerable general deterioration, musical memories are maintained in moderate to serious Alzheimer's client's. Listening to music may reduce Alzheimer's problems and trigger surprising client reactions. A mild impact of musical therapy can improve Alzheimer's problems. Unfamiliar musical stimulation was capable of eliciting the same kinds of emotional reactions as well-known musical selections did for the clients. Music therapies also gives families the chance to rebuild emotional bonds and valuable contacts that might have been suffered as a result of Alzheimer's disease. This significantly improves the standard of living of each client and their caregivers. It is likely that clients might get signals to boost their support networks when musical activation is offered in group sessions. These contacts have indeed been connected to the preservation of emotional function as well as social competence. Behavior and life events may be improved by the use of music that is familiar to the clients. (Arroyo-Anllo et al. 2013.).

Chaos may be represented via restless behavior, and rhythms could be applied to create valuable communication. Personalized rhythm therapy alleviated anxiety and encouraged regular exercise, interaction, valuable involvement, and assurance of emotions. Cognitive dysfunction leads to an absence of touch with body rhythm; music's beat facilitates reconnections. Maybe it is not only the body's inner rhythm which ended up losing, but also the capacity to link to and encounter the exterior rhythm of daily life, that is the capability to stay linked not just to the own's sense of identity but also to being, connected to the environment and the individuals inside it. Individuals must match their own patterns with their environment to be in. Personalized therapies added confidence in clients, to recall past memories, spontaneity, by creating awareness in groups, and by clear communication. Familiar music stimulates not only remembrance, but also valuable interactions with the outside environment. The individual rhythmic reaction of the therapist synchronizes the client's inner and outer rhythm patterns, creating earlier nonexistent communication. The activation of effective interaction supports the rhythm's ability to again connect with the client's ability for mental interaction, and the rhythms arrange both interior and exterior operations, facilitating valuable interaction. (Allen-Williams 2013.).

Solo or team therapies create a feeling of accomplishment. Practicing with others is vital for clients to feel connected. These clients feel enhanced physical engagement, increase in self-belief, and prolonged social connection. Evidence shows a broad influence on agitated behaviors like wandering or vocalizations. It illustrates that agitation may be identified and compared by therapeutic strategies like reacting to the client's rhythmic exposition. It minimizes and organizes irritation into productive conversation, enabling communication and a sense of achievement. Personalized rhythm therapies, like those on instruments and client rhythms, may alleviate agitative behaviors. Rhythm's structuring influence on this client team's verbal and physical interactions at all phases permits effective conversations with the therapist as well as other members of the group, linking to inner and outer realities. These encounters may have given clients a feeling of success and emotional comfort, and they reveal the possibility of using residual intellectual capabilities. (Allen-Williams 2013.).

6 DISCUSSION

The materials were thoroughly analyzed, and after the analysis, the findings were compared with other recent publications that were published regarding nursing interventions in the management of Alzheimer's diseases using non-pharmacological methods. Results showed that various non-pharmacological approaches, such as music, the use of art, dancing, storytelling, reminiscence therapy, ear acupressure, massage, drawing, personalized assistance robots, cognitive-behavioral therapy, games, client-centered environmental programs, visual engagement, virtual presence, validation therapy, light and occupational therapy, and exercise, were more effective than drugs in the management of behavioral symptoms. The findings also demonstrated the importance of choosing the appropriate non-pharmacological intervention in order to achieve successful therapy. It is demonstrated that the treatment should be chosen on the basis of the client's requirements, interests, and on the basis of what makes them feel good in order to achieve better results from the therapy. The results were supported by the other studies, which also revealed other activities and therapeutic approaches that may be used to address behavioral problems.

Clients who wish to reside in their own homes should enjoy higher levels of comfort and security. According to the results, nurses should make every effort to get rid of items and behavioral symptoms that will cause them harm in some way. It revealed that the nurses frequently attempted to gently approach out to alleviate the worry of the clients and their families, trying to change how the clients and their families view the condition, and producing satisfaction as a method to ease the client's and families concern. The results provided evidence for the theory that behavioral symptoms could be alleviated by non-pharmacological therapies.

According to the results, when clients had issues with sleeping and with their wellness, non-pharmacological approaches were considered in managing these problems, and the methods that included are scheduled light therapy, by regular exercising and by providing sleep education to client and their family members showed better outcomes. The clients found it valuable to take part in the therapies as well as in regular exercises. It provided them with assistance in dealing with the disease. Creating art seems to have the ability to facilitate an equal interaction and result for clients who are dealing with memory problems and also the caregivers who are supporting them. The implementation

of an art seems to have a favorable effect on caregivers as well as the relation that they have with the individual who receives the care.

6.1 Nursing interventions with Alzheimer clients behavioral change management

The authors of this research found that Alzheimer's disease has many uncomfortable and hard-to-manage behavioral symptoms. The nurse's methods for handling these altering behaviors may affect the client's and caregiver's health. In order to provide proper treatment, nurses have to comprehend the client, caregivers, and behavioral indications. Changing behavior requires a client- and caregiver-centered focus and interventions that satisfy clients and relieve caregiver strain. It showed that psychoeducation may help clients and caregivers manage changing behaviors. Findings also revealed that clients who go through individualized behavioral therapy see improvements in their disruptive behaviors. Non-pharmaceutical therapy may improve Alzheimer's client's quality of life and health, and reactive behaviors can be lessened with treatments with music, broad sensory stimulation, light and by providing care for anxious clients, virtual presence therapy, and validation. Findings also showed that cultural adaptation was crucial to self-awareness and assessment in nursing treatments. Results demonstrated that the inability to communicate caused confusion regarding the problem or in providing justification for a given behavior, which caused issues with judgment. It was proven that the client-centered method requires ongoing training.

The most recent studies supported the results and revealed some other non-pharmaceutical approaches for the management of behavioral symptoms that were not mentioned in our findings. Such as the utilization of mirrors for intervention may assist to reduce symptoms like wandering around or restlessness in clients. It explained that in several situations, it seemed that placing a mirror right in front of the entrance doors helped clients not leave the house alone. It was also shown that the majority of the clients had favorable reactions to staring into the glass, which helped to enhance their consciousness towards caring for themselves. (Gu. 2015.). The recent study supported the results of the research and explained the same theory that individual therapies for Alzheimer's disease are useful and economical when examined and treated individually. It also showed that education and training were crucial elements in the process of deciding on Alzheimer's care, which ultimately led to the right route in the care process. The individuals who were afflicted by Alzheimer's disease and their loved ones were the primary audience for the educative strategies which aimed to bust misconceptions and reduce

the stigma associated with the condition. It also proposed that counseling for families has been an absolutely necessary component in assisting family members in becoming committed participants in the care process. The counselling sessions focused on helping clients with Alzheimer's to better understand the illness, the mechanism by which the illness progresses, probable causes of disruptive symptoms, and ways to keep themselves safe. (Carter, Quail, Bourke & Young 2019.).

The study also proposed that after establishing a strong connection with a regular nurse to guarantee the continuity of care, families felt more ready to explore ways to improve Alzheimer care experience by utilizing the path of guidance. Due to the mistrust of families, the reviewing period on using the correct path to assist care frequently took more time to convey the essential information and ensure comprehension before implementing the path. It was shown that it is important to take clients and caregivers into account and to assure them that they will be notified about all the details regarding their care process, which helps to build mutual trust, which supported and matched the author's results. The recent study showed that, setting expectations for the establishment and execution of a structured process for non-pharmaceutical interventions when no structure or route existed was crucial for the Alzheimer clients and their families. Even though non-pharmaceutical therapies may enhance one's life quality and show signs over months, they do not really cure the illness. Most families want quick and real results. Easy, good communication and a strong feedback process helped to maintain solid relationships with Alzheimer clients and their families. (Carter et al. 2019.).

6.1.1 Modifying and supportive strategies

The authors found that the Alzheimer's client's behavioral symptoms were treated by modifying the care environment, such as by making interactions easier. Caregivers modified the care environment by using different techniques that will make the client's lives a bit easier. A daily schedule and cues were implemented to reduce troublesome behaviors. These preventative techniques shows that the caregiver is aware of the client's behavioral difficulties. Therefore, caregivers may benefit from therapeutic therapy when adopting methods to change the environment. The nurses noted that organizing the client's daily life and routine was more important than anything else. It also showed that caregiver interventions may lower Alzheimer's client's anxiety and tension, resulting in behavioral changes. Reminiscence therapy uses everyday items to trigger memories and help clients appreciate the past, which may help to boost the mood. Individual psychotherapy might be helpful for caregivers since they are at risk of becoming depressed themselves while caring for a loved one.

Music therapy has psychological, emotional, and physiological consequences. Music therapy sessions showed a reduction in mood swings, which are frequently connected to agitative behaviors. The desire for activity that provided daily pleasures or stability was well satisfied by the support and exercise interventions. Client's living with Alzheimer's disease found the workouts more appealing when they included items such as a ball, weight training, and stretchy supplies. The authors also found that physiotherapy manages the self-sufficiency, hobbies, and physical limitations well. Alzheimer clients may benefit from a protein-rich, low-carb diet. Changing one's lifestyle, nutrition, and surroundings, such as exercising, doing intellectually stimulating activities, and socializing, may help control behavioral problems. Nurses may consider adjusting and combining therapies to manage discomfort in Alzheimer's clients. Individualizing the intervention for a client's cognitive functioning improves compliance.

Recent studies have also confirmed and revealed that the modifying and supportive strategies such as replacement of hearing devices, glasses, and teeth that do not fit well helps in behavioral management. The recent study proved that it is helpful to modify the surroundings into one that is peaceful, comforting, and reminiscent of home and to fill it with things that are already known to the client. It also showed that by scheduling everyday tasks like the client's resting and eating habits and the necessity to implement safety procedures in order to prevent injuries are all things that must be considered. (Gu. 2015.). Recent studies also showed that a greater number of psychosocial interventions included modifying the sensory environment in some form for example, by adding some aromas or sounds to it. It also revealed knowledge about Snoezelen spaces, which are spaces that are intended to stimulate and soothe the senses through the use of things like optic fiber lighting and bubble pipes, as well as through the use of sensory stimuli like touching, which was not included in the author's findings and outcomes. Since the surroundings in which Alzheimer's clients live frequently lack adequate stimulation or contain an excessive amount of stimulation, and since it is hypothesized that access to favorable surroundings evokes a favorable physiological and psychological reaction, it is showed that now the common practice to treat Alzheimer's clients is with sensory environment modifications that helps to stimulate client's senses. Furthermore, majority of the time, clients with mild to serious types of Alzheimer's disease are not required to have any language abilities in order to participate in this therapy. Studies explained that these therapies are designed to stimulate joy rather than expect achievement, which may raise symptoms of anxiety in those living with Alzheimer's disease. (Hayden, Passarelli, Shepley & Tigno 2022.).

6.1.2 Strategies of emotional support

The results of the findings revealed that caregivers need counselling and emotional assistance since the situation may be exhausting. As the illness progresses and the client's behavior problems deteriorate or become more common, the care providers can experience an increase in distress. Exercising, musical therapies, psychosocial therapies, reminiscing therapies, and validating therapies are some examples of strategies that provide emotional support and alleviate behavioral problems. The authors also learned from the findings that sessions of music therapy provide clients with the chance to form social connections and engage in expressive and communicative activities. Findings revealed that music is a powerful instrument that may be used to evoke feelings in clients and promote verbalization from them. So, it was important to consider the client's history when selecting music for them to ensure the selection appealed to their most basic needs, such as identity maintenance. The emotional states that are provoked by music include a way to enhance the cognitive abilities and episodic memories, as well as a means to convey emotions as powerful as happiness or comfort. It also proved that when the disease progresses, music helps with non-verbal communication.

The authors found that it is common to have feelings of isolation in connection with anxious thoughts. Nurses made sure to reassure clients and their loved ones that they are not alone in their emotional and physical state and made them realize that it could be feasible to regain the physical and emotional ability of the care provider to deal with behavioral symptoms if the caregiver engages in strategies such as actively engaging in valuable non-care tasks and by maintaining a healthy lifestyle. Findings also revealed musical and virtual imagination treatments to have generally favorable effects on lowering responding behaviors, and it is not particularly difficult to put these therapies into practice. Psychosocial therapies indicate in improved abilities in behavior control, which might minimize the amount of emotional distress. The benefits of these treatments may be attributed to the capacity to form connections with other people via reminiscence and emotional expression. Therapies of music, psychology and reminiscing were shown to be effective in treating emotional problems in this research.

The most recent studies supported the author's findings with similar results and also proposed some different strategies for emotional support that can help the caregiver and the clients. It demonstrated that when caregivers are able to get the necessary amount of sleep, they are more capable of keeping their feelings under control. It is important for caregivers to acquire good information about the core

concepts of Alzheimer's treatment, their abilities in providing care, and about excellent communication skills, since this will assist them in managing their emotions. (Gu. 2015.).

The other study found that music therapy was designed to provide pleasure and psychological support not just to those who were diagnosed with Alzheimer's disease but also to the people who cared for them and everybody else surrounding them. It lifted their attitudes, making them all more open and social and making it simpler for them to communicate with and engage with one another. It revealed similar results to the author's findings that both the clients and the caregivers benefited emotionally from participating in sessions of music therapy. It was also recognized that low light may have an effect on one's mood; hence, this implies that the treatment might be utilized as a preventive approach in situations when various variables are affecting to poor mood, for example, the climate. (Gulliver, Pike, Banfield, Morse, Katruss, Valerius, Pescud, McMaster & West 2021.). It is hypothesized that listening to music might enhance one's mental and emotional health (Hayden et al. 2022).

6.1.3 Strategies of activities and therapies

The authors of this research found activity-based strategies to have a variety of possible benefits, such as elevating mood, and making necessary stimulation more accessible, and offering meaningful activity. Reality orientation reorients clients chronologically and visually through neurosensory stimuli. It was shown that thinking about the past might improve cognitive abilities and lessen the effects of depression. The use of music therapy may result in a decrease in both the frequency and severity of behavioral disturbances. Reminiscence therapy may be performed in one-on-one or group settings, and it can be subdivided into two categories. One is directed by a person's free recollection, while the other makes use of a biography review technique. Findings suggested that the psychodynamic method might place an emphasis on the individual's sense of identity by reviewing previous events that have the potential to arouse emotions of satisfaction and fulfillment. Sessions of listening to music often include actively or passively taking in a variety of musical genres via the medium of song listening. People who suffer from Alzheimer's disease have shown promising results using music as a therapy to alleviate symptoms, including feelings of depressiveness and anxiousness.

Findings also revealed the goal of the client approach, which is to address outstanding issues by promoting and positively affirming the client's expression of emotions. Reality orientation treatment is more successful in elevating one's mood and reducing the severity of behavior problems. It has been

shown that including non-pharmacological interventions like exercise and occupational therapies into treatment plans for Alzheimer's disease may enhance both cognitive capacity and functional ability at a reduced cost. Art is used in the program retention identities as a way to offer enjoyable tasks for clients with Alzheimer's disease and for caregivers. Caregivers applied environment techniques, for example an everyday routine, in order to minimize the manifestation of behavioral issues. Music can improve biographical memories retention in early disease clients. In the presence of music, Alzheimer clients had a substantial decrease in worry. Music may also enhance biographical recall of information by reducing anxiety. For the Alzheimer's client who is uninterested in their activities and has a lack of motivation, findings showed that it may be helpful for them to work with a therapist who is innovative.

According to the findings of this review, music and virtual presence interventions have generally favorable effects on lowering reactive behaviors, and it is not particularly difficult to put these therapies into practice. One of the most important aspects of the therapeutic effects of these treatments is the formation of a link to certain other people via the use of memories and the capacity to articulate one's feelings. Positive outcomes were seen for clients who underwent generalized sensory stimulation. When it comes to simplicity of implementation, occupational therapy is more specialized, and when sensory rooms or environmental alterations are involved, the cost may become rather high. The findings of sensory stimuli, broken down further into aromatherapy and touch therapy, were ambiguous but did not have any negative side effects. Light treatment may exacerbate agitation.

Recent research has showed that using environment therapies to treat challenging behavior such as wander can be beneficial. There is evidence that surroundings that are low in stress or stimulation, provide specialized care, resemble a home setting, and, most generally, altered surroundings and multisensory surroundings may be therapeutically beneficial. It also states that having a sense of familiarity with one's surroundings is a crucial aspect that affects those who have Alzheimer's disease. They suggested that it would be beneficial to minimize challenging behavior during every day's therapeutic process when a familiar sensation was established by establishing a familiar psychological and physical setting. The strategies for everyday living assistance and exercises for Alzheimer's care are vital for the caregivers as well as showering and getting dressed in proper clothing and assistive equipment need should be assisted. It also revealed that Alzheimer's care might be challenging for certain caregivers, so there is a need to provide support. (Gu. 2015.).

The recent studies also showed similar results as the research's findings that the clients recalled activities that they used to like back when they were youngsters through the music and song

components. Selecting music that seem to be almost certainly known to the client who is receiving this music therapy is also a crucial step of the therapy. (Gulliver et al. 2021.). Arts, aromatic compounds, lights, multi-component therapies, multi-sensorial rooms, musical, environments, touching, and tasting are the activities that are used to manage behavioral symptoms in Alzheimer's clients. Snoezelen rooms are multisensory settings with optic fiber lighting, bubble pipes, and a spraying projector. Clients get multimodal items and stimulation through multisensory interventions. A moveable Snoezelen chamber or scented touching therapies are examples of it. Multisensory rooms should be addressed to clients with Alzheimer and is focused also on later-stage of dementia since participation does not need high verbal capacity. Multi-component therapies include sensory therapies, exercises, cognition-behavioral and orienting therapies. Music characterizes multisensory interventions. Music can affect the sympathetic system of neurons, which improves a variety of assessments and problems like anxiety. (Hayden et al. 2022.).

Natural environments were proposed to relax clients as they activate the evolved controls. Artwork is excellent for Alzheimer's clients since it does not need recall of memories and visual images and conversational dialogue may boost memories. Light therapies, which expose clients to different light wavelengths throughout the day, may help clients with seasonal depression, insomnia, sundowning disorientation, or anxiety. Light regulates serotonin levels and sleep via gene expression. The light can be beneficial for the clients when used correctly, according to the author's results and based on the most recent studies. Touching therapies entail a light touch on the hand, legs, and shoulders. Handshakes with the client and actively caring for them may be enough. Aromatic oils and touch therapies have always been given individually. Agitative and aggressiveness were the most typical results observed through these therapies. (Hayden et al. 2022.).

Recent studies also explained arts involvement, which is typically referred to a variety of tasks that seem to be inventive, in an assertive way such as drawing, trying to dance, or making music, or in a responsive way like going to a theater, going to an art museum, or viewing a cinematic drama. Some examples of proactive forms of arts involvement include an engagement with the arts, whether it is direct engagement or passive reception, that may be multisensory and will often include a variety of aspects that are audible or visible. It may also include more expansive creative endeavors that are more closely accordance with leisurely or recreation programs, such as preparing meals, gardening, or participating in social groups. Participation in artistic endeavors is the kind of activity that may be enjoyed either on an individualized level or as a member of a group setting. (MacRitchie, Floridou, Christensen, Timmers & Witte 2022.).

Other studies have yielded similar results as the author's findings that Alzheimer clients and their caregivers utilize assistive devices for everyday functioning, security, involvement, socialization, and pleasure. Technologies provides customized connections for Alzheimer's clients. Music was made using a keypad or sound-manipulating devices. Making music sheets requires creativity and rhythms. Playing music supported with everyday work and emotions. Physiological measures, recognition of speech, and control eased the client's outcomes. The interactive virtual gear simulates witnessing a live event featuring a favorite performer. Devices also encouraged clients to go around with active music involvement. Pre-existing and newly built software let clients create multimodal tales utilizing photographs, sounds, and videos from their everyday lives or personal experiences. Sensoring instruments, different materials, and interaction options helped with creative involvement with multisensory things. Computer interactions aided creativity and fun. Light and music were used to adjust the client's mood. (MacRitchie et al. 2022.).

6.2 Non- pharmacological methods with Alzheimer clients that help in behavioral change management

According to the results, non-pharmaceutical therapies are a preferable first alternative for managing behavioral symptoms, despite the fact that there are no scientifically proven Alzheimer's treatments so far. Non-pharmaceutical treatments are based on addressing every client's requirement, knowing what they want, identifying their weak areas, and working to attain a common goal. Non-pharmaceutical therapies have the ability to lessen the severity of behavioral problems and to alleviate the adverse effects of Alzheimer's disease. Holistic methods, brief psychotherapy, cognitive approaches, and alternate approaches are the four major types that may be used to classify nonpharmacological treatments. Real oriented and cognitive therapy were related to a great increase in both cognitive and behavioral functioning in clients with minor to severe Alzheimer's diseases. There is substantial evidence to suggest that regular exercise might enhance behavioral development in Alzheimer's clients. A social activity that fosters interaction and the connection between caregivers and clients is facilitated by the power of music. The goal of psychosocial treatments is to lessen the severe impact of Alzheimer's disease on the day-to-day lives of clients living with the disease.

Non-pharmaceutical therapies have indeed been thoroughly investigated on cognitively impaired elderly people. The results have shown that these treatments are effective in alleviating pain, sadness

and anxiousness, and increasing essential functions in Alzheimer's client's. It is encouraged to use therapies such as light, music, validation, sensory stimulation, and virtual presence to lessen the severity of responsive behaviors. Non-pharmaceutical interventions, such as kit-based activity, interactive music and real-time interactive music, multisensory stimulation, cognitive stimulating therapies and art therapies, were shown beneficial in decreasing behavior problems in clients with Alzheimer disease according to the authors findings.

The most recent studies had similar results as the author's findings, which showed that non-pharmaceutical therapies may be utilized, and are beneficial. Some examples of these types of therapies are those that are centered on boosting relationships between residents and staff, nature therapies, and behavior therapy. (Gu. 2015.). The majority of individuals struggle with the issue of time management, and the majority of them do not have sufficient staff members to adopt non-pharmacological techniques. In the last decades, musical, art, multi-component, and environment therapies have become increasingly popular due to strong evidence, that they focus on enhancing Alzheimer client's life quality, and use creative methods to create sensory spaces. Innovative mixtures of many more than a sensory therapy as well as additional non-sensory therapies for Alzheimer's clients, called multi-component therapies, hold the most potential for future advancement and improvement. (Hayden et al. 2022.). In order to choose the most effective non-pharmacological treatment, it is necessary to conduct an evaluation of each individual's requirements, desires, problems, level of competence, as well as a knowledge of their initial diagnosis and the phase of their illness which matched the authors findings of this research. (Carter et al. 2019.).

6.2.1 Maintaining mental health

In this review, it has been demonstrated that activities such as music, art, joga, relaxation techniques, and other similar activities can enhance the life's quality of clients with Alzheimer's disease by lowering anxiousness, easing depressive periods, and by reducing violent behaviors, by improving mood, interaction, and clients dignity. (Guetin et al 2012). The symptoms of Alzheimer's disease, such as anxiety and sleeping abnormalities, cause greater worry for caregivers and make it more difficult for them than the functional and cognitive difficulties that Alzheimer's clients may experience. In Alzheimer's care, a genuine collaborative relationship that includes trust is becoming more essential, according to the findings. Increased counselling and support for families may result in long-term improvements in lowering caregiver stress. The behavioral symptoms of Alzheimer's disease, includes

sadness, difficulties in falling asleep, laziness, anxiety, and aggression, are recognized to be significantly burdensome for care providers. In order for clients to successfully regain their emotional balance and consistency, a strategy that involved planning client's everyday lives and routines proved to be beneficial in this study. This method also proved to serve to divert the client's focus away from nervousness.

The findings also pointed out that the clients suffering from Alzheimer's disease experienced less discomfort after receiving reflexology treatments. This approach is not only simple to carry out, but it is also unobtrusive and does not need for any specialized equipment or additional room. The use of laughter, caring for self, and social support were cited as helpful in survival strategies by caregivers for dealing with challenging behaviors. These measures have shown to have the potential to lessen the severity of behavioral problems by lowering levels of the stresses which lead to their manifestation. It is possible that having an attitude of humor assists to combat the stress associated with providing care. The importance of caregivers prioritizing their own care was emphasized throughout the behavior process for change management. The psychological and behavioral symptoms of Alzheimer's disease are managed by family caregivers via the use of approaches that reduce anxiety and respond to the requirements of both partners in care. Musical therapies have proven to have the ability to lower levels of stress hormones that stimulate memories, and, when performed in a group context, promote social relationships. Psychological therapies are also shown to be useful in helping clients with Alzheimer's to alleviate their feelings of worry and sadness. It is advised that individuals engage in cognition and memory therapy, exercise, and light therapy in order to preserve and improve their physical and mental abilities.

Recent research came up with findings that were quite similar to the ones that were discovered by the findings of this study that the clients with Alzheimer's disease who participated in music therapy had much less signs of depression and anxiety, as well as restlessness and apathy. In the same way, clients with Alzheimer disease who participate in musically interactive sessions or therapies see improvements in their state of mental health and overall wellness as a result. (Gulliver et al. 2021.). This also suggests that the goal of multisensory rooms is to bring about positive behavioral changes, such as decreased restlessness, increased participation, and an elevated mood. Reminiscence therapy that takes place in natural settings may help lessen the demand for psychological treatment with drugs.

It has been established that just hearing to a variety of natural sounds may lessen anxious behavior in clients with Alzheimer's disease. (Hayden et al. 2022.).

As a result of the fact that there are non-pharmacological interventions, arts-based tasks that are geared toward elderly individuals who are living with cognitive decline at any stage, from cognitive decline to the initial, moderate, or advanced stages of Alzheimer disease, are gaining popularity. These activities have been shown to have positive effects on elderly individuals, including a reduction in restlessness and depressed mood, an enhancement of emotions and involvement, and potential cognitive effects on past memories, ability to focus, and interaction. (MacRitchie et al. 2022.).

6.2.2 Effectiveness of Nursing Intervention.

From these findings, it was clear that a nurse must educate and instruct Alzheimer's client's and their families. As when caregivers are trained on what to expect, they would not be surprised when the persons they care for behave differently. Since they are often exhausted, nurses must give education, counselling, and emotional support to clients. Psychosocial treatments minimize caregiver's distress, delaying institutionalization. Findings also highlighted that the cognitive-behavioral treatments emphasize the physician's behavior and interaction. Another promising finding was about the physician's trust and confidence throughout the therapy, as it is crucial to therapeutic success. Empathy also helped to strengthen the therapeutic bond and is essential for cognitive behavioral therapy. Once the client sees the therapist is now on the client's side and appreciates the intriguing experience, trust is built. An honest, non-judgmental cooperation might entail the client and therapist taking chances to build trust.

Findings also suggested that caregivers can reduce behavioral problems by targeting behaviors, issues and triggers. Advanced caregiver training may help lessen family caregivers stress and can help target behavioral issues. Caregivers can utilize non-pharmaceutical strategies and preparedness to impact the results of behavioral problems. Findings also revealed that multi-modal and art therapies may decrease apathy and enhance life quality and mental wellbeing. Intensive depression prevention counseling was proven to improve tolerance, competency, and support seeking. Increasing physician sessions assisted

in minimizing caregivers sadness and enhance care quality. Tailored exercises can enhance caregivers subjective stress and abilities with better knowledge of techniques. Community-based mental health nurses get training on intervention techniques for a better ability to cope with undesirable behaviors, despite the fact that lengthy treatments are necessary. Maintaining other effective results, like decreased caregiver stress in handling troublesome behaviors, may need more regular physician interaction and continuous skill building. Evidence proves multi-faceted therapies that improve family caregiver abilities and educated them on managing and coping with behavioral symptoms.

From the findings, it is clear that effective therapies need teaching family caregivers to concentrate on problematic behaviors and possible stressors and prepare for changing symptoms. Caregivers will be prepared for their loved ones behavior if they are considered and counselled. A different kind of care intervention which targets sexual disinhibition and vocalization can be of greater assistance in comforting the clients. Clients with Alzheimer's disease and the caregivers who take care of them might benefit from evidence-based therapies. Findings showed that the individual care requires knowing an Alzheimer's client's histories, needs, qualities, and choices. So, nurses spent a considerable amount of time listening to the client and family talk concerning themselves, their experiences, and their lives and diseases as it is important. This insight let the nurse sense their concern and behavioral problem, analyze it, and choose how to treat it. Nurses may use several interventions to alleviate an Alzheimer client's discomfort, depending on their cognitive capacity and necessities. Client's reactions to interventions must be assessed, and other treatments should be taken into account if the result is unsatisfactory.

The results now provide evidence for non-pharmaceutical therapies, which are forms of alternative approaches and must be adapted on an individual basis. Physical and occupational therapies increase intellectual abilities and behavior problems in Alzheimer's clients cost-effectively. Findings also showed that nutrition modifications may lessen the frequency of Alzheimer disease, with hereditary variants aggravating this. Ketones generation and carbohydrate limitation might help the ketogenic diet to treat and prevent Alzheimer's disease.

This result fits well with the most recent studies which found that in order to establish intervention strategies that are effective, it is necessary to create an environment that is showing concern, is

relaxed, approachable, and appealing; one where interpersonal interaction are appreciated; and a setting in which clients are prioritized over the efficiency with which tasks are completed. (Gu. 2015.). It also demonstrated that a decrease in the number of available employees or a failure to place sufficient attention on the delivery of activity and treatment might have an adverse effect on the efficiency of interventions made by nurses. It is absolutely necessary, for the purpose of increasing the efficiency of nursing intervention, to both increase the quantity and the quality of the staff members. (Gulliver et al. 2021.). The recent study also explained in more detail how the therapies are conducted. Reminiscence treatment utilizes images, media articles, and items to recall long-term sentiments and memories, while reality-oriented therapy reinforces day, times, names, seasons, and places to boost mood, attitude, and memories in Alzheimer's clients. Skilled nurse and therapist use therapeutic techniques to implement these therapies. Intervention has always been personalized, which helps to commonly cure anxiety. Touching may soothe and calm through increasing oxytocin, decreasing cortisol, or inducing a happy mood. (Hayden et al. 2022.).

Other studies also explained the purpose of family counselling which was similar to this review in that it was to lessen the anguish caused by symptoms and enhance overall life quality. The provision of information that is consistent, brief, and straightforward in its communication with people was the most beneficial mode of communication for families. One of the beneficial results that came from using the pathway was the greater participation of members of the family in the method of providing care. In some instances, it was feasible to keep educating members of the family so that they could assist in the delivery of a small segment of non-pharmacological actions. The recent studies proposed some new activities, and these activities included the utilization of real-life orienting strategies, remembrance therapy utilizing an autobiography booklet, as well as effective measures and initiatives to cope with problems with memory and provoke behavioral signs. It was also observed that using the pathway made it easier for people to participate in previously abandoned cultural practices like playing classical songs or planting. It also demonstrated the need for educating more nursing personnel and hiring more nurses. (Carter et al. 2019.).

6.2.3 Stimulating client's interaction through art therapies

The result provided evidence for art therapy as a non-pharmacological treatment that has the potential to improve client's interaction performance. Art programs for clients and caregivers are appealing because they provide socialization, creativity, and help with continuous learning. Art has the ability to raise self- and world-awareness. The findings highlighted that it offers an abundant therapeutic environment for clients with Alzheimer's. Art therapy also showed caregivers how to improve their interactions and actions with their loved ones in order to communicate more perfectly. Caregivers improved their interaction abilities by discovering more about their partner's cognitive capabilities. The results demonstrated that art therapy has been shown to improve a person's ability to communicate and connect with others, ultimately leading to an increase in their lives satisfaction. Art therapy that focuses on improving one's self-esteem has been proven to raise overall levels of self-efficacy. Art therapy's success is mostly therapist-based, and the therapist's relationship and flexibility are more essential than the client's for improved client results. Using family-related or deeply personal memories to boost memory should be emphasized. From these findings, it is clear that the clients must also be encouraged to develop their creativity, visually by using particular elements from their lives and their favored colors. Clients may express aesthetic pleasure via art therapy because they help to share visual aesthetic experience.

Another promising finding was that in art therapy, the assisting connection is intimate. Findings highlighted that trust, empathy, and compassion are keys to therapeutic intimacy. A trusting connection with the therapist may boost self-esteem and physical participation in art therapy. Results demonstrated musical therapy as a new field that uses song to improve socializing, interaction, teamwork, and expressiveness. Such an alternate approach assists in restoring memories by triggering personal experiences along with individual identity and self-acceptance. Listening to music may reduce Alzheimer's problems and trigger surprising client reactions. Musical therapies appear to be a beneficial approach also in the severe level of the disease as it mainly focuses upon depressive and anxious behaviors. Findings highlighted that the musical therapy also gives families the chance to rebuild emotional bonds and valuable contacts that might have been lost due to Alzheimer's disease.

Recent research study has explained that even in the final stages of Alzheimer's disease, the capacity to react to music is often still there. This is irrespective of the fact that several cognitive capacities, particularly ones that are responsible for communication, are lost with the progression of the disease. Therefore, it makes perfect sense to use music with this particular population, which supports these

research findings. (Gulliver et al. 2021.). Recent studies have also demonstrated that interventions with multiple components include combinations of sensory therapies such as orientation therapy, which involves openly highlighting and mentioning date and time, signs for direction, names, and other information in order to reinforce it. Remembrance therapy; and motor stimulating therapy, that involves tasks such as drawing and interactive elements like games in order to improve a client's functional outcomes and life's quality. It also highlighted that the individuals are able to move from the role of client to that of participant via the process of creating a learning strategy together with the other members of the group, which contributes to an increase in member's overall sense of wellness in group-based music therapies. It has been proposed that participating in group singing might promote social abilities and increase behavioral patterns. (Hayden et al. 2022.).

The recent study also explained that art therapy for Alzheimer's clients is another rapidly expanding discipline. It is recommended that client's who are coping with Alzheimer's disease engage in activities such as making art, trying to handle art, and looking at art. This is because these activities frequently do not necessitate the individual to retrieve prior memorable moments, and since engaging in visual imagination in conjunction with verbal conversation may help to promote memory. It is showed that it is the usual practice to use wellness as an indicator of the effectiveness of art therapies, and there is evidence to suggest that art may improve both quality of life and well-being in persons who are coping with Alzheimer's disease. (Hayden et al. 2022.). The other studies also demonstrated that innovative arts-based activities may increase mental, interpersonal, and psychological health in elderly people with Alzheimer disease. Involvement in activities that are centered with in arts is quite common throughout the lifetime. Recreational time and creativity increase social and emotional health for the overall population. Getting involved in the arts can boost self-esteem, influence, and significance. Alzheimer's client's access to music, stories, and creative arts is enhanced by technology. Real-world applications may benefit most from the ability to alter interaction modes and adapt to social situations. (MacRitchie et al. 2022.).

When the findings were compared to those of more recent research studies, it became clear that there are numerous kinds of non-pharmacological therapies that can be used in the management of the behavioral symptoms; however, some of these therapies lack knowledge and evidence of their benefits, which is why there is a need for further research on all of the non-pharmacological therapies that can

be used to manage behavioral symptoms in Alzheimer's clients and also a specific research is required concerning nursing interventions to manage behavioral symptoms in Alzheimer clients.

Through this study, the authors discovered many non-pharmacological approaches that may be used to manage behavioral symptoms in Alzheimer's clients. The authors also learned how to use these methods and the significance of selecting the appropriate therapy based on the client's areas of interest. Also, the authors discovered that trust between the client, caregivers, and nurses is essential for the successful implementation of these non-pharmacological therapies. Lastly, the authors learned about some nursing interventions that might help them put these therapies into practice.

7 TRUSTWORTHINESS

Responsible research is necessary for ethical, dependable, and credible research. The research community's self-regulation of responsible research is regulated by law. Research organizations also ensure quality through responsible research. Research ethics need the honesty, preciseness, and correctness in research, documenting, presenting, and assessing research outcomes. Data collecting, research, and assessment processes are scientific and ethical. Scientific knowledge is spread by openly and responsibly communicating research findings. The researcher respects and cites other researchers' work and gives them credit and weight in their own study and publication. Research may clarify these accords. When publishing research findings, sources of funding, conflicts of interest, and other obligations are disclosed to all project participants. When a conflict of interest is suspected, researchers avoid research assessment and decision-making. The research organization follows appropriate personnel and financial management and data protection laws. (Tenk 2021.).

Transferability, which refers to "the level to which the results may be transmitted to different situations or organizations," is also a part of trustworthiness (Polit and Hungler 1999, p.717; Polit & Beck 2011). The writers may provide recommendations regarding transferability, but ultimately it is the reader's responsibility to determine if the results are applicable to some other setting. To enhance transferability, it is necessary to provide a straightforward and distinctive explanation of cultures and settings, participant selection and qualities, collection of data and analysis procedures. In addition to a strong and detailed explanation of the results accompanied by significant quotes, transferability will be enhanced by a presentation that is rich with citations. (Graneheim & Lundman 2004.).

In this research, attention was paid not to break any ethical rules, and the ethical principles of research were respected. The methods and progress of this research were guided by research ethics. The quotes were not directly copied from the articles, instead were paraphrased. All citations used were quoted on the reference page. To avoid prejudice, all studies that have relevant information to the research topic were appropriately included. The sources of research data were protected by databases that provided free access.

The collected data was used accurately, and while writing this thesis, constant referral to Centria academic writing guidelines was made, which helped to avoid plagiarism. Most of the databases used

in this thesis were obtained through the Centria University of Applied Sciences to ensure the reliability of the gathered data. All the data was collected from reliable databases and sources.

The proposed keywords were used in this research for data collection and ensured that all articles used were fully focused on the research goals. To verify this, appropriate inclusion and exclusion criteria were used to narrow the results to the research topic. The articles chosen were carefully analyzed and examined. The supervising teacher has been supervising the analysis part constantly. The authors spent enough time to ensure that the data used for this thesis was reliable. As this study was based on a literature review, a research permit was not required.

8 CONCLUSION

The study researched and discussed competent knowledge in managing behavioral changes in clients living at home with Alzheimer's disease. The purpose was to examine non-pharmacological interventions in managing behavioral changes and improving their life span. Based on the findings, there are three nursing interventions that may help caregivers as well as nurses in delivering care for Alzheimer's clients, and these nursing interventions are as follows: modifying and supportive strategies; strategies of emotional support; and strategies of activities and therapies. The findings also revealed how Alzheimer's clients may benefit from managing behavioral changes using non-pharmacological methods; these benefits include maintaining mental health, increasing the effectiveness of nursing intervention and stimulating client's interaction through art therapies.

According to the findings of this research, non-pharmacological methods have been shown to be beneficial, and the findings suggest that these ways should be promoted more instead of pharmacological methods. More research must be done, and the results of this research indicate that they should be utilized since they improve the client's ability to communicate with others. Due to their low expenses, they should be used more often in nursing care environments. More specific research is required concerning nursing interventions to manage behavioral symptoms in Alzheimer clients.

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APPENDIX 1

Summary of the articles

NO.	AUTHOR/JOURNAL YEAR	ARTICLE NAME	CONTENT AND RESULT OF ARTICLE
1.	Leven N V. Lange J D. 2016. Sage journals. (Qualitative)	How do activating interventions fit the personal needs, characteristics, and preferences of people with dementia living in the community and their informal caregivers?	The pleasant events program, physical exercise and support intervention adds to person centered intervention.
2.	Tible O P., Riese F., Savaskan E., & Gunten A V. 2017. Sage Journals. (Qualitative)	Best practice in the management of behavioral and psychological symptoms of dementia.	This article's aim is to develop an individualized treatment plan using a therapeutic decision tree modified by the individual and environmental risk profile.
3.	Theheritis C., Siarkos K., Katirtzoglou E., Politis A. 2016. Sage Journal. (Qualitative)	Pharmacological and non-pharmacological treatment for apathy in Alzheimer disease: A systematic review across modalities	This article focuses on the study of apathy in AD (Alzheimer s Disease), which establishes a benefit from individualized treatment that would stem from a combination of both pharmacological and nonpharmacological interventions.
4.	García-Toro M., María Cruz Sánchez-Gómez M.	“In the flesh”: Narratives of family caregivers at	This article shows how caregivers who are caring for a

	C., Zapata L. M., Lopera F. J. 2018. Sage Journal. (Qualitative)	risk of Early-onset Familial Alzheimer's Disease	loved one may experience in a negative and positive way.
5.	Suzuki C., Yokote Y., Takahashi T. 2013. Sage Journal. (Qualitative)	Changes in daily cognition and behavior of Alzheimer's patients over time: A three-year evaluation using a daily cognition and behavior for Alzheimer's disease scale	This article suggests that daily cognition and behavior for Alzheimer's disease might help observe changes in daily cognition and behavior among Alzheimer's disease patients, and it can be used by non-professional caregivers.
6.	Deygout F., & Auburtin G. 2020. Science Direct (Qualitative)	Art therapy for elderly women diagnosed with Alzheimer's: A positive person-centered approach increases ease in the care process	This article aimed to increase knowledge of the influence of trust that Alzheimer's patients place in the practitioner in art therapy through the care process.
7.	Trivedi D P., Braun A., Dickinson A., Gage H., Hamilton L., Goodman C., Ashaye K., Iliffe S., Manthorpe J. 2018. Sage Journal. (Qualitative)	Managing behavioural and psychological symptoms in community dwelling older people with dementia: 1. A systematic review of the effectiveness of interventions.	This article evaluates the effectiveness of non-pharmacological interventions for behavioral and psychological symptoms among community-dwelling people living with dementia.
8.	Guetin S., Charras K., Berard A., Arbus C., Berthelon P., Blanc F., Blayac J-P., Bonte F.,	An overview of the use of music therapy in the context of Alzheimer's	This article contributes to maintaining or rehabilitating functional, cognitive, and sensory abilities, as well as

	Bouceffa J-P., Clement S., Ducourneau G., Gzil F., Laeng N., Lecourt E., Ledoux S., Platel H., Thomas-Anterion C., Touchon J., Vrait F-X., Leger J-M. 2012. Sage Journal. (Qualitative)	disease: A report of a French expert group.	emotional and social skills and reducing the severity of some behavioral disorders.
9.	Arroyo-Anlló E M., Díaz J P., Roger Gil R. 2013. CINAHL (Qualitative)	Familiar Music as an Enhancer of Self-Consciousness in Patients with Alzheimer's Disease.	This article examines the impact of familiar music on self-consciousness in patients with Alzheimer's disease.
10.	Porter C N., Miller M C., Lane M., Cornman C., Sarsour K., Kahle-Wroblewski K. 2016. Sage Journal. (Qualitative)	The influence of caregivers and behavioral and psychological symptoms on nursing home placement of persons with Alzheimer's disease: A matched case-control study.	This article shows behavioral and psychological symptoms of dementia in individuals with Alzheimer's disease and caregiver characteristics, which may influence the decision to provide care at home or in a nursing home.
11.	Hodiamont F., Hock H., Ellis-Smith C., Evans C., Wolf-Linder S., Jünger S., Diehl-Schmid J., Burner-Fritsch I., Bausewein C. 2021.	Culture in the spotlight—cultural adaptation and content validity of the integrated palliative care outcome scale for dementia: A	This article shows how cultures shape care, working environments, and processes.

	Sage Journal. (Qualitative)	cognitive interview study	
12.	Meyer C., O'Keefe F. 2018. Sage Journals (Qualitative)	Non-pharmacological interventions for people with dementia: A review of reviews	This article shows how non-pharmacological approaches are preferable to reduce responsive behaviors, improve/maintain functional capacity and reduce emotional disorders.
13.	Cammisuli D.M., Danti S., Bosinelli F., Cipriani G. 2016. Science Direct (Qualitative)	Non-pharmacological interventions for people with Alzheimer's Disease: A critical review of the scientific literature from the last ten years	This article aims to examine non-pharmacological interventions in terms of their theoretical basis and empirical evidence in improving cognition and autonomy of daily living and reducing neuropsychiatric symptoms in people with AD
14.	Liao Y-J., Parajuli J., Jao Y-L., Kitko L., Berish D. 2021. Science Direct (Qualitative)	Non-pharmacological interventions for pain in people with dementia: A systematic review	This article aims on non-pharmacological interventions to manage pain in people living with dementia.

15.	Xiangfei M., Jianping S., Huanhuan L., Dongfei M., Yingnan Z., Yijing L., Zhang X., Zehui L., Jiao S. 2021. Science Direct (Qualitative)	Effectiveness of caregiver non- pharmacological interventions for behavioral and psychological symptoms of dementia: An updated meta-analysis	This article aims to evaluate the effectiveness of non- pharmacological interventions targeting caregivers on BPSD in patients with dementia and caregiver reactions to BPSD.
16.	Broom G.M., Shaw I. C. & Rucklidge J.J. 2018. Science direct (Qualitative)	The ketogenic diet as a potential treatment and strategy for Alzheimer's disease.	This article shows that keto production with the reduction in carbohydrate intake could lead to a better quality of life of those with Alzheimer's disease.
17.	Noriko Y., Maiko N., Hiroki F. 2016 Sage journals (Qualitative)	Caring for Client and families with anxiety: Home Care Nurses' practice narratives	This article reveals three ways in which nurses combine to make life easier and comfortable for Alzheimer's and their families.

18.	Zucchella C., Sinforiani E., Tamburin S., Federico A., Mantovani E., Bernin S., Casale R., Bartolo M. 2018 CINAHL (Qualitative)	The Multidisciplinary Approach to Alzheimer's disease and Dementia. A Narrative Review of Non- pharmacological treatment	This article shows that exercise, motor, and cognitive rehabilitation re tremendous in the treatment of Alzheimer's disease.
19.	Polenick C. A., Struble L.M., Stanislawski B., Turnwald M., Broderick B., Gitlin L. N., Kales H. C. 2018. Sage Journal. (Qualitative)	"I've learned to just go with the flow": Family caregiver's strategies for managing behavioral and psychological symptoms of dementia	This article examines family caregiver's strategies for managing behavioral and psychological symptoms of dementia.
20.	Tuijt R., Rees J., Frost R., Wilcock J., Manthorpe J., Rait G. & Walters K. 2020 Sage Journal. (Qualitative)	Exploring how triads of people living with dementia, carers and health care professional's function in dementia health care: A systematic qualitative review and thematic synthesis	This article aims to identify and thematically synthesize the experiences of health care services reported by people living with dementia, their carers and health care professionals.