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Review Paper

## NON-PHARMACOLOGICAL METHODS IN THE TREATMENT OF DEMENTIA

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**Abstract.** *Dementia is a degenerative disease that affects more than 57 million people worldwide. It is characterized by deterioration of cognitive functions, difficulties in communication, expression and recognition of emotions, as well as the appearance of aggression, irritability and sleep problems, which negatively affects the overall functioning of the person, his/her family and the entire community. The aim of the review is to show the effectiveness and significance of non-pharmacological methods in the treatment of people suffering from dementia. The keywords used to search the PubMed and Google Scholar databases were dementia, non-pharmacological treatment, in the interval from 2015 to 2025. The most frequently applied non-pharmacological methods were analyzed: music therapy, art therapy, dance and movement therapy, occupational therapy and bibliotherapy. The results show that music therapy improves short-term memory, communication, self-expression, development of interpersonal skills, understanding other people's emotions, reduces irritability, aggression, sleep problems, aimless wandering and inability to sit or lie still. Art therapy contributes to the development of creativity, spontaneity, communication and affects the satisfaction and calmness of the person. Dance and movement therapy affects the strengthening of social relationships and cognitive flexibility and quality of life, providing people with dementia with a renewed sense of security and calmness. which is disrupted by anxiety and fear of disease progression. Occupational therapy and bibliotherapy further improve everyday functioning and contribute to the preservation of psychosocial abilities. Non-pharmacological methods in the treatment of dementia cannot prevent the progression of the disease, but they are suitable complementary methods within the interdisciplinary approach to providing support to people with dementia.*

**Key words:** *dementia, non-pharmacological methods*

### Introduction

Dementia is a degenerative disease recognized as a growing gerontological-public health problem and a priority of caring for older people. The characteristic features of the clinical syndrome of dementia are the loss of cognitive and emotional functions that interfere with daily life activities [1]. In 2021, 57 million people worldwide had dementia, of whom over 60% live in low- and middle-income countries. Almost 10 million new cases occur each year. Dementia has physical, psychological, social and economic consequences, not only for people living with dementia, but also for their caregivers, family and society in general. There is often a lack of awareness and

understanding of dementia, resulting in stigmatization and barriers to diagnosis and care [2]. The symptoms of dementia can be treated with pharmacological and non-pharmacological methods [3]. Although there is currently no curative treatment or treatment that can alter the progression of the disease, a number of interventions are available to improve the lives of people with dementia and their caregivers [4].

Standard pharmacological treatment of cognitive impairment and behavioral disorders with antidementia drugs is symptomatic and contributes to delaying and slowing down dementia [1]. Due to the limited effectiveness of current pharmacological therapy and the knowledge that caring for people with dementia requires the involvement of a large number of professionals (e.g. occupational therapists, psychologists, etc.) and caregivers in order to offer a comprehensive and individualized treatment, research has focused on non-pharmacological treatments.

Non-pharmacological treatments can improve functionality, independence and quality of life and in accordance with the International Classification of Functioning, Disability and Health (ICF), they are non-invasive, safe treatments with few side effects [5]. When it comes to non-pharmacological treatment methods, it is important to consider the age, stage of the disease, gender and the environment known to the affected person when choosing activities [6]. Non-pharmacological methods include interventions that are most often combined and are provided to people as part of a person-centered approach. Although the worldwide popularity of non-pharmacological treatment methods is increasing, they are still not fully accepted in practice [7]. The use of various non-pharmacological treatments in working with users in day centers and nursing homes is evident.

Art therapy is applied in healthcare institutions (hospitals, rehabilitation centers, psychiatric clinics,...) [8]. Art therapy techniques in combination with psychological analysis can be a useful therapeutic tool in educational institutions and the work environment in dealing with stressful situations and adapting to new life circumstances [9].

The aim of the paper is to present the importance of non-pharmacological methods in the treatment of people with dementia.

### **Material and methods**

In this paper, we used a systematic review of literature published in English and Serbian/Croatian/Bosnian between 2015 and 2025. The keywords used to search PubMed and Google Scholar were "dementia", "non-pharmacological methods", "dementia" and "non-pharmacological methods".

The criteria for including papers in the analysis are: papers published entirely in English or Serbian/Croatian/Bosnian, original scientific papers, review papers and meta-analyses. Clinical protocols were not included in the analysis.

## **Results and discussion**

### **Occupational therapy in the treatment of dementia**

According to the 2025 World Federation of Occupational Therapists definition, occupational therapy promotes health and well-being by supporting participation in meaningful activities/occupations that people want and need to do or are expected to do [10].

Law et al state that occupational therapy is a discipline that aims to improve compatibility among occupations, abilities of people with dementia and the environment in which they live in order to optimize their participation in meaningful activities [11]. The American Association of Occupational Therapists says occupational therapists play a key role in supporting people with dementia to participate in meaningful and purposeful activities of daily living, helping them maintain a sense of identity, autonomy and inclusion. This implies adapting the activity to the person's current abilities and the environment and using different motivation strategies in order to be more involved. Occupations not only serve as therapeutic tools, but are also important as an outcome in the treatment of dementia because they contribute to improve the quality of life [12]. The significance of occupational therapy in the treatment of dementia is increasingly recognized. Galof states in her work that numerous studies indicate that occupational therapy interventions improve daily functioning and mental well-being, alleviate depressive symptoms and agitation, encourage one's own identity and purpose, and by adjusting the environment contribute to increasing safety [13].

Occupational therapy can play a key role in significant improving the lives of individuals struggling with dementia. Occupational therapy interventions address key goals such as improving patients' overall quality of life, slowing disease progression, and reducing the burden of long-term care. Behavior management strategies within occupational therapy can effectively target disruptive and stereotyped behaviors, and even inappropriate speech [14]. Bennett et al. provide evidence that individuals with moderate dementia who received an average of 8 sessions of home-based occupational therapy experienced improvements in a number of key outcomes: they were more capable of basic and instrumental activities of daily living, and reported fewer inappropriate behaviors and other psychological symptoms and a better quality of life compared with those who received usual care [15].

Occupational therapy is strongly advocated as one of the most specialized disciplines for carrying out ergonomic adaptation of the environment in which people with dementia live. When motor difficulties arise, occupational therapists play a key role in counseling and implementing ergonomic changes in the environment, increasing the safety and independence of patients within their living space. Application of occupational therapy protocols can greatly improve the quality of life of people with dementia [16]. Taking into account the interests and abilities of people with dementia, intervention programs in homes for the elderly, based on participation in recreational and leisure activities in the physical and social environment, contribute to the

improvement of motor and cognitive functioning, behavioral and psychological symptoms of dementia [17].

Occupational therapy profession emerged at a time when in Europe and North America the Arts and Crafts movement appeared [18]. Increasing recognition of holistic and client centred approaches, renewed interest of occupational therapists in application of art and artistic expressions and it is used in working with old people with dementia dementia.

## **Creative techniques in the occupational therapy**

### **Music therapy**

According to the World Federation of Music Therapy, music therapy is the professional use of music and its elements as an intervention in the medical, educational and everyday environment with individuals, groups, families or communities who want to improve the quality of life and their physical, social, communicative, emotional, intellectual and spiritual health and well-being [19].

Research by Lyu, Jihui et al. showed that both short auditory stimulation (music playing in the background while people solve memory tasks) and long-term auditory stimulation (music therapy) improved verbal fluency in people with dementia. Verbal fluency after music therapy was better in people with dementia compared to other groups after three months of intervention, and the effects lasted 3 months after the end of music therapy [20]. The results of research conducted by Moreno-Morales et al. showed that music therapy has a positive effect on cognitive functions in people with dementia. Listening to music had the greatest positive effect on cognitive functions. This can be explained by the fact that listening to music integrates the perception of sounds, rhythms and song lyrics and the reaction to sound and requires attention to the environment, which implies that many areas of the brain are activated at that moment. Music is a pleasant stimulus, especially when adjusted to personal preferences, and can evoke positive emotions. Music therapy affects the level of hormones such as cortisol and the autonomic nervous system by reducing stress-related activation [21]. Tsoi et al. investigated the influence of receptiveness in relation to interactive music therapy. This meta-analysis showed that receptive music therapy can reduce agitation, behavioral problems and anxiety symptoms in elderly people with dementia and appears to be better than interactive music therapy. Receptive music therapy adopts a passive approach that may be easier to apply and less expensive than interactive music therapy, making it a more suitable intervention for use in homes and day care centers for the elderly [22].

### **Art therapy**

Art therapy is closely related to fine arts therapy, but its application has a broader meaning and significance. Art therapy, as a non-pharmacological medical complementary and alternative therapy, is used, among other things, in working with patients with cognitive impairment and dementia. Art therapy can serve not only as a useful therapeutic method that helps patients open up and share their feelings, attitudes and experiences [23].

The creative artistic process in art therapy may refer to drawing, painting, and modeling in the broadest sense of the word, which expresses conscious and unconscious thoughts and emotions [24].

In day care centers, homes for the elderly, retirement homes, different forms of artistic expression are used in working with people suffering from dementia. Belver and Ullan point out that visits to art galleries and museums encourage cognitive stimulation, development of self-esteem, satisfaction and realization of social connections and provide an opportunity for social inclusion that can change the way people with dementia are perceived in society. Promoting creativity and artistic expression in people with dementia improves social relationships and has a positive effect on the emotional state of the affected person, as well as their caregivers [25]. Schneider states that previous research has highlighted five reasons for supporting artistic expression in people with dementia: people with dementia enjoy creating art, whether they are active or passive participants; art is accessible to them despite memory loss due to their multisensory nature and the ability to experience art regardless of prior knowledge; caregivers and family members achieve a double benefit from art therapy, which is their own enjoyment as participants and the enjoyment of watching family members participate; Art therapy encourages social interaction and a sense of belonging [26].

### **Dance and movement therapy**

Dance and movement therapy began to be used in occupational therapy lately. The American Association for Dance and Movement Therapy defines dance/movement therapy as the psychotherapeutic use of movement to promote emotional, social, cognitive and physical integration of the individual, with the aim of improving health and well-being [27]. Dance is a holistic intervention that can be performed with therapeutic or recreational intent [28].

Rainbow et al. believe that dance movements could be included in a structural rehabilitation program to provide early psychosocial support to elderly people who need it [29]. In their work, Wu et al showed that dance and movement therapy had a significant effect on the improvement of cognitive functions, memory and executive functions in patients with mild cognitive impairment, but that the data are insufficient to fully demonstrate that it has a positive effect in patients with Alzheimer's disease [30]. Wang's systematic review and meta-analytic study showed that dance-based interventions were significantly beneficial for people with moderate cognitive impairment and dementia because they reduced depression compared to a control group. Also, dance-based interventions have been shown to be beneficial but not significant for people with moderate dementia in reducing anxiety compared to a control group [31].

Dance is an aesthetic art form that combines beneficial engagement in multiple areas of brain health with connection and meaning. Dance engagement in residential care for people with dementia improves mood and social interaction [32].

## **Bibliotherapy**

Bibliotherapy refers to the planned use of literary text (prose, poetry, fairy tales, myths, legends...) and literary means of expression (metaphor, simile, allegory, rhyme, rhythm...), in education and rehabilitation, with the aim of evaluation and therapy of various emotional, cognitive and interpersonal problems in people of different chronological ages [33,34]. Reading with elderly people who have dementia or similar cognitive diseases can bring many benefits that will vary depending on the person, environment or life circumstances. Shared reading has several positive outcomes: it improves social interaction, it is an activity that brings joy and meaning to adults, it adapts to specific needs, it encourages dialogue about past life experiences and connections between the text that is read aloud and preserved memories, it improves communication and language - it develops communication skills, language and verbal abilities that are in decline, it encourages positive emotions, especially during times of unrest or confusion [35].

It is necessary to raise awareness about the wider application of bibliotherapy in everyday work with elderly users suffering from dementia. Homes for the elderly that have a large number of users and the public library should have good cooperation and constantly improve services and design programs intended for people with dementia. An example of good practice is the "little free library" that is formed in homes for the elderly, hospital wards, public parks and etc., because in this way books are more accessible to a wider population, including the elderly.

## **Conclusion**

The term dementia is often associated with various difficulties in cognitive, emotional and social functioning that negatively affect the quality of life. Therefore, it is crucial to use standard medical procedures, but also non-pharmacological, complementary methods. Non-pharmacological methods in the treatment of dementia cannot prevent the progression of the disease, but they are appropriate complementary methods within an interdisciplinary approach to providing support to people with dementia. The role of an occupational therapist is to provide people with dementia with adequate non-pharmacological services and to design their social life and leisure time in an acceptable way in accordance with their affinities.

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## NEFARMAKOLOŠKE METODE U TRETMANU DEMENCIJE

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**Sažetak.** Demencija je degenerativna bolest koja pogađa više od 57 miliona svjetske populacije. Karakterišu je pogoršanja kognitivnih funkcija, poteškoće u komunikaciji, izražavanju i prepoznavanju emocija kao i pojava agresije, razdražljivosti i problema sa spavanjem što negativno utiče na cjelokupno funkcionisanje osobe, njegovu porodicu i cjelokupnu zajednicu. Cilj preglednog rada je prikazati efikasnost i značaj nefarmakoloških metoda u tretmanu osoba oboljelih od demencije. Ključne riječi korištene za pretragu baze podataka PubMed i Google Scholar su bile dementia, non-pharmacological treatment, u intervalu od 2015 do 2025 godine. Analizirane su najčešće primjenjivane nefarmakološke metode: muzikoterapija, likovna terapija, terapija plesom i pokretom, radna terapija, te biblioterapija. Rezultati pokazuju da muzikoterapija poboljšava kratkotrajno pamćenje, komunikaciju, samouzdržavanje, razvoj interpersonalnih vještina, razumijevanje tuđih emocija, smanjuje razdražljivost, agresiju, probleme sa spavanjem, besciljno lutanje i nemogućnost sjedenja ili ležanja na mjestu. Likovna terapija doprinosi razvoju kreativnosti, spontanosti, komunikacije te utiče na zadovoljstvo i smirenosti osobe. Terapija plesom i pokretom utiče na jačanje socijalnih odnosa i kognitivnu fleksibilnost i kvalitet života, pružajući osobama sa demencijom ponovan osjećaj sigurnosti i smirenosti. koji je narušen strepnjom i strahom od progresije bolesti. Radna terapija i biblioterapija dodatno unapređuju svakodnevno funkcionisanje i doprinose očuvanju psihosocijalnih sposobnosti. Nefarmakološke metode u tretmanu demencije ne mogu spriječiti progresiju bolesti ali su prikladne komplementarne metode u okviru interdisciplinarnog pristupa pružanja podrške osobama s demencijom.

**Ključne riječi:** demencija, nefarmakološke metode

