

# Effectiveness of training towards parenthood program on primigravida women pregnancy anxiety

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**Abstract:** *The objective of this study was to investigate the effect of towards parenthood program on reducing pregnancy anxiety in primigravida women. The research method was quasi-experimental and there was applied pretest-posttest design along with control group. The study population included all women who visited during the October 2015 in Arash Comprehensive Women Hospital and two women obstetric clinics in District 8, Tehran. They completed Vandenberg pregnancy anxiety questionnaire and finally after considering the criteria for inclusion in the final study, 30 persons were remained in the study who divided randomly into two 15-person groups of experimental and control. Then, the women in the intervention group were involved in 90-minute eight sessions in the "Towards parenthood" workshop and at the end each group again recompleted aforementioned tests. Results along with analysis of mixed variance indicated that training "towards parenthood" program during pregnancy has a significant effect on reducing pregnancy anxiety. According to the results of current study, applying training towards parenthood program in obstetric clinics and hospitals is recommended.*

**Keywords:** *Training towards parenthood, Pregnancy anxiety, pregnant women*

## INTRODUCTION

Pregnancy is a common occurrence among women in the reproductive age and there is often considered a time of joy and happiness for pregnant mothers (Rosana et al., 2009). Physical and mental health status of pregnant women has a direct impact on the well-being of mothers and infants (Soares et al., 2009). Psychiatric disorders, especially mood and anxiety and stress disorders pose as the highest incidence in women during their pregnancy years (Bunevicius et al., 2009). Pregnancy periods are intended as the most stressful times of a woman's life and this stress intensity is become higher in the third quarter, even the stress induced by the birth of the first child is classified as severe stress in the psychosocial stress tables. Therefore, during this period possibility of emerging cases such as neurosis, depression, anxiety, phobia and obsessive-compulsive disorder increases (Foroozandeh et al., 2003). In studies of Gorgi Zadeh et al. (1998), there has been stated that anxiety disorders during pregnancy is of great importance so that more than 50% of pregnant women inflicts with some degree of anxiety. In Iran, Shah Hosseini, Abedian and Azimi (2008) pointed out the high prevalence of anxiety disorders in pregnancy by 64% in Iran. Anxiety may likely affect child's developmental outcomes during pregnancy (Heron, quoted by Diklava, 2004). Pregnant women with high levels of stress, depression and anxiety are subjected to the risk of negative consequences before pregnancy (Yuksel et al., 2014). Pregnancy anxiety is connected with preterm delivery, low weight during giving birth and fetal growth restriction (Qiao et al., 2012). Some of women in order to develop their relationship with their babies have long-term problems and adopt lack of emotion, pushing the infant, neglects and impulses that are going to harm the baby (Edborg et al, 2011, quoted by Diklava, 2015). Given the importance of reducing maternal anxiety during pregnancy and maternal-fetal attachment, the role of mental health care during pregnancy is highlighted. Various pharmacological and nonpharmacological treatments for psychological problems caused by pregnancy are designed and each has been recognized helpful for some aspects of the problems. Although anti-stress drugs have revealed relative safety during pregnancy, absolute safety cannot be guaranteed; baby's growing brain is still susceptible to adverse effects; in addition, some women may not be willing to take the drug treatments and prefer non-drug ones (Spinelli and Endicott, 2003). Hence, among non-drug

treatments, the intervention which ought to be effective is chosen. Studies show that training psychological-cognitive programs are effective in increasing mental health of pregnant women (Bastani et al., 2005). "Towards parenthood" program is one of these intervention tools that are based on principles of cognitive-behavioral psychology that has been provided by the Parent-Infant Research Institute, Australia (Milgram, 2009). Training "Towards parenthood" program is an early intervention tool for maintaining mental health of pregnant women and their babies which is the Australian Parent-Infant Research Institute (PIRI) support programs and has been prepared by Professor Milgram and colleagues (2009). Training "Towards parenthood" program is founded based on the principles of cognitive-behavioral psychology and addresses emotional, cognitive and behavioral dimensions of their parents as published in the form of a guidebook. This program aiding with cognitive-behavioral psychology principles help pregnant mothers get better understanding of the issues that have caused her anxiety and stress. Coupled with, by identifying their emotions they can figure out their relation with irrational thoughts and with the knowledge of their own cognitive errors, those can be converted to a more rational thoughts. The program simultaneously concentrates on self-esteem and how to adapt to the conditions after birth, increasing relations, adaptability and problem solving skills as well as it teaches them. The program in addition to adaptability skills and parenting skills also focuses on attachment techniques and aims to reduce problems in these areas during pregnancy and post-birth (Milgram, 2009). Different studies have been conducted in the field of pregnant women and intervention therapies. Delaram and Soltanpour (2012) concluded that advice to women in third trimester can reduce the amount of their anxiety in the beginning of giving birth. Hosseininassab, piety and the Ahmadi (1388) show the influence of prenatal care education on anxiety, Taghavi and Ahmadian's study indicated the impact of training prenatal care on anxiety, degree of pain and labor duration. Chang, Wang and Chen (2002) showed that after training periods, anxiety in pregnant women has been reduced. In a meta-analysis implemented on 48 studies consisted of 4937 subjects and three types of parenting training programs, including behavioral, cognitive-behavioral programs and eclectic model, the results showed short term parenting programs can significantly reduce depression, anxiety, stress, anger, guilt and self-confidence and marital satisfaction increase (and Karen & Barlow, 2014). Teixeira & Martin (2005) also demonstrated that training during pregnancy reduces maternal anxiety in the pregnant mothers. In two studies conducted in Australia by Milgram and colleagues in order to evaluate the training program "Towards parenthood", they showed that women who received the program during her pregnancy compared with those who underwent usual care during pregnancy were significantly decreased their levels of anxiety and depression (Parent-Child Research Institute of Australia, 2009). Also, in another study (Milgram et al., 2011) addressed to examine the effect of this program during pregnancy on anxiety, depression and parenting problems, the results revealed that mothers who received prenatal psychological intervention had significantly (based on their report) fewer symptoms of anxiety and postpartum depression. Because, more works in the field of prenatal care are related to physical care and there is less dealt with psychological care for pregnant women, especially in Iran, compared to developed countries such as America, Europe and Australia, It seems that psychological trainings are needed during pregnancy. Due to the role of reducing anxiety in the mother and fetus during pregnancy, this research deals with the question of whether the "Towards parenthood" training program affects the anxiety reduction of primigravida women, or not?

### **Research methodology**

This study was of quasi-experimental one in which pretest-posttest experimental design with control group has been used. The study population included all women who experience primigravida and visited Arash Comprehensive Women Hospital and two obstetrics women clinics during the October 2015 in District 8, Tehran. Thus, the sampling method and number of samples were respectively carried out as initially by visiting the mentioned centers, pregnancy anxiety and maternal-fetal attachment questionnaire widely conducted on 260 referred pregnant women. The next step was to collect questionnaires that at this step 220 questionnaires returned to the researcher. After scoring and descriptive analysis, the average of persons in the pregnancy anxiety and maternal-fetal attachment was extracted and subsequently based on that 50 people of having pregnancy anxiety higher than average and maternal-fetal attachment below the average were acquired. In the following step, inclusion criteria to the research were considered and according to which 19 people didn't meet the entry criteria and excluded from the study. One of the subjects was deterred because of the distance from continuing research. Thus, the final sample involved 30 individuals which randomly divided into two groups: experimental and control groups. The final study sample was chosen in compliance with the criteria for entering and exit among the statistical population. Firstly, in order to accomplish the research, coordination was held with Arash Comprehensive Women Hospital and two obstetrics women clinics during the October 2015 in

District 8, Tehran. In the following, by directly visiting these centers, questionnaires were referred to the mothers as printed by the researcher. Training sessions were held after necessarily coordinating in the hall of one of the offices. Posttest was implemented in the last session. It worth noting that to observe moral principles, intensive meetings were held to control prior to the beginning of session posttest was carried out. So, the necessary data were collected to verify the hypothesis, then using SPSS software methods such as t for independent sizes, mixed Anova, F Levene, Kolmogorov-Smirnov, the Z and T standard scores etc. were used.

**Tools** used in this study were followed as:

A) Vandenberg pregnancy anxiety questionnaire: this questionnaire is presented by Vandenberg (1990, quoted by Hovizink, 2004). The first version of the questionnaire consisted of 34 questions and five subscales. Hovizink et al. (2004) reduced the number of questions from 34 to 10 ones. Scoring of the questionnaire carried out by five-option Likert method. Hovizink et al. (2004) in a study entitled as "whether pregnancy anxiety is a specific syndrome, or not? They state that 10-question pregnancy anxiety questionnaire is credited with good formal and content validity. Questionnaire reliability is reported using Cronbach's alpha with 0.81. Given that normative data in connection with questionnaire scores have not domestically been reported, in the current study by implementing it on 220 pregnant women normative scores were obtained and applied to select the final sample. In the meantime, validity of the questionnaire was done through Cronbach's alpha of 0.91.

B) Towards parenthood program

C)

**Table 1.** Briefly summarized towards parenthood training sessions

Session	Subject	Content
1	Introduction Workshop familiarization	Introducing member with each other, the importance and necessity of caring to the pregnancy, explaining the objectives of course presenting workshop legislations and timing set with members
2	Emotions	Understanding the feelings and inspecting the emotions of pregnant women, discovering most prominent emotion in this period, defining the anxiety its difference with fear
3	Concerns	Examining the assignments and categorizing the factors disturbing mothers, review and evaluation of mothers' coping action with anxiety, relationship of sensing thought with practicing behavior.
4	Cognitive errors	Training cognitive errors and inspecting the most major errors in the minds of pregnant women, providing key questions for finding intellectual traps, practicing how to fix errors and escape from the intellectual traps
5	Self-care (1)	Reviewing last session's practice debugging issues regarding problem solving skills of self-caring. Presenting strategies for reducing negative thoughts during pregnancy Strategies to increase positive thoughts
6	Self-care (2)	Continuing self-care, the need for support and feel safe in pregnant women, God's greatest supporter and source of security of pregnant mother
7	Balance in life	Relationship management skills, setting boundaries and roles in the new conditions, couples' expectations from each other, planning to have enjoyable and rewarding experiences in life
8	Fetal attachment behavior "Security"	Attachment behaviors training such as imagery, etc., and practicing it in class, primary care after birth (breast feeding, baby sleeping, etc.), the importance of the embracing care and training it.

	The most critical need of infants	
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### Research findings

Since in the present study, there are existed an independent between-group variable (groups: experimental and control), an independent inter-group variable (assessment step: pretest and posttest) and a dependent variable with the level of measurement interval, mixed Anova test was performed to test the hypotheses of the research. Moreover, the observed average and lower than it correlation coefficients lead to pass up the covariance analysis.

One of the fundamental assumptions is implementing parametric tests regarding being normal distribution of data. This assumption is evaluated using the Kolmogorov-Smirnov test as well as the assumption of data sphericity and equality of variances have been inspected prior to analysis. The results of this study demonstrate that the use of mixed ANOVA analysis is permitted.

**Table 2.** Mixed ANOVA analysis results for the effect of training program on an overall score of pregnancy anxiety

source		Sum of squares	Degrees of freedom	Mean Square	Size F	Significance level	Effect size
Inter-group	Assessment	874	1	874	129.4	0.001	0.82
	The assessment phase * Group	1170	1	170	173.33	0.001	0.68
	Error	189	28	6.75			
Between-group	Group	1000.4	1	1000.4	26.8	0.001	0.48
	Error	1045	28	37.32			

Given the mixed Anova results presented in Table 3, there can be considered that interactive effect of assessment step and group on the overall score of pregnancy anxiety is significant.

**Table 3.** Mixed Anova results for the effect of training program on subscale score of afraid of anxiety pregnancy delivery.

source		Sum of squares	Degrees of freedom	Mean Square	Size F	Significance level	Effect size
Inter-group	Assessment	109.3	1	109.3	56.9	0.001	0.67
	The assessment phase * Group	205.35	1	205.35	106.8	0.001	0.79
	Error	53.8	28	1.9			
Between-group	Group	84	1	84	7.1	0.01	0.2
	Error	331	28	11.8			

According to the mixed ANOVA results presented in Table 4, there considered that interactive effect of assessment step and group on subscale score of afraid of pregnancy anxiety delivery is significant.

**Table 4.** Mixed ANOVA results for the effect of training program on the subscale score of the fear of bearing disabled infant induced by pregnancy anxiety.

source		Sum of squares	Degrees of freedom	Mean Square	Size F	Significance level	Effect size
Inter-group	Assessment	129	1	129	41.2	0.001	0.59
	The assessment phase * Group	96.26	1	96.26	30.74	0.001	0.52
	Error	87.66	28	3.13			
Between-group	Group	308.26	1	308.26	18.99	0.001	0.4
	Error	454.3	28	16.22			

Given the mixed Anova results presented in Table 4-17, it can be concluded that interactive effect of assessment step on subscale scores of fear of bearing disabled infant caused by pregnancy anxiety is significant.

**Table 5.** Mixed ANOVA results for the effect of training program on subscale score of concerns associated with physical appearance about pregnancy anxiety.

source		Sum of squares	Degrees of freedom	Mean Square	Size F	Significance level	Effect size
Inter-group	Assessment	60	1	60	34.56	0.001	0.55
	The assessment phase * Group	101.4	1	101.4	58.4	0.001	0.67
	Error	48.6	28	1.73			
Between-group	Group	24.06	1	24.06	2.36	0.13	0.07
	Error	285.5	28	10.19			

Based on the mixed Anova results given in Table 4-20, it is considered that interactive effect of assessment step and group on subscale scores of physical appearance concerns caused by pregnancy anxiety has been significant.

### Conclusion and discussion

The aim of this study was to evaluate the effectiveness of towards parenthood training programs on anxiety pregnancy that with the implementation of this program on 15 primigravida women and compared them with 15 patients of primigravida women in the control group was characterized. It was recognized that the aforementioned program culminates in reducing significantly the scores of pregnancy

anxiety in the experimental group. Meanwhile, this results were also observed for the subscales of anxiety pregnancy.

Most researches and studies related to pregnancy anxiety imply the importance of training and social support of pregnant women. An average of two experimental and control groups in terms of the subscales of pregnancy anxiety questionnaire indicates the increase in all subscales of this questionnaire the mean of all subscales. In other words members of the experimental group reported a lower level of anxiety during pregnancy after experiencing intervention. However, the control group in any of the sub-scales of the pretest and posttest did not show significant changes.

The findings of this study were consistent with the results of parent-infant Research Institute of Australia (2009) and the results of Milgram et al. (2011) conducted to check this program. Results of this studies showed that anxiety levels of pregnant women receiving program "towards parenthood" during pregnancy and after delivery was significantly lower than those received routine prenatal care.

Towards parenthood program was widely tested and evaluated among Australian families. Together, parents participating in the program said that in addition to learning a lot of the program, they have fun, as well. Research results have shown that towards parenthood program can have a noticeable difference in the process of compliance with becoming parent in the pregnant women and their husbands. Women who participated in the program compared to the ones who did not participate were more prepared for parenthood. They also as a parent felt more relaxed and competent and less depression (Milgram, 2011).

The findings of the research are in compliance with Barlow et al. (2014), Dareshouri Mohammadi, Basaknejad and Sarvghad (2012), Karamouzian and Asgarizadeh (2013), Davis (2007, quoted by Akbarzada et al., 2011) and Safarzayi (2012).

As noted, the research results showed that the level of anxiety in pregnant women receiving towards parenthood program was significantly less than women who received routine prenatal care. In explaining the findings of this study, it can be said that the anxiety is an influential factor in the maternal-fetal attachment. Notwithstanding the researches point out the influential role of psychological cares during pregnancy on maternal-fetal attachment, but there have not been addressed such studies about investigating "towards parenthood" training program on maternal - fetal attachment which this study is being dealt with and the results showed the "towards parenthood" program is effective in increasing maternal-fetal attachment, as well. The study by localizing content and harmony with the culture and attitude of the Iranian pregnant women exhibits the need for women to spend such a course of training. Given that today's families physically care pregnancy duration and fetal and maternal health, mental and emotional issues still not reached to their proper position. With training concepts such as pregnancy anxiety, and teachings to deal with it, problem solving techniques, self-care practices, scheduling method during pregnancy and then and finally familiar with the infant and her/his needs and ways of communicating with baby develop significantly positive changes in women towards their behavior and attitude, pregnancy duration and the fetus. And, as the program goes on, follow-up is caused by good and emotional relationship of mother and newly born baby.

What is questionable for researcher in this study as well as triggered him to conduct such study is to investigate this question: whether "Towards parenthood" training program can be effective in reducing pregnancy anxiety in a stressful pregnancy period? According to what was examined in this study, results showed that "towards parenthood" training program could decrease the anxiety of pregnant women during stressful pregnancy period. Which, this fact is also affected by "Towards parenthood" training program. Given that mother calmness and maternal-fetal attachment have a great impact on the health of the fetus, reducing pregnancy anxiety along with increased maternal-fetal attachment can have an effective role in maintaining healthy communities. Due to the fact that in our country despite the increase in population and society requirement, few studies have been conducted in this area, it is hoped that this research will be helpful for upcoming researches.

### **limitations**

The following cases are considered as study limitations :

- Research sampling restriction to one hospital (Arash Comprehensive Women Hospital) and district 8 of Tehran municipality.
- Restriction of training session's time due to the constraints of pregnancy duration of pregnant women.

According to the study results, the following proposals are presented:

- To confirm the positive effect of "towards parenthood" program during pregnancy as well as its comprehensivity, it is recommended that the program to be taken into account as a consistent program through the health policy makers and offer pregnant women in hospitals and maternity clinics besides the physical care during pregnancy.
- This study was conducted on primigravida women. It is recommended to implement studies on women who spend their several pregnancy in order to investigate the effect of towards parenthood program.
- Implementation of the training program on pregnant women who have an unwanted pregnancy.
- Implementation of the study in the last 3 months of pregnancy and its longitudinal evaluation on infant calmness after being born.
- Investigating effectiveness of towards parenthood program on the women who have been pregnant through methods such as IUI or IVF.

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