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Studying the Effect of Positive Thinking Training on Fear of Childbirth and Health Anxiety in Pregnant Women

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Abstract

Primiparous pregnant women face high levels of health anxiety and fear of childbirth, so it is important to carry out interventions aimed at reducing health anxiety and fear of childbirth in these women. Therefore, the current study was done to determine the effectiveness of positive thinking training on health anxiety and fear of childbirth in pregnant women with primiparous pregnancies. The current study was semi-experimental with a pre-test and post-test design with a control group. Among the women who had a higher score of health anxiety and fear of childbirth, 40 people were selected by the available sampling method and were randomly assigned to two intervention and control groups (20 people in each group). The intervention group received the positive thinking training package in 8 sessions of 90 minutes, and the control group did not receive training during this time. Salkovskis and Warwick's health anxiety questionnaires and Harman's fear of childbirth were the research tools. Analysis of covariance test was used in SPSS software version 23 for data analysis. The findings of covariance analysis revealed that positive thinking training was effective on health anxiety ($P < 0.001$, $F = 58.94$) and fear of childbirth ($P < 0.003$, $F = 96.9$) in primiparous pregnant women. The average scores of health anxiety and fear of childbirth among primiparous pregnant women who underwent positive thinking training have significantly reduced in the post-test compared to the pre-test ($P < 0.001$). The results of the research indicate that positive thinking training has been effective on health anxiety and fear of childbirth in primiparous pregnant women.

Keywords: Positive thinking, Pregnant women, Childbirth, Health anxiety

Introduction

Pregnancy is one of the most stressful situations in women's lives [1, 2]. It seems that most pregnant women experience many worries and fears during pregnancy and childbirth. Meanwhile, women who experience pregnancy for the first time face more tension, anxiety, and fears due to a lack of familiarity with these conditions [3-5]. Fear of childbirth is a natural fear of work that has never been experienced or an unreasonable fear of childbirth in most women [6, 7]. Fear of childbirth can be described as a feeling of uncertainty and anxiety before, during, or after childbirth. This fear and anxiety during pregnancy can be associated with consequences such as low birth weight, decreased Apgar score, premature birth, intrauterine growth restriction and fetal asphyxia, abortion, cleft palate, and pyloric valve stenosis in the fetus [8-10]. Other complications of excessive fear of childbirth during infancy and childhood include problems in children's mental health, hyperactivity, irritability, anorexia, irritability, digestive disorders, schizophrenia, insomnia, and negative effects on children's speech and memory. In addition, he pointed out the problems of cognitive delay of the child [11]. Even some researchers have shown that insufficient attention to the psychological and emotional processes of pregnant mothers and

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insufficient support from family members aggravate these symptoms and turn them into pregnancy anxiety or postpartum depression [8, 12].

Anxiety is another psychological problem of primiparous pregnant women whose prevalence reaches 50%. One of the types of anxiety is health anxiety that these women have to deal with; In fact, health anxiety is a common condition that can lead to high levels of psychological distress and impairment in a person's performance, and if appropriate treatment is not chosen, it will result in a worse prognosis [13-15]. In another definition, health anxiety refers to excessive and unreasonable worry or fear about having or contracting a disease that continues for more than 6 months [16]. Although normal levels of anxiety have a protective effect on health and lead to beneficial behaviors in the field of health and about health and health-related behaviors, this high-intensity anxiety is problematic and harmful in terms of mental health. Studies show that high levels of anxiety and especially health anxiety during pregnancy have a positive relationship with factors such as a decrease in the quality of life of pregnant women, a decrease in sleep quality an increase in gestational diabetes, and an increase in nausea [17-19]. Considering the consequences of fear of childbirth and health anxiety during pregnancy, psychological interventions aimed at reducing these psychological structures seem important and necessary. One of these interventions is teaching positive thinking.

Positive thinking means having optimistic thinking in the path of life. In a way, the positive thinking of a person with an optimistic orientation towards the future examines stressful situations with a positive view and has a good calculation of his abilities to overcome challenges [20]. A positive perspective is a perspective that by focusing less on positive stimuli and paying more attention to negative points, creates good feelings, establishes valuable relationships with others, makes rational decisions, resists facing problems, solves life challenges, makes the person more resistant, prioritizing tasks, and reducing behavioral problems [21]. The new psychology focuses on thinking, feelings, and behavioral characteristics. The review of research conducted in this field shows that teaching positive thinking and its skills has positive effects on the anxiety and depression of mothers of premature babies, fear of childbirth and self-efficacy of childbirth in pregnant women, compliance with Corona treatment, and anxiety in patients with type 2 diabetes, self-efficacy and reduction of depression and anxiety in students [22-24].

Considering the above explanation and considering the importance and necessity of addressing the mental health of pregnant women, especially primiparous women, it seems important and necessary to identify the challenges and types of psychological tensions that these women face. As we have shown before, studies indicate that health anxiety and fear of childbirth are common in primiparous pregnant women. Based on this, the present study aimed to determine the effectiveness of positive thinking training on health anxiety and fear of childbirth in primiparous pregnant women.

Materials and Methods

The present study was a semi-experimental study with a pre-test and post-test design with a control group. The statistical population of the present study included all pregnant women who had been referred to medical centers to receive pregnancy care. According to Cohen's table, 20 people were considered for each research group (intervention and control) considering the test power of 84%, the average effect size (0.5), and the probability of error 0.05. It should be mentioned that the diagnosis of people who had high health anxiety scores and fear of childbirth was initially done using the paper implementation of health anxiety questionnaires by Salkovskis *et al.* [25] and fear of childbirth by Harman [26] in medical centers, and people who got higher grades and entered the research. A sampling of pregnant women who were in the third to sixth months of pregnancy based on health anxiety and fear of childbirth questionnaires of pregnant women who are in an unfavorable situation (with related symptoms such as severe stomach pain, nightmares, insomnia, depression, and high anxiety) in terms of these variables and previously completed the written consent to participate in the research, they were invited to participate in the research. The intervention group received the instruction of positive thinking. In all the training classes, the homework (activities that were offered to the subjects to do outside the classes in line with positive thinking skills) was discussed. Then, based on the goals of each session, questions were asked, training was carried out, and at the end, the assignments for the next session were presented. Positive thinking training sessions for the intervention group of 20 people were implemented for 8 sessions, each session lasting 90 minutes and twice a week. Positive thinking protocol training was done as a whole group; this means that 20 people in the intervention group participated in the intervention sessions at the same time and positive thinking tasks were presented to all of them. After the end of the positive thinking period, both the intervention and control groups completed questionnaires about mental vitality, health anxiety, and fear of childbirth again.

The criteria for entering the research included the following: being a volunteer to participate in the research, consenting to participate in the research, giving birth for the first time, being between the ages of 18 and 40, having at least a high school diploma, being in the second trimester of pregnancy, having good health and physiological status, and the absence of underlying disease. The criteria for leaving the research were

unwillingness to continue cooperation and attending meetings, the pregnancy turning into a high-risk pregnancy (risk of abortion), a history of taking certain drugs, and having a specific underlying disease.

To apply the intervention, the positivity training protocol was designed and used based on the method suggested by Seligman *et al*. [27]. It seems necessary and important to mention that the researcher intervened on the theoretical foundations of positive thinking and having valid certificates of positive thinking and positive psychotherapy courses. In the following, research tools including Salkovskis and Warwick's health anxiety questionnaires and Harman's childbirth fear questionnaire are introduced.

The health anxiety questionnaire was designed by Salkovskis *et al*. [25]. The scoring of this questionnaire is such that each item has 4 options and each of the options includes the person's description of the components of health and illness in the form of a new sentence, and the subject must choose one of the sentences that best describes him. Scoring for each item or question is from 0 to 3. A higher score in this questionnaire indicates more health anxiety. This questionnaire includes a total score (general health concern) and two factors (small scale). The total score of the questionnaire is obtained from the sum of the scores of 18 questionnaire questions. The subscales include the likelihood of contracting the disease and the negative consequences of contracting the disease. The probability of contracting the disease is obtained by adding up the scores of questions 1-14. The negative consequences of getting the disease are from adding up the scores of questions 15-18. To examine the psychological characteristics of this questionnaire, the test-retest validity of this questionnaire was obtained as 0.90, and the Cronbach's alpha coefficient of this questionnaire was reported from 0.70 to 0.82 [28]. In the present study, the Cronbach's alpha coefficient of the mentioned questionnaire was found to be 0.83, which indicates the appropriate reliability of this tool.

The Childbirth Attitudes Questionnaire (CAQ) was developed by Harman [26] in 1998 and revised by Louie and is used to measure fear of childbirth. This questionnaire has 14 items, and the answers to the questions are in the form of a 4-option Likert scale: not at all, very little, moderate, and a lot, where an answer between one and four is considered for each question. In this way, the scores range from 14 to 56, so that a score of 28 or more indicates greater fear. In the current study, the Cronbach's alpha coefficient of the tool was found to be 0.81, which confirms the good reliability of this tool.

Analysis of covariance test was used in SPSS software version 23 for data analysis.

Results and Discussion

First, the demographic information of the present study is presented in **Table 1**.

Table 1. Demographic information of the present study.

Variable	Level	N	%	P-value
Age	18-20	10	25	0.661
	21-23	13	32.5	
	24-26	11	27.5	
	27-29	2	5	
	30-33	4	10	
Month of pregnancy	5 months	25	62.5	0.545
	6 months	15	37.5	
Mother's literacy	Diploma	25	62.5	0.733
	Associate degree	6	15	
	BSc.	9	22.5	

According to the results of **Table 1**, most people (13 people) were between 21 and 23 years old, and only 2 people were between 27 and 29 years old. It was also found that 25 people were 5 months pregnant and 15 people were 6 months pregnant. In addition, 25 pregnant mothers had a diploma and only 6 had an associate degree. In the following, the descriptive findings of the research are examined and analyzed.

Table 2. Descriptive findings of the variables of health anxiety and fear of childbirth before and after positive thinking training in the intervention and control groups.

Variables by groups		Pre-test		Post-test	
		Mean	SD	Mean	SD
Health anxiety	Intervention group	30.45	4.29	17.20	5.58
	Control group	23.90	3.67	26.15	4.49

Fear of childbirth	Intervention group	42.70	4.24	31.60	3.89
	Control group	36.05	4.88	35.65	3.28

According to the results of **Table 2**, the average of the variable of health anxiety in the intervention group from pre-test to post-test is 30.45 and 17.20, and in the control group 23.90 and 26.15 respectively. In addition, the average variable of fear of childbirth in the intervention group from pre-test to post-test is 42.70 and 31.60 and in the control group is 36.05 and 35.65; therefore, there is a difference between the averages of the intervention groups in the pre-test and post-test. In the following, the assumptions of the statistical test are examined. The assumption of normality was checked by the Kolmogorov-Smirnov test **(Table 3)**.

Table 3. Kolmogorov-Smirnov test to check the assumption of normality of dependent variables.

Variable	Statistics	Degree of freedom	Significant level
Pre-test health anxiety	0.12	40	0.16
Post-test health anxiety	0.08	40	0.20
Pre-test fear of childbirth	0.13	40	0.08
Post-test fear of childbirth	0.14	40	0.06

As can be seen in the above table, all variables are normal in each measurement stage, so the significance level of these variables is from 0.06 to 0.20 and is greater than the significance level of 0.05. Therefore, the analysis of the covariance method was used. In addition, the assumption of homogeneity of variances was investigated using Levin's F test.

Table 4. The results of Levine's test to check the assumption of equality of variances.

Variable	F	Degree of freedom	Significant level
Health anxiety	4.98	1 and 38	0.03
Fear of childbirth	0.01	1 and 38	0.91

As shown in **Table 4**, in the field of health anxiety post-test, the homogeneity of variances is not established, so the correction of scores was used. Next, in **Table 5**, the results of the analysis of variance of the effects of the intervention group and the control group on health anxiety and fear of childbirth are presented by controlling the effects of the pre-test.

Table 5. Results of variance analysis of the effects of the intervention group and the control group on health anxiety and fear of childbirth by controlling the effects of the pre-test.

Resources	Variables	Df	MS	F	P
Group effect	Health anxiety	1	993.60	58.94	0.0001
Health anxiety pretest	Health anxiety	1	350.07	20.77	0.0001
Group effect	Fear of childbirth	1	83.92	96.9	0.003
Fear of childbirth pre-test	Fear of childbirth	1	191.47	22.72	0.0001

The results of covariance analysis of the effect of positive thinking training on health anxiety revealed that there is a significant difference in health anxiety between the intervention group and the control group in terms of post-test and pre-test control (P = 0.0001, F = 58.94). According to the averages obtained in the descriptive section, it is clear that the health anxiety in the positive thinking training group (Mean = 17.20) was lower than the control group (Mean = 26.15). Also, the results of covariance analysis of the effect of positive thinking training on the fear of childbirth indicated that there is a significant difference in the fear of childbirth between the intervention group and the control group in terms of post-test and pre-test control (P = 0.003, F = 96.9). According to the averages obtained in the descriptive section, it is clear that the fear of childbirth was lower in the positive thinking training group (Mean = 31.60) than in the control group (Mean = 35.65).

Primiparous pregnant women experience many psychological challenges and maintaining their mental health as future mothers of society seems very important and necessary [29]. Studies have shown that the fear of childbirth and health anxiety in pregnant women is more than other mothers who experience second and subsequent births [23]. Based on this, the present study was conducted to determine the effect of positive thinking training on health anxiety and fear of childbirth in primiparous pregnant women.

The first finding of the research showed that the intervention based on positive thinking training had a significant effect on the health anxiety of primiparous pregnant women. The mean health anxiety scores of primiparous

pregnant women who underwent positive thinking training have significantly decreased in the post-test compared to the pre-test. This finding of the research indicates that positive thinking training was effective in that it made the mother accept her role and be able to cope with the current situation and therefore overcome the anxiety caused by the current situation. In fact, instead of emphasizing negative emotions such as fear of childbirth and negative prejudices about childbirth and its complications, positivity emphasizes positive emotions and creates this motivation instead of pointing fingers at weaknesses and negative views that a person pays attention to his capabilities and to achieve it, he teaches the subject that while having a positive approach, he must plan and make efforts. Seligman [27], the founder of positive psychology, believes that positive thinking does not mean that you do not pay attention to problems or that you are falsely optimistic. It is ideal to write down the problems and then work on solving the problems instead of being trapped in the crippling loops of unpleasant emotions. Therefore, instead of paying too much attention to human inabilities and weaknesses, positive thinking focuses on human abilities such as living happily, enjoying, solving problems, and optimism. It can be said that controlling the mind in the form of positive thinking is the most important way to control life and facilitates access to predetermined goals. This factor, especially in the present study, reduced the level of health anxiety of primiparous pregnant women according to the reports of the intervention sessions by themselves. Being happy and creating a cheerful spirit in the family and community, shows the desire to live, and for the health of the body and mind, all these factors must be brought up in positive psychology. Therefore, by teaching the components of positive psychology, psychological toughness can be increased and tensions and anxieties can be removed from people [30, 31].

Another finding of the research indicates the effectiveness of positive thinking training on the fear of childbirth in primiparous pregnant women. The mean scores of fear of childbirth among primiparous pregnant women who received positive thinking training have significantly decreased in the post-test compared to the pre-test. This research finding also shows that positivity means having optimistic attitudes, thoughts, and behavior in life. Paying attention to the positive aspects of life and not paying attention to the negative aspects. Positive thinking means having a good opinion of yourself, and not always blaming yourself. Therefore, by increasing positive thinking and avoiding negative thoughts, a person's focus in life is on the positive aspects of life, and pregnancy problems do not cause her disappointment, with positive thinking and the resulting peace, problems, and relationships improve, and as a result, marital satisfaction and It results in a higher pregnancy [32, 33]. In addition, education based on positive psychology, using techniques such as teaching optimism and positivity skills, leads to the experience of positive emotions and accordingly takes the place of negative thoughts and related fears [34, 35]. Therefore, it can be said that teaching positive thinking skills causes optimism, focuses on one's strengths, and replaces logical thoughts instead of irrational thoughts in primiparous pregnant women, and by creating a positive mindset in them, reduces their fear of childbirth. Positivity seeks to help people to improve the bad aspects of their lives by changing their mental processes by creating and strengthening capabilities, and by avoiding negative experiences, anxieties, and baseless fears. The basis is to improve the quality of life [36].

Overall, the research results indicate that positive thinking training has been effective on health anxiety and fear of childbirth in primiparous pregnant women; Therefore, it seems important and necessary to carry out interventions based on positive thinking training to reduce the psychological problems of pregnant women, especially primiparous pregnant women who struggle with fear of childbirth and health anxiety. One of the limitations of the present study is the use of self-reporting tools and not considering the follow-up period. Therefore, it is suggested to consider the follow-up group in future research and to use the qualitative research method and interview to obtain more in-depth data.

Conclusion

The present study was conducted to determine the effectiveness of positive thinking training on health anxiety and fear of childbirth in pregnant women with primiparous pregnancies. The results of covariance analysis showed that positive thinking training was effective on health anxiety and fear of childbirth in primiparous pregnant women. The average scores of health anxiety and fear of childbirth among primiparous pregnant women who underwent positive thinking training have significantly decreased in the post-test compared to the pre-test. The results of the research indicate that positive thinking training has been effective on health anxiety and fear of childbirth in primiparous pregnant women. Therefore, it seems important and necessary to carry out interventions based on positive thinking training to reduce the psychological problems of pregnant women, especially primiparous pregnant women who struggle with fear of childbirth and health anxiety.

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