كارگاه‌های آموزشی مرکز اطلاعات علمی

مقاله نویسی علوم انسانی

اصول تنظیم قراردادها

آموزش مهارت های کاربردی در تدوین و چاپ مقاله
Original Article

The association between antenatal anxiety and fear of childbirth in nulliparous women: a prospective study

Zahra Alipour*, Minoor Lamyian**, Ebrahim Hajizadeh***, Maryam Agular Vafaei****

Abstract

BACKGROUND: This study aimed to examine the association of state and trait anxiety with fear of childbirth to explore whether there was any support for the hypothesis that state and trait anxiety are risk factors for the fear of childbirth or not.

METHODS: In this prospective study, 156 pregnant women referred to the health centers of Qom. The study samples selected using simple random sampling method. Anxiety and fear of the childbirth in nulliparous women were measured using Spielberger's state-trait anxiety inventory and childbirth attitudes questionnaire (CAQ) at gestational age of 28 and 38 weeks respectively. The data were analyzed using Pearson correlation, t-test, logistic regression and software SPSS16.

RESULTS: Pearson correlation test indicated a positive and statistically significant association between fear of childbirth scores and state and trait anxiety (p < 0.05). Logistic regression analysis showed that state and trait anxiety at gestational age of week 28 increased the risk of fear of childbirth (odds ratio [OR] 2.7, 95% confidence interval [CI] 1.69-4.35) (p = 0.03) (OR) 2.8, 95% [CI] 1.17-6.80) (p = 0.02) respectively. It also indicated that state and trait anxiety increased the risk of fear of childbirth at gestational age of week 38 (OR) 2.7, 95% [CI] 1.03-6.80) and (OR) 5.4, 95% [CI] 1.75-16.76) (p = 0.04) (p = 0.003) respectively.

CONCLUSIONS: The results support this possibility that state and trait anxiety could be considered as risk factors for the fear of childbirth. Hence, considering other included biological and medical factors, measurement and control of psychological factors in pregnancy is recommended.

KEY WORDS: Anxiety, fear, childbirth, pregnancy, women.

One in five pregnant women would experience moderate fear of childbirth, and 6%-13% of the pregnant women would experience severe and disabling fear of childbirth. The fear associated to pregnancy may result in anxiety and stress manifestation as changes in emotions, behavior or physical symptoms. Fear of childbirth in general has been associated with proneness to anxiety or may occur to someone who had familial predisposition to anxiety disorder. Some studies have shown a rising tendency for fear and anxiety following the advancing pregnancy. Fear is manifested mainly through anxiety, nightmares and physical symptoms. In addition, general anxiety, lack of social support and unemployment are common risk factors for fear of childbirth and anxiety of the pregnancy.

The theory that claimed anxiety can interfere with the delivery process during pregnancy has been supported by some certain prospective studies. Consequently, such interference can occur directly through psycho-physiological pathways. Pharmacologically, epinephrine has been associated with enervating uterine con-
tractility, and norepinephrine with intensifying uterine contractility. Prolonged second stage of labor has been observed in women with higher catecholamine concentrations.

Thus far, no studies have been reported the fear of childbirth associated with maternal anxiety among nulliparous women in Iran. Examining maternal anxiety and its relationship with fear of childbirth for several reasons seems necessary. First, some previous studies have suggested that maternal anxiety was related to pregnancy outcomes, high anxiety levels were related to somatic complaints in pregnancy, high risk of premature delivery; lower infant birth weight, cranial perimeter and length of the labor, preeclampsia, prolonged labor and forceps delivery and using anesthesia during the delivery. Then, several studies have reported that fear of childbirth was associated with anxiety in pregnant women and fear of childbirth often lied behind the mothers' request for caesarean section and, if untreated, this can lead to unnecessary caesarean section without medical indication. Ryding et al found that severe fear of childbirth can also lead to emergency caesarean sections. Considering that cesarean section rate in Iran has a high prevalence (above 40%), the most common cause of cesarean section in primiparous women was the fear of childbirth. Since no study has ever been done about association of anxiety and fear of delivery in pregnancy in Iran, conducting some studies in this regard seems necessary.

This study aimed to examine the association of state and trait anxiety and fear of childbirth to see whether there was any support for the hypothesis that state and trait anxiety which were risk factors for fear of childbirth or not.

Methods
This was a prospective analytical design. The independent variables were state anxiety, and trait anxiety. The dependent variable was fear of childbirth and anxiety and fear of childbirth were measured using Spielberger’s state-trait anxiety inventory (STAI) and childbirth attitudes questionnaire (CAQ) at gestational age of weeks 28th and 38th.

The present study was a prospective analytical study to assess the association between fear of childbirth and state and trait anxiety during pregnancy on 160 primigravid women referred to the health centers in Qom. After selecting ten health care centers, the subjects were chosen with simple random sampling method from all the ten centers. Pregnant women with gestational age of 28-30 weeks who had experienced their first pregnancy were recruited to this study. Inclusion criteria included single fetus, no drug history, no chronic disease, no infertility, no high risk pregnancy and no history of psychiatrist visit. All the subjects were given written consent form and then answered to the questions of research questionnaire. Four of 160 subjects did not participate at the second interview. Therefore, those four subjects were excluded from the study. Statistical analysis conducted using SPSS. Probabilities were two-tailed and significance was obtained as the following: p < 0.05.

Data were collected using self-administered questionnaires which included state-trait anxiety and childbirth attitudes questionnaire. A demographic questionnaire was developed by the researchers in order to collect the data of the subjects’ age, gestational age, economic, occupation, educational situation, and obstetric history. The state-trait anxiety level was measured using the Persian version of the Spielberger’s state-trait anxiety inventory (STAI). The STAI scale consisted of 40 statements describing various emotional states, which have been translated into Persian, and its reliability and validity were acceptable. Twenty of these statements demanded the study subjects to describe their emotional reactions in terms of anxiety at a particular moment or period of the time (state anxiety). Statements were scored on a 4-point Likert scale of increasing intensity, from “never” to “very often” (with scores of 1–4 respectively). The other 20 items demanded the subject to describe how they generally feel and response to the threatening situations (trait anxiety). These items were also scored on a 4-point intensity scale, from “almost never” to “almost always”. For the both parts, possible cumulative scores
for each scale ranged from 20 (not anxious) to 80 (high anxiety).\textsuperscript{15,16} The cronbach’s alpha for the state-trait anxiety obtained 0.91 and 0.90 respectively.\textsuperscript{17}

To evaluate fear of childbirth, Hartman’s questionnaire of attitudes of childbirth has been used which had been reviewed by Lowe.\textsuperscript{18} The childbirth attitudes questionnaire (CAQ) consisted of 14 Likert-type items, scored on a 4-point scale, ranging from never (1) to very often (4), therefore, the scores ranged from 14 to 56. High scores indicated high fear and the scores of over 28 were considered as fear of childbirth. According to the research studies conducted in Iran during 2009, the reliability of this questionnaire with Cronbach’s alpha obtained .84 and its content validity has been established.\textsuperscript{12}

Statistical analysis was conducted using SPSS\textsuperscript{16} (statistical package for the social science for windows, Chicago, Ill,USA).

The data were analyzed using independent t-test to explore differences in fear of childbirth scores between anxious and non-anxious groups. In addition, the association between trait anxiety, state anxiety and fear of childbirth were assessed. Pearson correlation coefficients used to examine the association between fear of childbirth and continuous variables. Logistic regression was conducted with (CAQ) scores as the dependent variable (Table 3).

Results

The mean age of the total participants was 22.87 years (SD = 3.9; range = 15-34 years). The education level of the subjects was in high school diploma degree (71.4\%) and 97\% of the mothers were housewives.

Mean scores of fear of childbirth in anxious women were significantly more than non-anxious women with state anxiety and trait anxiety at gestational age of week 28\textsuperscript{th} (p < 0.01) and (p < 0.001) respectively. In addition, mean scores of fear of childbirth in anxious women were significantly more than non-anxious women with state anxiety and trait anxiety at gestational age of week 38\textsuperscript{th} (p < 0.01) and (p < 0.001) respectively.

Pearson correlation coefficients were used to examine the association between state and trait anxiety and fear of childbirth. The study hypotheses were in accordance with Pearson correlation because two study variables -state and trait anxiety- at gestational age of weeks 28\textsuperscript{th} and 38\textsuperscript{th} were positively associated with fear of childbirth (p < 0.001) (Table 1).

Logistic regression analysis showed that state and trait anxiety at at gestational age of week 28\textsuperscript{th} increased the risk of fear of childbirth (odds ratio \[OR\] 2.7, 95\% confidence interval \[CI\] 1.69-4.35) (p = 0.03) (\[OR\] 2.8, 95\% [CI] 1.17-6.80) (p = 0.02) respectively. It also indicated that state and trait anxiety increased the risk of fear of childbirth at gestational age of week 38\textsuperscript{th} (\[OR\] 2.7, 95\% \[CI\] 1.03-6.80) and (\[OR\] 5.4, 95\% \[CI\] 1.75-16.76) (p = 0.04) (p = 0.003) respectively(Table 2).

State and trait anxiety at gestational age of week 28\textsuperscript{th} and state and trait anxiety at gestational age of week 38\textsuperscript{th} were found to be associated with fear of childbirth (P < 0.05).

Discussion

In this study, anxiety was significantly associated with fear of childbirth among nulliparous women. These findings were in accordance with some studies in which anxiety, depression or low self-esteem were reported to be associated with fear of childbirth.\textsuperscript{19,9}

In study of Johnson et al, they found a significant relationship between trait and state anxiety and the fear of childbirth at gestational age of 28\textsuperscript{th} week.
The association between antenatal anxiety and fear… Alipour et al

Table 2. Effect of state-trait anxiety (STAI) on the risk of fear of childbirth.

|                      | OR, 95% CI   | P   |
|----------------------|--------------|-----|
| STAI-S-1 At gestation week 28 | 1.7 (0.69-4.35) | n.s. |
| STAI-T-1 At gestation week 28 | 2.8 (1.17-6.80) | 0.02 |
| STAI-S-2 At gestation week 38 | 2.7 (1.03-6.80) | 0.04 |
| STAI-T-2 At gestation week 38 | 5.4 (1.75-16.76) | 0.003 |

a, 95% confidence interval.

The present findings also indicated that these symptoms should not be neglected, and results of this study declared that anxiety is a risk factor for fear of childbirth. Importance of fear of childbirth to the maternal health during pregnancy, childbirth, vaginal delivery and development of the primary relationship of mother and infant is so clear. Fear associated with pregnancy and childbirth may have serious consequences. Fear of childbirth during the third trimester of pregnancy is associated with increase of emergency cesarean section and maternal request for cesarean section.4,9,11,12 Study of Gambel et al on cesarean showed the importance of establishing services for the expression of the special needs of women who had anxiety about labor or are afraid to be highlighted24 Therefore, to reduce fear of childbirth and to prevent its consequences, the causing factors in fear of childbirth should be determined and also health workers and midwives in the field of psychological and emotional problems during pregnancy women should be trained to reduce unwanted side effects of anxiety and fear of childbirth.

The authors declare no conflict of interest in this study.

Contribution to authorship
ZA planned the project, ML and EH advised in the design, EH did the data management, the statistical analyses. ZA article with tips ML has written.

Ethical Consideration
This study was approved by the Ethics Committee of Tarbiat Modares University, Iran and informed consent was received from all the subjects.

Funding
This study was provided by was sponsored by Tarbiat Modares University Grant.
Acknowledgment

The authors gratefully acknowledge the Institutional Review Board of the Tarbiat Modares University, which approved and financially supported this project. They also thank from the clients for their cooperation and participation in the study.

References

1. Poikkeus P, Saisto T, Unkila-Kallio L, Punamaki RL, Repokari L, Vilska S, et al. Fear of childbirth and pregnancy-related anxiety in women conceiving with assisted reproduction. Obstet Gynecol 2006; 108(1): 70-6.
2. Melender HL, Lauri S. Fears associated with pregnancy and childbirth-experiences of women who have recently given birth. Midwifery 1999; 15(3): 177-82.
3. Bakshi A, Mehta A, Mehta A, Sharma B. Tokophobia: Fear of Pregnancy and Childbirth. The Internet Journal of Gynecology and Obstetrics 2008; 10(1). Available from: URL: http://www.ispub.com/journal/
4. Rouhe H, Salmela-Aro K, Halmesmaki E, Saisto T. Fear of childbirth according to parity, gestational age, and obstetric history. BJOG 2009; 116(1): 67-73.
5. Saisto T, Salmela-Aro K, Nurmi JE, Halmesmaki E. Psychosocial characteristics of women and their partners fearing vaginal childbirth. BJOG 2001; 108(5): 492-8.
6. Söderquist J, Wijma K, Wijma B. Traumatic stress in late pregnancy. J Anxiety Disord 2004; 18(2): 127-42.
7. Orr ST, Reiter JP, Blazer DG, James SA. Maternal prenatal pregnancy-related anxiety and spontaneous preterm birth in Baltimore, Maryland. Psychosom Med 2007; 69(6): 566-70.
8. Hernandez-Martinez C, Arijia V, Balaguera A, Cavalle P, Canals J. Do the emotional states of pregnant women affect neonatal behaviour? Early Hum Dev 2008; 84(11):745-50.
9. Johnson R, Slade P. Does fear of childbirth during pregnancy predict emergency caesarean section? BJOG 2002; 109(11): 1213-21.
10. Laursen M, Hedegaard M, Johansen C. Fear of childbirth: predictors and temporal changes among nulliparous women in the Danish National Birth Cohort. BJOG 2008; 115(3): 354-60.
11. Ryding EL, Wijma B, Wijma K, Rydhstrom H. Fear of childbirth during pregnancy may increase the risk of emergency cesarean section. Acta Obstet Gynecol Scand 1998; 77(5): 542-7.
12. Khorsandi M, Ghofranipour F, Hydarnya A, Fqyhzadeh S. Effect of Precede Proceed Model Combined with the Health Belief Model and the Self-Efficacy to Increase Normal Childbirth in Nulliparous women, [PhD Thesis] Tehran: Tarbiat Modares University; 2008.
13. Saisto T, Toivanen R, Salmela-Aro K, Halmesmaki E. Therapeutic group psychoeducation and relaxation in treating fear of childbirth. Acta Obstet Gynecol Scand 2006; 85(11): 1315-9.
14. Leeman LM, Plante LA. Patient-choice vaginal delivery? Ann Fam Med 2006; 4(3): 265-8.
15. Bastani F, Hidarnia A, Kazemnejad A, Vafaee M, Kashanian M. A randomized controlled trial of the effects of applied relaxation training on reducing anxiety and perceived stress in pregnant women. J Midwifery Womens Health 2005; 50(4): e36-e40.
16. Ali Pour Dizaji M, Feyzi Z, Seyed Fatemi N, Hosseini F. Correlation between Maternal Anxiety During Pregnancy and Incidence of. Iran Journal of Nursing 2006; 19(47); 79-88.
17. Azimi H, Zarghami M. Religious coping and anxiety in students of Mazandaran University of Medical Sciences 1999-2000. Journal of Mazandaran University of Medical Sciences 2002; 12(34): 37-46.
18. Lowe NK. Self-efficacy for labor and childbirth fears in nulliparous pregnant women. J Psychosom Obstet Gynaecol 2000; 21(4): 219-24.
19. Zar M, Wijma K, Wijma B. Pre and post partum fear of childbirth in nulliparous and parous women. Cognitive Behaviour Therapy, 2001; 30(2): 75-84.
20. Spice K, Jones SL, Hadjistavropoulos HD, Kowalyk K, Stewart SH. Prenatal fear of childbirth and anxiety sensitivity. J Psychosom Obstet Gynaecol 2009; 30(3): 168-74.
21. Szeverenyi P, Poka R, Hetey M, Torok Z. Contents of childbirth-related fear among couples wishing the partner's presence at delivery. J Psychosom Obstet Gynaecol 1998; 19(1): 38-43.
22. Heimstad R, Dahloe R, Laache I, Skogvoll E, Schei B. Fear of childbirth and history of abuse: implications for pregnancy and delivery. Acta Obstet Gynecol Scand 2006; 85(4): 435-40.
23. Sutter-Dallay AL, Giacoume-Marcesco V, Glatigny-Dallay E, Verdoux H. Women with anxiety disorders during pregnancy are at increased risk of intense postnatal depressive symptoms: a prospective survey of the MATQUID cohort. Eur Psychiatry 2004; 19(8): 459-63.
24. Gamble JA, Creedy DK. Women's request for a cesarean section: a critique of the literature. Birth 2000; 27(4): 256-63.
کارگاه‌های آموزشی مرکز اطلاعات علمی

مقاله نویسی علوم انسانی

اصول تنظیم قراردادها

آموزش مهارت های کاربردی در تدوین و چاپ مقاله