

Research Paper

The Effect of Back Massage on Anxiety Components of Mothers With Preterm Infants



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ABSTRACT

Objective Upon hospitalization of a premature infant immediately after giving birth, mothers would experience high levels of anxiety. One of the essential non-pharmacological interventions to control the anxiety is massage. The purpose of this study was to investigate the effect of massage on the anxiety of mothers with preterm infants.

Methods In this experimental research, 140 samples were selected based on inclusion criteria using a convenience sampling method and then put in two groups of back massage and one control group. The tools for collecting the data were demographic questionnaire and Lehrer & Woolfolk's somatic, cognitive, and behavioral anxiety inventory. The data were analyzed using descriptive (Mean±SD) and inferential statistics tests (Chi-square, independent t-test, paired t-test, Fisher, and covariance analysis) by SPSS V. 13.

Results The mean scores of somatic, cognitive, and behavioral anxiety components showed significant differences before and after the intervention in the massage group ($P<0.05$). There was also a significant difference between the mean anxiety after the intervention ($P<0.05$).

Conclusion The obtained results indicate that the back massage method is effective in reducing the components of somatic, cognitive, and behavioral anxiety. Hence, this method may be utilized to reduce the anxiety of mothers with premature infants.

Extended Abstract

1. Introduction

A Preterm infant is a baby born before the 37th week of pregnancy [1, 2]. Mothers experience a high level of anxiety upon hospitalization of their preterm infant immediately after birth [15]. Anxiety control methods are pharmacological and non-pharmacological (complementary) [17]. Massage is one of the most important non-pharmacological interventions to control anxiety [19]. One of the massage techniques is Swedish massage

therapy, which was used to reduce anxiety [22]. The anxiolytic effects of massage have been confirmed in a variety of cases, including primiparous women, post-operative cardiac surgery patients, and patients with heart failure [24-26]. Since the effect of massage on reducing anxiety of mothers with preterm infants has not been investigated so far, this study aimed to investigate this issue.

2. Materials and Method

The study was a clinical trial that included mothers with preterm infants hospitalized in Al-Zahra Hospital, and the research environment was the mothers' room. 105 samples

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were selected by simple sampling method based on inclusion criteria, and then according to the first letter of the mother's surname and after obtaining informed consent from them, they were randomly divided into massage group (n=35) and control group (n=70). The data collection tool consisted of two parts: the first part was demographic characteristics of the research unit and the second part related to the Lehrer Woolfolk physical, cognitive and behavioral anxiety questionnaire. This questionnaire was completed before and after the intervention by questioning the research units of the groups. Back massage was performed using Swedish surface massage techniques for 20 minutes. The control group did not receive any intervention. At the end of the study, the control group received training videos. Data were analyzed using SPSS V. 13 software.

3. Results

In this study, 105 mothers with hospitalized preterm infants were divided into two groups of massage (n=35) and control (n=70). Based on the results, demographic data of the mothers in terms of their age, gestational age, and duration of their infant hospital stay did not show any significant difference ($P=0.05$) using Chi-square and Fisher's exact tests. Using Chi-square test, the results of the study on the level of education and occupation of mothers with preterm infants did not show any significant difference ($P>0.05$) (Table 1). Demographic characteristics of research units were confirmed

by homogeneity of groups. The results of dependent t-test showed that the mean of physical, cognitive and behavioral anxiety of mothers with preterm infants did not differ significantly in the intervention group before intervention ($P>0.05$).

The mean of physical, cognitive and behavioral anxiety of mothers with preterm infants were significantly different after intervention in the intervention group ($P<0.05$). Results of dependent t-test showed that the mean of physical, cognitive and behavioral anxiety of mothers with preterm infants were significantly different ($P<0.05$) before and after intervention ($P<0.05$) (Table 2), and in control group there was no significant difference ($P>0.05$). Statistical test results showed that the mean of physical, cognitive and behavioral anxiety of mothers with preterm infants before and after intervention in massage and control group were significantly different ($P<0.05$) (Table 2).

4. Discussion

Since the present research was the first study to investigate the effects of back massage on the anxiety components of mothers with preterm infants, the discussion was conducted using studies close to the subject of the research. The results showed that back massage can be effective in reducing anxiety components (physical, cognitive and behavioral). Similarly, the study by Boitor et al. showed that massage is effective in reducing pain and anxiety in patients after

Table 1. Comparison of the frequency distribution of education and occupation of the units under study in the intervention and control groups

Index	Group	Index Level	Frequency No. (%)	P
Education level	intervention	elementary	1 (0%.7)	0.311
		intermediate	6 (4%.3)	
		diploma	17 (12%.1)	
		associate	2 (1%.4)	
		bachelor	6 (4%.3)	
	control	MA / MS	3 (2%.1)	
		elementary	4 (2%.9)	
		intermediate	3 (2%.1)	
		diploma	30 (21%.4)	
		associate	7 (5%)	
Occupation	intervention	bachelor	24 (17%.1)	0.561
		MA / MS	2 (1%.4)	
	control	housewife	32 (2%.9)	
		employed	3 (2%.1)	
		housewife	60 (42%.9)	
		employed	10 (7%.1)	



Table 2. Comparison of mean anxiety components of mothers with preterm infants before and after intervention in massage and control groups

Group	Variable	Time	Mean±SD	P
Massage	Physical components	Before intervention	23.88±14.98	0.001
		After intervention	12.17±10.18	
	Cognitive components	Before intervention	35.97±14.13	0.001
		After intervention	21.88±12.93	
	Behavioral components	Before intervention	17.71±10.89	0.001
		After intervention	12.02±8.09	
Control	Physical components	Before intervention	19.02±9.03	0.217
		After intervention	18.74±9	
	Cognitive components	Before intervention	30.52±12.84	0.265
		After intervention	29.94±12.93	
	Behavioral components	Before intervention	18.07±9.69	0.056
		After intervention	17.68±9.87	

cardiac surgery [25]. In the study of Atashi et al. and also in the study of Mohammadpour et al., the effect of Slow Stroke Back Massage (SSBM) on reducing anxiety in patients with stroke and patients undergoing cataract surgery has been mentioned [28, 29]. The reasons for the present study's concordance with the aforementioned studies include the synchrony of the intervention and the numerical similarity of the samples. Anxiety is an unpleasant feeling that is often accompanied by physical, cognitive, and behavioral symptoms [21]. Massage affects the parasympathetic nerve and can relieve pain, as well as can reduce the effects of heart rate, blood pressure, metabolism, respiratory rate, and anxiety [19]. The results of some studies have shown that massage cannot reduce anxiety, which indicates a discrepancy between the findings of the present research and those studies. For example, the study by Gholami Motlagh et al. suggests that Swedish massage has no effect on anxiety in healthy women [30]. The reason for this discrepancy may be due to the type of samples in the study.

Also, a study by Razmjoo et al. showed that foot massage reduced pain severity after cesarean section but did not affect anxiety [31]. This discrepancy may be due to some cultural differences between the study population as well as the nature of the surgeries, the number of sessions, and the duration of the intervention.

Ethical Considerations

Compliance with ethical guidelines

All ethical principles were considered in this article. The participants were informed about the purpose of the re-

search and its implementation stages; they were also assured about the confidentiality of their information; Moreover, They were allowed to leave the study whenever they wish. This project was registered (Clinical trial Code: IRCT 20190 9120445N1) and ID: IR.IUA.NAJAFABAD.REC1398.054.

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Authors' contributions

All authors of the article were aware of the submission, completed the commitment form, and participated in all stages.

Conflicts of interest

The authors did not declare a conflict of interest.

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