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The Effect of Group Discussion on Anxiety of Primigravidas

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Abstract: Women are likely to be involved in anxiety two times more than men. One of the reasons for this increase is that stressors like pregnancy and labor are specific for women. 70% of primigravidas and 75% of multigravidas experience anxiety during their pregnancy. So, this research was done with the aim of evaluating the effect of group discussion on the level of anxiety during pregnancy in primigravidas referred to Health and Medical Center in Khoram Abad city. The present study was done as a clinical trial on 60 primigavidas 20-25 weeks (30 subjects as intervention group 30 subjects as control group) referred to Health and Medical Center in Khoram Abad city. Data were collected using personal data form and Spiel Berger anxiety Inventory questionnaire. In addition to routine pregnancy care sixth 90 min sessions of group discussion courses were held during 6 weeks (once a week). The control group only received routine pregnancy care anxiety score before the intervention and at the end of the intervention were analyzed in all two groups. Data analysis was done using t-test, tabs analysis. In this study, the mean anxiety scores were not significantly different in the two groups before the intervention but there were significant differences in discussion group after the intervention ($p<0/001$). There was a decrease in the mean anxiety score in discussion group after the intervention whereas there was a slightly increase in the control group. The results of this study indicated that group discussion could reduce anxiety in primigravidas.

Key words: Group discussion, primigravida , pregnancy anxiety, spiel berger, Inventory questionnaire

INTRODUCTION

Background: Labor is one of the important events of life experienced by a woman (Hanjani *et al*., 2015). Women experience dramatic changes during pregnancy and delivery, making them highly sensitive to emotional stimuli and sometimes accompanied by psychological problems. Maternal psychological state affects the intrauterine environment and has a great impact on fetal growth and health. Pregnancy is not only a period of great joy but also one of great stress to a woman both physically and mentally. Even in healthy women, pregnancy may give rise to many anxieties because of anticipated uncertainty associated with it (Catov *et al*., 2010). Evidences show that pregnancy anxiety not only affects pregnant women's health but also have an impact on labour outcomes such as preterm delivery, prolonged labor, caesarean birth, low birth weight (Rauchfuss and Maier, 2011).

Previous studies on pregnancy anxiety from different part of the world reported a high and diverse prevalence rate of 14-54%. However, most of these studies explored general pregnancy anxiety than pregnancy-specific anxiety (Martinez *et al*., 2011; Rico *et al*., 2010). Pregnancy-specific anxiety is defined as worries, concerns and fears about pregnancy, childbirth and health of infant and future parenting reported that nulliparous women's childbirth fears were related to labor pain, birth-related problems and procedures (Sercekus and Okumus, 2009). Anxiety has harmful impacts on pregnancy and childbirth while long term anxiety by autonomic nervous system stimulation constricts arteries smooth muscles and

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decreases utero-placental blood flow oxygen supply to the uterus and as a result abnormal fetal heart rate pattern with increasing possibility of preterm delivery (Arai *et al*., 2009). Anxiety during pregnancy can cause miscarriage, prematurity, low birth weight and respiratory disease of the fetus (Weinstock, 2008). It may also affect special mechanisms in the fetus involving adrenal steroid hormone such as catecholamine and corticotrophin-releasing hormone secretion due to maternal stress if they pass through the placenta and interfere with the development of fetal brain at 22-12 weeks. Also, these hormones cause contractions in the placental arteries and constrain fetal nutrition and oxygen regulation (Henderson and Redshaw, 2013) resulting in limited fetal growth and asphyxia which would increase medical interventions such as cesarean section (Saisto *et al*., 2001). Other side effects of psychiatric disorders and maternal anxiety on neonates included low birth weight, decreased lactation and growth, severe malnutrition, diarrhea and loss of compliance with immunization programs (WHO, 2008). Since, women and children are more sensitive to psychological tensions, awareness about tension and its consequences is an important aspect of modern medical practice (Toosi *et al*., 2014). The notion that being unaware of the facts of pregnancy and labor can lead to anxiety and fear cannot be exactly exempted. The greater the knowledge of the mother about these facts, the lesser her psychological problems will be (Shojaezadeh *et al*., 2011).

The World Health Organization maintains that education is a key component of prenatal care. Prenatal care is a proper opportunity to investigate, prevent and treat the emotional distress of pregnant women (Azar *et al*., 2012). One of the most useful methods of education is group discussion, during which new ideas are evaluated and different attitudes are expressed. The basic principle of group discussion is sharing ideas, experiences and knowledge. People can also influence the values and beliefs of other people during these sessions. However, this method requires skills, experience, patience and resourcefulness. Lack of facilities, equipment and efficient work force as well as discontinuation and lack of educational programs (supported by medical education authorities) are other limitations of this method (Malakoti, 2009). There have been few studies conducted on the effect of group discussion on anxiety of pregnant women. Furthermore, medical statistics shows high rate of cesarean and less application of non-pharmacological methods for pregnancy anxiety. Therefore, the present study aimed to determine the effect of group discussion on anxiety in primigravida women attending the Health and Medical Center in Khoram Abad city in 2015.

MATERIALS AND METHODS

This interventional study was performed on 60 pregnant women who were primigravidas, referring to Khoram Abad health care centers. The subjects were selected via convenience sampling. To determine the sample size, mean difference test (mean anxiety score) and methods of previous studies were applied (X1 = 0.8, X2 = 307, $\bar{x}$ = 1, $\bar{x}$ = 7, 2 = 0.4, α = 0.005 and α = 0.2). Twenty-five patients were allocated to each group. Considering a 20% dropout rate, 30 patients were enrolled in each group. The inclusion criteria were as follows:

- Proficiency in Farsi language
- Minimum literacy (reading and writing)
- Gestational age of 20-25 weeks

The exclusion criteria were as follows:

- A prior history of medical conditions such as diabetes and hypertension
- Narcotic addiction
- Mental disorders
- Cancel continued cooperation

Data collection tools included a demographic form (consisting of demographic data and pregnancy-related information) and Spiel Berger's State-Trait Anxiety Inventory (STAI), consisting of 20 items. one forms of anxiety, i.e., state anxiety, is given 20 separate questions in this questionnaire.

Convenience sampling method was applied in this study. Three health clinics were randomly selected from health care centers of Khoram Abad, considering the differences in socioeconomic class. Then, the subjects from those centers were selected via convenience sampling.

After obtaining the necessary permissions and visiting the selected centers, study subjects were chosen among primigravida, based on the inclusion criteria. If the candidates were willing to participate in the study, written informed consents were obtained. The participants were instructed on how to respond to the questions. The questionnaires were distributed among the subjects and completed in an average of 20 min.

In both intervention and control a group, routine pregnancy cares was done by the researcher in collaboration with the midwives. In the intervention group, Sessions of group discussion were held (sixth 90 min sessions).

After the end of group discussion Sessions, mothers in both groups were asked to refill the anxiety

questionnaire. After collecting the data, the two groups were compared. At the end of the intervention, the Results and session's contents were given to the control group.

The educational content presented in the first group discussion session included the physiological changes in pregnancy, self-care in pregnancy and the goals and times of sessions. The second session was concerned with diet during pregnancy, psychological health and impacts of baby in family.

In the third session, group counseling was about of Education intercourse during pregnancy, sexual health and Emphasis on routine screening tests for fetal and maternal health. Topics presented in the fourth session included the effects of physical activity, exercise and sports During Pregnancy.

In the fifth session, the questions of participants in the group were discussed and ultimately the correct answers were provided and applied. At last session, discussion was about Self-care techniques after pregnancy, newborn care, prevention of complications in neonate and breast-feeding. SPSS version 18 was used for statistical analysis. Descriptive statistical tests, T-test, Wilcoxon and Mann-Whitney tests were performed for inter- and intra-group comparisons. P-value less than 0.05 was considered statistically significant.

RESULTS AND DISCUSSION

The mean age of subjects was 25±4.387 years in the control group and 24±4.388 years in the intervention group. Mann-Whitney test results showed that the two groups were similar in terms of age (p = 0.972).

The mean Gestational age of subjects was 23±4.126 weeks in the control group and 22±4.536 weeks in the intervention group. Mann-Whitney test results showed that the two groups were similar in terms of age (p = 0.914).

The majority of mothers in the intervention (58.62%) and control (53.57%) groups had primary level education (diploma). Mann-Whitney test results showed that the two groups were similar in terms of educational level (p = 0.792).

Most subjects in the intervention and control groups were housewives (92.85% vs. 93.10%). Fisher's exact test showed that the two groups were homogeneous in terms of maternal occupation (p = 1.000). The majority of spouses in the intervention (60.17%) and control groups (89.65%) were self-employed; Chi-square test showed that the two groups were not homogeneous in terms of this variable (p = 0.015). Additionally, the monthly income of most subjects in the intervention (53.57%) and control groups (79.31%) was not sufficient. According to Chi-square test results, the two groups were similar in terms of monthly income (Table 1).

Table 1: The demographic and obstetric characteristics of the women under study

Characteristic a	Case No. (%)	Control No. (%)	p-value
Education			
High-school graduate	15(53.57)	17 (58.62)	0.792
College graduate	13(46.42)	12 (41.37)	
Maternal occupation			
Employee	2(7.14)	2 (6.89)	1.000
Housewife	26 (92.85)	27 (93.10)	
Spouses occupation			
Self-employed	17 (60.17)	26 (89.65)	0.015
Government job	11 (39.28)	3 (10.34)	
Family income per month			
Low	15 (53.57)	23 (79.31)	0.116
Middle	11 (39.28)	4 (13.79)	
High	2 (7.14)	2 (6.89)	

Table 2: Comparison of state anxiety scores in the intervention and control groups before and after the intervention

	Groups			
State anxiety	Intervention	Control	Statistical test b	p-value
Before the intervention	47.21±3.80	47.58±2.71	-0.426	0.674
After the intervention	25.96±2.71	45.24±2.61	-27.295	0.001
Statistical test a	22.756	15.513		
p-value	0.001	0.314		

Values are presented as mean±SD; a: Paired samples T test, used for the comparison between the pre- and post-intervention periods; b: independent samples t-test, used for the comparison between the intervention and control groups

Paired samples t-test results showed that the mean anxiety score before the intervention was not significantly different between the intervention and control groups (p = 0.674). The results showed that the mean score of maternal state anxiety was significantly different between the two groups after the intervention (p = 0.001).

Intra-group comparison by independent t-test showed that the mean score of maternal state anxiety was significantly higher after the experiment in the intervention group, compared to the pre-intervention period (p = 0.001). However, this difference was not significant in the control group (p = 0.314) (Table 2).

Independent samples T test results showed that the mean state anxiety score before the intervention was not significantly different between the intervention and control groups (p = 0.674). However, the test results showed that the mean score of maternal state anxiety was significantly different between the two groups after the intervention (p = 0.001).

The intra-group comparison by Wilcoxon test showed that in the intervention group, the mean score of maternal state anxiety was significantly higher after the intervention, compared to the pre-intervention period (p = 0.001); however this difference was not significant in the control group (p = 0.314) (Table 2).

The percentage of changes in the intervention and control groups was compared by Mann-Whitney test. The results are presented in Table 3. Based on the findings, after the intervention, state anxiety was decreased by 19.27% in the intervention group whereas

Table 3: Comparison of changes in anxiety before and after the intervention in the intervention and control groups

	Groups			
Variables	Intervention	Control	Statistical test	p-value
Anxiety	-19.27±2.71	-2.34±0.87	406.000	0.001

Values are presented as mean±SD. Comparison between the intervention and control groups was performed by Mann-Whitney test.

it decreased by 2.34% in the control group; the difference in both groups was significant (p = 0.001).

This study was performed to determine and compare the level of state anxiety in women before and after group discussion in the intervention and control groups. As, the study findings suggested although, the mean anxiety score before the intervention was not significantly different between the two groups, levels of state anxiety were high in both groups at baseline. The mean scores of state anxiety in the intervention and control groups were 47.21±3.80 and 47.58±2.71.

Previous studies also reported high STAI score among pregnant women. It has been reported that women with a high general anxiety tend to have more pregnancy-specific anxiety. In a study by Kalayill and Kumar (2013) anxiety scores were 42.26±13.33, in primigravidas; women's anxiety was measured by Spiel Berger questionnaire.

In a study by Ahadi *et al.* (2006) the level of anxiety in pregnant women was 41.35±4.34. The questionnaire used in their study assessed pregnancy-specific anxiety with a scoring range of 15-60. However, in the present study, Spiel Berger questionnaire was used for measuring state and trait anxiety; the range of anxiety scores was 20-80.

In our study, for state anxiety, the scoring system was as follows: 20-31 (mild), 32-42 (moderate to low), 43-53 (moderate to high), 54-64 (relatively severe) and = 76 (too severe). Therefore, the difference in anxiety scores between our study and Ahadi's research is justifiable.

Based on the findings of this study, the level of anxiety in women especially in primigravidas was upper-moderate. This high level of anxiety and the associated complications during pregnancy can play a significant role in the increasing risk of mental and anxiety disorders, as well as physical and psychological problems (Lederman and Weis, 2009).

Our findings showed that the group discussion decreased anxiety in primigravidas (-19.27 for state anxiety); this finding was consistent with the results of studies by Jakubiec *et al.* (2013), Fenwick *et al.* (2015), Cakar *et al.* (2016), Chang *et al.* (2015) and Shahnazi *et al.* (2015), i.e., in the mentioned studies, the conducted interventions reduced maternal anxiety. One of the limitations of this study was Samples loss which interrupted the discussion.

CONCLUSION

The group discussion reduced anxiety in pregnant women especially in primigravidas. Therefore, considering the damaging effects of anxiety on the mother and fetus during pregnancy, use of effective methods such as group discussion about all aspects of pregnancy to reduce the anxiety of pregnant women is recommended.

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