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Evaluation of the effectiveness of schema therapy on reducing anxiety in women during pregnancy

Abstract

This study aimed to evaluate the effectiveness of schema therapy on anxiety in women during pregnancy. This study was a quasi-experimental research conducted using pre-test and post-test design with a control group. Thirty pregnant women who were referred to health centers in Mashhad were selected by convenience sampling method and then randomly divided into experimental and control groups. The measurement instrument included Vandenberg Pregnancy Anxiety Inventory. Anxiety level was measured using this inventory.

The results of the multivariate analysis of covariance showed that the mean anxiety scores of the experimental group decreased significantly in the post-test compared to the pre-test and also when compared to the control group, a substantial decrease was noted. In conclusion, schema therapy significantly reduced women's pregnancy anxiety and it is recommended to use schema therapy in health centers and counseling centers to reduce women's anxiety during pregnancy.

Keywords: *Pregnancy, Pregnancy Anxiety, Schema Therapy*

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Introduction

Nowadays, many believe that pregnancy has a significant impact on a woman's health, happiness, and social roles (1). Thus, many women describe pregnancy as one of the most stressful periods of their lives and their response to this stress is the feeling of anxiety (2). The prevalence of anxiety during pregnancy is between 25 and 50% according to different cultures. Different studies have been conducted on the reasons for anxiety in pregnancy (3). Different results showed that anxiety and worry are among the psychological problems of pregnant women. Anxiety and worry increase in the first and third trimesters (4). Anxiety is sometimes a natural mechanism for coping with the pregnant mother's mental unease and its associated changes, but sometimes the anxiety and worry can take the form of a disease and become extremely severe that it affects the pregnant mother's mental health (5).

Stress stimulates the adrenal glands and stimulates the sympathetic system, which increases the number of breaths, heart rate, pulse, and blood pressure through a complex process (6). Evaluation using Doppler ultrasound indicates that stress and anxiety increase vascular resistance and disrupt uterine-placental blood flow. These abnormal patterns predict preeclampsia and intrauterine growth retardation (7). Based on a study conducted by Karimi et al. (8), maternal stress and anxiety during pregnancy are predisposing factors for allergic diseases in adulthood (8). In a study conducted by Bazrafshan et al., a significant relationship was found between the history of difficult delivery (dystocia) and latent anxiety (9).

As established in the studies, a history of mental illness and psychological disorders, especially depression and anxiety during pregnancy, childcare stress and birth complications, poor marital communication, poor social support, stressful life events before birth, and low social status are among the risk factors (10). Counseling and support have led to better knowledge and adaptation to the individual's living environment so that the person can cope with situations and have a better life (11). Thus, in this regard, methods such as schema therapy can be effective in reducing or eliminating this fundamental problem. In the area of cognitive development, a schema is considered an abstract cognitive map that guides information interpretation and problem-solving. However, in psychology, schemas are considered the organizing principle that is necessary to understand an individual's life experiences. Schemas can be positive or negative, consistent or inconsistent. It can also form early in life or later in life (12).

Early maladaptive patterns are self-damaging emotional and cognitive patterns that are formed in the mind at the beginning of development and are repeated throughout life. Yang believes that maladaptive behaviors arise in response to schemas. Therefore, behaviors originate from schemas but are not part of them (13). Schema therapy is a therapeutic approach in psychology, founded by Jeffrey Young, that is used or the treatment of personality disorders and axis II chronic disorders of diagnostic and statistical guidelines for mental disorders such as patients who have not responded to other forms of treatments such as classical cognitive-behavioral therapy or have developed relapse symptoms. Schema therapy is an integrated approach (14), derived from a combination of pre-existing theories and techniques such as cognitive-behavioral therapy, object relations theory, attachment theory, and gestalt therapy (15). The goal of schema therapy is to treat schemas by reducing the intensity of emotional memories that create schemas as well as reducing the severity of physical sensitivities and changing the cognitive patterns associated with schemas, replacing coping styles that are incompatible with adaptive behavior patterns (16). Thus,

the present study aims to investigate the effectiveness of schema therapy in reducing the symptoms of anxiety during childbirth.

Methods

The present study aimed to evaluate the effectiveness of schema therapy in reducing anxiety during pregnancy in women referred to health centers. It was a quasi-experimental research with a pre-test-post-test design with a control group. The statistical population of the study included pregnant women with anxiety, referred to health centers in Mashhad. After preparing a list of 150 pregnant women who were referred to the mentioned centers and were suffering from anxiety, 30 of them were randomly selected and randomly replaced in the experimental and control groups. Inclusion criteria were having at least a diploma, having anxiety based on the Pregnancy Anxiety Inventory (Vanderburgh, 1990), and being at the fourth and fifth months of pregnancy. Exclusion criteria were having a history of significant chronic physical and mental illnesses such as diabetes, heart disease, psychiatric disorders such as schizophrenia, paranoia, and anxiety disorders. All subjects answered to Vandenberg Pregnancy Anxiety Inventory before intervention. Then, the experimental group underwent schema therapy interventions for 8 weeks (8 sessions) with each session lasting up to 90 minutes.

Research instrument

The Vandenberg Pregnancy Anxiety Inventory was used to measure pregnancy fears and worries. It has 58 items. Exploratory factor analysis of the data of this inventory showed five factors; fear of childbirth (14 items), fear of the birth of a physically or mentally disabled child (5 items), fear of change in marital relationships (13 items), fear of mood swings and its consequences on the child (16 items), and self-centered fears or fear of change in the personal life of the mother (7 items). This inventory was first translated by Darreh Shouri Mohammadi et al. (2012) and translated back into English by a group of language specialists and its correctness was confirmed by a group of fellow psychologists and used to examine various aspects of worries of pregnant women. Subject answers the items on a Likert scale ranging from I have no anxiety to I have a very high level of anxiety. The minimum score for this inventory is zero and the maximum is 19. In a preliminary study by Alderdis et al. (2011) on 397 pregnant women, the reliability of this inventory was obtained at 0.90 by Cronbach's alpha method. In the study conducted by Darreh Shouri Mohammadi et al. (2012), the validity coefficient through the correlation between this test and the Pennsylvania Worry Inventory was 0.63, which is significant at the level of 0.05. In the present study, Cronbach's alpha was 0.74 for the samples in the Pregnancy Anxiety Inventory, 0.78 for the worry about body deformation, and 0.77 for the worry about emotions and relationships.

Results

Table 1 shows the mean and standard deviation of the studied variables in pre-test and post-test. The results of Levene's test were not significant for examining the assumption of homogeneity of variance of variables. Therefore, the variance of the experimental and control groups was homogeneous and the hypothesis of homogeneity of variances was confirmed. According to the results of Table 2, the interaction of pre-test and groups was not significant in all studied variables ($P < 0.5$).

Thus, it can be stated that the reciprocal vectors are not significant and thus the regression slopes of the groups are homogeneous. To evaluate the effect of experimental intervention, a multivariate analysis of covariance on post-test scores was performed with the pre-test control group (Table 2). The results of multivariate analysis of covariance on the components of anxiety showed there was a significant difference between experimental and control groups at least in terms of one of the dependent variables (fear of birth of a physically or mentally disabled child, fear of childbirth) ($p <0.01$, $f = 15.20$). To examine the point of difference, a one-way analysis of covariance was performed for the dependent variables.

Table 3 shows the results of the analysis of covariance for the components of anxiety and general anxiety. There was a significant difference between the groups in terms of fear of birth of a physically or mentally disabled child ($P<0.01$, $f= 16.77$) and fear of childbirth ($p< 0.01$, $p = 16.67$). A comparison of the post-test of experimental and control groups in terms of each of the dependent variables showed that there is a significant difference between the experimental group and the control group in terms of the mean total post-test score. It indicated a significant decrease in the mean of the experimental group in the post-test compared to the control group.

The average of the experimental group in the pre-test was 57.70 and in the post-test it was 43.85 and there was a significant decrease. The average of the control group In the pre-test it was 33.67 and in the post-test it was 92.72 and increased.

Table 1- Descriptive indices in pre-test and post-test

Variables	Group	pretest		posttest	
		M	SD	M	SD
	Experimental	57.70	1.18	43.85	63.16

Fear of change in marital relationships	Control	33.67	41.13	92.72	31.14
Fear of childbirth	Experimental	07.40	15.9	85.32	22.12
	Control	06.39	3.12	4.45	65.7
Fear of the birth of a mentally or physically disabled child	Experimental	78.35	17.6	71.18	83.5
	Control	00.23	14.12	66.23	09.10
Fear of mood swings and their consequences on the child	Experimental	14.36	5.13	71.34	86.13
	Control	6.58	15.15	26.40	39.15

Table 2-Results of testing pre-test effects on the studied variables

Pretest in groups	F
Fear of change in marital relationships	0.85
Fear of childbirth	0.68
Fear of the birth of a mentally or physically disabled child	0.40
Self-centered fear of change in the mother's personal life	0.97
Self-centered fear of change in the mother's personal life	0.17
General anxiety	2.03

Table 3- The results of one-way analysis of covariance to compare post-tests in the studied variables

Effect	Dependent variable	MS	F
Group	Fear of the birth of a mentally or physically disabled child	652.63	*16.77
	Fear of childbirth	1270.86	*16.67
	Fear of change in marital relationships	6317.54	*25.58
	Fear of mood swings and their consequences on the child	69.88	0.84
	Self-centered fear of change in the mother's personal life	4372.63	*21.44

In general anxiety, the effect of group ($p < 0.01$, $f = 34.83$) is significant. Therefore, it can be stated that schema therapy has a significant effect on reducing general anxiety. These results are shown in Table 4.

Table 4- Summary of analysis of covariance of the effect of schema therapy on anxiety

Diffraction source	DF	MS	F
Pretest	1	3133.72	20.98
Group	1	52033.58	34.83

*P<0.01

Discussion and Conclusion

In the present study, it was concluded that schema therapy is effective in reducing anxiety in pregnant women. Thus,

schema therapy can be combined with coping skills training and information training about pregnancy and childbirth to reduce parents' worries and promote their maternal health. For future studies, it is recommended to examine psychological indicators such as stress, anger, quality of life, and self-management behaviors, and compare them with other psychological therapies such as problem-solving skills and stress management training. Due to the limited statistical population of the present study, researchers interested in this area are recommended to conduct similar studies in a larger statistical population. Evaluation of the effectiveness of other psychological therapies in the treatment of other mental disorders during pregnancy is also recommended.

Conflict of interest and conflict

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