

The Effect of Music on The Level of Happiness in Primigravida Women

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ABSTRACT

Background: A woman's subjective happiness is an important predictor of her adjustment to pregnancy. The emotional response and level of happiness of women during pregnancy have a great impact on the continuation of pregnancy and health behaviors during this period.

Objective: This study was conducted to investigate the effect of music on the level of happiness in primigravida women.

Patients and methods: The present research is a clinical trial with a pre-test, a post-test, a follow-up, and a control group. The research population included all primigravida women who were referred to the comprehensive health Centers in the city of Sanandaj in the year 2020. A total of 30 primigravida women were selected using a simple random sampling method and were randomly assigned to the experimental group and the control group. The experimental group listened to music by Kitaro for 45 minutes every night before going to bed for a period of 4 weeks. The Oxford Happiness Questionnaire and a checklist for listening to the music were used to collect data.

Results: The mean score for happiness in the experimental group increased in the post-test compared with the pre-test, but the difference was not significant. However, there was a significant difference between the mean scores for the pre-test and the follow-up stages ($p < 0.01$). The results of the study showed that music can increase the level of happiness in pregnant women.

Conclusions: Music could be used by healthcare workers in comprehensive health centers in order to improve happiness in pregnant women.

Keywords: Music, Happiness, Pregnant women, clinical trial, Islamic Azad University.

INTRODUCTION

A woman's subjective happiness is an important predictor of her adjustment to pregnancy⁽¹⁾. The emotional response and level of happiness of women during pregnancy have a great impact on the continuation of pregnancy and health behaviors during this period^(2,3).

Happiness is one of the criteria of human mental health⁽⁴⁾, which has the three elements of positive emotions, satisfaction with life, and lack of negative emotions such as depression and anxiety⁽⁵⁾. When His/her life a person constantly

experiences positive emotions and has less negative emotions, and is said to have higher well-being⁽⁶⁾. According to Veenhoven, happiness refers to a person's judgment of the quality of life in general⁽⁷⁾.

A strong correlation has been reported between happiness and initiation of prenatal care and pregnancy outcomes such as low birth weight and neonatal death⁽⁸⁾. Golmakani showed that happier women are more adaptable to childbirth pain⁽⁹⁾.

Religious activities, sports and recreation, self-esteem, job satisfaction, health, marital status, gender, and music are among the factors that can affect happiness⁽¹⁰⁾. Research has shown that listening to music can be useful as a therapeutic method for pregnant women to reduce depression and increase happiness⁽¹¹⁾.

Music therapy also plays a role in people's cognitive, physical, and emotional health; listening to music improves people's mental health through the discipline that exists in the order of different notes and also through words⁽¹²⁾. Also, attending music therapy sessions can provide opportunities for people to create social relationships⁽¹³⁾ and leave positive effects on people's mental and physical well-being⁽¹⁴⁾.

In a study titled "the effectiveness of music therapy on depression and happiness of women", Koosha and Varasteh⁽¹⁵⁾ showed that there was a significant difference between the depression and happiness scores of women suffering from depression before and after the music therapy intervention. In another study, Hunter and Shellenbark⁽¹⁶⁾ investigated the emotions and the perception of sadness and happiness caused by listening to music and concluded that listening to happy and fast music increased people's happiness score and that listening to slow and sad music increased their sadness score.

Behzadenia, Amiri, and Aghazadeh⁽¹⁷⁾, in their research on female students, showed that hedonic well-being increased after a three-month period of sports training and listening to music. They also showed that exercising to soft music increases life satisfaction and positive emotions and reduces negative emotions in people.

Most previous studies have focused on the effects of music on reducing negative emotions such as depression, anxiety, and labor pain, and there is no evidence about the effect of music on happiness in pregnant women. Therefore, it is necessary to study methods that increase happiness in pregnant women. This study aimed to investigate the effect of music on the level of happiness in primigravida women, with the assumption that intervention with music can increase the level of happiness in pregnant women.

PATIENTS AND METHODS

The present research is a clinical trial with a pre-test, a post-test, a follow-up, and a control group. The research population included all primigravida women who were referred to comprehensive health centers in the city of Sanandaj in the year 2020. Among the comprehensive health centers in the four regions of Sanandaj, two comprehensive health centers were randomly selected. After introducing himself and the goals of the research, the researcher was present at the health care centers. Pregnant women who were referred to comprehensive health care centers in the third trimester of pregnancy to receive prenatal care were the target population, and after obtaining the informed consent of the participants, they could participate in the study. It was explained to all the participants that participation in the research was completely voluntary and that they could withdraw from the research without restrictions at any stage of the intervention.

The research sample consisted of 30 primigravida women in their 28-34 weeks of pregnancy whose happiness scores were, according to the questionnaire, lower than 20 and met the inclusion criteria to enter the study. The participants were selected by a simple random sampling method and assigned in the same way to the experimental group or the control group (15 participants in each group). The inclusion criteria were: 18 to 35 years of age, the third trimester of pregnancy based on LMP or sonography (28-34 weeks), no history of physical and mental illnesses, having a low-risk pregnancy, not having speech, hearing, or accent problems that may hinder communication with the researcher, and willingness to participate in the study. The exclusion criteria included: having any type of physical illness, having family quarrels, having a mental illness, and having lost a close family member in the period of four months before the study.

A demographic information questionnaire containing three parts on personal information, pregnancy and childbirth records, and lifestyle questions, the Oxford Happiness Questionnaire, and a checklist of listening to music was used to collect the data.

The Oxford Happiness Questionnaire consists of 29 questions in a six-point Likert scale (from

strongly agree to strongly disagree). Hadinejad investigated the validity of the Persian translation of the Oxford questionnaire by estimating the face and content validity of the questionnaire by a number of experts in 2015. He also confirmed the reliability of this questionnaire in 2015 through a retest with a time interval of four weeks and a correlation coefficient of 0.78, which was significant at the level of 0.001.

In one session, the experimental group was taught how to listen to music and how to complete the intervention evaluation checklist daily in one of the classes at the Islamic Azad University of Sanandaj. The contact numbers of the participants were obtained for further follow-up. The participants in the experimental group were asked to listen to relaxing music by Kitaro, the Japanese composer and musician, for 45 minutes every night before sleep for a period of four weeks. The control group only received routine prenatal care. To perform the post-test at the end of the fourth week, the participants in both groups completed the Oxford Happiness Questionnaire again.

Ethical consent

This study was conducted after ethical clearance was obtained from the ethical committee of Sanandaj University of Medical Sciences (IR MUK REC. 1398.071). Written informed consent was obtained from all participants. This study was executed according to the code of ethics of the World Medical Association (Declaration of Helsinki) for studies on humans.

Statistical analysis

The collected data were introduced and statistically analyzed by utilizing the Statistical Package for Social Sciences (SPSS) version 21 for windows. Qualitative data were defined as numbers and percentages. Chi-Square test and Fisher's exact test were used for comparison between categorical variables as appropriate. Quantitative data were tested for normality by Kolmogorov-Smirnov test. Normal distribution of variables was described as means and SD, and independent sample t-test was and Paired t-test were used for comparison between quantitative variables. One Way ANOVA test was used to compare more than 2 independent groups. P value ≤ 0.05 was considered to be statistically significant.

RESULTS

Table 1 summarizes the 2 socio-demographic characteristics of the 2 studied groups. The two groups did not show any significant difference in terms of average age, while the intervention and control groups had a significant difference in mean gestational age ($P \leq 0.02$).

Table (1): Socio-demographics characteristics of the intervention and control groups

Socio-demographics Variable	Groups		P-value
	Intervention	Control	
Age	28.24 (4.24)	29.54 (6.87)	0.09*
Gestational age	30.12 (3.21)	31.56 (6.44)	0.02*
Occupation			
Yes	4	3	0.55**
No	11	12	
Education			
Under diploma	5	4	0.75**
Diploma	6	8	
College education	4	3	
History of previous illness			
Yes	-	-	NS
No	15	15	
History of mental illness			
Yes	-	-	NS
No	15	15	
Having a low-risk pregnancy			
Yes	-	-	NS
No	15	15	
Speech problems			
Yes	-	-	NS
No	15	15	
Hearing problems			
Yes	-	-	NS
No	15	15	

Number intervention group: 15, Number control group: 15, *P-value based in t-test, ** P-value based in chi-square, Mean (SD).

In the pre-intervention phase, the two groups were homogeneous in terms of the level of happiness (**Table 2**).

Table (2): Comparing the mean and standard deviation of happiness scores for the two groups before the intervention.

Variable index	Group	N	Mean and SD	t-test	P-value
Happiness	Experimental (A)	15	1.256 ± 0.662	0.128	0.880
	Control (B)	15	1.294 ± 0.514		

The happiness scores after the intervention were significantly higher in the experimental group compared with the control group (**Table 3**).

Table (3): Comparing the mean and standard deviation of happiness scores for the two groups after the intervention.

Variable index	Group	N	Mean and SD	t test	P-value*
Happiness	Experimental (A)	15	1.822 ± 0.423	14.39	<0.01
	Control (B)	15	1.294 ± 0.514		

The results of the data in **Table 4** show that there was a statistically significant difference between the mean and standard deviation of happiness scores in the experimental group and the control group before and after the intervention ($p < 0.01$).

Table (4): Comparing the mean and standard deviation of happiness scores for the two groups before and after the intervention.

Variable index	Group		N	Mean and SD	Paired t test	P-value
Happiness	Experimental (A)	Before intervention	15	1.256 ± 0.662	-3.849	<0.01
		After intervention	15	1.822 ± 0.423		
	Control (B)	Before intervention	15	1.294 ± 0.514	-1.496	0.142
		After intervention	15	1.294 ± 0.514		

There was no significant difference in the level of happiness of pregnant women in the two groups (experimental and control) before the intervention, and the level of happiness before the intervention was the same in both groups (**Table 5**).

Table (5): Analysis of variance to investigate the existence of difference in happiness in primigravidae women before the intervention in the two groups.

Variable	Dimension	Changes	Sum of squares	Degree of freedom	Mean of squares	ANOVA	P-value
Before intervention	Happiness	Between-group	0.092	2	0.046	0.125	0.880
		Within-group	44.285	27	0.36		
		Total	44.377	28			

According to **Table 6**, there was a significant difference in the level of happiness in pregnant women in the two groups (experimental and control) after the intervention ($P < 0.01$).

Table (6): Analysis of variance to investigate the existence of difference in happiness in first-time pregnant women after the intervention in the two groups.

Variable	Dimension	Changes	Sum of squares	Degree of freedom	Mean of squares	ANOVA	P-value
After intervention	Happiness	Between-group	6.074	0.2	3.037	14.31	<0.01
		Within-group	25.96	27	0.211		
		Total	32.035	28			

DISCUSSION

This study investigated the effect of listening to music on the level of happiness in primigravida women who were referred to the comprehensive health centers in the city of Sanandaj in the year 2020. The results showed that listening to music increases happiness in primigravida women. Regarding the main hypothesis, it can be stated that listening to instrumental music has increased women's happiness in the post-test and follow-up (60 days after the intervention) stages.

Due to hormonal and physiological changes, pregnancy will be associated with different degrees of stress and anxiety, and the effects of stress and anxiety can cause complications for the mother and the baby, so it will be important to intervene in order to reduce this anxiety and stress⁽¹⁸⁾.

The clinical trial study conducted by **Wulff et al.**⁽¹⁹⁾ was conducted with the aim of the effect of music intervention on improving the condition of the mother and the relationship between the mother and the baby. It showed that listening to music has promising effects on the mother's health and the feeling of closeness between the mother and the fetus. These effects, in addition to being evident during pregnancy, will also be seen after delivery.

A randomized controlled trial study conducted by **Çatalgöl et al.**⁽²⁰⁾ showed that music therapy applied to pregnant women had a positive effect on improving the mental state and happiness of the people under investigation, and these results are consistent with the results of the present study that music had an important effect on the happiness of the people under investigation.

The positive effects of music on pregnant women have been shown in other studies. In the study of the Philippines, the effects of music in reducing pain, improving emotional state, increasing self-confidence and increasing spirituality in pregnant and nulliparous women were found⁽²¹⁾.

In a prospective cohort study in England, it was shown that music can have a significant effect in improving the symptoms of depression

and increasing the mental state and happiness of pregnant women⁽²²⁾.

Also, the results of this study are in line with the results reported by **Soylu et al.**⁽²³⁾ and **McCaffrey et al.**⁽²⁴⁾. The results of the studies are shown listening to music can have an effect on happiness and well-being. After listening to music, women take a positive attitude and evaluation towards themselves and their past life. They become optimistic about the future because expressive behavior helps them enjoy life and relationships with others and deal constructively with negative emotions such as sadness, anger, worry, and psychological pressure⁽²⁵⁾. Also, according to the effects shown, music therapy can be given more attention⁽²⁶⁾.

Examining the average age in this study showed that the average age of pregnant women in this study corresponds to the average age of the study **Buglione et al.**⁽²⁷⁾.

Also, the average age and gestational age in this study are smaller than in the study **Persico et al.**⁽²⁸⁾. There are several reports related to the effect on the mood and mood of pregnant women, which needs more research⁽²⁹⁻³⁵⁾.

According to the results, music therapy can have a great impact on the happiness and improvement of the quality of life of pregnant women, and as a non-pharmacological method, it should be more and more considered.

- **Limitation:** To improve the results, it is recommended to include more samples in future studies.
- **Conflicts of interest:** The authors declare no conflict of interest.
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