

# Music therapy as a form of management of patients with dementia

## Muzykoterapia jako forma postępowania u pacjentów z demencją

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### Abstract

**Introduction.** Dementia is a major medical problem, especially in the context of worldwide population ageing. Many different forms of occupational therapy are used as an adjunct for therapeutic procedures to inhibit the progression of symptoms associated with dementia. In this paper we describe the history and origin, the therapeutic principles and forms, and the role of the nurses in applying the music therapy. **Conclusions:** Music therapy is a low-cost and effective form of therapy for patients with dementia. In Polish health care settings, the nurse is a key person in the implementation of music therapy due to her close contact with the patient. It is advisable to introduce practical aspects of music therapy into curricula at medical universities in order to prepare future graduates for the changing demographic situation of our society. (*Gerontol Pol* 2022; 30; 58-63) doi: 10.53139/GP.20223009

**Keywords:** dementia, elder people, music therapy

### Streszczenie

**Wstęp.** Demencja stanowi poważny problem medyczny zwłaszcza w kontekście starzenia się społeczeństw na całym świecie. Aby zahamować progresję objawów związanych z demencją stosuje się wiele różnych form terapii zajęciowych jako wsparcie dla stosowanych procedur leczniczych. W poniższym artykule opisujemy historię i genezę, zasady i formy terapeutyczne oraz rolę pielęgniarek w stosowaniu muzykoterapii. **Wnioski.** Muzykoterapia jest niskokosztową i efektywną formą terapii pacjentów z demencją. W polskich warunkach ochrony zdrowia pielęgniarka jest kluczową osobą w realizacji terapii muzycznej, ze względu na jej bliski kontakt z pacjentem. Wskazane jest wprowadzenie do zajęć dydaktycznych na uczelniach medycznych elementów terapii muzycznej w ujęciu praktycznym, w celu przygotowania przyszłych absolwentów do zmieniającej się sytuacji demograficznej naszego społeczeństwa. (*Gerontol Pol* 2022; 30; 58-63) doi: 10.53139/GP.20223009

**Słowa kluczowe:** demencja, muzyka, osoby starsze, muzykoterapia

### Introduction

Dementia is defined by the WHO as a set of symptoms caused by a brain disease (usually chronic or progressive). It is characterised by multiple higher cortical dysfunctions, including memory, thinking, orientation, understanding, counting, learning ability, language and assessment of reality. These are often accompanied by emotional, behavioural and motivational disturbances. Dementia can develop in the course of other illnesses and resolve once the primary condition is cured. Sometimes, however, dementia is an independent clinical entity of a progressive nature [1].

Currently, the number of patients with dementia is estimated to reach about 50 million worldwide and, due to the ageing of the population, this number is expected to reach 152 million in 2050, with older people accounting for about 1/6 of the population [2,3]. This is important because, according to the Central Statistical Office (in Poland), the proportion of people aged  $\geq 65$  years was already over 9.7 million in 2019 [4].

Various therapeutic methods are used in the management of patients with dementia, including kinesiotherapy, physical exercise, combining structured daily activities with exercise training, occupational therapy (e.g. hortitherapy, involving seniors in plant-growing or animal-

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assisted therapy), relaxation activities, various forms of art therapy, i.e. passive art therapy (watching), and active art therapy (creating objects or artistic works during art classes), bibliotherapy, reminiscence therapy, as well as the increasingly used and refined music therapy [5-10].

### History of music therapy

According to the definition given by the World Federation of Music Therapy, “(...) *music therapy is the use of music or its elements (sound, rhythm, melody and harmony) by a music therapist with a patient/client (or group of people) in a process designed to facilitate communication, learning, mobilisation, expression, physical, emotional, intellectual and cognitive concentration for the development of inner potential and the development or restoration of the individual’s functions so that he/she can achieve better intra- and interpersonal integration and consequently a better quality of life*” [11]. Music therapy is one of the oldest and most accessible forms of therapy already known in ancient Greece. Aristotle claimed that the effect of music is a harmless release of emotions, music has a calming effect and can cure ailments of body and spirit [12]. In modern times, the first recorded publication about the therapeutic effect of music was an article entitled ‘*Music physically considered*’ published in the *Columbian Magazine* in 1789 [13].

The issue of music therapy for patients with various diseases was treated as a curiosity for a long time. It was at the end of the 19th century that the first comprehensive programme for treating human disorders with music was developed and presented (USA, 1892). Five years later, the National Association of Therapists was founded in New York, whose activities were focused, among others, on music therapy. It took nearly 100 more years before music therapy emerged as a separate field of study. The first such studies were initiated in 1994 at Michigan State University [14]. Currently, there are about 8,500 and 6,500 musical therapists registered in the USA and Europe, respectively. In some countries, e.g. Austria or the UK, music therapist is a registered medical profession [15]. In Poland, higher education studies related to music therapy at the undergraduate, graduate and postgraduate levels are conducted by several centres, e.g. the Academies of Music in Katowice, Wrocław and Łódź, the Maria Curie-Skłodowska University in Lublin, and two-year training courses are conducted at the Institute of Neurology and Psychiatry in Warsaw. Currently, music therapy is widely used in kindergartens, schools (both for children with normal development and those with developmental deficits), in obstetrics departments, schools of childbirth, in outpatient

and inpatient pain management facilities, nursing homes, long-term care units, as well as social care homes, palliative medicine facilities and hospice centres.

### Therapeutic principles of music therapy

Music therapy is mainly used as a method to support medical treatment. In the case of elderly individuals, both disease-affected and healthy people can be addressed in organised sessions. The former group may include patients with cardiovascular, respiratory, gastrointestinal, or neurological diseases, etc., or those affected by loneliness and confusion resulting from the natural aging process. In the case of people aged  $\geq 65$  years, the patients’ environment may also be included – family, caregivers, local groups or communities. The above determines the requirement that therapy sessions should be designed to meet the specific needs of patients:

- stimulation of mental and intellectual activity
- unblocking and releasing accumulated emotions (often unconscious)
- counteracting inactivity and apathy
- diverting attention from unpleasant and persistent thoughts
- improving their ability to communicate with the environment
- improving interpersonal relations.

At this point it should be noted that there are currently no well-established guidelines as to the indications and goals of music therapy. Similarly, there is also no defined rigid procedure or methodology to implement these interventions. Based on the literature data, it was found that the interventions/music therapies described in the scientific literature ranged from 4 weeks to 40 weeks. Sessions lasted between 30 minutes and 2.5 hours and took place from 1 to 5 times per week. All music therapists were professionals ranging from psychologists with musical experience, occupational therapists and professional musicians – to music therapists [16-18].

Depending on the form of the patient’s activity and the therapeutic method used one may distinguish: perceptive music therapy (passive, receptive), based on the mechanism of music perception (listening); executive music therapy (active), based on the patient’s sound expression with the use of musical instruments or human voice (vocal therapy), and also with the use of body movement in the rhythm of music (choreotherapy, rhythmic). Depending on the way the therapeutic activities are organised, we can distinguish: individual or group music therapy. With regard to the therapeutic effect, calming and activating music can be distinguished [19,20].

### Passive music therapy

In passive music therapy, patients only listen to music, but it has already been proven that simply listening to classical music significantly improves mood, quality of life, and also reduces stress and anxiety among older people [21]. On the other hand, using an appropriate selection of music based on the participants' memories of their youth, an improvement in cognitive function and memory was obtained, as well as a reduction in depressive symptoms in nursing home residents [22]. Furthermore, listening to music has been shown to be effective as an adjunctive therapy in the treatment of anxiety and depression [23], schizophrenia [24], as well as in the rehabilitation of stroke and multiple sclerosis patients [25,26], in palliative care [27], and in the reduction of anxiety and sedative medication in patients undergoing endoscopy [28]. On the other hand, combining passive music therapy with visual perception (live music) – resulted in the alleviation of dementia symptoms in elderly people [29].

### Active music therapy

Active music therapy means involvement in its creation. Such forms include playing instruments, singing or dancing [30]. Creative musical interventions have been shown to engage different brain areas, thereby improving cognitive, motor and emotional functions, inhibit-

ing behavioural and psychological symptoms of dementia (figure 1) [31,32]. They stimulate neurogenesis, which is associated with improved memory and cognitive function in people with memory impairment [33]. Active participation in musical activities resulted in the inhibition of psychomotor agitation, reduced use of psychotropic medications and increased quality of life as reported by people with dementia [34]. For patients with dementia, e.g. Alzheimer's disease, the inclusion of singing performed by patients resulted in improved well-being and interpersonal communication in this group of patients [35, 36]. In turn, combining both forms of music therapy, active and passive, a reduction in stress and some affective disorders and anxiety has been observed among people with severe dementia [37].

### The nurse's role in music therapy

Some of the above-mentioned effects of selected passive or active musical interventions in patients with dementia relate more to the psychological effects of the therapies applied, and therefore seem to be hardly objective. However, it turns out that a musical intervention appropriately adjusted to the needs of patients can also translate into changes in the values of measurable parameters. For example, some studies have observed increased plasma IL-1 levels, decreased cortisol, and in-

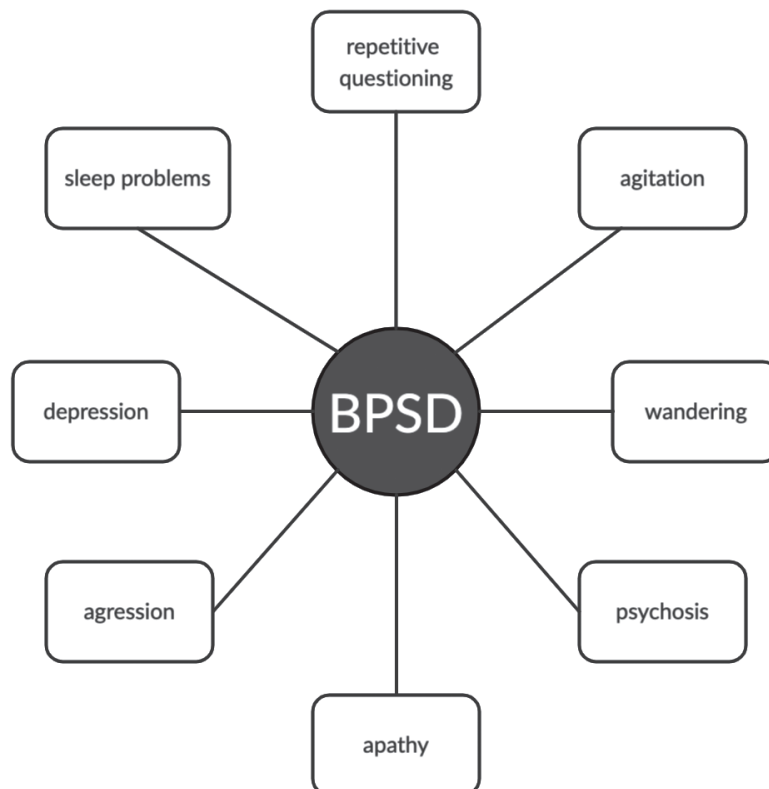


Figure 1. Behavioural and Psychological Symptoms of Dementia (BPSD)

creased endorphins [38]. In particular, the effect of music therapy on pain has been very well documented in various human physiological and disease states [39,40].

At this point, it is important to emphasise that a nurse is crucial in assessing the effectiveness of music therapy in a patient. As a member of the therapeutic team, spending the most time with the patient, a nurse is able to notice the impact of the applied therapy on the human body by observing, for example, changes in heart rate, breathing and blood pressure, as well as changes in the patient's behaviour. Moreover, nurses are those who do the most emotional work [41]. Of all the members of the therapeutic team, a nurse has the greatest contribution to the patient's well-being and very often independently and intuitively makes the decision to apply a music session to the patient.

The key word here is an 'intuitiveness' of the nurse's actions, as medical students including future nurses, do not have music therapy classes in their curriculum. The education programme for nursing students at Polish universities should be appreciated all the more, as nurses are able to adapt their skills to different clinical or therapeutic situations based on various models of patient care learnt during their studies. However, an example from the USA [42] indicates that additional practical classes in music therapy are of great benefit for students in terms of knowledge and skills. Moreover, according

to some researchers [43], students actually need such practice to understand the intergenerational and cultural differences of older people and to learn to communicate with them.

Perhaps this is the right direction for the development of our medical staff, and not only for nursing, but also for other medical professionals that form the interdisciplinary treatment teams in various clinical situations. The number of patients at advanced age will increase in the coming years, which means that the curricula of medical schools should also be adapted to the new challenges and social problems.

## Conclusions

Music therapy is a low-cost and effective form of therapy for patients with dementia. It can be used to support pharmacological treatment of patients. The preparation of nurses to organise various forms of activities defined as music therapy is residual and intuitive. It is advisable to introduce practical aspects of music therapy into curricula at medical universities in order to prepare future graduates for the changing demographic situation of our society.

Conflict of interest

None

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