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MOVEMENT AND MUSIC TO AWAKEN: ILLUMINATING HEALTH PROMOTION STRATEGIES FROM THE EARLY TO THE ADVANCED STAGES OF ALZHEIMER'S DISEASE

MOVIMENTE E MÚSICA PARA DESPERTAR: ILUMINANDO ESTRATÉGIAS DE PROMOÇÃO DA SAÚDE DESDE OS ESTÁGIOS INICIAIS ATÉ OS AVANÇADOS DA DOENÇA DE ALZHEIMER

MOVIMIENTO Y MÚSICA PARA DESPERTAR: ILUMINANDO ESTRATEGIAS DE PROMOCIÓN DE LA SALUD DESDE LAS ETAPAS INICIALES HASTA LAS AVANZADAS DE LA ENFERMEDAD DE ALZHEIMER

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ABSTRACT

The global increase in life expectancy over recent decades has resulted in a rise dementia cases, with Alzheimer's disease comprising 60 to 70% of cases. Consequently, it is necessary and urgent for this public to have access to health promotion not only through medical and pharmacological care, which are indispensable in the treatment, but which should not be the only alternative to improve quality of life. In light of this, the MoviMente Program emerged. The present research aimed to create and implement a Health Promotion Program through the practice of physical activity for individuals diagnosed with Alzheimer's, and evaluate the influence of this program on the quality of life and functional physical fitness of the participants. The research is ongoing, but a significant challenge has emerged, revealing the difficulty of including individuals with advanced-stage diagnoses in this program. Seeking a way to carry out a program that is inclusive and covers all stages, the researcher came into contact with a Spanish project, known worldwide, called: "Música para Despertar" (Music to Wake Up), which uses music to improve the quality of life of people with Alzheimer's in an advanced stage. Therefore, this article aims to present: the "Music to Wake Up" project, its benefits in Alzheimer's and the researcher's approach to the project and the possibility of implementing it in Brazil, together with the MoviMente Program. As musical memory and the ability to feel emotions are among the last attributes lost in the brain of a person with Alzheimer's, through music it is possible to work cognitive aspects, such as attention, memory, language and executive function. This is achieved through the reminiscence of favorite songs that marked the history of life, memories and associated emotions, favoring a cognitive stimulation that allows the slowing down of the progression of dementia or neuropsychiatric symptoms, representing an valuable strategy the association of the "Music to Wake Up" project with the MoviMente Program, which will make it possible to carry out a program that can include individuals with Alzheimer's from early to the advanced stages.

Keywords: Alzheimer's. Quality of life. Health promotion. Physical Activity. Music.

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RESUMO
O aumento global da expectativa de vida nas últimas décadas resultou em um crescimento dos casos de demência, sendo a doença de Alzheimer responsável por 60 a 70% deles. Consequentemente, é necessário e urgente que esse público tenha acesso à promoção da saúde não apenas por meio do cuidado médico e farmacológico — indispensáveis ao tratamento —, mas que esses não sejam as únicas alternativas para melhorar a qualidade de vida. Diante disso, surgiu o Programa MoviMente. A presente pesquisa teve como objetivo criar e implementar um Programa de Promoção da Saúde por meio da prática de atividade física para indivíduos diagnosticados com Alzheimer, bem como avaliar a influência desse programa na qualidade de vida e na aptidão física funcional dos participantes.A pesquisa está em andamento, mas um desafio significativo emergiu, revelando a dificuldade de incluir indivíduos com diagnóstico em estágio avançado nesse programa. Buscando uma forma de desenvolver uma proposta inclusiva que abrangesse todas as fases, a pesquisadora entrou em contato com um projeto espanhol, reconhecido mundialmente, denominado “Música para Despertar”, que utiliza a música para melhorar a qualidade de vida de pessoas com Alzheimer em estágio avançado. Assim, este artigo tem como objetivo apresentar o projeto “Música para Despertar”, seus benefícios na doença de Alzheimer, bem como a aproximação da pesquisadora com o projeto e a possibilidade de sua implementação no Brasil, em conjunto com o Programa MoviMente. Como a memória musical e a capacidade de sentir emoções estão entre os últimos atributos perdidos no cérebro de uma pessoa com Alzheimer, por meio da música é possível trabalhar aspectos cognitivos como atenção, memória, linguagem e função executiva. Isso é alcançado por meio da recordação de canções favoritas que marcaram a história de vida, memórias e emoções associadas, favorecendo uma estimulação cognitiva que permite retardar a progressão da demência ou dos sintomas neuropsiquiátricos. Dessa forma, a associação do projeto “Música para Despertar” ao Programa MoviMente representa uma estratégia valiosa para a realização de um programa capaz de incluir indivíduos com Alzheimer desde os estágios iniciais até os avançados.

Palavras-chave: Alzheimer. Qualidade de Vida. Promoção da Saúde. Atividade Física. Música.

RESUMEN
El aumento global de la esperanza de vida en las últimas décadas ha resultado en un incremento de los casos de demencia, siendo la enfermedad de Alzheimer responsable del 60 al 70% de ellos. En consecuencia, es necesario y urgente que este público tenga acceso a la promoción de la salud no solo a través de la atención médica y farmacológica — indispensables en el tratamiento—, sino que estas no sean las únicas alternativas para mejorar la calidad de vida. En este contexto surgió el programa MoviMente. La presente investigación tuvo como objetivo crear e implementar un Programa de Promoción de la Salud mediante la práctica de actividad física para personas diagnosticadas con Alzheimer, y evaluar la influencia de este programa en la calidad de vida y la condición física funcional de los participantes. La investigación se encuentra en curso, pero ha surgido un desafío importante que revela la dificultad de incluir en este programa a personas con diagnósticos en etapas avanzadas. En la búsqueda de una propuesta inclusiva que abarque todas las fases, la investigadora entró en contacto con un proyecto español reconocido mundialmente, denominado “Música para Despertar”, que utiliza la música para mejorar la calidad de vida de personas con Alzheimer en etapa avanzada. Por lo tanto, este artículo tiene como objetivo presentar el proyecto “Música para Despertar”, sus beneficios en la enfermedad de

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Alzheimer, así como el acercamiento de la investigadora al proyecto y la posibilidad de implementarlo en Brasil junto con el programa MoviMente. Dado que la memoria musical y la capacidad de sentir emociones se encuentran entre los últimos atributos que se pierden en el cerebro de una persona con Alzheimer, la música permite trabajar aspectos cognitivos como la atención, la memoria, el lenguaje y la función ejecutiva. Esto se logra mediante la evocación de canciones favoritas que marcaron la historia de vida, los recuerdos y las emociones asociadas, favoreciendo una estimulación cognitiva que permite ralentizar la progresión de la demencia o de los síntomas neuropsiquiátricos. De este modo, la asociación del proyecto “Música para Despertar” con el programa MoviMente representa una valiosa estrategia para la implementación de un programa que pueda incluir a personas con Alzheimer desde las etapas iniciales hasta las avanzadas.

Palabras clave: Alzheimer. Calidad de Vida. Promoción de la Salud. Actividad Física. Música.

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1 INTRODUCTION

The global increase in life expectancy in recent decades has resulted in a rise in the number of dementia cases, since advanced age is the greatest risk factor, with Alzheimer´s disease (AD) accounts for 60 to 70% of cases, and dementia affects 55 million people worldwide, beside it is projected that by 2050 more than 150 million people will have dementia (Pan American Health Organization, 2023).

Dementia represents a significant global health concern that also has social and economic impacts, it is a progressive neurodegenerative condition characterized by the impairment of different cognitive domains and is today one of the main causes of disability and dependence in elderly (Pan American Health Organization, 2023). Individuals diagnosed with AD exhibit diverse symptoms, including memory impairment, apathy, disorientation, behavioral changes and even difficulty walking and speaking, contributing to a poor quality of life (Zhou et al., 2022; Alzheimer's Association, 2018). Besides cognitive decline, patients with dementia often experience notable impairment in functional physical fitness, particularly in the Activities of Daily Living (ADL), leading to a loss of independence. This causes substantial human costs for family members and caregivers, as people with AD become increasingly dependent on them (Zhou et al., 2022).

As there is currently no cure for AD, and none of the available drug treatments slow or stop the damage and destruction of neurons that cause Alzheimer's symptoms and make the disease fatal; these drugs only improve temporarily the symptoms by increasing the amount of neurotransmitters in the brain, but the effectiveness of these drugs varies from person to person and is limited in duration (Alzheimer's Association, 2018). Therefore, one option is to use physical activity as a non-pharmacological and complementary therapy, as it plays a vital role in improving physical fitness, mental health and cognition in different populations (Zhou et al., 2022).

While the research is ongoing, this essay outlines its theoretical framework and first steps, aiming to stimulate the health area, especially Physical Education, about its importance in caring for people diagnosed with AD.

2 THE MOVIMENTE PROGRAM

The MoviMente program refers to a doctoral research that is ongoing. The study employs a mixed research method, in which the combination of two methodological approaches was adopted: qualitative and quantitative. The intervention Consists of 12 weeks

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of multicomponent physical exercises conducted in a group setting, with participants evaluated before and after this period.

This research has scientific and social relevance because it is important that countries also invest in non-pharmacological therapies as a complement to medical care, which is essential to treatment, but should not be the only alternative to improving the quality of life of this population. From this perspective, we systematized the MoviMente Program, which is being implemented by the Department of Sports and Leisure (SEL) in the city of Valinhos, state of São Paulo, Brazil, as a health promotion program through physical activity as an intervention strategy non-pharmacological and complementary to medical treatment for individuals diagnosed with AD, focusing on quality of life, functional physical fitness and maintenance of motor independence and activities of daily living. The research also has specific objectives: developing a physical exercise program focusing on the participants' potential and not on the limitations caused by AD; evaluate the influence of this physical exercise program on functional physical fitness; evaluate the influence of the MoviMente Program on the quality of life of participants and family members/caregivers.

In Brazil, it is very common for physical activity to be provided individually to people diagnosed with Alzheimer's and using weight training equipment, which makes access difficult for the majority of this population. However, in this research, classes take place in groups and use multicomponent exercises, which reduces the cost of the program and makes it possible to serve a greater number of people. Another important point is the fact that at the end of the research, it will be proposed to SEL to consolidate the MoviMente Program as a municipal public policy, so that the program has a long life and does not only occur during the research period.

3 RESEARCH METHODOLOGICAL APPROACHES

As a qualitative instrument, the Conversation Circle technique will be used with the relatives/caregivers of those assisted at MoviMente. Two Conversation Circles will be conducted, one at the beginning and another at the end of the research, aiming to provide a space for welcoming, sharing and listening, as well as understanding their daily routines, feelings, difficulties and needs and, at the end of the study, presenting the results and collectively evaluate the Program. Additionally, lectures and meetings with other public health and social assistance professionals are also planned, seeking to meet the needs verified throughout the Program and the possibilities of partnerships. These conversations will be

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transformed into narratives, facilitating the evaluation of recurring themes deserving further attention.

The following quantitative instruments will be employed: the Quality of Life Assessment Scale for Alzheimer's Disease (QoL-AD), the only instrument translated, adapted and validated in the Brazilian culture by Novelli (2006), which hás three versions: PQdV-DA, for theparticipant to assess their quality of life; CQdV-DA, for the caregiver to assess the participant; CPQdV-DA, for the caregiver to self-evaluate; the Timed Up and Go (TUG) and Timed Up and Go with dual task, to assess the functional physical fitness of the participants, both belong to a battery of tests of the Balance Evaluation System Test (BESTest) and the MiniBESTest (shortened version of the previous one), proposed by Horak, Wrisley, and Frank (2009) and translated and adapted into Brazilian Portuguese by Maia (2012); the Mini Mental State Examination (MMSE), also known as Mini Mental, for assessing cognitive impairment, one of the main screening tools for Alzheimer's, a simple and quick-to-apply test, which was developed by Folstein et al. (1975), validated in Brazil by Bertolucci et al. (1994) and adapted by Brucki et al. (2003).

Research participants are residents of Valinhos municipality, selected in ascending order of availability of vacancies, according to the following inclusion criteria: being diagnosed with Alzheimer's, proven by a certificate from the doctor who performs the follow-up; not having uncorrected physical, visual or hearing limitations that make it impossible to participate in interventions; be available to participate in the proposed activities.

The study was approved by the Research Ethics Committee of the School of Physical Education and Sports of the University of São Paulo. Participants were informed about the procedures and signed the Informed Consent Form, in accordance with the Guidelines and Norms for Research Involving Human Subjects (Resolution No. 196, October 10, 1996) of the National Health Council, and the procedures were also in accordance with the 1995 Declaration of Helsinki. A version of the Informed Consent Form was made available to family members, since Alzheimer's is a neurodegenerative dementia for which there is still no cure, and family support/partnership is important. Therefore, caregivers were also informed about the study procedures and signed the Form.

4 PHYSICAL EXERCISE INTERVENTIONS

Currently, research has highlighted lifestyle intervention as a way to decelerate the decline in cognitive capacity caused by AD, with physical activity being the primary solution

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for brain health (Sherzai, Sherzai, 2008). In recent decades, numerous studies have explored the connections between a healthy lifestyle and AD, especially regarding physical activity. Several studies have demonstrated the benefits of practicing physical activity for people diagnosed with Alzheimer's (Xavier et al., 2022; Sampaio et al., 2020; Lourenço et al., 2019; Sampaio et al., 2019; Glisoi, Silva, Santos-Galduróz, 2018; Kim et al., 2016; Garuffi et al., 2012; Groppo et al., 2012; Christofoletti, 2008) among the main benefits are the maintenance of functional physical fitness and motor independence, a reduction in neuropsychiatric symptoms, and improvement in quality of life and cognition.

Similarly, imaging studies in the older adults have confirmed the positive association between physical activity and volume of the cerebral cortex, and both aerobic fitness and coordination exercises have been associated with reduced brain atrophy in the frontal and temporal regions and in the hippocampus, all áreas critical for higher cognitive functions such as attention, perception, sensation, thought, memory, language, emotion and orientation (Zucchella et al.,2018; Weinstein et al., 2012; Niemann, Voelcker-Rehage, 2014; Papenberg et al., 2016).

From the perspective of life style intervention as a strategy to delay cognitive decline and improve the quality of life of people diagnosed with AD, the MoviMente Program was created. In order to ensure the breadth and future expansion of the Program, we formed the Study Group on Alzheimer's, Physical Activity and Health Promotion together with the Departmentof Sport and Leisure of the city of Valinhos, with the support of the Secretary of Sports. The group consists of the researcher and four Physical Education professionals from SEL. The Group comprises managers and professors involved in the Program, also with the purpose of guaranteeing the continuity of actions beyond the initiative of this research, as is often the case with similar proposals.

Physical activity interventions Will be coordinated and instructed by there searcher and the study group's physical education professionals, and are scheduled for the beginning of the first half of 2024, in a space provided by SEL, with the frequency of two weekly meetings lasting of one hour each. A physical exercise protocol developed by there searcher, grounded in the literature and with the support of the study group, will be employed. The protocol includes multicomponent exercises involving low-impact aerobic exercises, muscle strengthening of the main muscle groups, balance activities, joint mobility, flexibility, body awareness, concentration, cognition, dual task and rhythmic exercises, with a focus on

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improving functional physical fitness, maintenance of motor independence and activities of daily living.

The initial protocol for the research interventions involves circuit training, aiming to facilitate the class dynamics for the participants. There Will be a gradual increase in the intensity of physical exercise every 4 weeks, based on the participants' responses during the adaptation period. To measure effor tintensity and ensure safe intensity, the Borg Scale (1970) will be used, which consists of classifying the effort subjectively and individually, but the modified version (SESC SP, 2022) will be used to facilitate understanding by the participants. The class will start with a warm-up with out impact (joint mobility, rhythmic exercises, body awareness) and stretching; subsequently, students Will perform the circuit (2 passages of 3 minute in each station, with 2 minutes for rest and exchange); concluding with stretching focused on relaxation.

5 EXPLORING A NEW PERSPECTIVE ON HEALTH CARE

As previously established, physical activity is an crucial strategy for preserving cognitive function and maintaining the quality of life in AD, however, although this research is ongoing, an important outcome has already been verified, which is the impossibility of assisting people with AD in an advanced stage in the MoviMente Program, since many are no longer able to follow or understand commands, maintain attention, perform physical exercises due to problems of muscle stiffness and some are even in a wheelchair or bedridden, however, we cannot fail to assist these people, since in Brazil there are almost no interventions for them.

Thus, it became imperative to explore a novel health care approach, ensuring that individuals in the advanced stages of AD have an opportunity to partake in interventions that can enhance their quality of life. This, in turn, would positively impact their relatives/caregivers, who often experience overwhelming challenges during this phase and commonly face health issues such as depression and/or generalized anxiety disorder. Simultaneously, there was na intention to find a practice that could help alleviate the neuropsychiatric symptoms associated with AD.

In pursuit of an inclusive program covering all stages, the researcher connected with a globally recognized Spanish Project named: "Música para Despertar" (Music to Wake Up). This innovative andcost-effective Project employs music as a therapeutic means to enhance the quality of life for people with Alzheimer's, especially those in the advanced stage. The

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researcher successfully reached out to the project's creator and director, psychologist Pepe Olmedo, and his team through email and social media, expressing her interest in understanding the Project and bringing it to Brazil for collaborative implementation with the MoviMente Program. The response was highly positive, with the Project team agreeing to its implementation in Brazil. Additionally, following ongoing communication, the researcher underwent training course to implement the project, scheduled for the first halfof 2024.

The objective is to provide assistance to individuals in advanced stages who are unable to participate in the MoviMente Program through the "Music to Wake Up" project. By integrating both projects, it becomes possible to cater to individuals at all phasesof AD. This endeavor aims to facilitate the creation of a more inclusive and democratic municipal public policy following the research, transcending the scope of Just implementing the MoviMente Program. It is also important to mention that the following information was studied in the training course, taught by Pepe Olmedo together with the "Music to Wake Up" team.

6 THE “MUSIC TO WAKE UP” PROJECT

The Spanish non profit organization, named Music to Wake Up (Música para Despertar, 2023, 2021), founded by three brothers: Pepe Olmedo, Maria Olmedo and Maria del Mar Olmedo, along with Noemi Álvarez, hás created the project of the same name. Their initiative utilizes music as a therapeutic tool with the goal of enhancing the quality of life for individuals with Alzheimer's, which also reflects on the quality of life of their relatives, caregivers, and assisting professionals. The project aims to improve the well-being of patients as a complement to pharmacological treatments, as the brain regions responsible for musical memory and the ability to experience emotions are among the last to be affected by the disease, rendering this form of therapy viable (Diniz, 2022).

This is well demonstrated in an emotional video from the Music to Wake Up Project (Música para Despertar, 2021) that went viral, in which Marta Gonzáles, former prima ballerina of the New York Ballet, recognizes the classic song Lake of the Swans, by Tchaikovsky. As she listens to the music, she spontaneously moves her arms and performs the choreography, the video interweaves images of Gonzáles in her wheelchair with archival footage of her dancing in 1967 (Música para Despertar, 2023; Olmedo, 2023). The inspiration for creating the project stemmed from the awareness of a video featuring a patient with Alzheimer's, Henry, showcased in an American documentary called "Alive Inside" (Encourage

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TV, 2014). The documentary demonstrated the therapeutic use of patients' autobiographical music, with Henry's emotional response to the music of his life being particularly noteworthy.

The captivating aspect of how music travels through the neuronal circuits of individuals with memory loss, enabling them to reclaim experiences that appeared lost forever, is truly enchanting. That's the power of music, awakening us to who we are, to what we could be and to that strength that makes us human. Music establishes a connection with our inner selves that no pill can replicate. Therefore, reintroducing songs into the mind that once encapsulated our emotions allows those bygone times to be revived, as a part of the brain is responsible for forging links between episodic memories and specific melodies (Vilas-Boas, 2019).

7 AWAKENING THE HEART AND MIND: BENEFITS OF MUSIC IN DEMENTIA

Music offers cognitive, psychosocial, behavioral, and motor benefits to individuals with neurological disorders like dementia, suggesting that music-based interventions could serve as effective and convenient alternatives to traditional therapies (Brancatisano, Baird, Thompson, 2020). Additionally, music has the potential to reduce mood symptoms, agitation, and evoke personally meaningful memories in people with dementia (Baird, Samson, 2015; Brancatisano, Baird, Thompson, 2020).

While accumulating evidence indicates that individuals with dementia derive enjoyment from music and retain the ability to respond to it even in the more advanced stages when verbal communication may be diminished, recent large-scale randomized control studies have raised questions about the specificity of music's effects. Although its benefits may not surpass those of other enjoyable activities, music possesses a unique and powerful ability to evoke memories and emotions. It serves as a crucial link to an individual's past and offers a means of non-verbal communication with caregivers, making it an ideal stimulus for people with dementia (Baird, Samson, 2015).

The therapeutic objective of music in this context is to reach cognitive faculties, emotions, memories, and thoughts, preserving the individual's sense of identity. Furthermore, music serves as a means to promote freedom, expand existence, ensure stability, enhance focus, and, most importantly, act as a conduit for expressing and conveying affection through emotions. This reinforces its therapeutic potential in Alzheimer's disease (Passos e Martins, Quadros, 2021).

In Alzheimer's, among the last attributes lost in the brain are the ability to feel emotion and musical memory. As the ability to experience emotions endures until the end of life,

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therapeutic use of music opens up new possibilities for communication and brain stimulation through the association of emotions and implicit memory. Music processing engages a wide network of brain areas related to movement, attention, memory, emotions, and language, including the Motor Cortex, Hippocampus, and Amygdala. This comprehensive brain stimulation can contribute to slowing down the progression of dementia or alleviating neuropsychiatric symptoms (Olmedo, 2023).

Moreover, music fosters cognitive, physical, and physiological benefits, such as eliciting intense emotional responses, inducing changes in blood pressure and heart rate, reducing cortisol levels, aiding in the recovery of lost physical abilities in less time, and diminishing the subjective sensation of pain, agitation, behavior disorders, depressive symptoms, anxiety, and stress. Additionally, music stimulates attention, memory, language, executive functions, and the secretion of hormones that reinforce the immune system. It further enhances mood, alert status, quality of life, and social relationships (Olmedo, 2023).

8 MUSIC TO WAKE UP: HOW TO START THE PROCESS

The Music to Wake Up Project focuses on autobiographical songs, which are songs related to an individual's life story and significant moments. These songs carry a profound emotional charge for the person involved, making the involvement of relatives a crucial element for the success of this therapy. The initial step involves providing relatives with a clear project explanation, obtaining their consent through signing a form, and requesting their response to a musical questionnaire related to the Alzheimer's-affected relative. This process aims to identify the most important songs in the patient's life. In cases where the person assisted lacks a family, creative approaches are necessary to gather information supporting the creation of an autobiographical playlist. This involves exploring details such as the person's residence, regional music during their ages between 18 and 25/30, and identifying someone of the same age who lived in similar places (Música para Despertar, 2023; Olmedo, 2023).

Following this, a neuropsychological assessment is conducted to create the playlist and commence the sessions. The initial month serves as a period of approximation with the attended person, testing the playlist's effectiveness with autobiographical songs. If verbal communication is not possible, non-verbal cues such as smiles, looks, breathing, or sighs are observed to determine its impact. After the 12-week intervention period, a new neuropsychological assessment is performed, and the results are analyzed (Olmedo, 2023).

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Establishing therapeutic objectives is another crucial aspect of the process. Sessions should be guided towards these objectives, conducted at neutral moments in the patient's emotional state. Attention is paid to reactions, and observed changes, expressions, or movements are recorded. Each session, lasting 30 minutes, involves selecting songs that generate the most emotional effect. A coherent and ordered playlist is drafted, avoiding sudden changes in music intensity or beats. The use of headphones is recommended to enhance attention to the music (Olmedo, 2023).

Before introducing music, it is imperative to ensure that basic needs are met, as unsatisfied needs may hinder the success of personalized music therapy. Two key points in this process are allowing the person to express themselves freely, including singing and dancing without judgment, and encouraging emotional expression with music, whether it be laughter or tears. Providing companionship, sensitivity, and affection during these moments is crucial (Olmedo, 2023).

9 DISCUSSION

The global population is rapidly aging, leading to a surge in dementia cases, given that longevity remains its primary risk factor. As dementia lacks a cure and stands as one of today's major public health challenges, countries must establish health policies that extend beyond prevention by promoting a healthy lifestyle. It is necessary to treat and care for people with dementia more effectively.

Despite the availability of numerous pharmacological treatments that can alleviate some symptoms, their limited efficacy and the iatrogenic effects of medications have prompted several health institutions to recommend the parallel development of non-pharmacological approaches (Baird, Samson, 2015). Among these approaches, physical activity and arts - especially music - stand out.

Observing the treatment provided to patients with dementia, especially those in advanced stages, reveals overloaded professionals, caregivers, and relatives often lacking the necessary training or resources to deal this complex situation. Beyond, some patients receive inadequate attention and, in many cases, an excessive medication load, who could benefit more if other non-pharmacological therapies were used (Diniz, 2022).

From this perspective, this research emerges as a form of health care that can address this public health need. Through the practice of guided physical exercises, by the MoviMente program, it will be possible to maintain functional physical fitness to maintain motor

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independence in activities of daily living, as well as the numerous benefits of physical activity found in the literature. Music-based therapy, an innovative and cost-effective project, offers a means to address even the most advanced stages of Alzheimer's, making it viable for implementation in developing countries like Brazil.

In both projects, MoviMente and Music to Wake Up, the purpose is to enhance the quality of life for individuals receiving assistance and their relatives/caregivers, and the association of both projects aims to serve people diagnosed with Alzheimer's from early to advanced stages. In addition, the association of both projects will make it possible to attend for people diagnosed with Alzheimer's at all stages.

In the final stages of Alzheimer's Disease (AD), individuals commonly face muscle stiffness and difficulty in performing movements, including walking. However, music-based therapy enables individuals to perform movements otherwise challenging in activities of daily living, a technique also widely employed for patients with Parkinson's. According to Rocha and Boggio (2013), this auditory-motor interaction would be related to the activation of automatic movement circuits, normally lost during the degenerative process of the disease, as the circuits that normally engage areas related to locomotion lose their function, and music would act as a different agent to that normally used in engaging in motor tasks.

It is crucial to highlight that exposure to music results in coordinated movements, intense emotions, and recollection of a lifetime of memories, reinstating the feeling of autonomy. This autonomy is significant as individuals feel like protagonists in their own lives. Despite their lives following a difficult and defined path, this sense of autonomy can render the journey less painful and more loving. Additionally, this complementary therapy stands as an interesting alternative to drug treatments, offering no side effects while valuing human character and enhancing the patient's quality of life (Diniz, 2022).

To finish, understanding Alzheimer's Disease and other dementias is essential not for labeling individuals but to identify what we can and should work on, what behaviors and difficulties we may encounter, but not to label the individuals. It is necessary to value the person as a whole, their life story, feelings and potential, remembering that each individual will demonstrate very personal characteristics, as each human being is unique, in other words, acknowledging the uniqueness of each individual.

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10 CONCLUSIONS

Through this study, we posit the hypothesis that enhancing the functional physical fitness of individuals with Alzheimer's is achievable via the MoviMente Program. This approach aims to sustain motor independence in daily activities for as long as possible. Additionally, we anticipate that individuals unable to engage in physical activity, a common occurrence in advanced stages, can experience an improved quality of life through the "Music to Wake Up" Project. Consequently, the synergy between both projects allows comprehensive assistance across all phases of AD. Given that emotions and musical memory persist until late stages of AD, caring for individuals in the most advanced stage becomes feasible, ultimately enhancing their condition and making their final days somewhat better.

In instances where verbal communication is no longer possible, prevalent in advanced stages, the "Music to Wake Up" Project facilitates communication through emotions. Facial expressions, looks, smiles, and motor gestures, often absent without music, can thereby enhance the relationship between the patient and those in their vicinity.

Considering the absence of a cure and the limited effectiveness of medications in delaying progression, multiple studies have underscored the significance of complementary therapies alongside medical treatment, either with guided physical exercises or through the arts, in this case, of the music, justifying the pertinence of our research. Beyond providing practical interventions, we intend to identify and propose indicators for the formulation and implementation of a municipal public policy that responds to the needs and interests of the population with regard to Alzheimer's at all stages.

Ultimately, this article contributes to the discourse surrounding Alzheimer's and its impact on the health and living conditions of those affected by the disease, as well as their relatives or caregivers. Simultaneously, it seeks to broaden initiatives targeting this demographic, particularly in the more advanced stages where fewer tools and interventions are currently available.

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