



Effectiveness of Music Therapy (Active and Passive) on Quality of Life and Loneliness in Old Men

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ABSTRACT: The aim of this study was to evaluate the effectiveness of music therapy (active and passive) on the quality of life and loneliness in old men. It was a quasi-experimental study using pre-test and post-test method with control group. 32 old men were selected by convenient sampling in Shiraz city and were evenly and randomly assigned to experimental and control groups. Only the experimental group received 10 sessions of music therapy. Research tools was the quality of life questionnaire (SF-36) and loneliness which was done in the pre-test, post-test and follow-up stages on all members. Data analysis was performed through multivariate and univariate analysis of covariance and at a significant level of 0.05. The results of data analysis showed that music therapy had a significant effect on quality of life and reducing the loneliness in the experimental group ($P < 0.05$) and this effectiveness was sustained after a month. This finding can be used to improve the health of old people.

Keywords: music therapy, quality of life, loneliness, men, old

INTRODUCTION

Today, the world's population over 60 years is almost equal to the population of children under five years and it is predicted that by 2050, the elderly population will be several times more than the population of children under five years and in the next 50 years, the elderly population will reach to two billion people in the world. According to European Union evaluation, the proportion of the population over 60 years of Europe will be reached from 22% in 2000 to 30% in 2025 and 34% in 2050 (1). Aging is a critical period of human life and paying attention to the problems and needs of this stage is a social necessity. Keeping in mind the specific needs of this age and paying attention to health promoting behaviors is very important which is mainly ignored (2). In this period, due to disorders caused by aging in different systems of the body, in particular because of physical constraints, dependence of them on family members in daily activities increases and these factors can result in many negative effects in feeling well and thus on quality of their life (3). Attention to the quality of life and the effect of various psychological considerations and modification of life style can greatly increase the efficiency and independence of older people and help them in the control of various complications that their diverse treatments (4). Quality of life is a multidimensional concept all of which are interdependent. Three areas important to the quality of life include the physical, psychological and social aspects. Physical aspect depends on patient understanding of ability to perform

daily activities and his energy, social aspect depends on isolation and dependence, relationships with family, relatives and other social environments and finally, psychological aspects is related to mental and emotional concepts in which issues such as depression, fear, anger, happiness, joy and anxiety arise. The World Health Organization presented a comprehensive definition of quality of life that people understanding of the life situation is in terms of culture and values ruling on society and in regard to individuals' goals, standards and interests. According to the comprehensive definition, quality of life is closely related to the physical and mental situations, personal beliefs, self-reliance, social relationships and environment (5). The elderly, with increasing age, tend to cognitive impairments, risk of chronic diseases and dependency in daily activities. Therefore, self-care activities in older people who are physically dependent, become more difficult. Loneliness is considered as a sign of depression and as an independent risk factor in creating aging psychological damage and from the perspective of older people, they are experienced for various reasons, such as physical impairments, loss of relatives and fading communications. The evidences suggest that loneliness is a broad and widespread phenomenon and affects 25 to 50 percent of the population over 65 years by age and sex (6). To be able to work in society, people should be able to successfully connect with their surroundings. Music activities often occur as group activity. Music can provide self-expression tool and strengthens the sense of self-worth.

The therapist music uses music and structured and accurate activities, and improves physical and mental performance. The activities include singing, listening to music, playing songs and composition. Music therapy has a significant effect on relaxation, breathing rate, decreasing pain and reducing anxiety (7). Music therapy can be defined as the administered and organized use of music or its activities to change the adverse scenarios supervised by the trained personnel, to help patients reach treatment goals. Another definition of music therapy is the prescribed use of music to preserve, protect, and improve health and emotional, physical and mental health (7).

Two main pillars of music are rhythm and sound. Rhythmic element of music can be used to facilitate the improvement of rhythm of behavior, such as range of motion, training speed, breathing and playing style. Research shows that different rhythmic activities and varying degrees of sounds (stimulants, sedatives) have different effects on emotional reactions, heart rate, blood pressure, respiration, skin reactions, motion and muscle reactions and brain waves. Also, various types of music have different impacts on mood and emotional reactions of listeners. The most important communicational aspect of music is its non-verbal aspect (7).

According to the research, one of the ways to improve the lives of elderlies and reducing their dependence on medication and treatment that impose significant costs on them, is music. Research also shows that the use of music in the lives of the elderlies, improves their living conditions. Elderlies problems is affected by lighter music and it will be easier to bear problems. Music increases confidence in elderlies, lowers dependence on drug and others to the lowest possible and causes the desire to exercise in elderly people. Hanser (8) studied the impact of music therapy on quality of life and distress in women with breast cancer, the research showed that music has a positive impact on quality of life and reducing distress. Grocke et al., (9) examined the effect of group music therapy on quality of life and social anxiety in people with severe and persistent mental illness, each session consisted of singing, song writing and improvisation and sound recording in a professional studio. The results showed that with no changes in symptoms of quality of life of people in the control group, subjects had a significant improvement in quality of life. Zanini et al., (10) investigated the effect of music therapy on quality of life and blood pressure in patients with high blood pressure and concluded that in the experimental group, music has a positive effect on reducing blood pressure and improving the quality of life. In a study for evaluating the effect of group music therapy based on society on quality of life for the disabled people, Li (11) concluded that society-based group music therapy has a significant positive effect on quality of life of people with developmental disabilities in five categories of well-

being, social involvement, personal relationships, self-determination, personal development and eleven sub-categories like safety, self-concept, happiness, social integration/participation, lifestyle, friendships, family relationships, personal control, choice, education and training and skills. Bradt and Dileo, in a studyentitled "the effect of music therapy on end of life care" came to the conclusion that music therapy in end of life care with the aim of improving the quality of life, helps removing symptoms, addressing the psychological needs, providing support, facilitating communication and meeting spiritual needs (12). In addition, music therapy is effective in helping families and caregivers in coping with stress, dealing with grief/bereavement. Eleanor evaluatedthe effect of music therapy in progressive neurological disease and concluded that music therapy is effective in improving the quality of life of patients with neurological disorders (13). Erkkila et al., (14) studied the effect of individual music therapy on depression. Treatment was done for 10 weeks each session for an hour including singing, songwriting and improvisation and sound recording in a professional studio. The results showed a significant improvement in quality of life and also combined with standard care can be part of treatment methods for depression. Bruggen-Rufi and Roos (15) examined the effect of music therapy on quality of life of patients with Huntington and results showed that music therapy has a positive effect on the quality of life for these patients.

As the elderly population is increasing all over the world and at the same time, the specific problems of that era is about to happen, their need to physical and mental health should be a top priority. It is therefore essential to conduct further research in the field of variables related to health among the elderly. The aim of this study was to evaluate the effectiveness of the music therapy (active and passive) on quality of life and loneliness among old men.

MATERIALS AND METHODS

This is a quasi-experimental study using pre-test and post-test method with control group. 32 elderly men were selected through convenient sampling method from among the elderlies in Shiraz and were evenly and randomly assigned to experimental and control groups. Only the experimental group received 10 sessions of music therapy and the control group did not received any training. Music therapy sessions were performed weekly for 90 minutes by the researcher.

The general structure of all therapy sessions include three phases: feedback, session agenda and presenting homework. For this purpose, a CD of music therapy (16) was distributed by a player for experimental group. Other musical activities were also taught and performed. Finally, data were analyzed by multivariate and univariate analysis of covariance at a significance level of 0.05.

Research tools

1. Quality of life questionnaire (SF-36): The questionnaire was designed by the International Organization for quality review and various studies indicate that it is a completely reliable and valid questionnaire to measure quality of life in different populations. (17) To determine the validity and reliability of the Persian version of this questionnaire, Mortazavi *et al.*, examined it on a sample of 4163 people aged over 15 years and an average age of 35.1 years old in Tehran. The results showed that all 8 domains of the questionnaire had the minimum standards of necessary reliability (Cronbach's alpha between 0.77 and 0.90). Convergent validity of the test showed that the correlation is between 0.58 and 0.95 which has been satisfactory (18). The questionnaire contains 36 questions in both mental and physical aspects. Each of these areas involves different dimensions. Each of the questions were scored on Likert scale. The lowest score was zero and highest 2, 4 or 5 given the options.

2. Loneliness questionnaire: Construction and validation of scale was done by Dehshiri in Iran among university students. The scale is composed of three loneliness factors resulting from family relations (16 questions), loneliness resulting from relationship with friends (11 questions) and emotional symptoms of loneliness (10 questions) and a total of 38 questions. Loneliness scale and its three subscales has an acceptable internal consistency. Cronbach's alpha coefficients were 0.91 for the total scale, 0.80 for subscale of relation with family, 0.88 for loneliness resulting from relation with friends and 0.79 for the emotional symptoms of loneliness (6). Test-retest reliability on 37 students with an interval of two weeks include: test-retest reliability coefficients for the whole scale 0.84, subscales of resulting from relation with family 0.83 and loneliness resulting from relation with friends 0.84 and emotional symptoms of loneliness

0.76. These coefficients indicate the stability of loneliness scores over time (6).

General description of the music therapy sessions were held as follows:

First session: Introduction and familiarization of group members with each other, performing pre-test, determining the objectives of group, stating meeting rules, relationship based on cooperation. Second session: feedback of previous session, introducing the themes of music, reducing anxiety and relaxation using trance making themes, providing homework. Third session: feedback of previous sessions, mental relaxation exercises with the help of trance making themes, providing homework. Fourth session: feedback of previous session, relaxation using GIM techniques, improvisation and group exercises, providing homework. Fifth session: feedback of previous session, strengthening confidence and recalling past successes through passive music, providing homework. Sixth session: feedback of previous session, expressing feelings and self-expression through improvisation, providing homework. Seventh session: feedback of previous session, increasing the quality of life and giving meaning to life through mood making music, providing homework. Eighth session: feedback of previous session, controlling pain and stress management with the help of trance making themes, providing homework. Ninth session: feedback of previous session, increasing happiness with the help of somatization themes, providing homework. Tenth session: feedback of previous session, review on the entire training period, discussion and reviewing members' problems, post-test, closing.

RESULTS

Descriptive findings of the research variables are given in the Table 1. Before using multivariate analysis of covariance, Levin test and Kolmogorov - Smirnov were used to comply with its defaults.

Table 1: Mean and standard deviation of the score of life quality and self-efficiency in control and experimental groups.

		Pre-test		Post- test		Follow up	
		Test	Control	Test	Control	Test	Control
Quality of life	Mean	34.93	35.84	67.65	34.71	64.53	33.99
	Standard deviation	3.29	4.28	8.61	4.39	7.13	4.28
Loneliness	Mean	39.60	38.56	21.19	39.39	22.49	40.81
	Standard deviation	4.59	4.54	3.49	3.74	4.09	4.33

Table 2: Results of multivariate analysis of covariance on post-test scores of quality of life and loneliness in groups.

	Value	F	Wrong Df	Df Hypothesis	Sig
Pillai's trace	0.89	344.346	29	2	0.001
Lambda Wilkes	0.12	344.346	29	2	0.001
Hoteling effect	23.73	344.346	29	2	0.001
Largest root	23.73	344.346	29	2	0.001

Table 3: Results of univariate analysis of covariance on post-test scores of quality of life and loneliness in groups.

Variable	SS	Df	MS	F	Sig	Chi Eta	Statistical power
Quality of life	12636.46	1	12636.46	384.03	0.001	0.89	1
Loneliness	6781.78	1	6781.78	462.91	0.001	0.81	1

According to Levin test and its non-significance for all variables, the condition of equality of variance is observed and based on the Kolmogorov - Smirnov test, normality of variables' score distribution in the studied population is confirmed. As can be seen in Table 2, the significance level for all tests ($P < 0.01$) allow using MANCOVA. This suggests that a significant difference exists between people in experimental and control groups in terms of a least one of the dependent variables.

Results of Table 3 shows that in terms of quality of life ($P < 0.001$, $F = 384.03$) and loneliness ($P < 0.001$, $F = 462.91$), a significant difference exists between control and experimental groups. In other words, music therapy enhances the quality of life and reduces loneliness in old men.

DISCUSSION

Based on findings of this study, the hypothesis that "music therapy has an effect on quality of life" was confirmed. The results of this hypothesis is aligned with the results of Hanser (8), Grocke *et al.*, (9), Zanini *et al.*, (10), Li (11), Bradt and Dileo (12), Eleanor (13), Erkkila *et al.*, (14) and Bruggen-Rufi and Roos (15). The results of this study suggest that music therapy improves quality of life in the experimental group compared to the control. In explaining these results, it can be stated that the problem in physical or emotional (psychological) health affects other aspects of quality of life, including one's perception of general health, vitality and fatigue, social activities, physical and emotional role constraints. In addition, psychological problems of the elderly (such as anxiety, depression, etc.) and physical pains affects the quality of life and mental health of the elderlies. It was also reported that emotional psychological problems in people who have poor quality of life is high and the problem also reduces the quality of life. Quality of life of elderly people in nursing homes is often lower than other ones, so any factor that weakens the foregoing, also lowers the quality of life and any factor that improves its, improves the quality of life. Since, music forms a joyful part of most people's life, the music therapy can be a very effective way to communicate with elderly people. Many musical activities can increase and maintain various physical, mental, or emotional - social aspects in elderlies, moreover, it can be useful in providing sensory and intellectual stimulation in quality of life (7).

Many old people have needs in improving physical functions. This may include strengthening the movement in different joints, increasing strength and physical endurance and muscle strength after injury or disease. Music therapy can find fun and enjoyable ways to achieve these strengthening objectives. For example, music along with daily exercise, can removes the pain that is often associated with these exercises and stimulate to participate in doing such exercises and motion activities. Bracing clapping and rhythmic music can flattens fingers arthritis, enhances the elderly confidence and strengthens positive energy in these people. Also, using active music therapy and with the help of musical instruments, the communication between the sensory organs of the body is organized, as a result, physical and emotional responses are more appropriate and finally physical performance in elderly is increased the limitations of playing role will be reduced due to physical problems (19).

On the other hand, using music therapy techniques, resonance and integrity, elderlies attempted to integrate the physical, psychological and emotional systems and will be aware of their internal processes and control their emotions using the harmonic and rhythmic impacts and musical tone. As a result, because of moderating emotions and reducing emotional problems, their better play their emotional role. Music can be a positive and effective treatment for people who suffer from mental health problems. To do so, one can use playing music or listening to soothing melodies. A person who is overwhelmed with sorrow, show his feelings by playing music; the emotions that he fails to express through words. In addition, music can awaken buried memories or provoke emotional reactions. Encouraging elderlies to start the dialogue and musical discussions and speaking about anything except disease increases their tolerance with nursing home conditions. Also, because rich and diverse rhythm and melody exists in mood making themes, using mood making themes in passive music therapy technique, induce a mood and emotional state. The themes, by stimulating and remembering memories and evacuating sad feelings would result in the sympathy and relief. Therefore, listening these themes for people in grief, sadness and nostalgia and also those who are in separation and hardships is helpful. The themes reduce the pressure resulting from frustration, grief and failure and also help secretion of prolactin hormone in the body and this leads to the mood recovery.

As a result, using mood making themes in this study due to mood and emotional effects on the elderly, reduce feelings of worthlessness, loss of interest, reducing depression and ultimately increasing the vitality and joy.

According to research, music can reduce pain. For example, inactive music therapy, individuals do rhythmic exercise for muscle and breathing coordination and use music for body movements, singing and playing. For example, wind instruments are used to increase the capacity of lungs. In this method, rhythm and music style suitable to the needs of the people are used. For example, driving music with fast rhythm is used for strong movements and slow music for doing fluid movements and in other cases, it is recommended to focus on the elements of music through listening. The major treatment goal of this method include the reduction of pain associated with rhythmic movements, increased motor abilities, increasing strength and duration in muscle disorders, increased respiratory capacity and other multiple samples (7). Thus, with the effect of music therapy on recovery of the mentioned factors, we can conclude that music therapy is effective in improving quality of life.

The findings also showed that music therapy is effective in reducing loneliness among old men, so the second hypothesis is confirmed. The results are aligned with the findings of Bani-Asadi (20), Zeyae (21) and Ericainen et al., (22). In this regard, Simpson believes that music acts as a natural antidepressant and has a positive effect on mood and depression. Lehtonen also emphasizes that music therapy acts against feelings of sadness and guilt and cause a sense of fun in old men. American Society of Music Therapy consider that the music therapy is effective in reducing the undesirable feelings like anger, frustration, sadness and anxiety which are involved in depression, and recommend using music therapy to create positive changes in the depressed positions and improving the models. Gilham believes that emotion, mental and cognitive status, mood, attitude and feelings in music include cases which are affected by music (6).

On the other hand, attending the music therapy sessions can provide opportunities for social relationships (20) and causes positive changes in mental and physical states, and consequently, raises the sense of control over life, and reduces anxiety, stress and loneliness. Attending music therapy sessions provides an opportunity to interact and collaborate with others and decreases the feelings of rejection by family and dependence (21). In this way, old men participate in group music activities such as listening, singing and playing and positive relationship between people and feeling better will increase and thus the feeling caused by attitudes and diseases such as depression and anxiety will be reduced. Improvisation in group and also group discussions on music affect increasing the social

performance of the elderly and increasing the sense of self-esteem. Also in this study, music and counseling were used. In this way, music is used to talk, remembering memories and successful experience of the elderly to increase positive talk and close communication with each other and increasing levels of self-esteem and reducing loneliness.

This study showed that the use of music as a new method in psychotherapy, can increase quality of life and reduce loneliness in old men. So, due to the effect of music therapy, making a combined therapy, a combination of drug therapy and music therapy is recommended to increase the effects of music therapy. Restrictions we faced in this study was sampling method. We failed to do random sampling. By correcting problems, it is also recommended to do research on women in this field to compare the results.

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