



Original Article

The Effect of Music on the Happiness of Turkman Elderly in Day Care Centers

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ABSTRACT

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Introduction: Happiness is essential for all age groups, particularly the elderly. This study aimed to investigate the impact of music on the happiness levels of elderly Turkman individuals residing in Day Care Centers in Bandar Turkman and Gomishan cities, Golestan province, Iran, in 2023.

Methods: A quasi-experimental, before-and-after design was employed, involving 74 elderly participants from two day care centers in Golestan province. Of the total elderly population in day care centers in Bandar Turkman and Gomishan cities (95 people), 37 people from Bandar Turkman (intervention group) and 37 people from Gomishan (control group) were selected and entered into the study based on the inclusion criteria using convenience sampling. Group matching was conducted based on gender. Happiness was assessed using the Oxford Happiness Inventory at the beginning and end of the intervention for both groups. The intervention consisted of 12 group music therapy sessions, each lasting 45-50 minutes, three times a week, involving the playing of happy Turkman music. Data analysis were performed using SPSS version 26, including Chi-square, Pearson correlation, and independent t-tests.

Results: The mean happiness score post-intervention was significantly higher in the intervention group (70.51 ± 8.17) compared to the control group (28.43 ± 6.93) ($p < 0.05$). Additionally, a significant increase in mean happiness scores was observed within the intervention group before and after the intervention ($p < 0.05$). The impact of music intervention on happiness varied based on factors such as marital status ($p < 0.05$), employment status ($p < 0.05$), education level ($p < 0.05$), and gender ($p < 0.05$).

Conclusion: Given the positive influence of music on the happiness of elderly individuals, music therapy can be a valuable tool to enhance their mental health. To promote active and joyful aging, it is recommended that elderly care center administrators incorporate authorized and local music into their programs.

Keywords: Music, Happiness, Aged, Day Care Center

Introduction

The increase in the elderly population is an undeniable fact of today's societies (1). In Iran, population aging is an inevitable process (2). According to the World Health Organization's estimates, Iran, like other developing countries, has

the fastest-growing elderly population compared to other demographic groups. It is estimated that by 2050, Iran's elderly population will exceed 26 million (3). For this reason, the World Health Organization has referred to the rising elderly

population in Iran as a "silent tsunami" and has highlighted the necessity of planning for a healthy aging (4).

As people age, various changes and psychosocial factors can occur, such as the lack of social roles, loss of independence, death of friends and relatives, increased isolation, financial limitations, decreased physical and mental health, children leaving home, the death of a spouse, disability, retirement, reduced social relationships, and adapting to a new life. All these can lead to a decrease in happiness (5).

Happiness is a type of psychological well-being that ranges from superficial satisfaction to a deep sense of contentment. It gives a person a sense of security, aids in decision-making, and promotes active and cooperative behavior. Happy people are more satisfied with their lives and experience psychological peace, which predicts favorable life outcomes (6). Researchers equate happiness with success and show that happy people are healthier, more successful, and have greater decision-making power and social interactions than others (7). Happiness creates energy, vitality, movement, and dynamism, and acts as a shield protecting individuals from stress and problems, enhancing their physical and mental health. It gives life meaning (5) and includes positive emotions, life satisfaction, and the absence of negative emotions (8).

Happiness is important for all age groups, especially the elderly. According to research, participation in activities leads to happiness in life. Although the basis of happiness is genetic, other factors such as geographical, cultural, and demographic characteristics—including age, gender, education, income, and engagement in sports and artistic activities—may influence happiness (9). Music is a form of art that conveys human feelings, emotions, perceptions, and cognition without the need for speech and language (10). It is an important part of most cultures, providing an opportunity for interaction throughout life (11). Historically, music has likely coordinated social interactions and acted as social cement (12). Musical activities, such as listening and playing or singing, activate the same areas of the brain used during speaking, communication, and social exchange (13).

Today, music is not only combined in public spaces as the creation of sounds through melody, rhythm, and harmony, but it is also used therapeutically to influence listeners' cognitive and emotional states (14). Research shows that music therapy is one type of active elderly program that improves communication, learning, mobility, and mental and physical functions (15). Listening to music engages brain areas associated with reward, emotion, and memory processing (16), and systematic music use can produce changes in oxygenation, muscle stiffness (17), and stimulation of the nervous system—especially the hypothalamus and pituitary gland, which control stress hormone secretion and emotional reactions (18). Music

therapy is a low-cost and accessible method to increase happiness, reduce depression, and improve the quality of life for elderly women with depression (19). Mottaghi et al., in Kermanshah, Iran, showed that music therapy and aromatherapy with rose water increase elderly people's happiness, with music therapy having a greater effect (10). Additionally, Kousha et al., in Lahijan, Iran, found significant differences in depression, happiness, and quality of life in women suffering from depression before and after music therapy (19).

Therefore, given the increasing elderly population and the importance of focusing on their happiness, and the potential of music as a cost-effective intervention to promote healthy and active aging, the research team decided to study the effect of music on the happiness of elderly Turkman individuals attending day care centers in Bandar Turkman and Gomishan, Golestan province, where racial and cultural differences and ethnic influences can affect health.

Method

Study Design

This study was a quasi-experimental before-and-after comparison study conducted in 2023.

Participants

Seventy-four Turkman elderly individuals from the Day Care Centers of Bandar Turkman and Gomishan participated in this study. These two cities, located geographically close to each other, are home to people of Turkman ethnicity and are homogenous in terms of socioeconomic factors. Therefore, elderly individuals from these two centers who met the inclusion criteria were selected through a census.

The inclusion criteria were age over 60 years, resident of Bandar Turkman or Gomishan, no psychological problems based on self-report and healthcare documentation in the center, Turkman ethnicity, no serious hearing or speech problems, verbal consent to participate, and no underlying disease based on self-report.

The exclusion criteria included changing the place of residence, absence from more than two sessions, and death of the participant.

Using the study by Zarepour Moghadami et al., (7) in 2022 and the G Power software version 3.1.9.4, the sample size was estimated to be 34 elderly individuals in each group. Considering a 10% attrition rate, 37 participants were determined for each group. Thus, of the total elderly population in day care centers in Bandar Turkman and Gomishan cities (95 people), 37 people from Bandar Turkman (intervention group) and 37 people from Gomishan (control group) were selected and entered into the study based on the inclusion criteria using

convenience sampling. Group matching was conducted based on gender.

Instrumentation

Data collection consisted of two parts

1. Demographic Profile Form

- Included information on age, gender, marital status, occupation, education, insurance coverage, and economic status.

2. Oxford Happiness Inventory

- Used to determine the level of happiness. Developed by Argyle and Lu in 1990, this scale consists of 29 questions on a 4-point Likert scale (0-3), with scores ranging from 0-87. Higher scores indicate greater happiness (20, 21). Happiness levels are categorized as follows: 0-28 (low happiness), 29-58 (medium happiness), and 59-87 (high happiness). The validity and reliability of this questionnaire have been confirmed in various studies, including those involving Iranian populations, with a reliability coefficient (Cronbach's alpha) of 0.93 and confirmed face validity (21, 22).

Data Collection

After obtaining approval and permission from the ethics committee, research council, and welfare departments of Bandar Turkman and Gomishan, data collection commenced. Participants from the Bandar Turkman day care center were in the intervention group, while those from the Gomishan day care center formed the control group.

Intervention group

Coordination was made with the Bandar Turkman day care center management to implement the program on a specific date. After introductions and explanations of the research objectives, information collection process, and time required, written informed consent was obtained. The happiness questionnaire and demographic profile form were completed by the participants in the day care center in the presence of the researcher (before the intervention).

The intervention included 12 sessions, each lasting 45-50 minutes, conducted three times a week for one month. During each session, happy Turkman music called "Golum-Turkman Man" was played for the participants in separate rooms for men and women. The music was approved by the Ministry of Islamic Guidance and played through a computer system with sound adjusted based on participant preferences. The program was conducted in a controlled environment to prevent interference. After the intervention, the happiness questionnaire was completed again by the intervention group.

Control group

Similar coordination was made with the Gomishan day center management. After obtaining consent, the happiness questionnaire and demographic profile form

were completed by the participants. The control group received routine care and completed the questionnaires again after one month without any placebo, music, or audio intervention.

Health protocols were observed throughout the study, and the research environments for both the control and intervention groups were similar in terms of facilities and cultural atmosphere.

Statistical Analysis

Data were entered into SPSS version 26, and Pearson, independent t-tests, and paired t-tests were used for analysis. The significance level was set at a $p < 0.05$.

Ethical considerations

This study adhered to the ethical principles of the Declaration of Helsinki. Permission was obtained from the Ethics Committee of Golestan University of Medical Sciences, Gorgan, Iran (IR.GOUMS.REC.1402.150). All participants were informed of the voluntary nature of the study and their right to withdraw at any time. Confidentiality of personal information was ensured, and written informed consent was obtained from each participant.

Results

In this study, 74 elderly individuals aged 60 to 90 years participated, with a mean age of 78.67 ± 5.00 years in the intervention group and 68.97 ± 6.73 years in the control group. The majority of the elderly were women (50.46% in the intervention group and 78.38% in the control group). Additionally, in the intervention group, 89.19% of the elderly were married and only 8.11% were widowed, while in the control group, 86.49% were married and 13.51% were widowed. In the intervention group, 86.49% of the elderly had education below high school diploma and only 8.11% had a diploma. In the control group, 97.30% had education below high school diploma and only 2.70% had a diploma. In terms of occupational status, more than half of the elderly in the intervention group (59.46%) were homemakers, while in the control group, 78.38% were homemakers. In the intervention group, 29.73% were retired, while in the control group, 8.11% were retired. There were no statistically significant differences between the elderly in the intervention and control groups in terms of age, gender, education, and occupation.

As shown in Table 1, the mean and standard deviation of happiness scores in the elderly in the intervention group before the intervention was 26.86 ± 9.58 , which increased to a mean of 70.51 ± 17.80 after the intervention, showing a statistically significant difference ($p < 0.05$). The mean and standard deviation of happiness scores in the elderly in the control group before the intervention was 28.14 ± 6.60 , and after the intervention it was 43.93 ± 6.93 , which was not statistically significant ($p > 0.05$).

According to the results obtained from paired t-test, there was a statistically significant difference in the mean happiness score before and after the intervention in the intervention group ($p < 0.05$). However, there was no statistically significant difference in the mean happiness score before and after the intervention in the control group ($p > 0.05$).

Although music intervention was effective on happiness scores in elderly men and women, its effect was higher in men (44.82 ± 2.62) than in women (39.42 ± 2.13), which was statistically significant ($p < 0.05$). The impact of intervention was also higher in widowed or divorced elderly individuals (46.86 ± 8.07) compared to married elderly individuals (41.50 ± 1.72), with a statistically significant difference ($p < 0.05$). The impact of intervention was greater in retired elderly individuals (47.57 ± 4.34) compared to elderly individuals with other occupational statuses (e.g., homemakers), with a statistically significant difference ($p < 0.05$). The impact of intervention was higher in elderly individuals with education below high school diploma (41.26 ± 1.79) compared to those with a diploma or higher education (36.33 ± 1.75), with a statistically significant difference ($p < 0.05$).

As shown in Table 2, based on the grouping done for the happiness variable in the intervention dimension, none of the elderly in the intervention group reported a poor level of happiness, while for the control group, about 54% were at a low level; Also, 41.5% of the elderly in the intervention group had an moderate level of happiness, while in the control group, 45.95% had an moderate level of happiness. None of the elderly in the control group had a high level of happiness after the intervention, while in the intervention group 94.59% had a high level of

happiness. Based on chi-square test; the difference observed after the intervention for different levels of happiness was significant ($p < 0.05$).

Discussion

The findings showed that in the intervention group, music increased the happiness of the elderly. But in the control group, there was no difference in the level of happiness of the elderly after one month. In line with the present study, Kousha et al., (19) showed that music therapy is effective on depression, quality of life, and happiness of women with depression. Also, Zahmatkesh et al., (23) and Mottaghi et al., (10) also showed that music and aromatherapy with rose water were effective on happiness of the elderly and there was a significant difference between happiness before and after music therapy. In this regard, Ramtin et al., (24) in a review study with the aim of reviewing strategies to promote happiness in the elderly in Iran stated that some interventions based on artistic activity (music therapy, film therapy and painting therapy) have an effect on the happiness of the elderly. Silent (Music without words) and soothing music has an effect on improving the psychological well-being of the elderly by regulating the mood of the elderly, and as a complementary and low-cost method, it is effective in improving the level of happiness of the elderly. It can also be said that rhythm and melody existed as two basic elements of music in human nature. The use of music as a therapeutic tool, especially as a useful tool for the elderly, has been emphasized, and also music therapy acts as a natural anti-depressant method, and by carefully choosing the type of music, it can affect the mood and reduce depression of people (10).

Table 1. The mean happiness score in two groups of elderly people in day care centers

Group of study		Happiness (Mean \pm SD)	p t-test
Intervention	Before	26.86 \pm 9.58	< 0.05
	After	70.51 \pm 8.17	
Control	Before	28.14 \pm 6.6	> 0.05
	After	28.43 \pm 6.93	

Table 2. Happiness levels based on different levels in two groups of elderly people in day care centers for the elderly

Happiness		Intervention group N (%)	Control group N (%)	Total	p chi-squared test
Before intervention	Low	25 (67.57)	17 (45.95)	42 (56.76)	> 0.05
	Moderate	12 (32.43)	20 (54.05)	32 (43.24)	
	High	0 (0.00)	0 (0.00)	0 (0.00)	
After intervention	Low	0 (0.00)	20 (54.05)	20 (27.02)	< 0.05
	Moderate	2 (5.41)	17 (45.95)	19 (25.68)	
	High	35 (94.59)	0 (0.00)	35 (47/30)	

Also, there was a statistical difference in the happiness score between the elderly in the control and intervention groups after the intervention, and the happiness level of the elderly was higher in the intervention group. In line with the present study, Entezari et al., in Mazandaran Province (Sari and Ghaemshahr cities) showed that there was a significant difference in the mean happiness scores between the intervention and control groups in aging after group singing. (9). Van Harling et al., also showed in a study aimed at investigating the use of music as a therapeutic tool and the effect of music on the emotional state and mood disorders of the elderly that there was a significant difference between the control and intervention groups after the intervention of music therapy (14). Music can affect human emotions positively. By listening to music, people feel relaxed, and in this case, the activities of the nervous system become better and more regular. Also, music increases the recording of alpha brain waves or mental relaxation waves and can provide a relaxing situation. Music reduces unpleasant feelings by activating different areas of the subcortical regions of the brain, especially the dopaminergic system in the midbrain region. Also, by activating the frontal lobe in both hemispheres of the cerebral cortex, it increases brain alertness and ultimately the desired cognitive and behavioral outputs. Therefore, using music therapy can make people happy (25).

The findings showed that the music intervention in elderly men and women had a significant effect on the average happiness and the effect of the intervention was more in men than in women. In the explanation of this finding, it can be said that due to menopause and hormonal changes that occur in women, their psychological mood is reduced compared to men, and it can be a prognosis for suffering from depression or, optimistically, a decrease in their happiness compared to men. be made Also, one of the inherent characteristics of women is their flexibility and domineering, compassionate and self-sacrificing spirit, which makes them consider other people's opinions and rights before their own. This characteristic of older women probably makes them easily influenced by the environment and experience less happiness, but men do not have a domineering spirit and are not easily influenced by the environment and people around them, so this strengthens their spirits and feelings of happiness (26).

The findings showed that in the intervention group, there was a statistically significant difference in the mean score of happiness of the elderly according to their marital status, so that the effect of the intervention was higher in widowed or divorced elderly than in married elderly. While Kim et al., in Korea (27), Sakamoto et al., in India (28) also stated in their studies that factors such as being married, cultural factors, extensive social networks increase the feeling of happiness in the

elderly. Also, in contrast to the present study, Entezari et al., also showed that marital status is not a predictor of happiness (9). One of the possible reasons for the difference in the findings could be related to the individual, social and cultural characteristics of the elderly under study, so that in the current study, the elderly studied were of Turkman ethnicity and Sunni religion, and their religious, cultural, and social values and beliefs regarding issues such as marriage and divorce were different from those of other ethnicities.

The findings showed that there was a statistically significant difference between music interventions on the average happiness of the elderly according to their employment status, so that the effect of the intervention on the retired elderly was more than that of other occupations. Kim et al., also showed that good economic conditions increase the happiness of the elderly (27). In contrast to the present study, Entezari et al., by studying the effect of group singing on the happiness of the elderly showed that the income factor is not a predictor of happiness (9). In justifying the difference found, it can be mentioned that in addition to the individual-social differences of the research community, Sithey et al., also stated that a basic level of well-being is necessary to achieve a sense of happiness (29).

Also, music intervention had a statistically significant difference on the average happiness of the elderly according to their educational status, which results of the present study were not consistent with the study of Entezari et al., (9). One possible reason for the discrepancy in findings could be the differences in individual and cultural factors among the elderly studied.

Conclusion

According to the results obtained in this research and the effect of music on the happiness of the elderly, therefore, it is suggested to draw the attention of planners and specialists in this field in boarding centers and other centers, especially nursing homes, to carry out such measures to have active and happy seniors in the society.

Study limitations

One of the limitations of the present study is the small number of samples that were not randomly assigned and the samples were selected convenience from each center, so some confounding and mediating factors were not controlled. Therefore, it is suggested to carry out studies with an IRCT method, comparing the intervention of music therapy on the elderly in care centers of Fars and Turkman ethnicities, as well as comparing the intervention on the elderly resident and non-resident in the care centers for the elderly.

Conflict of interest

The authors declare that there is no conflict of interest.

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Author contributions

All authors contributed to the writing of the article and approved the final version of the Manuscript.

RS, HM, ZS contributed to conception, design of the work, the acquisition. HM, RS and ZS interpretation of data. FM contributed to design of the work, analysis. HM, RS, ZS and FM have approved the submitted version.

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