

## FOC in Pregnancy and Some of its Effective Factors

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### Abstract

**Background and objectives:** Fear and anxiety during pregnancy will have a great impact on the mental health of the mother and the fetus, These conditions may be due to fear of childbirth, which can exacerbate sense of pain, severity of pain, anxiety, distress, discomfort and disability. Therefore, we decided to evaluate the factors affecting on fear of child birth.

**Methods:** This descriptive-analytic study was performed on 211 eligible mothers in health centers of Gorgan, Iran, in the second six months of 1396, by simple sampling. The Data was collected by Wijma Maternity Fear Questionnaire (A) and analyzed by SPSS software version 18, using Fisher and Kruskal Wallis tests at a significance level of 0.05.

**Results:** The range of maternal fear of childbirth scores was from 14 to 120 with a mean of 61.75 and a standard deviation of 22.99. About 77.2% of mothers had a mild or moderate, 18.5% had clinical and 4.3% had severe fear of childbirth. In this study, the pregnant woman's and her husband's job, as well as husband's level of education, were identified as the most important influencing factor on the fear of childbirth.

**Conclusion:** According to this study, 18.5% of the Nulliparous mothers had clinical and 4.3% had sever fear of Childbirth; therefore, in order to promote the pregnant mother's mental health, new strategies should be adopted to reduce this fear. In addition, knowing the factors affecting this fear will help us to plan and implement strategies to deal with the fear of childbirth more accurately.

**Keywords:** Tocophobia, Fear of Childbirth, Cesarean section, Pregnancy

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## Introduction

Pregnancy is an important and stressful period in women's life, and anxiety and mental status of pregnancy affect the maternal and fetal health (1, 2), and impact on the process of labor and delivery that increased surgical interventions and complications in the mother (3). It seems that the pregnant mother's anxiety states are often affected by the fear of childbirth (FOC) (4). Based on medical reasons, vaginal delivery is an ideal for the mother and baby's health. Therefore, surgical procedures and interventions for delivery as an aggressive method increasing the likelihood of subsequent maternal and neonatal outbreaks should be strictly limited to medical indication. These cases account for 10-15% of the cases. About 85-90% of the deliveries can be done vaginally without any medical intervention (5, 6). It can be said that when the fear of birth is considered as an exaggerated for mothers, by creating a negative interpretation of the pain, they will perceive it as a harmful phenomenon (7).

Tocophobia is a Greek word meaning a severe fear of birth that may prevent a woman from becoming pregnant; (8) it is classified into two primary and secondary forms. The primary type that primarily affects primiparous mother is sometimes so severe that even a woman with a strong desire to have a child, avoids pregnancy. The secondary type is associated more with the unpleasant experiences of previous pregnancy (9). Fear of birth is the most common cause of concern for pregnant mothers (10) and often accompanied by increased sensation and experience of pain, prolonged delivery and unpleasant labor experience (3, 11). Women who experience FOC are more vulnerable to

maternal complications in terms of outcomes and surgical interventions (12).

The fear of birth had ranges within the rational fears to the extreme fears. Most pregnant primiparous mothers experience normal and rational fears due to Lack of sufficient information about stages of delivery (13). Stoll et al. (2013) concluded in a study in Canada that the women with the rational and mild degree of fear of birth obtained a successful birth experience (14). On the other hand, irrational fears in the form of overnight nightmares, the emergence of physical signs and constant anxiety cause the pregnant mothers to worry about vaginal birth (15). Sometimes due to sever fear of birth the mother would avoid from pregnancy and rejecting it (16). Even if these people accept vaginal birth despite the reluctance to avoid it; this fear leads to an overestimate of the pain and reduces ability to deal with the pain that results in lack of proper use of their own abilities during delivery (17). While sometimes, even Cesarean section cannot be helpful in clearing up the influence of the unpleasant experience of this fear (18).

No study was performed regarding the amount of childbirth fear in primiparous women in Iran. However, among the studies on the relationship between fear of birth in pregnancy and its related factors, one can refer to the article of Andron et al. (2017). They investigated the relationship between the severity of childbirth fear and the choice of delivery type in primiparous women in Mashhad. They concluded that the choice of cesarean section was more frequent in women with a great deal of childbirth fear (19) Moasheri et al. (2016) also obtained similar results in a research aimed at investigating the relationship between fear of pain and mode of delivery in Birjand [20]. Khorsandi et al. (2014) evaluated the causes and factors associated with fear of child birth in a cross-sectional study in Arak and observed the

increased child birth fears in primiparous women (1). Etgaie and Nuhi, in Kerman, in 2012, in a study on the mother's conception of labor pain and the desire for vaginal delivery concluded that the increase in negative maternal conceptions of vaginal delivery due to fear of birth significantly can reduce the inclination to normal vaginal delivery (21). In the study of Negahban and Ansari (2009), fear of pain caused by the vaginal delivery and lack of awareness of the cesarean complications were mentioned as the most important reasons for the unwillingness of Iranian women to have vaginal delivery (22). Given that primiparous women experience more fear than the parous women, and the consequences of childbirth in the first delivery affects childbearing afterward (3, 18), and since don't any report about fear of birth rate in the studied area so far, it seems that FOC is one of the main causes of the choice of cesarean section in our country. Considering the importance of reducing the increasing rate of cesarean delivery, the present study aimed to evaluate the fear of birth and some affecting factors in the primiparous women in Gorgan city in north of Iran.

### **Materials and Methods**

This descriptive-analytic cross-sectional study was carried on primiparous mothers referring to all health centers in Gorgan during the second half of 2017. Therefore, the researcher by referring to the Electronic Health Record System "Nab" and find a phone call to all the primiparous women who were in the first trimester of the pregnancy for inviting them to participate in the study after explaining the objectives of study. Two hundred eleven pregnant mothers were eligible for the research units and willing to participate in the study. They included in the study after giving the written consent and completed the checklist of the underlying factors (age,

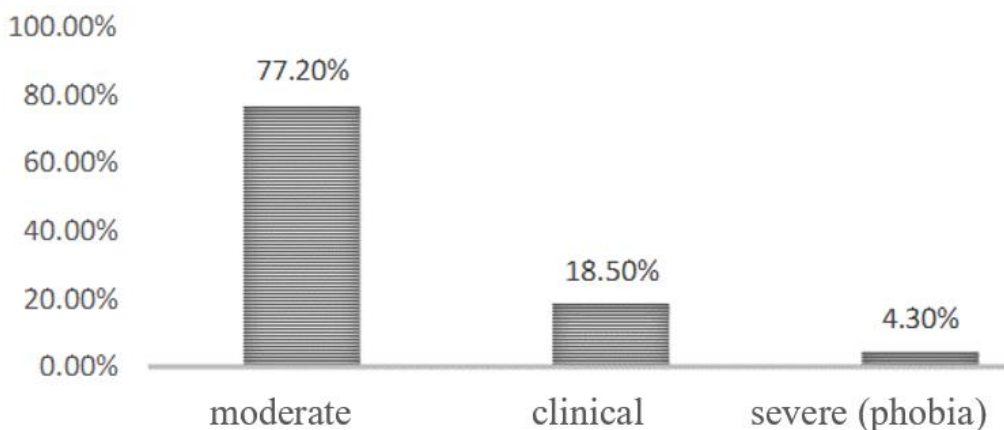
occupation, and education of mother and spouse, ethnicity, income, and desirability of the pregnancy) as well as the Wijma Maternity Fear Questionnaire (A) questionnaire. The inclusion criteria of the study included: willingness and consent to participate in the study, low-risk pregnancy and the ages of 18 to 35 years. Since there was no document about the fear of birth rate in three trimester of pregnancy; Furthermore, the anxiety during pregnancy was high in the first and third trimesters and it was the lowest in the second trimester (23), we decided to select the mothers in the second trimester of pregnancy as the research sample in this study.

The instrument used in this study was the Wijma Tool (version A), designed by Wijma and Zar (1998). This questionnaire includes 33 items each with a score of 0-5 in the Likert scale. In this questionnaire, a score of 0-84 is a mild/moderate fear, a score of 99-85 represents the clinical fear, and a score of 100-165 is the sever fear of birth or phobia. The items 2, 3, 6, 7, 8, 11, 12, 15, 19, 20, 24, 25, 27 and 31 are scored in reverse. Wijma et al. (1998) estimated that the reliability of the questionnaire to be 0.93 based on Cronbach's alpha and 0.89 on split- half testing (24). The validity of the Persian version of the Wijma Questionnaire (version A) was confirmed by Abedi et al. (2016) and its reliability was confirmed based on the Cronbach's alpha coefficient (0.64) (25). Gazeie et al., (2016) also confirmed the reliability of this questionnaire based on Cronbach's alpha (0.81) and based on split-half (0.85) (26). Andorran et al., (2017) also approved the reliability of this questionnaire based on Cronbach's alpha (0.71) (19). Data was analyzed by SPSS V.18 using Fisher and Kruskal Wallis tests at a significance level of 0.05.

**Results**

The mothers were within the ages of 18-35 with a mean age of  $25 \pm 4.44$  years. The ethnicity of most of the mothers was Fars

(78.2%). The fear of birth scores ranged from 14 to 120 with a mean of  $22.99 \pm 61.75$ . About 18.5% of the mothers had clinical fear of birth and 4.3% had phobias (Diagram 1).



**Figure 1. The FOC in primiparous women**

There was no significant difference in fear of birth in terms of the mean age of mother, the

age of spouse and gestational age ( $p > 0.05$ ) (Table 1).

**Table 1: Comparison of quantitative variables by the severity of nulliparous mothers fear of childbirth**

The variables studied	moderate FOC		Clinical FOC		Severe FOC		Total FOC		p-value
	mean	SD	mean	SD	mean	SD	mean	SD	
Mother's age (years)	4.51	24.99	4.21	24.92	4.47	25.67	4.44	25	0.84
Age of the spouse (years)	5.19	29.07	3.79	28.72	4.27	28.44	4.91	28.98	0.93
Pregnancy (week)	2.70	24.25	2.57	24.59	2.06	23.56	2.65	24.28	0.51

Fisher's exact test showed that there was a statistically significant relationship between mother's and spouse's occupation with the levels of FOC ( $p < 0.05$ ) and severe fear (phobia) was found only in homemakers. The clinical fears and phobia were not seen in any

of the mothers whose spouses were workers, and 19.2% of the mothers whose spouses were employees had moderate fear, so that (13.4%) had clinical fear and (5.8%) had severe fears or phobias. Moreover, using Fisher's exact test, no statistically significant relationship was found between mother's

education, spouse's education, ethnicity, family income, and the pregnancy wantedness or unwanted pregnancy with the levels of

FOC ( $p > 0.05$ ); however, there was a significant relationship between FOC and mother's and spouse's job (Table 2).

**Table 2: The number of nulliparous mothers FOC due to the demographic and social variables**

The variables studied	Moderate FOC Num (percent)	Clinical FOC Num (percent)	Severe FOC Num (percent)	P-Value
Mother's education :				
Under the diploma	32(82.1)	3(7.7)	4(10.3)	0.08
Diploma	41(78.8)	11(21.2)	0(0)	
Associate Degree	11(68.8)	5(31.3)	0(0)	
Bachelor	58(72.5)	18(22.5)	4(5)	
Higher	21(87.5)	2(8.3)	1(4.2)	
Spouse's education:				
Under the diploma	38(80.9)	6(12.8)	3(6.4)	0.24
Diploma	49(72.1)	18(26.5)	1(1.5)	
Associate Degree	20(83.3)	4(16.7)	0(0)	
Bachelor	37(74)	8(16)	5(10)	
Higher	19(86.4)	3(13.6)	0(0)	
Mother's Job:				
Home worker's	133(78.2)	28(16.5)	9(5.3)	0.03
Employee	14(78.5)	2(12.5)	0(0)	
Free	13(81.2)	3(18.8)	0(0)	
Student	3(33.3)	6(66.7)	0(0)	
Spouse's Job :				
Employee	42(80.8)	7(13.4)	3(5.8)	0.04
Manual worker	13(100)	0(0)	0(0)	
Free	108(74)	32(21.9)	6(4.1)	
Ethnicity :				
Fars	126(76.4)	31(18.8)	8(4.8)	0.4
Turkmen	4(57.1)	2(28.6)	1(14.3)	
Sistani	27(81.8)	6(18.2)	0(0)	
Others	6(100)	0(0)	0(0)	
The amount of family income:				
Poor	56(75.7)	16(21.6)	2(2.7)	0.06
average	94(80.3)	18(15.4)	5(4.3)	
Good	13(65)	5(25)	2(10)	
Pregnancy status :				
Wanted	153(78.5)	34(17.4)	8(4.1)	0.07
Unwanted	10(62.5)	5(31.3)	1(6.3)	

## Discussion

Given that 18.5% of the primiparous mothers had clinical fear and 4.3% had severe fear, about one-fourth of the studied mothers (22.8%) had clinical and severe FOC. While this fear was estimated to be about 6-10% in the study of Salmela-Aro et al. (27), and 7-22% in Finland, Sweden and the United Kingdom (2011) (28), it seems that the rate of FOC in the studied population is high. On the other hand, Zafarghandi et al. (2006) in Tehran showed that the rate of this fear was 59% (29). We know that when the FOC is illogical and ill posed, it will lead to the avoidance behavior of the pain source (30). Ghoshchian et al. (2011) in a study in Tehran concluded that the fear of childbirth, catastrophizing pain, and catastrophic cognition could predict the avoidance of pregnant mothers from normal delivery (17). In this regard, the systematic review of Rafie et al. (2018) indicated that due to the FOC among the mothers, the rate of cesarean delivery reached 48% (31). Hence, it seems that the high cesarean section statistics are more likely to be due to fear of birth, causing the mother's reluctance to have normal vaginal delivery (NVD) (32). The study by Andaron et al. (2017) in Mashhad also showed that the FOC of primiparous women had a direct relationship with their unwillingness to have a NVD, and the higher the rate from moderate to severe, the increased the maternal avoidance of NVD (19). Khayatan et al. (2017) in Ahwaz observed the avoidance and non-acceptance of NVD by 94.2% of mothers without medical causes; 52.7% of the reasons for this choice was the fear of labor pain, of which 60.3% did not accept the NVD even in the case of painless delivery (33).

Concerning the factors affecting the fear of childbirth, a Swedish study described the socio-economic status as one of the most important predictors of labor pain and reluctance to painless delivery (34). Abbaspoor et al. (2014) also found that economic factors in Iranian society play a decisive role in choosing the method of delivery among women in Iran (35). In the present study, the family income was significantly associated with FOC ( $p < 0.06$ ).

In this regard, other factors can be attributed to the individual's job and education, which is very relevant to the socioeconomic status of people. According to the systematic review of Rafiee et al. (2018), mothers' with higher education have more demand for cesarean delivery in Iran (31). According to Najafi et al. (2018) in Bushehr, the most reason for mothers' reluctance to have normal delivery was fear of labor pain (39.50%) and a significant relationship was found between the variables of occupation ( $p = 0.01$ ) and spouse's education level ( $p = 0.001$ ) and the choice of delivery mode (36). In the present study, mother's education was very close to significance in FOC ( $p < 0.08$ ), however, there was a significant relationship between FOC and the occupation of mother and her husband. It seems that people with higher education and higher income have more financial afford and choose the cesarean section surgery due to this fear. Khosravi et al. (2006) in Bojnourd also concluded that the mode of delivery has a significant relationship with social, occupational and educational status of the spouse ( $p = 0.001$ ). Since in the cases with higher education and spouses' employment, the proportion of cesarean section is at the highest level and it is at the

lowest level in the case of literacy and the unemployment of spouses. Furthermore, there was a significant relationship between the mode of delivery with the job and the level of mother's education ( $p = 0.004$ ) and ( $p = 0.006$ ). In addition, the rate of selection of cesarean section in working mothers with the diploma and higher education was higher than mothers with lower education (37). Movahed et al. (2012) also concluded in a study in Shiraz that there was a significant relationship between mother's education, spouse's education, employment status, and the unwillingness of mothers to normal delivery (38).

In the present study, there was no significant relationship between mother's and spouse's age with FOC, however, in the study of Movahed et al. (2012) in Shiraz, a significant relationship was found between a mother's age, marriage age and mother's unwillingness to have NVD (38). Of course, it could be said that this was due to the selection of the primiparous mothers who were in the similar age range; therefore, this factor was not significant on the fear of normal labor. Regarding the effect of delivery history on the degree of childbirth fear, Korsandi et al. (2014) in Arak showed that FOC of the primiparous mothers' was more than parous mothers (1). The present study was conducted on the FOC of primiparous women and therefore, this factor was not possible to investigate.

In this study, there was no significant relationship between ethnicity and fear of delivery. However, the results of the research show that ethnic and cultural differences are among the factors that affect the biological phenomenon of pregnancy and childbirth (39, 40). The reason for the lack of significant relationship between the ethnicity and the

FOC in the present study can be lack of sufficient ethnicity diversity in the studied samples. Thus, the present study was carried out in primiparous women living in Gorgan, while the different ethnicities often reside in the villages around Gorgan.

### **Conclusion**

Based on the results since the FOC in pregnant women was high in the studied society; therefore, in order to promote normal delivery, and in order to welcome mothers of this mode of delivery, at first the solutions should be found to reduce this fear so that the mother overcomes the fear and enters the delivery phase, and then the methods for reducing labor pain should be used. Perhaps this is why strategies for reducing labor pain were not highlighted in promoting normal labor. Therefore, it is important to pay special attention to strategies for coping with childbirth fear in planning related to cesarean section and pregnancy training.

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