Short Communication

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The Relationship between Perceived Stress and Attitude towards Delivery and Choosing Mode of Delivery among Pregnant Women

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ABSTRACT

BACKGROUND AND OBJECTIVE: Since choosing mode of delivery is one of the most important choices in a woman's life, the factors affecting this choice are necessary to be considered. In recent years, the effect of various psychological factors on attitude towards delivery has been considered. One of these factors is the mother's perceived stress. Therefore, this study was conducted to determine the relationship between perceived stress and attitude towards delivery and choosing mode of delivery among pregnant women.

METHODS: This prospective cohort study was conducted among 305 pregnant women who were at week 32 of their pregnancy or above who referred to selected health centers of Ahvaz in 2016. "Demographic information", "Perceived stress" and "Attitude towards mode of delivery" were collected using a questionnaire. Perceived stress score was from zero to 56(higher score indicates higher perceived stress), and attitude towards delivery score was from 68 to 204(higher score indicates more positive attitude towards delivery).

FINDINGS: The mean perceived stress score in subjects with positive, neutral and negative attitudes toward delivery were 27.08±10.86, 25.70±8.82 and 22.36±15.14, respectively, and in women with virginal and cesarean deliveries were 26.45±10.18 and 25.24±10.44, respectively. There was no significant correlation between perceived stress and attitude towards delivery(p=0.22) and choosing mode of delivery(p=0.49).

CONCLUSION: The results of the study showed that there is no relationship between perceived stress and attitude towards delivery and choosing mode of delivery.

KEY WORDS: *Attitudes towards delivery, Choosing mode of delivery, Perceived stress.*

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Introduction

Delivery is a natural phenomenon and its mechanism is an autonomous process without intervention, and cesarean section is the priority only in cases of maternal and fetal death(1). According to the World Health Organization, the rate of cesarean delivery was 27% in 24 countries in 2007-2008(2). According to this organization in 2010, the rate of cesarean delivery in Iran was 41.9% of all deliveries in 2008 (3).

Meanwhile, the recommendation of the organization for the rate of cesarean delivery was a maximum of 15% by 2010(4). According to Louise Silverton's theory, virginal delivery and the associated pain and fear can play a major role in women's decision making for choosing the mode of delivery(5). Concerns and fears are important issues in terms of research as well as theorizing(6).

Attitude means a positive or negative state towards a subject. In addition, the combination of cognitions, feelings, and readiness to react to a particular thing is called a person's attitude toward that(7). In recent years, the effect of different psychological factors on attitude towards delivery has been considered. One of these characteristics is the mother's perceived stress. Stress is the response to a real or imaginary perceived threat(8). Perceived stress refers to a person's overall understanding of the impact on stressors(9). The intensity of perceived stress refers to a person's belief in the severity of stress (10). Many scholars believe that the existence of individual differences differentiates individual reactions towards situations and pressures(11). One of these situations is the delivery of pregnant mothers(12).

Folkman et al. believe that a situation is stressful when the person has to use his/her resources heavily and to react on the basis of situational assessment(13). Some studies have analyzed the psychological factors involved in fear of delivery. According to studies, women who are severely concerned about giving birth would experience long-term delivery, and mother's extreme anxiety and fear may cause multiple problems, such as irregular heartbeat patterns and increased cesarean section (14).

Since the rate of cesarean section in Iran is far from the rate accepted by the World Health Organization, and given the complications of cesarean section, such as increasing maternal mortality by 2 to 4 times, and maternal damages by 5 to 10 times compared to virginal delivery, and 4 times higher risk of neonatal death compared with virginal delivery (15, 16), as well as a large number of non-medical reasons leading to cesarean section, it is believed that request for cesarean section without medical reasons is an anthropological and psychological problem rather than a medical problem. It is necessary to investigate the probable psychological issues affecting cesarean section.

Given the above issues and considering the lack of studies, especially the prospective studies on the relationship between perceived stress and attitude towards delivery, this prospective study was conducted to investigate the relationship between perceived stress and attitude towards delivery and the choice of delivery mode, so that we would be able to plan and take actions to reduce the negative factors affecting the attitude towards vaginal delivery and ultimately reduce the unnecessary cesarean section by achieving a better perception of factors affecting the choice of delivery mode.

Methods

This prospective cohort study was approved by the Ethics Committee of Ahwaz University of Medical Sciences(ethics code: IR.AJUMS.REC.1395.448) in 2016, and it was conducted during four months among 305 pregnant women who were at week 32 of their pregnancy or above and referred to selected health centers of Ahvaz. Randomized clustering method was used to select the centers: First, the city of Ahvaz was divided into two geographical regions of East and West and then two centers were randomly selected from each region(Centers 8 and 17 from the eastern region and centers 1 and 3 from the western region).

The researcher was stationed in selected health centers and the subjects were selected by researcher after obtaining written consent from the pregnant women who were referred to the health centers through convenience unpredictable sampling method. Sample size was calculated based on the formula for estimating the ratio, which was based on the results of previous studies, 95% confidence level and 80% power, which was calculated as two groups of 160 women(a total of 320 women).

Primigravidae and women in the age range of 16 to 45 years old, satisfaction to participate in the study, not having a history of infertility and being on the 32nd week of gestation or above, were included in the study and in the case of a history of mental and psychological illness, and having a medical necessity for conducting

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cesarean section were excluded. To collect data, Cohen's perceived stress scale and attitude towards mode of delivery questionnaire.

Cohen's Perceived Stress Questionnaire: This questionnaire, which is used to measure the amount of stress experienced by a person in his/her life during the past month, includes 14 questions. In this test, five – point Likert Scale was used, which includes the answers; never, very low, low, moderate, relatively high, and very high, and the subject is graded from zero to four according to the option he/she chooses, questions 4, 5, 6, 7, 9, 10 and 13 are scored oppositely(never = 4, low = 3, moderate = 2, relatively high = 1, and very much = 0) and the total score is considered as the perceived stress score.

The lowest level of perceived stress is zero and the highest score is 56. Higher score represents more stress. The reliability of this test has been reported through the internal consistency method using Cronbach's alpha of 0.84 to 0.86. In general, the validity criteria of this scale are not influenced by gender and age, and it has a proper validity(17). The reliability of this scale was obtained through Cronbach's alpha of 0.81 for Iranian subjects and 0.86 for American subjects(18).

Attitude towards mode of delivery questionnaire: This is a tool for determining the factors affecting the choice of delivery mode and has 68 items, which is based on five – point Likert Scale. According to the choices or options of the Likert Scale, the scores were divided into three groups: "Negative attitude towards virginal delivery"(score 68 to 113), "Neutral attitude"(score 114 to 159), and "Positive attitude towards virginal delivery"(score 160 to 204).

Increase in the score indicates an increased inclination to virginal delivery. This questionnaire was developed by Abbaspoor et al. with Cronbach's alpha coefficient of 0.89 and correlation coefficient of 0.92. The above numbers indicate internal consistency and high stability of the questionnaire(19, 20), respectively. First, explanations were given to the subjects about the aim of the study, and after agreeing to cooperate with the research, the questionnaires were given to the subjects and explanations were given on how to answer the questions. The subjects were assured that their information would be completely confidential and that their identity and characteristics would not be reported in the study.

Finally, phone numbers were taken from subjects and they were informed that they would be contacted to follow the mode of delivery they choose. At the end of the study, 15 patients were forced to undergo cesarean section due to medical necessity and therefore they were excluded from study, and thus, the final number of participants was reduced to 305 people. After completing the sampling and follow up of the mode of delivery, the questionnaires were scored and the data were analyzed using SPSS software(version 22) and independent t-test and one way ANOVA. $P < 0.05$ was considered significant.

Results

The mean age of women participating in the study was 22.7 years and most of the research units(64.3%) were aged 20-29 years, 62.6% had Arab ethnicity, most of them(45.3%) had secondary education, high school and diploma, 70.5% were housewives and 60% were at average economic level. 52.1% had a positive attitude toward vaginal delivery, and most of them(87.5%) selected vaginal delivery(Table 1).

Table 1. Frequency distribution of individual characteristics of the subjects

Variable	Specifications	N(%)
Age(year)	16 - 19	81(26.6)
	20 - 29	196(64.3)
	30≥	28(9.2)
Education	Primary school	46(15.1)
	Middle school, High School	215(70.5)
	University	44(14.4)
Occupation	Housewife	268(87.9)
	Employed	37(12.1)
The economic situation	Good	93(30.5)
	Average	183(60.0)
	Bad	29(9.5)
Ethnicity	Persian	102(33.4)
	Arab	191(62.6)
	Other	12(4.0)

There was no statistically significant relationship between perceived stress and attitude toward delivery in the participants of the study. There was no statistically significant relationship between perceived stress of research units and attitude toward delivery(Table 2). The mean perceived stress score in chose vaginal delivery and cesarean delivery was 26.45±10.18 and 25.24±10.44, respectively, and in women who underwent vaginal delivery and cesarean delivery was

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26.33±10.29 and 26.06±9.66, respectively. There was no statistically significant difference between the two groups of women who chose vaginal delivery and cesarean delivery(p=0.49) and women who underwent vaginal delivery and cesarean delivery(p=0.87) in terms of attitude toward mode of delivery (Table 2).

Table 2. Relationship between perceived stress and score of attitude towards delivery, attitude towards mode of delivery and chosen mode of delivery in women referring to health centers in Ahvaz in 2016

Variable		Perceived stress score		p-value
		N(%)	Mean±SD	
Attitude to delivery	Positive	159(52.1)	27.10±08.86	0.222
	Neutral	135(44.3)	25.70±8.82	
	Negative	11(3.6)	22.36±15.14	
The choice of delivery mode	Vaginal delivery	267(87.5)	26.45±10.18	0.494
	Cesarean section	38(12.5)	25.24±10.44	
Mode of performed delivery	Vaginal delivery	269(88.2)	26.33±10.29	0.879
	Cesarean section	36(11.8)	26.06±9.66	

Discussion

The results of this study showed that there is no significant difference between perceived stress and attitude toward delivery mode. Moreover, according to the results of the present study, there is no significant relationship between perceived stress and mode of delivery. In other words, determining the perceived stress score of pregnant women cannot be effective in predicting the mode of delivery. In the study of Ghooshchian et al., stress was not able to predict the choice of delivery mode(21). In addition, in the study of Chen et al., there was no significant relationship between psychological processes such as cesarean section and stress(22), which are consistent with this study. In the study of Hall et al., the stress and fear of delivery could not significantly predict cesarean section among the nulliparous women(23), which is consistent with the present study regarding the relationship between stress and mode of delivery.

A study that specifically addresses the relationship between stress and attitude towards delivery has not been found, but in similar studies, the relationship between stress and other psychological factors such as anxiety and fear has been addressed based on the choice of mode of delivery. According to Negahban et al., emergency cesarean section occurred more among those who reported higher degrees of fear(24). In addition, in a study by Alipour et al., there was no significant relationship between anxiety and cesarean section(25). In the study of Fahami et al., severe maternal stress and fears increased the likelihood of a mother requesting cesarean section unnecessarily(26). According to Fahami et al., due to the close relationship between the two cognitive and psychological systems, psychological variables such as fear and anxiety play a significant role in choosing the mode of delivery(26). On the other hand, some other studies also show no significant relationship between cesarean section and psychological variables. Johnson et al. showed no significant relationship between cesarean section and delivery fear(27).

Differences in the results of studies that are related to the relationship between psychological factors and attitude towards delivery and the choice of delivery mode may be due to the use of different questionnaires to measure these factors, and cultural, social, economic and ethnic differences. It seems that in the studied society, the dominance of traditional culture, religious beliefs and its direct impact on stress and stress management, as well as stronger foundation of the family in the traditional societies, and the positive effect of social and family support on the perceived stress of a person can be the reason for the lack of correlation between perceived stress and attitude towards delivery and the chosen mode of delivery. According to the results of various studies, the primigravidae experience some degree of fear of delivery. This fear can be one of the reasons for the occurrence of emergency cesarean section(12, 28). The results of the study of Baleghi et al. showed that relaxation reduces the fear of delivery and increases the tendency to vaginal delivery(29). One of the limitations of this research is the limited research community, which is limited to health centers in Ahvaz, so generalization of its results to other groups should be carried out with caution and it is recommended that future societies with different cultures be studied.

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Another limitation of this research is the necessity to do it in the third trimester of pregnancy to assess the attitude toward choosing the mode of delivery. During this period, pregnant women are partially bored with physiological conditions of pregnancy, and this may influence the way they respond to the questions. However, attempt was made to minimize the error with full explanation and confidence in the research units. The results of this study showed that perceived stress was not significantly correlated with attitude towards delivery and choice of delivery mode. According to the studies, there is a need for further studies to conclude on the relationship between perceived stress and attitude towards delivery and other sub-scales.

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References

1.Sharifirad GH, Fathi Z, Tirani M, Mehaki B. Assessing of pregnant women toward vaginal delivery and cesarean section based on behavioral intention model. J ILAM Univ Med Sci. 2007;15(1):19-23.

2.Lumbiganon P, Laopaiboon M, Gülmezoglu AM, Souza JP, Taneepanichskul S, Ruyan P, et al. Method of delivery and pregnancy outcomes in Asia: the WHO global survey on maternal and perinatal health. The Lancet. 2010;375(9713):490-9.

3.Gibbons L, Belizán JM, Lauer JA, Betrán AP, Merialdi M, Althabe F. The Global Numbers and Costs of Additionally Needed and Unnecessary Caesarean Sections Performed per Year: Overuse as a Barrier to Universal Coverage. World Health Organization; 2010.

4.Angeja AC, Washington AE, Vargas JE, Gomez R, Rojas I, Caughey AB. Chilean women's preference regarding mode of delivery: which do they prefer and why?. BJOG. 2006;113(11):1253-8.

5.Campbell D. 'Fear of pain' causes big rise in caesareans UK: Guardian News; 2008. Available from: https://www.theguardian.com/society/2008/oct/26/health-women.

6.Davey CL, Wells A. Worry and its psychological disorders: Theory, assessment and treatment. New York: John Wiley and Sons; 2006. p. 201-16.

7.Pashasharifi H. Psychological principles of verification. 8th ed. Tehran: Roshd publication; 2002.P. 413.

8.Abbaspoor Z, Moghaddm Banaem L, Ahmadi F, Kazemnejad A. Development a questionnaire measuring attitude toward birth method selection(ATBMS) [PhD Thesis]. Tehran: Tarbait Modares University; 2014.

9.Fata L, Mootabi F, Bolhari J, Kazemzadeh_Atoofi M. Stress management: A guide book for workshop training. Tehran: Danjeh; 2008. P. 12.

10.Folkman S, Lazarus RS, Pimley S, Novacek J. Age differences in stress and coping processes. Psychol Aging. 1987;2(2):171-84.

11.Rosenstock IM. The health belief model: Explaining health behavior through expectancies. In: Glanz K, Lewis FM, Rimer BK, editors. Health behavior and health education: Theory, research, and practice. San Francisco, CA, US: Jossey-Bass; 1990. P. 39-62.

12.AghaYousefi A. The role of personality factors on coping strategies for the effect of therapy on personality factors and psychology [PhD thesis]. Tehran: Tarbiat Modares University; 2001.

13.Saisto T, Salmela-Aro K, Nurmi JE, Halmesmaki E. Psychosocial characteristics of women and their partners fearing vaginal children. Int J Obste Gynaecol. 2001;108(5):492-8.

14.Folkman S, Lazarus RS, Dunkel Schetter C, DeLongis A, Gruen RJ. Dynamics of a stressful encounter: cognitive appraisal, coping, and encounter outcomes. J Personal Soc Psychol. 1986;50(5):992-1003.

15.DeCherney A, Nathan L, Goodwin TM, Laufer N. CURRENT Diagnosis & Treatment Obstetrics Gynecology. 10th ed. New York: McGraw-Hill; 2007. p. 193.

16.Lim FT, Scherjon SA, van Beckhoven JM, Brand A, Kanhai HH, Hermans JM, et al. Association of stress during delivery with increased numbers of nucleated cells and hematopoietic progenitor cells in umbilical cord blood. Am J Obs Gynecol. 2000;183(5):1144-51.

17.Cunningham FG, Leveno KJ, Bloom SL, Spong CY, Dashe JS, Hoffman BL, et al. Cesarean delivery and peripartum hysterectomy. Williams Obstetrics. 24th ed. Tehran: Golban; 2014. p. 697-703.

18.Cohen S, Kamarck T, Mermelstein R. A global measure of perceived stress. J Health Soc Behav. 1983;24(4):385-96.

19.Ghorbani N, Davison HK, Bing MN, Watson PJ, Mack DA. Self-reported emotional intelligence: Construct similarity and functional dissimilarity of higher-order processing in Iran and the United States. Int J Psycho. 2002;37(5):297-308.

20.Moghaddam Banaem L, Ahmadi F, Kazemnejad A, Abbaspoor Z. Development of a questionnaire to measure attitude toward birth method selection. Iran J Nurs Midwife Res. 2017;22:147-56.

[DOR: 20.1001.1.15614107.1397.20.5.8.4]
[DOI: 10.18869/acadpub.jbums.20.5.61]

21.Ghooshchian S, Dehghani M, KHorsandi M, Farzad V. The role of fear of pain and related psychological variables in prediction of cesarean labor. Arak Med Univ J. 2011;14(56):45-54. [In Persian]

22.Chen CH, Wang SY. Psychosocial outcomes of vaginal and cesarean births in Taiwanese primiparas. Res Nurs Health. 2002;25(6):452-28.

23.Hall WA, Stoll K, Hutton EK, Brown H. A prospective study of effects of psychological factors and sleep on obstetric interventions, mode of birth, and neonatal outcomes among low-risk British Columbian women. BMC Pregnancy and Childbirth. 2012;12(1):78.

24.Negahban T, Ansari A. Does fear of childbirth predict cesarean section in primiparous women?. Hayat. 2009;14(3,4):73-81.

25.Alipour Z, Lamieyan M, Hajizadeh E. Fear of childbirth, trait anxiety and quality sleep in pregnancy and birth outcomes in nulliparous woman. Iran J Obstet Gynecol Infer. 2012;15(28):21-30.

26.Fahami F, Masoudfar S, Davazdahemami S. The Effect of Lamaze Practices on the Outcome of Pregnancyand Labor in Primpara Women. Iran J Nurs Midwife Res. 2007;12(3).

27.Johnson R, Slade P. Does fear of childbirth during pregnancy predict emergency caesarean section?. Br J Obstet Gynaecol. 2002;109(11):1213-21.

28.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.

29.Baleghi M, Mohammadian Akerdi E, Zahed Pasha E. The Effect of Relaxation on Childbirth and an Increase in Natural Childbirth. J Babol Univ Med Sci. 2016;18(8):14-9.

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