

Comparison of the Effect of Training Face-To-Face Attachment Behaviors and Training Package on the Paternal-Fetal Attachment and the Anxiety of Primipara Mothers

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Abstract

Introduction and Objectives: It is assumed that paternal-fetal attachment behaviors affect the level of anxiety of the pregnant mother. Therefore, this study conducted to compare the effect of training face-to-face attachment behaviors and training package on the paternal-fetal attachment and anxiety of primipara mothers. **Materials and Methods:** This randomized controlled trial was conducted on 120 couples (primipara women and their husbands) who were in 18 to 32 weeks of pregnancy. The questionnaires used in this study were a questionnaire of Cranley's paternal-fetus attachment and Spielberger anxiety. **Results:** The results showed that in all three groups, the mean of attachment score after intervention was significantly higher than before intervention. Also, the mean of changes in face to face group increased more than the group of control and training package and was statistically significant ($p < 0.001$). Also, there was a significant difference in the mean score of anxiety of mothers after intervention. Mean scores showed that in the face-to-face group after intervention, the anxiety score was reduced 7.82, in the training package group, 4.02 units, while in the control group, anxiety score was increased 6.62 units, and the Tukey test showed the difference significantly between the control group and the other two groups ($p < 0.001$). **Conclusion:** Considering that training face-to-face attachment behaviors and training package was effective on the paternal-fetal attachment and the anxiety of primipara mothers, face-to-face training had a more effect on the paternal-fetal attachment and the anxiety of mothers. It can be concluded that training paternal-fetal attachment improves maternal mental health and reduces their anxiety.

Keywords: Attachment, Paternal-Fetal Attachment, Pregnant Mother's Anxiety

Introduction

Parenting is one of the pleasurable experiences of common life and in fact the milestone of marital relationships. Pregnancy, in addition to promising the entry of a child into a family, often leads to a significant joy, increases sense of self-confidence and intellectual maturity of couples, it can also lead to a conflict in the acceptance of a new parent role. (Elder & EKN, 2005). Concern and high stress during pregnancy can have long-term consequences for the fetus. Intrauterine stress causes deficiency and preterm birth and coronary artery diseases in adulthood (Teixeira et al., 2009).

Parents are kindly attached to their child during pregnancy. Father's attachment to the fetus is defined as a father's love and passion from theory or belief toward the fetus, which is the basis of the paternal identity. Despite the fact that the father, in terms of his physical limitations, cannot observe physical changes due to the fetus growth in his body, but the fathers waiting for child in this period can be deeply attached to their child and experience a wide range of emotions during this period (FRK, 2010).

Some researchers found that fathers with more attachment to the fetus, through the support of their wife during pregnancy, are trying to preserve the fetus and have a better relationship with the baby after childbirth (Weaver & Cranley, 1983). Cranley stated in 1981 that the

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support of pregnant mother from husband has a significant relationship with the mother and father attachment behaviors. In fact, the

pregnant woman has two important needs during her pregnancy to communicate with her husband: be loved by her husband and then accepting her child (Cranley, 1981).

Training is a targeted activity to enhance learning. New technology, such as electronic methods, can cope with some of the problems in training patients. On the other hand, in Iran, along with other countries, electronic programs are increasing in the form of training packages (Lopes et al., 2010). Finally, face-to-face training has a valuable position for people with low level of understanding and education (Lopes et al., 2010). Several studies have shown that the relatives of pregnant women, especially their husband, are very effective in preventing anxiety, mental and psychological problems during pregnancy and after childbirth (Mirtemoori & Shakeri, 2013). The purpose of this study is to compare the effect of training face-to-face attachment behavior and training package on paternal-fetal attachment and the anxiety of primipara mothers.

Materials and Methods

This research is a randomized controlled field trial which was conducted with the participation of 120 primipara women who were pregnant at 18-34 weeks and their husbands in 2016 in three health care centers covered by the Birjand University of Medical Sciences, with an ethic code (Ir.bums.REC.1395.3). The sampling method used was simple random in four months every day from three parts of the north, south and center of Birjand, and the number of samples was equal to 40 people from each center. The researcher referred to health centers based on criteria of entry and exit of eligible people, expressing goals and satisfying couples and obtaining written consent from them acted to sampling. It should be noted that there was no sample drop during the study.

Entry criteria of mothers: first pregnancy, age 18 to 35 years old, reading and writing ability, pregnant age from 28 to 32 weeks, single pregnancy, mild anxiety
Exit criteria of mothers: history of psychological problems, history of acute or chronic medical illness, history of infertility, high risk pregnancy, mourning and unpleasant stressful events during the last 6 months

Entry criteria of fathers: At least reading and writing literacy, single spouse, first parenting experience

Exit criteria of fathers: Immigration, absenteeism at more than two sessions

In this study, questionnaires of Cranley paternal-fetal attachment behavior and Spielberger anxiety were used. Cranley paternal-fetal attachment behavior questionnaire was first developed by Cranley in 1983. In Iran, this questionnaire was translated and used by Sterki et al. in 2011. This questionnaire has a minimum score of 22 points and a maximum of 110; more points represent more attachment. The reliability of this questionnaire was obtained in the research of Sterki and colleagues using the Cronbach's alpha coefficient ($\alpha = 0.77$) (Astaraki et al., 2014)

Spielberger's Anxiety Questionnaire: This questionnaire was presented in 1970 by Spielberger et al and reviewed in 1983. This questionnaire contains 40 questions. It measures hidden anxiety from question 1 to 20, and measures obvious anxiety from 1 to 20 that each sentence has 4 options (1= never and 4 =very much) "never 1", "sometimes 2", "Generally 3" and "very much 4". The total score obtained between 20 and 30 indicates low anxiety and scores 31 to 45 indicates moderate anxiety and scores above 46 indicate severe anxiety ().Finally, two scores are obtained: the first score represents hidden anxiety and the second score represents obvious anxiety. Each person can also obtain scores between 20 (at least) 80 (maximum) in these two types of anxiety.

Method: At first, the anxiety level of mothers in each of the three groups (two groups of intervention and one control group) was assessed by Spielberger questionnaire and 120 mothers were selected as sample from three health centers (40 people from each center) who were eligible for the study. Then, the attachment of their husbands who had the condition to the study was evaluated by the Cranley paternal-fetal attachment questionnaire and then divided equally into three groups (two intervention groups, one control group). Four 90-minute sessions of face-to-face attachment behaviors were trained once a week to a group. Fathers who did not attend training sessions at specified times, sessions were held on other dates at the same week. The content of the curriculum include the general concept of attachment, the effects of attachment on maternal and fetal health, the ways of communication between fathers and fetus, how to form the paternal-fetal attachment and the time of the beginning of attachment and its symptoms, the expression of a variety of attachment skills, the practical implementation of paternal-fetal attachment behaviors, the effect of pregnancy care on the health of the pregnant mother, mental changes during pregnancy, physical changes during pregnancy, the role of skills learned to solve mental problems, the expression of risk symptoms in pregnant women, the role of the husband as a supporter for the pregnant woman, teaching how to concentrate on fetus, the recognition of fetus as an independent entity, expressing how training attachment behaviors by fathers for their pregnant wives, the second group of test was given training package to read at home. The content consists of three parts: a digital educational CD containing all the face-to-face training sessions for the other group, in slides and pictorials including several video clips from embryo formation stages, video and written training pamphlets. There was no intervention in the control group. Finally, two weeks after the intervention, anxiety inventory questionnaire by pregnant women and questionnaire of parental-fetal attachment behaviors were completed by fathers in all three groups. The parental-fetal attachment behaviors and the anxiety of their pregnant wives were compared before and after the intervention.

PSS version 19 was used for data analysis. The Kolmogorov-Smirnov test was used to check the normality of distribution of data. For analytical statistics, paired t-test, one-way analysis of variance and Tukey test were used at the level of $p < 0.05$.

Findings

The results showed that there was no significant difference in terms of academic and occupational in distribution of frequency in the three groups. The three groups were similar in terms of education and occupation. Also, the three groups did not differ significantly in terms of age and high age. There was no significant difference in the distribution of frequency of previous marriage history and familial marriage in the three groups.

Table 1: Comparison of the mean of anxiety score in the three groups before and after the intervention

Mean changes X±SD	Test result t-test paired	After intervention 40=N y±SD	Before intervention 40=N y±SD	Time
				studies group
16.4 ± -7.82 13.6 ± -4.02 9± 6.62	0.003=p 3.21=t 0.068=p 1.87=t 0.001<p 4.64=t	13.2 ± 36.6 11.5 ± 36.6 7.5 ± 47	8.5 ± 40.5 6.3 ± 40.6 5 ± 40.3	Face to face Training package of control
F=13.37 df=2-117 p<0.001	—	f=18.2 df=2-117 p<0.001	F=0.02 df=2-117 P=0.98	The result of the analytical test One-way variance

According to Table 1, the mean of anxiety score before intervention in the three groups not has a significant difference. After intervention, there was a significant difference in the mean score of anxiety and Tukey's test showed that the observed difference between the control group and two groups has been significant. Mean of scores showed that in face-to-face group after intervention, the anxiety score was reduced 7.82 ($p \leq 0.05$) and in the training package (04.02) ($p < 0.05$) before the intervention. In the control group, 6.62 ($p \geq 0.05$) unites, the anxiety score was increased.

Table 2: Comparison of the mean of attachment score in the three groups before and after the intervention

Mean changes x±SD	Test result t-test paired	After intervention 40=N X±SD	Before intervention 40=N X±SD	Time
				studies group
12.9±45.6 12.2±13.8 11.5±3.97	*0.001<p 22.3=t *0.001<p 7.13=t *0.035=p 2.18=t	12.4± 88.8 11.5±56.9 7.6±46.7	5.7±43.2 43.2± 5.8 8.4±42.7	Face to face Training package of control
F=12.6 df=2-117 p<0.001*	—	f=168.6 df=2-117 p<0.001*	F=0.07 df=2-117 p=0.93	The result of the analytical test One-way variance

Also, according to Table 2, the mean of attachment scores before intervention in the three groups did not show a significant difference, while in all three groups, the mean score of attachment after intervention showed a significant increase, which the increase in the face-to-face training group has been 45.6 ($p \leq 0.05$), in the training package group, 13.8 ($p \leq 0.05$), and in the control group, 3.97 ($p \geq 0.05$). Tukey's test showed that the mean of changes in face to face group was statistically significant than the other two groups.

Discussion

The purpose of this study was to compare the effect of training face-to-face attachment behavior and training package on the parental-fetal attachment and the anxiety of primipara mothers. The training of maternal-fetal attachment skills is a simple training intervention that can affect the relationship between mother and fetus and her relaxation and decreasing mood disorders (Nematbakhsh et al., 2007). The results of this study showed that attachment training can greatly reduce the anxiety of the mother. According to Nematzadeh et al., attachment training can reduce maternal anxiety. The mean of anxiety in the intervention group in the 10th day was lower than the control group (Nematbakhsh et al., 2007). Since maternal- fetal attachment reinforces the acceptance of maternal role in mothers, it also reduces postpartum anxiety. Bravman et al. (2003) studied the role of attachment training in the anxiety of mothers after childbirth. The results showed that mothers who had good interaction with their infants had less anxiety on the fifth day after childbirth (Teixeira et al., 2009). However, Damato found the greatest effect of attachment training has been on the length of pregnancy and birth weight, and did not have much effect on mother's anxiety (Damato, 2002). In explaining why attachment training caused to reduce the anxiety of mothers, it should be cited the important causes of women's anxiety in pregnancy. The fear of birth, the fear of childbirth to a disabled child, and fear of

change in the face and body are the most important reasons for maternal fear and anxiety during pregnancy. This anxiety reaches its peak in mid-pregnancy (Laxton-Kane & SladeP, 2002).

according to the three-dimensional model, which explains the causes of maternal anxiety in pregnancy, it can be said that the training content of the first-side attachment classes covers the fear of childbirth (in the attachment classes, one of the content is familiarity with childbirth process and explaining its physiological issues, and thus the mother's awareness from childbirth process will reduce her fear.)

There is some evidence that shows maternal-fetal attachment is a promising factor of attitude and functions of postpartum, infant and mother intercourse and attachment patterns of after birth (TAW, 1990).

Mothers who have a lower level of attachment score report lower positive health behaviors and a higher level of anxiety, which can lead to adverse outcomes in pregnancy (World Health Organization, 2008).

Increasing attachment during pregnancy can lead to more self-esteem in the role of the mother and causes to show more consistency with delivery conditions and respond more positively to infant behaviors (Whiffen & Gotlib, 1989).

Studies on the factors affecting parent-fetal attachment indicate that parent-fetal attachment can be trained and training programs increase the parent-fetal attachment and ultimately improve the mental health of the couples. Attachment-based training program increases paternal-fetal attachment and improves mental health of mothers, and Martin and colleagues () also consider the participation of wives during pregnancy as factors affecting better care of mother and fetus and low-risk birth. (Atack, 2001)

In the end, it can be concluded that paternal-fetal attachment training improves maternal mental health and reduces their anxiety. Considering the effect of paternal-fetal attachment on family health and the greater involvement of fathers in cares of pregnancy, implementing training programs and training of attachment of father to the fetus by midwives in pregnancy cares to be offered. On the other hand, the inclusion of training programs in this way can play an important role in mental health of the mother and reduce the common mood disorders in pregnancy and after that. Fetal attachment training in parents and mother's relaxation reduces the anxiety of the pregnant mother, and therefore applying both for pregnant women will be beneficial.

The results of this research are consistent with the results of researches by Stonose and colleagues (2009), Abbasi et al. (2004), Ahadi et al. (2006), Armstrong (2000), White and Wilson (2002), Gernner (2005), Khorram Rudi and colleagues (1999).

Offers

Since each culture has its own belief system about important events of life such as pregnancy and childbirth, it seems that these dimensions vary in different cultures, so it is suggested that similar studies to be conducted in different groups and cultures. Maternal-fetal attachment training and relaxation can be used both during and after pregnancy as interventions of anxiety and depression reduction.

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