



The Effectiveness of Music Therapy on Depression and Happiness of Depressed Women

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Abstract

Background: Music has a great influence on human spirit. Music therapy is one of the most useful ways to boost people's mood, especially in depressed patients. The aim of this research was to study the effect of music therapy on depression and happiness of depressed women.

Methods: It was a semi-experimental study with pretest, posttest, follow-up and control group. The sample included depressed women who referred to the consultation and psychotherapy center managed by the researcher. The subjects were matched from age, educational status, acquiring one standard deviation below the mean in depression, happiness and other criteria considered in this research. Thirty patients were randomly selected according to the inclusion criteria and were randomly assigned to experimental and control groups. The experimental group participated in 12 sessions of music therapy including playing a music instrument, singing, rhythmic movements, and listening to music, but the control group did not receive any intervention. The instruments were Beck's Depression Instrument (BDI), and the Oxford Happiness Questionnaire.

Data were collected by Beck's Depression Instrument (BDI) and Oxford Happiness Questionnaire. The collected data were analyzed by using SPSS-21 using MANOVA and ANCOVA tests.

Results: The results showed a significant difference between experimental and control group in depression and happiness ($P < 0.001$). The rate of depression score significantly decreased in experimental group in comparison with pre-test and control group. Also, the score of happiness significantly increased in experimental group. These results significantly persisted after 2 months follow-up period ($P < 0.001$).

Conclusions: These results emphasize the possible importance of music therapy on depression and happiness in depressed women.

Key Words: Music Therapy, Depression, Happiness, Women.

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Background

Music is important for the continuation of human's life. It can increase carefulness, intelligence, sense of observation and emotional feelings of human beings. Plato, the great Greek philosopher, stated 2000 years ago that it gives me the heaviest soul. I am able to remove the incident darkness from your soul, and deliver you an intelligent, brave individual (Moshiri, 1956).

Music is essential for the survival of human beings, and it increases the accuracy, intelligence, sense of

observation, inference, and spiritual emotions.

Music with its vast ability for internal and external reasons, i.e. the ability to create different states using different notes, i.e., composition, vibration, rhythm or song coefficient, is the most powerful means for making humorous changes in humans, so that in the division of art Seventeen was introduced as the first art even before the literature.

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Many experiences show the physiological effects and changes of music, not only on humans, but also on animals and plants. (Kim, Christine Gäbel, Aguilar-Raab, Hillecke and Warth, 2018).

In countries such as Denmark and Netherlands, it has been seen that after hygiene and nutrition, music boosts cow's milk. Similar to the experience of laying hens (Gooding, and Trainor, 2018).

In other experiments, it has been shown that mild music playback for the plants and the growth of the plant towards the mouth of the mouthpiece of the voice recorder and the rhythmic play of the music cause the plants to move away from the speaker . Also, music has been identified as one of the most important and effective indicators of health of people in the macro level. (Gooding, and Trainor, 2018). So far, several systematic studies have been done on the effects of music on various psychological, psychiatric and rehabilitation fields, which generally show the positive effect of musical activities. Although this research has not achieved theoretical certainty in identifying the underlying causes of the psychological impact of music, the process of influencing such ways as evacuation and change of emotions, strengthening and enriching emotions, creating energy and motivation, enhancing coordination in physiological actions, changing levels of different hormones, communication and interest in the environment and the creation of peace are practically realized(Chiodo, Keyser.Palms, Malone and Smith, 2018). Several studies have been conducted on the effect of therapeutic music on patients with behavioral and psychiatric disorders, including depression. In a study conducted on students, the results showed that music had a significant effect on reducing depression (Heijden, Jeekel, Rode, Cox and Dijk ,2018). "Depression is a mood disorder that affects one's thoughts, feelings, behaviors, and physical functioning. Also, in an exploratory study on the effect of two ways of listening to music and visiting the intensive care unit on the level of anxiety, stress and depression in patients undergoing surgery, it was concluded that listening to music reduced the anxiety, stress and depression of patients. Therefore, these methods can be used to reduce the anxiety and stress and depression of patients undergoing cardiac surgery. (Fleury, Approbato, Silva, & Maia, 2014).The Australian Music Therapy Association defines musical therapies as the programmed use of music for therapeutic purposes and the needs of children and

adults who are affected socially, emotionally, physically and mentally (Goldenberg, 2017). One of the issues that is posited today in the field of psychosocial positivity in mental health is the issue of women and girls' happiness and its influential variables. The happiness of girls who are mothers of the next generation are the surest way to achieve the overall goals of health and promote the quality of life for all human beings. Happiness is an important part of the quality of life and above all wealth. A lot of efforts have been made in recent years to explain the biological causes of happiness. Happiness involves short-term conditions and long-term streaks(Lee, Song, & Kim, 2015). This psychological component influences many factors. Some of these factors include: different dimensions of personality such as introversion, extroversion and neurosis, financial status, family life, physical health and occupation, meaning of life and religious orientation, and even learning life skills that increase girls' mental health.(Mattei, & Rodriguez, 2013).

Music therapy is defined as a field of expertise using music and music activities in meeting individuals' physical, psychological, social and mental needs (Fleury, Approbato, Silva, & Maia, 2014; MacDonald, Kreutz, & Mitchell, 2012). Music therapy can reduce a patient's anxiety and stress, alleviate his/her pain, modify a number of physiological parameters and improve the quality of life in clinical medicine (MacDonald et al., 2012; Mattei& Rodriguez, 2013). Music therapy is a beneficial non-pharmacological intervention, easy to apply and of low cost (MacDonald et al., 2012; Stocker, Hardingham, & Cheong, 2016). Its benefits in reproduction treatment can therefore be easily tested (Fleury et al., 2014). The word happiness brings together several different concepts in mind, for example, happiness, pleasure, Hence, a number of psychologists refer to the so-called mental happiness, which is an umbrella term that embraces a variety of values that a person has from himself and his life (Diner, 2002). These evaluations include things like life satisfaction, excitement and positive mood, and lack of depression and anxiety, and various aspects of it are in the form of cognition and emotions that are the main psychological elements in women (Diner et al, 2003). In previous literature, happiness is the balance and harmony between the three elements of reasoning, excitement and desires, and Aristotle considers it spiritual life. Happiness is a



combination of positive emotions and a lack of negative emotions and life satisfaction. In general, our goal in this study is to improve musical performance in creating positive and positive emotions that bring happiness and lack of depression. Music can be considered as one of the ways to change the negative mood to positive creation, which is the result of happiness. Music is also used to treat depressed patients.

For example, Hindan and Bohan (2007) used two therapies, games and music for teenagers in the hospital. The results showed that music was better than playing the game on the children's happiness. Also, Hallam (2010), in his research showed the power of music and its effect on the mental-social-individual development of children and adolescents, and concluded that music can have a positive impact on brain function and, consequently, on people's thinking and mood (Clements-Cortés, 2017).

In recent decades, researchers have embarked on the effect of music on different mental diseases and their psychological symptoms. Music can be considered as one of the most important factors affecting the mental health of society. So far, more than two thousand systematic studies have been carried out on the effect of music on actions, and its various psychological, psychiatric, medical and rehabilitation aspects (Mattei, & Rodriguez, 2013). These studies in general indicate the positive effect of musical activities. Although such studies have not been able yet to attain a firm theoretical foundation regarding the mental effect of music, the process of efficacy is practically observed in such modes as catharsis, emotional change, the reinforcement and enrichment of emotions, motivation and energetic, the reinforcement of harmony in physiological actions, change in the levels of different hormones, communication and interest in the surrounding environment, and eventually in the creation of tranquility (Maleki, 2008).

Numerous studies have been carried out on the effect of music therapy on the patients with behavioral disorders and the psychiatric patients including those suffering from depression. In a research on students by Hajazi (2004), music had a great effect on depression reduction.

Raberi (2011) carried out a study on the effect of listening to music and visiting the candidates for heart surgical operation in ICU on their anxiety, stress, and depression and found that listening to

music reduced anxiety, stress and depression in these patients.

The Australian Association of Music Therapy (1989) defines music therapy as the planned utilization of music for therapeutic purpose, and for meeting the needs of the young children and adults who have undergone social, emotional, physical, and mental damages (quoted in Nasirifar, 1993).

One of the current issues regarding mental health in the positive psychology is the happiness of girls and women, and the variables affecting it. The happiness of girls that are the prospective mothers of the next generation is the most secure way to achieve the health purposes, and to enhance the all the human's life quality (Afshinpour, E., & Naseri, 2018).

Women's happiness has a great effect on the health of young children, families and environment. Women are the first who take care after the health of the family and the society.

Training and culture are developed through women's health. Women are the main group who receive health care, and in turn, they are the main group who deliver health care services in the health system (de la RubiaOrti, 2019). On the other hand, happiness is a main part of the life quality. It is considered more valuable than any other wealth. Also, Hallam (2010), in his study of musical power found that it has had an impact on the mental-social-individual development of children and adolescents, and concluded that music could have a positive effect on brain function and, consequently, on people's thinking and mood.

In the recent years, much effort has been done in order to explain the biological – mental causes and consequences of happiness (Stocker, Hardingham, & Cheong, 2016). Most of these studies have focused on demographic and other socio-economic variables. There is vast literature dealing with the relationship between personality traits and happiness. According to Seligman (2002) happiness includes both positive short – term states and positive long – term dispositions.

This mental component is influenced by many external factors. Some of these factors include different personality dimensions such as introversion, extroversion, and psychosis (Kery and Costa, 1991, Nouri 2006, Alipur et al 2011), financial position, family life, physical health, and employment (EaSterlin et al, 2010), life meaning (Maleki, 2008), religion (Louis et al 2005), religious orientation (Azmuude et al, 2007) and even learning life skills which contributes to girls' mental health



(Taghipur, 2011).

Several different notions associated with the word 'happiness' cheerfulness, satisfaction, and pleasure are just few examples. Thus, some psychologists point to mental happiness as an umbrella term which is covering a variety of values an individual attach to his or her life and existence (Deiner, 2002).

These evaluations include things like life satisfaction, positive excitement and anxiety, the different aspects of which are manifested in the form of cognition and emotions that constitute the women's main mental components (Deiner, 2003). In the old literature, happiness is regarded as the equilibrium and harmony among the three elements of reasoning, excitement and desires. Aristotle considers it to be the spiritual living (Abedi, MirshahJafari, and Liaghatdar, 2006).

In the modern literature, for examples Argyle, Martin and Lu (1995) view happiness as a combination of the existences of positive emotion, absence of negative emotion, and life satisfaction. Anyway, the present study seeks to investigate the effectiveness of music on the creation of positive mood and feeling which in turn cause happiness, and reduce depression. Theoretically, proving the fact that a change in the negative mood can lead to a change in the individuals' cognition (thinking), provides us with practical evidence that music can be suggested as an approach to a change from negative to positive mood, which results in happiness and the treatment of patients' depression. Hendon and Bohan (2007) used game playing and music as two therapeutic methods on adolescent patients and found that music had a better effect on the children's happiness than playing games had. In a study entitled "The Power of Music, Halam (2010) investigated the effect of music on the individual, social, mental development of young children and adolescents. The results showed that music can have a positive effect on the brain's performance, and consequently on thinking and mood (Zhang, Hui, Ren, & Zhao, 2017).

Thus, the present work intends to investigate the effect of music on the reduction of depression, and increment of happiness among the depressed women.

Materials and Methods

It was a semi- experimental study with pretest, post – test, follow up design and control group. The study population included depressed women referring to the researcher's counseling and

psychotherapy center. These subjects, in terms of age, socioeconomic status, absence of acute physical illnesses, obtaining a standard deviation higher than the mean in the BDI questionnaire, a standard deviation below the mean in the Oxford Happiness Questionnaire and other variables in the study was quite homogeneous. A total of 30 individuals were selected using convenience sampling and were randomly assigned into experimental and control groups. The experimental group received 12 sessions of music, but the control group did not receive any intervention. After completion of the research, they received educational intervention for ethical considerations during two sessions. Data were analyzed by SPSS-PCv. 21 using multivariate analysis of variance analysis. The music therapy program included choirs singing, collecting playing of instruments, solo, soloism, individual or collective singing of the songs of the patient's interest, individual and collective rhythmic movements accompanied by music, playing the instrument of interest, collective reciting of the poems of interest, listening preferably happy music at their free time.

Both groups were evaluated regarding the variables of happiness and depression after the end of the therapeutic sessions of the experimental group and after the two months follow – up period.

Research Instruments

A) Oxford Happiness Questionnaire

This questionnaire has a special importance and standing among the happiness questionnaires. It was developed by Argyle and Lu in 1989. It has 29 items (Nourbala et al, 2002) and five subscales including life satisfaction, positive mood, health, adequacy, and self – esteem. The Oxford Happiness questionnaire containing 29, six – alternative items scored based on a six-degree spectrum from 1 to 6. The subjects' scoring ranges from 29 to 174, Francis and colleagues (1998) reported the internal consistency of the test as acceptable using Cronbach's Alpha method. Hills and Argyle reported the reliability coefficient of the questionnaire to be 0.91, and calculated the internal correlation of the items as 0.4 to 0.65. In addition, a high positive correlation has been found between this questionnaire and other tests (life orientation test, life attention index, self – respect test, and life satisfaction scale) which indicates the validity of the questionnaire (qtd in Hills and Argyle, 2001). The reliability of the questionnaire was calculated to be 0.87 and 0.85 using Cronbach' Alpha and half



splitting respectively in the present study.

B) Beck's Depression Inventory (BDI)

In BDI, the depression scale is composed of 21 items. Different degrees are formulated for each item based on the depression index and its intensity. Each item is scored from 0 to 3. The score 0 in an item implies the absence of the symptom, and 3 implies its intensity. Beck has formulated his test based on the five symptoms of the depression index as follows:

1. Pessimism, feeling of failure, self – detest, suicidal thoughts, indecision, and retarded action
2. Feeling guilty, expectation of punishment, and self-blaming. These states result from the depressed individual's feeling worthless.
3. Crying, changing the body image of the self, dissatisfaction, and sadness
4. Weight loss, physical complaints, tiredness and listlessness
5. Insomnia, lack of appetite.

Beck's depression test is extensively used in the United State and other countries along with other depression tests for distinguishing the depressed from non – depressed individuals. Numerous validation studies indicate the high validity of BDI. More than 70 studies have been performed on the validity of this instrument around the world.

The results obtained through Meta – analytic methods show that the average of its sensitivity equals to 0.84 and that its specificity average equals to 0.82 (Anisi et al, 2010).

Results

Table1 shows the mean and standard deviation of depression and happiness in experimental and control groups.

Table 1: The mean and standard deviation of depression and happiness in experimental and control groups

variable		Group	Mean	Standard deviation
Depression	pretest	Test	41.28	2.34
		Control	43.32	1.87
	Post – test	Test	19.65	2.25
		Control	40.22	3.08
Follow – up	Test	18.72	4.11	
	Control	42.06	2.66	
Happiness	pretest	Test	29.14	1.97
		Control	28.68	2.87
	Post – test	Test	54.13	3.14
		Control	29.31	2.17
	Follow – up	Test	55.01	2.08
		Control	28.62	3.16

Table 2: The results of the test to the homogeneity of variances in the experimental group and the control group

Variable	Source of changes	Pretest posttest phase		Source of changes	Pretest posttest phase	
		Significance	F (interaction)		F (interaction)	Significance
Depression	Pretest interaction	0.832	0.068	Group + pretest interaction	2.395	0.135
Happiness		0.351	0		0.163	0.721

As it is shown in the table 2, F (of interaction for the identicalness of the gradients of regression line) is not significant for the variables of depression and happiness.

In other words, the homogeneity of the regression line gradient is accepted.

Table 3: The result of multi – variable covariance with the control of the pretest effect (ANCOVA) on the mean of post – test scores of the women's depression and happiness in experimental and control groups

test	amount	F ratio	Freedom degree of hypotheses	Freedom degree of error	P level	Magnitude of effect	Test power
Pillai's trace	0.815	125.271	2	21	<0.001	0.931	1
Wilk's Lambda	0.062	125.271	2	21	<0.001	0.931	1
Hofelin trace	11.325	125.271	2	21	<0.001	0.931	1
The great root	11.325	125.271	2	21	<0.001	0.931	1

The statistic figures of Table 3 shows that there is a significant difference between experimental and control group regarding depression and happiness at the level of P <0.001. To understand the difference, a covariance analysis of this one variable was performed in MANCOVA, the results of which are presented in Table 4.



Table 4: The result of ANCOVA analysis in the MANCOVA text on the means of the scores of depression and happiness pretests in the test and control groups

variable	Source of changes	sum	Degree of freedom	mean	F	Sig nifi can ce lev el	Magn itude	test
Depression	Pret est	1.37	1	1.37	0.042	0.815	0.006	0.023
	Grou p	1106.52	1	1106.52	47.71	<0.001	0.72	1
	Erro r	632.270	22	0	-	-	-	-
Happiness	Pret est	47.65	1	47.65	1.236	0.28	0.043	0.068
	Grou p	1325.171	1	1325.171	251.39	<0.001	0.86	1
	Erro r	752.327	22	0				

As it is seen in Table 4, there is a significant difference between the women of experimental and control groups regarding depression (F=47.76, P <0.001).

In addition, there is a significant difference between the experimental and control groups regarding happiness (F=251.39, P <0.001). In other words, music therapy causes a decrease in depression and an increase in happiness in the experimental group.

Table 5: The result of multi - variable covariance analysis with the control of pretest effect (MANCOVA) on the mean of sores of depression and happiness follow - up in the experimental and control groups

test	amo unt	F ratio	Freed om degre e of hypot heses	Freed om degre e of error	P lev el	Magnit ude of effect	Test pow er
Pillai' s trace	0.652	35.214	2	21	<0.001	0.657	1
Wilk' s Lamb da	0.374	35.214	2	21	<0.001	0.657	1
Hoteli ng trace	4.65	35.214	2	21	<0.001	0.657	1
The great root	4.65	35.214	2	21	<0.001	0.657	1

Table 5 shows that there is a significant difference between the test and control groups regarding the variables of depression and happiness at the level of P <0.001. So, it can be stated that there is a significant difference between the two groups at least in one of the dependent variables (depression and happiness).

To understand the difference, a one - variable covariance analysis was performed in the MANCOVA test, the results of which are presented in Table 6.

Table 6: The result of analysis of ANCOVA in the MANCOVA test on the mean on the scores of follows - up of depression and happiness in the experimental and control groups

variable	Source of changes	sum	Degree of freedom	mean	F	Sig nifi can ce lev el	Magn itude	test
Depression	Pret est	6.497	1	6.497	0.352	0.002	0.632	0.035
	Grou p	541.378	1	541.378	47.191	<0.001	0.753	1
	Erro r	2	22	0				
Happiness	Pret est		1	527.322	8.421	0.009	0.368	0.46
	Grou p		1	2861.227	56.329	20.001	0.825	1
	Erro r		22	0				

As it is seen in the Table 6, there is a significant difference between the experimental and control groups regarding depression and happiness (P < 0.001, F= 251.39, P < 0.001, F= 47.391). It means that music therapy has caused the maintenance of the effect of intervention on the experimental group compared to the control group.

Discussion

Overall, the results of this study showed that music therapy significantly reduced depression in depressed women compared to pre-test and control group. Also, the level of happiness of depressed women after music therapy has increased .From the beginning of history, humans have used music to heal. In the primitive culture of Africa and its ancient tribes (the witch doctor) was the music leader, the physician and cleric of the tribe. Music was used in conjunction with miracles and religious ceremonies for the exodus of diseases from the bodies of patients. The American Indian tribes also had special songs to heal the patients. Historically, Music has been a companion to the sad hearts, having a healing effect on the sufferers. Music seems to be the most introvert type of art since it lacks in any words or pictures. Ironically, it is the most social kind of art since it creates an awareness of kinship among a group of listeners without facing an obstacle (Sydney, translated by Faramarzi, 1983).

Man has used music for healing purpose from the beginning of history. In the primitive culture of



Africa and its ancient tribes, the magician physician was the music leader, the physician, and the clergyman of the tribe (Fleury, Approbato, Silva, & Maia, 2014).

The Shamans used music in miraculous religious ceremonies for expelling disease from the patients' bodies. The American Indian tribes had special songs for healing the patients.(Clements-Cortés, 2017).

In the North America, South America, and Asia, the rhythms of drums played the most important part in the healing ceremony of magicians and healers. The Shamans believed that they would communicate to gods, making contacts between those on the Earth, and those in heavens or underground. The patient would arrive at consciousness and self – awareness with the help of the ceremony accompanied by drum rhythms, bells, movements, and watchwords in used dancing and singing(Kim, Christine Gäbel, Aguilar-Raab, Hillecke and Warth, 2018).

The ecstasy resulting from this consciousness and self – awareness would heal the patient from the disease and discomfort (Kamalpur, 1991).

The Guat ceremony in SistanVa Baluchestan Province has some commonalities with the Zar ceremony in Hormozgan and Khuzistsn provinces. Guat literally means wind, and Guatee is a patient that Guat has penetrated his body disturbing his physical and mental balance (Zade Ali Mohammadi, 1998).

Whenever an individual dance fast and long to the loud rhythmic music especially of percussion instruments, sooner or later, a state of unconsciousness and intense suggest ability will happen to them, which eliminates stress, umbrage and depression. In fact, the patient is energized with songs, instruments and positive suggestions (Goldenberg, 2017).

So, his or her ability and sense of will to overcome the disease is increased. In the ancient Greece, there was a close relationship between music and healing. In ancient Greece, there was a close relationship between music and healing. This correlation is attributed to one of the gods of Greece (Apollo). He was both the god of medicine and god of music. The Greeks believed that disease is a result of lack of harmony in an individual's existence, and that music the co spiritual power of music can be used to restore harmony and order and consequently the health in the individual. The analytic results showed that listening to music had a great effect on the increase in happiness, namely,

increase in positive mood and emotion, and the reduction of depression symptoms. The results of the present research are consistent with Roberie (2001), Hallam (2010), and Bohom (2007). Of course it can be noted that the main reason why music can affect the patients' negative mood and symptoms may be attributed to the strong and widespread effect of music on feeling, emotions, and on social communications.

Music can also decrease the emotional and social grounds for the development of negative symptoms. Generally, music is more provocative of feeling and emotions than of cognition. It is suggested that the following research lines be designated for future regarding the importance and place of music therapy in individuals' lives:

1. Implementing nationwide plans for the enhancement of people's awareness of the music and its positive effects on living.
2. Investigating the effect of music therapy on different kinds of physical and mental diseases, and
3. Investigating the effect of music therapy on various psychological components such as creativity and memory in patients with schizophrenia and other disorders.

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Conclusion

The results of this study showed that music therapy is one of the most effective methods for depressed women and reduced the symptoms of depression and increased their happiness. Therefore, the use of music therapy align with medication and other interventions for the treatment of depressed women is recommended.

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Conflict of Interest

There is no conflict of interest to declare.

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