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MUSIC THERAPY TO IMPROVE MEMORY AND MOBILITY IN THE ELDERLY

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Abstract
The elderly are one of the most vulnerable groups in our society: the physical problems, cognitive impairment, social deprivation and loneliness suffered by many older people make them, in many cases, at risk of social exclusion. The objective of the intervention proposal is to improve the quality of life of this group through the use of music therapy, focusing on the specific work of mobility and memory. For this, a series of activities have been prepared that can be carried out in day centers and music schools, promoting active and healthy aging.

Keywords: preventive music therapy, elderly, active aging, memory, mobility

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BACKGROUND

Since time immemorial there has been interesting in seeking immortality, and as Moreno-Crespo et al. point out, (2018) "The mythology of various cultures mentions mortal seekers of eternal life, ordinary beings who share these concerns and make crusades to respond to them [...] as are the examples of Hercules [...] and Gilgamesh" (p.12). In fables and stories there is talk of that longed-for endless life, but have we ever wondered under what conditions it would be lived being immortal? Would he continue to age, despite not dying? While it is true that, at the moment, there is no such immortality and these questions remain unanswered, it is important to seek the best quality of life for all the years that are lived, which would improve not only the individual but society in general. The scientist and director of the National Cancer Research Center, María Blasco (2019), supports this statement: "If we lived more healthy years, the health cost would be reduced or could be applied to other areas that need funds. We would have much more sustainable societies." As you can see, it would be useless to be immortal if you are not in good health.

Towards active aging

The forecasts of the National Institute of Statistics indicate that the population over 65 years of age would account for 26.0% of the total in 2037, almost double what it is today. Therefore, it is necessary to look for tools that allow this population niche to live as well as possible from that age. The concept of active aging comes into play here, which according to Hernández (2016) "starts from the recognition of the human rights of older persons and the United Nations Principles of independence, participation, dignity, assistance and realization of one's wishes" (p.119). From 2020 to 2030, the World Health Organization organizes the Decade of Healthy Aging, a period focused on raising awareness in society of the importance of improving the lives of older people, given that a healthier

elderly population also has repercussions in other areas such as economic or social.

Although quality of life is a fairly subjective concept, in recent years it has gone deeper into finding an objective definition and defining standards that allow it to be evaluated. Living longer is not synonymous with living better, since there are many factors (stress, illness, loss of loved ones, etc.) that influence a deterioration in the quality of life, and that is why investing and betting on programs that improve this stage of life is so important. Music therapy is presented in this context as an alternative to making the aging of the population as satisfactory as possible, avoiding excessive consumption of medications for causes such as depression due to feeling lonely, feeling worthless, or ailments due to lack of physical activity, among other things.

What is the quality of life?

If you ask 100 people this question, they may have each had a different idea. The main difficulty in defining the quality of life lies in the subjectivity and breadth of the term, however, in recent decades we have been trying to unify criteria to understand and quantify it. According to the World Health Organization (n.d.) quality of life "is an individual's perception of his or her position in life in the context of the culture and value systems in which he or she lives and about his or her goals, expectations, standards, and concerns." In this perception lies subjectivity, since a person can have good health in medical terms but feel that he has a low quality of life: for example, someone who does not have diseases or ailments but who feels frustrated by not having gotten the job he wanted may consider that he does not enjoy the quality of life. However, when defining and measuring this concept, indicators are used that differ according to the authors, but they all have one point in common: to enjoy good health.

Having optimal health can sometimes be the result of chance, but it is clear that following a healthy life helps prevent certain diseases. Eating a healthy diet, performing physical activity between 150 and 300 minutes a day, and avoiding tobacco or alcohol are some of the factors indicated by the World Health Organization in the preventive framework. People who do not have any ailment but who enter the third age (from 65 years), or even the fourth age (from 80 years) have enough offer of entertainment activities, such as trips, workshops, and attendance at concerts and plays; However, few programs focus specifically on maintaining as much as possible an optimal state of health and maintaining physical and mental health: this is where preventive music therapy comes into play. When people retire it should be an excellent time to be able to resume hobbies for which they did not have time, return to study, travel or simply enjoy the family; however, none of this is possible if you are not in good health.

Brief overview of the history of health promotion

Another of the basic pillars of the proposal is the promotion of health. It was Henry Sigerist, medical historian of the early twentieth century, who first coined this term (Martínez, 2019), and the first event that marked this field was the Ottawa International Conference on Health Promotion in 1986, where the so-called Ottawa Charter emerged. Throughout the 6 pages of this letter, important aspects are discussed, such as the elaboration of a healthy public policy, the adoption of a healthy lifestyle, the development of personal skills or the reorientation of health services. This conference has been followed by 9 more, the last of them held in Geneva in December 2021.

Whom is health promotion aimed at?

Promoting health is not something aimed at people who are more at risk of suffering from certain diseases, but it is something that affects the general population. Currently, having good health is not only linked to the absence of disease but also to all the resources that can be allocated to prevent disease and promote well-being. That is why we consider it interesting to include music therapy as a means to maintain a good quality of life in old age. As Vaillancourt (2009) says, "music can fulfill various functions [...] and can be used in therapy as a means to improve, maintain or restore a person's physical and psychological condition" (p.13).

The current health model is focused on the treatment of the disease once it appears, but the interesting thing is to be able to prevent it, something for which music therapy is effective. Normally, the use of any treatment is usually at the level of secondary prevention, that is, the pathology is treated once detected; however, if a greater investment were made in primary prevention (aimed at changing and/or preventing unhealthy habits), the quality of life would improve globally.

Aging: myths and prejudices

Various factors such as economic inequality, lack of training, the digital divide, not having access to decent housing, weak health conditions or the scarcity of family and social ties, together with myths and prejudices about aging, are what can cause a person to find themselves in a situation of social exclusion. In addition, as mentioned in the White Paper on Active Ageing, "an oft-repeated idea is that old age is considered a disease in the strict sense. It is a false message but very introduced in the context of society, even within the older group" (p.225). The elderly are, in general, a group with reluctance to change and experimentation, since they have a very broad life experience and deeply rooted customs. Their relationship with music is usually limited, limited to singing and dancing, in some cases, they even play an instrument, but they are more reluctant to improvise and fantasize because they see no advantage in it. Therefore, having a solid base in this project so that they can understand the benefits that music and music therapy entail is fundamental.

Music therapy as a prevention tool

Music therapy in the elderly can be applied in two very different fields: the first, as preventive music therapy for healthy older adults; the second, as curative music therapy in geriatric centers where patients have more pathologies and problems of different types (motor, psychological, language, memory, etc.). This project aims to apply mu-

sic as a preventive therapy, and also to do so to achieve a definition of health as Bruscia (2014) points out: "is the process of achieving one's fullest potential for individual and ecological wholeness" (p.40).

Aging is a dynamic process that produces numerous changes at the physical and cognitive level, but which are not always related to serious health problems. However, in some cases, the deterioration is faster than others and that is why it is important to take into account some factors that influence when it comes to avoiding premature pathological aging, such as those pointed out by Leivinson (2019): "the low probability of suffering from diseases and disabilities associated with them, high functional capacity and an active involvement with life" (p.71). Music therapy is a good tool to alleviate premature old age and avoid excessive consumption of drugs associated not so much with physical ailments as with mental health problems, such as depression or anxiety about entering the last stage of life. In addition, according to Oliva and Fernández (2003) "It is a proven fact that music therapy in gerontes can contribute to the delay of the deterioration of physical and mental faculties" (p.136).

Music therapy in the elderly

To prepare the proposal, 32 documents on music therapy and the elderly have been compiled. The criterion for selecting these articles is that, in them, the benefits of this art therapy applied in the context of the aforementioned population are endorsed. Below are the 11 that have been considered most significant, from which comparison has been made:

1. Music therapy is a technique for psychomotor development in the elderly (Millán, Guillén and Mayán, 1994).
2. Music therapy in gerontes: a health alternative (Oliva and Fernández, 2003).
3. Mental health and aging: a community experience of music therapy with depressed elderly (Oliva and Fernández, 2006).
4. Contributions of Music to Aging Adults' Quality of Life (Solé, Mercadal-Brotons, Gallego and Riera, 2010).
5. Music therapy for active aging: music is part of my life (Sabbatella and Pérez, 2012).
6. Music therapy and emotions in the elderly (Denis and Casari, 2014).
7. Music therapy as a tool to reduce the level of depression in depressed and institutionalized older adults in a private nursing home in Guatemala City (González, 2014).
8. Evidence of the use of music therapy and memory of the elderly (Gutiérrez, Jiménez and Galindo, 2017).
9. Benefits of Music Therapy in the Quality of Life of Older Adults (Diaz, Lemos and Justel, 2019).
10. Music therapy intervention in the short-term memory of older adults without cognitive impairment (Gutiérrez et al., 2019).
11. Music therapy and loneliness in nursing homes for people with functional diversity (Fattorini, 2021).

Having analyzed these articles, several things can be concluded.

1. The standard age at which music therapy treatments for the elderly begin to be applied is from 60 years, with no age limit.
2. Of the 11 articles, 9 speak of the subjects having experienced improvements as a result of receiving music therapy, and in the tenth article he points out that there are no improvements because it was already based on a high quality of life. We do not count Article 11 because it does not refer directly to healthy adults, but refers to elderly people with functional diversity.
3. All articles agree that it is a field in which more research is needed and studies are needed in which control groups and larger samples are included to be able to contrast the results since the largest sample that was used in the cited documents was 83 subjects, but the smallest (at least mentioned) was only 11.

INTERVENTION PROPOSAL

The general objective of this intervention proposal is to demonstrate the effectiveness of the improvement in the quality of life in the elderly, through the work of mobility and memory. The specific objectives are: to remember songs learned in their childhood and youth, in addition to those learned during the sessions; perform stretching, simple dances, and movements, improve balance and coordination and, finally, instill the establishment of healthy routines in the daily lives of users.

Participants

Population from 65 years of age, without any specific pathology beyond the ailments of age. Being proposed to healthy people, it can be done in a day center or a music school, in groups of a minimum of 4 people and a maximum of 7. According to to Alvin (1967) "Music allows an individual freedom of expression within the group and we can conclude that such a group is an ideal means for psychotherapy" (p.123) and it is because of the numerous advantages provided by the group modality that it has been chosen for this, since it is considered that, in this case, It brings more benefits than the individual.

Resources

1. Human: the ideal is to have two music therapists, or a music therapist and a co-therapist who, as Benenzon (2008, p.103) points out, can also be "another health professional with therapeutic clinical capacity". In this way, one is responsible for the musical part and another is to be aware of the clients to make sure that they perform the activities well and help them in

what they need. However, taking into account the small budget dedicated to this type of activity in the centers and that the group for which this project is intended is small, it can also be done with a single music therapist, which would be more realistic.

2. Spatial: The proposal is designed to be carried out in two areas: day centers for the elderly and music schools. Ideally, the room should be well soundproofed; be medium-sized, sufficient to be comfortable, and allow movement around the room but not so large as to disperse the group; The floor should be wooden and the room should not have decoration to avoid distractions. There should be windows where natural light passes, if possible with curtains or some system of blinds that allows attenuating the light for relaxation, and for when you can not have natural light, the artificial will be warm tones. The space will have enough furniture to have collected the required instruments and materials and will have the capacity to house at least one keyboard.

3. Materials: a keyboard, bells for all participants, music player, juggling handkerchiefs and/or colored ribbons, stationery (pencils, rubbers, sharpeners), session cards, mats, chairs, 1 globe and a map of Spain.

4. Economic: When preparing the economic resources, two assumptions have been raised: in the first, the music therapist has to put all the materials, resulting in a budget of about € 550; In the second, we subtract the materials that a music school is supposed to have, thus lowering the money to about € 75.

Chronology

The intervention proposal has a duration of 8 months, with a total of 16 sessions of one hour each, distributed 2 times a month, on Wednesdays. For the scheduling, holidays or days that may involve absences must be taken into account, since what is intended is that the project has the greatest possible continuity.

Activities

Every day 7 activities are carried out, and once a month, a card is distributed to do at home to stimulate memory and remember what has been learned. Its realization will not be mandatory, but clients will be encouraged to do it since fine motor skills and reading and writing ability are also stimulated (see Table 1).

The activities are briefly summarized and justified here:

• Welcome song: generates a sense of stability and routine that, in the third age, becomes necessary, since in many cases we find a profile of the retired person who, in a way, loses track of time by not having a regulated daily job. Lucas (2013) notes that "The welcome song was widely used by the Nordoff-Robbins model, among others. Its purpose is to center the person in the here and now and signal the beginning of the session" (p.82). An active song modality has been chosen, since customers can be invited to participate by playing percussion instruments, in addition to learning to sing it. The welcome song should have melodic and harmonic simplicity, without becoming childish and with a short duration so that it is easy to memorize.

Table 1
Activities and their duration.

Activity	Duration
1. Welcome song	5’
2. Guided movement	5’
3. Free movement	10’
4. Song on demand	10’
5. Classical hearing	10’
6. Relaxation	10’
7. Closure of the session	10’
8. File (once a month)	------

Note: Own elaboration

• Guided movement: Sometimes, patients arrive numb from the street due to the cold, having walked little during the day or leading a sedentary life, so this activity serves as a motor warm-up. So that the music therapist can guide in the movements, recorded music will be used whose only requirement is that it be calm to wake up the body progressively.

• Free movement: Sometimes expressing yourself with words is difficult and it is easier to do it with your body and gestures. Coordinating the body and emotions can give beautiful and unexpected results, even in elderly patients whose mobility has been reduced over the years.

• The song "a la carte": the participants themselves choose the music they want to listen to and work on in the sessions. For the selection of music it is interesting to take into account the characteristics mentioned by Mercadal-Brotons and Martí (2008): that it be a repertoire of his youth, preferably of slow tempo, that it adapts to the tone (it is usually more serious), with simple instrumentation and, if possible, that it is live music so that it can be adapted (p.26).

• Classical audition: bringing the music known as classical to an audience that, sometimes, has not had the resources or time to know and enjoy it and enjoy its listening in a group is an activity that is usually novel and interesting. In this exercise, participants will learn new things about classical works or fragments, about musical instruments or composers, being able to consider a more long-term objective which is to recognize several composers visually or several instruments, visually or aurally.

• Relaxation: A music therapy session can be stimulating and exhausting, so before finishing it, clients are offered a few minutes to relax and disconnect through brief breathing exercises and stretching, and then listen to relaxing music. Being aware that not everyone will be able to lie on mats, it can also be done sitting on the chairs.

• Closing of the session: Benenzon (2008) suggests the creation of some kind of routine that serves as a farewell ritual, and taking his words as a model, at the end of the session time will be dedicated to remembering the activities done that day and expressing how the participants have felt during the session (p.306). This activity has been chosen instead of a farewell song because it encourages sharing a relaxed chat about the session.

Data collection and analysis

To know if the proposed objectives have been achieved and if future interventions can be improved, an evaluation proposal has been designed that consists of three parts:

A test is filled out by the participants themselves, in which the cognitive, physical-motor and socio-emotional areas are evaluated. It is passed three times: before the start of the first session, in the middle of the intervention and at the end. For data analysis, the scores will be added and compared by the patient, considering that there has been improvement if the score has increased between the first and third tests.

Table 2.

Areas and items to be evaluated by the participants themselves.

Cognitive area	• Speech • Memory •Attention • Reading
Physical-motor area	• General body mobility • Mobility when walking • Mobility in the arms • How many pains you have • Hearing • Balance
Social-emotional area	• Satisfaction with your current life • Satisfaction with self • Joy • The feeling of usefulness in the tasks of daily living • Participation in group activities • Express your feelings • Learning new things • Frustration tolerance • Ability to speak and interact in a group

Note: Own elaboration

An observation sheet for each user, which is filled in by the music therapist at the end of each session. It consists of 12 items that must be marked with a tic if they are achieved and that value the following: if you participate verbally, memorize the instructions, maintain attention, read fluently, have good body mobility, walk without difficulty, move your arms without difficulty, hear well, have a cheerful attitude, participate in group activities, express your feelings and if you show interest in the activities. It also has a section to annotate relevant observations. When analyzing the data, the number of tics will be counted and the intervention will be considered to have gone better the more they have been obtained. In addition, the annotated observations should be taken into account, which will be filed separately, ordered by theme for later analysis as qualitative data.

A self-assessment test for the music therapist and the intervention that will be completed at the end of the project. In this test three aspects will be evaluated: activities, materials and degree of participation and involvement of the participants. To analyze the data, the scores must be added and noted in the box made for this purpose. The total number of points that can be obtained in the questionnaire is 76, so it will be deduced that the intervention has been more successful the closer the test is to the maximum score. In addition, as in the observation sheet, the annotated observations will be taken into account for subsequent analysis as qualitative data.

Table 3

Aspects to be evaluated by the music therapist.

Activities	• Welcome song – did you like it? • Guided movement – were the movements easy? • Guided movement – Has the repertoire worked • Guided movement – did you like it? • Free movement – did you like it? • Song on demand – has it been easy to memorize • Song à la carte – did you like it? • Classical audition – has the repertoire worked? • Classical hearing – did you like it? • Relaxation – Have the mats been used? • Relaxation – have the chairs been used? • Relaxation – did you like it?
Materials	• Instruments – have you been able to use the instruments? • Instruments – has there been a demand for the use of more instruments? • Chips – have you made the chips at home? • Cards – Have you understood the statements on the cards?
Participation	• Was there verbal interaction between participants? • Was there a general interest in participating? • Was there interest in participating in movement activities?

Note: Own elaboration

Conclusions

After making this intervention proposal, the following is concluded: first, that preventive music therapy for the elderly can be a reality; second, that it is still a new therapy and people are rejected; and, third, that there is still much to investigate, which is evident in the scarcity of literature.

Although, indeed, the project could not be implemented and, therefore, it has not been possible to collect data that allow conclusions to

be drawn, the increase in the population over 65 years of age and the scarcity of activities focused on improving their quality of life make it necessary to create proposals that can help this work. Music therapy is an ideal discipline for this since it is a non-pharmacological and non-invasive therapy that results in a lower investment in medicines. In turn, this means economic savings and improved health, taking into account that, in many cases, the intake of drugs also entails numerous side effects.

However, music therapy is still considered something new, and some do not believe in its positive effects. It should be borne in mind that, even today, in the XXI century, there are people who have many prejudices about going to a psychologist: As Carreño et al (2015) point out, in addition to the price, another barrier that people find to not go to a psychological consultation is shame and distrust towards the therapist (p.9), And music therapy is not exempt from this rejection, as it implies the word "therapy".

Finally, when investigating to develop the proposal, less literature than expected on preventive music therapy has been found: to delve into the topic of "healthy older adults and music therapy" or "preventive music therapy for the elderly" there is not as much documentation as expected, something that is certainly normal considering that the study of music therapy is in early development.

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