

Chapter 12

Unlocking Memories: Digital Technologies as a Resource to Explore the Therapeutic Potential of Music for Individuals With Dementia


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ABSTRACT

Dementia cases are rising along with the elderly population. Thus, alternative methods to pharmacological treatment are increasingly sought to improve the quality of life of these people. Among these interventions, the effects of music-based therapies (MBT) on the symptoms of dementia and the use of digital technologies to mediate and enhance non-pharmacological therapies are being increasingly studied. The use of MBT contributes to the reduction of neuropsychiatric symptoms of dementia and is associated with the stimulation of specific cognitive functions. Meanwhile, digital technologies aim to support people living with dementia throughout their illness and are cited as a facilitator of non-pharmacological approaches to treat the non-cognitive aspects of dementia and stimulate cognitive functions. The authors discuss the aging process, and the use of digital technologies to enhance the use of music as a therapeutic resource in the non-pharmacological treatment of dementia syndromes, presenting the advantages and possibilities of bringing these two resources together.

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INTRODUCTION

The world population is increasingly aging, and one in six people is predicted to be 65 years or older by 2050 (Gall et al., 2015; Lam et al., 2020).

Chronic non-communicable diseases (CNCDs) stand out as a major public health challenge, mainly due to the high morbidity they cause. Among the CNCDs related to aging are dementias, which appear among the leading causes of functional impairment and quality of life in the elderly (Santos et al., 2020). Between 1990 and 2016, the number of people affected by this condition increased by 117%. Currently, it is estimated to affect about 50 million people, and by 2050 its prevalence will triple, becoming the leading cause of disability among the elderly and a global health priority (Flynn et al., 2022; Hsiao et al., 2023; Odell-Miller et al., 2022; Sousa et al., 2023; Thompson et al., 2023).

Dementia is a progressive neurodegenerative disease characterized by cognitive decline in memory and at least one of the other domains, including personality, praxis, learning, abstract thought, language, executive functioning, attention, social and visuospatial skills, causing limitations in functionality and neuropsychological and behavioral abnormalities (Emmady et al., 2022; Flynn et al., 2022; Hsiao et al., 2023; L. B. Silva & Souza, 2018).

Considering that there is currently no cure or specific treatment that can change the progressive nature of the disease, even though there are pharmacological treatments for the control of the symptomatology presented in dementia, it is necessary to implement strategies to support the needs of the elderly with dementia. The search for alternative and/or auxiliary methods to pharmacological treatment is growing in search of answers that improve the quality of life of the elderly with dementia and their caregivers or family members. Among these alternative interventions, the effects of music used as a therapeutic resource in the symptoms of dementia are increasingly being studied (Lam et al., 2020).

There is a robust evidence base to support the use of interventions such as cognitive and sensory stimulation, the use of music therapeutically, and reminiscence (Carrasco et al., 2020; Flynn et al., 2022; Hsiao et al., 2023).

Studies have shown that the use of music therapeutically contributes to the reduction of neuropsychiatric symptoms of dementia and increasingly the relationship of music with the stimulation of specific cognitive functions, in reducing pain sensation, as well as being a tool to increase social participation is being observed (Baker et al., 2022; Van Der Steen et al., 2018).

Music used as a therapeutic resource and engagement in musical activities helps people with dementia to maintain and improve social engagement in relationships, facilitate communication, improve memory and attention functions, increase self-confidence and self-esteem, which in turn leads to improvements in health and quality of life and well-being. In addition, it produces effects to improve emotional regulation, stress responses, control agitation (Abbing et al., 2018; Alexanian et al., 2022; Bosman et al., 2021; Deshmukh et al., 2018; Flatt et al., 2016; Gall et al., 2015; Hsiao et al., 2023; Johnson & Sullivan-Marx, 2006; Jones, 2007; Lock et al., 2018; Pohjola et al., 2020; Safar, 2014).

With the exponential growth of digital technologies in a wide range of areas, much has been said about the potential of using these technologies in the field of health, both for promotion, prevention, and rehabilitation. To keep up with the reality in which we live, it is important that scholars and professionals in the field of aging increasingly seek to unite digital technology with care and treatment practices for the elderly (Cutler, 2020).

Current and emerging digital technologies aim to support people living with dementia throughout the disease trajectory and are cited as an enabler to non-pharmacological approaches to address the non-

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