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## Defining Childbirth Fear And Anxiety Levels In Pregnant Women

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### Abstract

This study was conducted to determine the childbirth fear and anxiety levels of the pregnant women. This descriptive research was carried out with 184 pregnant women who complied with the specified criteria and agreed to participate in the study in Trabzon, Turkey. The data was collected using the 'Wijma Delivery Expectance / Experience Questionnaire (W-DEQ-A) and the Beck Anxiety Inventory (BAI). In the analysis of the data, percentage distribution, mean, standard deviation, t test, Mann-Whitney U test, Kruskal-Wallis ANOVA and Spearman Correlation Analysis were used. 72.8% of the women were multiparous, 27.2% primiparous and their average age was  $29.12 \pm 5.68$ . Of those surveyed, 40.8% were found out to have severe anxiety levels, while 48.9% had severe-clinical levels of childbirth fear experience. A significant positive correlation was determined between the W-DEQ-A average score  $63.83 \pm 20.13$  and the BAI average score  $22.66 \pm 13.68$  ( $r = 0.484$ ;  $p = 0.000 < 0.05$ ). That is, as the W-DEQ-A total score increased, the BAI scores increased too. A statistically significant relationship was found between the BAI average scores of the pregnant women and gestational age, education level, receiving antenatal training and social support availability apart from a spouse ( $p < 0.05$ ). Additionally, a statistically significant correlation was determined between the W-DEQ-A mean scores of the pregnant women and family type, gestational age, education level, number of live births and receiving antenatal training ( $p < 0.05$ ). The BAI and W-DEQ-A scores were found out to be at mid-level.

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**Keywords:** Pregnant; delivery; childbirth fear; birth anxiety; W-DEQ-A; BAI, Turkey

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## 1. Introduction

Birth is a physiological event; however, it is seen as a crisis in terms of psychological anxieties for women (Hortun, 2009; Dönmez, Yeniel & Kavlak, 2014).

The previous pregnancies and childbirth experiences, psychological and social risks are involved in the relationship between women's hormones and their psychological structures and on the basis of emotional changes experienced during pregnancies (Söderquist, Wijma&Wijma, 2004; Şahin, Dinç & Dişsiz, 2009). The childbirth fear which is defined as negative perceptions starting in the antenatal period and experienced in the birth and postpartum period (Wijma, Wijma & Zar, 1998) is a condition that affects an increase in the hormone levels in utero and in the development of obstetric complications (Kaplan, Bahar & Sertbaş, 2007; Köroğlu, 2006).

When the causes of fear of birth and anxiety were investigated, the previous negative birth experience, clinical or obstetric complications (Duran &Atan, 2011), damage in the baby, damage in the mother, mistrust towards the health staff, loss of control and panic during the delivery were found as the effective factors in the decision-making process for the delivery mode (Şahin, Dinç&Dişsiz, 2009; Subaşı, Özcan, Pekçetin, Göker, Tunç,&Budak, 2013). Evidence-based studies show that the child birth fear may be associated with an increase in the anxiety, cesarean and prolonged birth (Hood&Argyropoulos, 2000; Kitapçıoğlu, Yanikkerem, Sevil,&Yüksel, 2008). It also leads to difficulties in mother-baby connection (Alehagen, Wijma, Lundberg, &Wijma, 2005). The training given to reduce the birth fear and anxiety can develop positive feelings towards pregnancy and birth (Adams & Bianchi, 2008).

In this process, in order to reduce the physical and psychological problems, if midwives / nurses give emotional support by including a pregnant woman and her family in addition to their responsibility to provide care, a better pregnancy and delivery will take place (Gözüyeşil, Şirin, & Çetinkaya, 2008; Dönmez, Yeniel, & Kavlak, 2014). This descriptive research was conducted to determine the fear and anxiety levels of the pregnant women.

## 2. Method

### 2.1. Participants

This study is a descriptive study. The study was carried out between November 1 and December 30 at Trabzon Kanuni Training and Research Hospital which is located in the northeast part of the country and serves the women in all socio-economic status in terms of the patient density. The population of the research consisted of all the pregnant women (2705) admitted to pregnant care polyclinic in a year at Trabzon Kanuni Training and Research Hospital. To calculate the minimum sample size of the study, sampling formula with an unknown universe was used. According to this formula, it was determined that research sample size should be at least 184 participants ( $2705 \cdot 3.84 \cdot (0,25 \cdot 0,75) / 0,0025 \cdot 2704 + 0,96 = 184$  participants). The study was completed with 184 participants.

### 2.2. Instrument

All the women were informed about the study and their consent was obtained. The data were obtained through face to face interviews by the researchers. In collecting the data, "The Personal Information Form", "The Wijma Delivery Expectation / Experience Questionnaire (W-DEQ-A)" and the "Beck Anxiety Inventory (BAI)" were used.

### 2.3. Data Collection

*Personal Information Form:* This form consists of the questions containing information related to pregnant women's socio-demographic characteristics.

*The Wijma Delivery Expectation / Experience Questionnaire (W-DEQ-A):* It is a Likert-type scale consisting of 33 items measuring stress and fear during the delivery. It has 6 subscales and each question is scored from 1 to 6 points (Körükçü, & Kukulcu, 2009).

*Beck Anxiety Inventory (BAI):* Developed to determine the severity of the anxiety symptoms, this scale consists of 21 questions and total scores range between 0 and 63 (Beck, Epstein,& Brown, 1988; Ulusoy, Şahin, & Erkman, 1998).

## 2.4. Data analysis

SPSS 21.0 statistical software package was used for the statistical analysis of the data. In the evaluation of the data, in addition to descriptive statistical methods (frequency, percentage, mean, standard deviation), Kolmogorov - Smirnov distribution test was used to examine the normal distribution. Scale scores were not normally distributed ( $P < 0.05$ ), so non-parametric methods were used. Mann Whitney U test, Kruskal-Wallis test and Spearman correlation analysis were used. As a significance value,  $p < 0.05$  was used.

## 2.5. Ethical Considerations

Before starting the research, approval and the necessary permits were obtained from Trabzon Kanuni Training and Research Hospital Research Ethics Committee. The pregnant women were informed about the aim of the research and "Informed Consent", "Privacy and Protection of Privacy" and "Respect for Autonomy" principles were fulfilled by informing the pregnant women about the purpose of the study, providing voluntary participation and ensuring to keep the data confidential respectively (Bayık, 2004).

## 3. Results

Table 1. The Comparison of the BAI Average Scores with Some Variables

| Some Variables  |                       | N (%)      | Mean Rank | Median | P       |
|---|-----------------------|------------|-----------|--------|---------|
| Age   | 19-25 Age             | 52 (28,3)  | 87,1      | 20,5   |         |
|   | 26-35 Age             | 98 (53,3)  | 94,9      | 22,0   | 0,685*  |
|   | 36-42 Age             | 34 (18,5)  | 93,8      | 23,0   |         |
| Occupation  | Housewife             | 128 (69,6) | 92,5      | 21,0   |         |
|   | Worker                | 13 (7,1)   | 98,3      | 23,0   | 0,907*  |
| Employment status   | Civil Servant         | 43 (23,4)  | 90,8      | 23,0   |         |
|   | Yes                   | 56 (30,4)  | 92,5      | 23,0   | 0,994** |
|   | No                    | 128 (69,6) | 92,5      | 21,0   |         |
| Family type   | Nucleus               | 143 (77,7) | 88,5      | 21,0   | 0,058** |
|   | Extended              | 41 (22,3)  | 106,4     | 24,0   |         |
| Gestation weeks   | 28-32 gestation weeks | 36 (19,6)  | 142,9     | 38,0   |         |
|   | 33-37 gestation weeks | 40 (21,7)  | 88,7      | 20,0   | 0,000*  |
|   | 38-40 gestation weeks | 108 (58,7) | 77,1      | 18,0   |         |
| Education level   | Primary school        | 40 (21,7)  | 75,5      | 18,0   |         |
|   | Secondary school      | 38 (20,7)  | 85,4      | 18,0   | 0,039*  |
|   | High school           | 62 (33,7)  | 104,8     | 24,0   |         |
|   | University and Master | 44 (23,9)  | 96,7      | 23,0   |         |
| Do you have any disorder that requires continuous drugs?                        | Yes                   | 21 (11,4)  | 103,2     | 24,0   | 0,326** |
|   | No                    | 163 (88,6) | 91,1      | 21,0   |         |
| Does your partner support you physically and emotionally during your pregnancy? | Yes                   | 164 (89,1) | 93,0      | 22,0   | 0,722** |
|   | No                    | 20 (10,9)  | 88,5      | 16,5   |         |
| Have you had any pregnancy experience before?                                   | Yes                   | 134 (72,8) | 92,4      | 23,0   | 0,979** |

|  |            |            |       |      |         |
|--|------------|------------|-------|------|---------|
|  | No         | 50 (27,2)  | 92,7  | 21,0 |         |
|  | No         | 50 (27,2)  | 91,3  | 21,0 |         |
| The number of live birth   | 1-2 and 3  | 122 (66,3) | 96,0  | 23,0 | 0,101*  |
|  | 4 and over | 12 (6,5)   | 61,7  | 15,5 |         |
| If you have had pregnancy, how have you delivered your baby?       | Normal     | 93 (69,4)  | 64,9  | 23,0 | 0,242** |
|  | Caesarean  | 41 (30,6)  | 73,4  | 26,0 |         |
| Have you had any curettage?  | Yes        | 31 (16,8)  | 89,1  | 18,0 | 0,696** |
|  | No         | 153 (83,2) | 93,2  | 22,0 |         |
| Have you had any miscarriage?                                      | Yes        | 49 (26,6)  | 96,6  | 24,0 | 0,530** |
|  | No         | 135 (73,4) | 91,0  | 22,0 |         |
| Have you had any antenatal training during your current pregnancy? | Yes        | 102 (55,4) | 97,0  | 23,0 | 0,199** |
|  | No         | 82 (44,6)  | 86,9  | 18,5 |         |
| Receiving training from health staff?                              | Yes        | 80 (43,5)  | 91,1  | 21,5 | 0,752** |
|  | No         | 104 (56,5) | 93,6  | 22,0 |         |
| Receiving training from pregnancy books?                           | Yes        | 9(4,9)     | 129,8 | 32,0 | 0,031** |
|  | No         | 175 (95,1) | 90,6  | 21,0 |         |
| Receiving training from antenatal courses?                         | Yes        | 4 (2,2)    | 154,4 | 41,5 | 0,019** |
|  | No         | 180 (97,8) | 91,1  | 21,5 |         |
| Receiving training from the Internet?                              | Yes        | 31 (16,8)  | 90,3  | 22,0 | 0,800** |
|  | No         | 153 (83,2) | 92,9  | 22,0 |         |
| Social support availability apart from your husband?               | Yes        | 138 (75,0) | 82,9  | 19,0 | 0,000** |
|  | No         | 46 (25,0)  | 121,3 | 32,0 |         |

\* Kruskal Wallis test \*\*Mann Whitney test

The distribution of the socio-demographic characteristics of the pregnant women in the study showed that women were mostly in 26-35 age group (53.3%), (average age  $29.120 \pm 5.688$ ), high school graduates (23.9%), housewives (69.6%), unemployed (69.6%) had nuclear family (77.7%) had both spousal support (89.1%) and social support (75.0%).

The distribution of obstetric characteristics of the pregnant women in the study revealed that for 90.2% of them, to have a baby was both of the partner’s decision, 72.8% had previous pregnancy experience, 66.3% had 1-2 children, 16.8% had curettage, 26% 6 had miscarriage experience, 69.4% had previous vaginal deliveries, 58.7% were in 38-40 gestational age, 55.4% received antenatal training (AT) for their current pregnancies from the health staff (43.5%), from the internet (16.8%) and 88.6% did not have any disorder that required continuous drug use.

According to the W-DEQ-A and BAI scores, those with low education who received training from the pregnancy books, had no social support other than family and were in 28-32 weeks of gestation age, anxiety level was found high.

According to the W-DEQ-A and BAI scale scores, 37,0 % had mild anxiety levels, 22.3% had medium and 40.8% had high anxiety levels. Similarly, the childbirth fear percentages of the pregnant women were determined as 12.5% low, 38.6% medium and 48.9 % severe/ clinical levels.

Table 2.The Average Scores of the BAI and W-DEQ A Sub Dimensions

| SCALES             | N   | Meant  | Ss     | Min.  | Max.   |
|--------------------|-----|--------|--------|-------|--------|
| BAI Av erage score | 184 | 22,660 | 13,680 | 0,000 | 54,000 |

|  |     |        |        |        |         |
|--|-----|--------|--------|--------|---------|
| W-DEQ-A Average score  | 184 | 63,830 | 20,172 | 16,000 | 104,000 |
| W-DEQ-A Sub Dimensions   |     |        |        |        |         |
| Her thoughts about labor pain and how it would generally take place.     | 184 | 5,152  | 1,786  | 1,000  | 10,000  |
| Labor pain and how she would feel during the labor.                      | 184 | 32,701 | 11,702 | 4,000  | 63,000  |
| What would she feel during the labor?                                    | 184 | 11,446 | 5,202  | 0,000  | 26,000  |
| Her thoughts about what would happen during the most intense labor pain. | 184 | 5,179  | 3,232  | 0,000  | 15,000  |
| What does she dream of feeling when the baby is born?                    | 184 | 5,957  | 3,475  | 0,000  | 13,000  |
| Labor pain and childbirth related thoughts in the last one month         | 184 | 3,391  | 3,033  | 0,000  | 10,000  |

The BAI average score was (22.660 ± 13.680), the W-DEQ-A average score was (63.830 ± 20.172) and the average scores of some items were as follows; "Her thoughts about labor pain and how it would generally take place" was (5.152 ± 1.786); "Labor pain and how she would feel during the labor" was (32.701 ± 11.702); "What would she feel during the labor" was (11.446 ± 5.202); "Her thoughts about what would happen during the most intense labor pain" was (5,179 ± 3,232); "What does she dream of feeling when the baby is born?" (5.957 ± 3.475); "Labor pain and childbirth related thoughts in the last one month" was (3.391 ± 3.033) (Table 2).

As a result of the correlation analysis between the average W-DEQ-A and BAI scores, a significant positive correlation was found at the level of 48.4% (r = 0.484; p = 0.000 <0.05). Accordingly, as the W-DEQ-A total score increases, BAI score increases too.

The correlation analysis between the W-DEQ-A sub dimensions and the BAI showed that there was significantly positive correlation among the following items; "Her thoughts about labor pain and how it would generally take place", "Labor pain and how she would feel during the labor" "What would she feel during the labor?", "What does she dream of feeling when the baby is born?" Labor pain and childbirth related thoughts in the last one month" (r = 0.172, p = 0.019; r = 0.367; p = 0.000; r = 0.322; p = 0.000; r = 0.461; p = 0.000; r = 0.475; p = 0.000). According to this result, as the W-DEQ-A subscale scores increased, the BAI score increased, too. However, no statistically significant correlation was found between the subscale item score "Her thoughts about what would happen during the most intense labor pain" and the BAI scores (r=0,121; p=0,103>0,05).

Table 3.The Comparison of the W-DEQ-A Scores with Some Variables

| Some Variables    |                       | N(%)       | Mean Rank | Median | P       |
|-------------------|-----------------------|------------|-----------|--------|---------|
| Age               | 19-25 age             | 52 (28,3)  | 96,5      | 68,5   |         |
|                   | 26-35 age             | 98 (53,3)  | 93,4      | 65,0   | 0,545*  |
|                   | 36-42 age             | 34 (18,5)  | 83,9      | 58,5   |         |
| Occupation        | Housewife             | 128 (69,6) | 95,1      | 65,0   |         |
|                   | Worker                | 13 (7,1)   | 84,8      | 69,0   | 0,603*  |
|                   | Civil Servant         | 43 (23,4)  | 87,1      | 65,0   |         |
| Employment status | Yes                   | 56 (30,4)  | 86,6      | 66,0   | 0,319** |
|                   | No                    | 128 (69,6) | 95,1      | 65,0   |         |
| Family type       | Nucleus               | 143 (77,7) | 87,7      | 62,0   | 0,022** |
|                   | Extended              | 41 (22,3)  | 109,3     | 73,0   |         |
| Gestation week    | 28-32 Gestation weeks | 36 (19,6)  | 141,5     | 83,5   |         |
|                   | 33-37 Gestation weeks | 40 (21,7)  | 99,6      | 73,0   | 0,000*  |
|                   | 38-40 Gestation weeks | 108 (58,7) | 73,5      | 56,0   |         |
| Education Level   | Primary school        | 40 (21,7)  | 64,0      | 53,0   |         |
|                   | Secondary             | 38 (20,7)  | 99,0      | 65,5   | 0,000*  |
|                   | High school           | 62 (33,7)  | 108,8     | 72,0   |         |

|   |                       |            |       |      |         |
|---|-----------------------|------------|-------|------|---------|
|   | University and Master | 44 (23,9)  | 89,9  | 66,0 |         |
| Do you have any disorder that requires continuous drugs?                        | Yes                   | 21 (11,4)  | 95,9  | 67,0 | 0,759** |
|   | No                    | 163 (88,6) | 92,1  | 65,0 |         |
| Does your partner support you physically and emotionally during your pregnancy? | Yes                   | 164 (89,1) | 93,1  | 64,5 | 0,674** |
|   | No                    | 20 (10,9)  | 87,8  | 70,5 |         |
| Have you had any pregnancy experience before?                                   | Yes                   | 134 (72,8) | 94,0  | 67,5 | 0,518** |
|   | No                    | 50 (27,2)  | 88,4  | 62,0 |         |
|   | No                    | 50 (27,2)  | 93,1  | 65,0 |         |
| The number of live birth  | 1-2 and 3             | 122 (66,3) | 97,0  | 68,0 | 0,005*  |
|   | 4 and over            | 12 (6,5)   | 44,5  | 44,0 |         |
| If you have had pregnancy, how have you delivered your baby?                    | Normal                | 93 (69,4)  | 67,0  | 67,0 | 0,839** |
|   | Caesarean             | 41 (30,6)  | 68,5  | 64,0 |         |
| Have you had any curettage?   | Yes                   | 31 (16,8)  | 87,6  | 64,0 | 0,573** |
|   | No                    | 153 (83,2) | 93,5  | 65,0 |         |
| Have you had any abortions?   | Yes                   | 49 (26,6)  | 94,9  | 69,0 | 0,708** |
|   | No                    | 135 (73,4) | 91,6  | 63,0 |         |
| Have you had any antenatal training during your current pregnancy?              | Yes                   | 102 (55,4) | 101,5 | 69,5 | 0,011** |
|   | No                    | 82 (44,6)  | 81,3  | 56,0 |         |
| Receiving training from health staff?   | Yes                   | 80 (43,5)  | 97,5  | 67,0 | 0,264** |
|   | No                    | 104 (56,5) | 88,7  | 60,0 |         |
| Receiving training from pregnancy books?  | Yes                   | 9 (4,9)    | 106,6 | 67,0 | 0,417** |
|   | No                    | 175 (95,1) | 91,8  | 65,0 |         |
| Receiving training from antenatal courses?                                      | Yes                   | 4 (2,2)    | 113,6 | 75,0 | 0,422** |
|   | No                    | 180 (97,8) | 92,0  | 65,0 |         |
| Receiving training from Internet?   | Yes                   | 31 (16,8)  | 110,9 | 77,0 | 0,035** |
|   | No                    | 153 (83,2) | 88,8  | 62,0 |         |
| Social support availability apart from your husband?                            | Yes                   | 138 (75,0) | 89,7  | 63,0 | 0,221** |
|   | No                    | 46 (25,0)  | 100,8 | 71,0 |         |

\* Kruskal Wallis test \*\*Mann Whitney test

According to the average scores of W-DEQ-A, the childbirth fear was found high for those who had extended families, whose pregnancies were in 38-40 gestational weeks, who had antenatal training in their current pregnancy and had this training from the internet. However, the childbirth fear was found low for the ones who had 4 and more living births (Table 3).

#### 4. Discussion

The objective of this study was to determine the level of childbirth fear and anxiety in pregnant women. In our study, the average scores of the W-DEQ- A and the BAI were determined at moderate level (Table 2). Similarly, in the studies by Dağlar and Nur (2014), the BAI average score and in the studies by Subaşı, Özcan, Pekçetin, Göker, Tunç, and Budak (2013) and Lazoğlu (2014), the W-DEQ-A average score were found moderate and these results support the findings in our study.

The average W-DEQ-A and BAI scores of the pregnant women with low education level and their childbirth fear and anxiety levels were found high (Table 1,3). Similarly, in the studies by Dağlar and Nur (2014), Laursen, Hedegaard and Johansen (2008), the childbirth fear and anxiety levels were found high for the pregnant women with low education level. In this context, it may be said that the information regarding pregnancy and birth is not provided suitably for their education level.

Besides, the anxiety and fear levels of the pregnant women who received Antenatal Training (AT) from the books, from the internet, from the courses were determined high as in the studies by Dönmez, Yeniel and Kavlak (2014). In this regard, Turan, Ortaylı, Nalbant, and Bulut (2003) suggested that there was hardly any information given to the pregnant women about childbirth and postpartum health in their study. Therefore, the self-acquired, misinterpreted and unaudited information obtained from the books about pregnancy and childbirth and traumatic images easily available from the internet can be associated with the increased levels of anxiety. On the other hand However, Subaşı, Özcan, Pekçetin, Göker, Tunç and Budak (2013) reported that PT had an effect on reducing anxiety and childbirth fear (Table 1).

In our study, the pregnant women with preterm labor risk (28-37 weeks) had high BAI and W-DEQ-A scores. Likewise, Şen and Şirin (2013) and Alipour, Lamyian, Hajizadeh and Vafai (2011) suggested that the preterm birth risk increased the anxiety and childbirth fear (Table 1.3).

In eliminating the anxiety and birth fear, psychological factors such as social and spousal support are of great importance (Sani, 2015). In our study, the BAI mean scores of the pregnant women with no social support other than their spouses were found high (Table 1). Likewise, high anxiety and birth fear were found in the women with poor spouse support (Gao, Liu, Fu and Xie, 2015) and who were unsatisfied with their spousal support (Lukasse, Vangen, ØIEN and Schei, 2011). In the light of all these data, it can be said that spouse presence alone is not sufficient, they do not know the ways to cope with anxiety and fear, their education is incomplete, they also have childbirth fear and cannot perform intervention appropriately. In the limited studies carried out about the spouses, it was reported that fathers also have the birth fear (Hildingsson, Johansson, Fenwick, Haines & Rubertsson, 2014; Bergström, Rudman, Waldenström & Kieler, 2013). On the other hand, the level of birth fear, according to the average score of W-DEQ-A was low in those with extended families (Table 3). In this case, it can be said that traditionally-structured family factor has an important place in the process of pregnancy and birth. When we reviewed the studies parallel to ours, Laursen, Hedegaard and Johansen (2008) found that the surplus of social support reduced the fear of birth and Gao Liu Fu and Xie (2015), Şen and Şirin (2013) reported high level of anxiety and birth fear in those with inadequate social support.

It was found that there was a correlation between the anxiety and fear of birth (Spice Jones, Hadjistavropoulos, Kowalyk, & Stewart, 2009) and the pregnant women with high anxiety level had 2.4 times more childbirth fear. In our study, as the total W-DEQ-A score increased, the BAI scores also increased (Table 3). Saisto, Salmela-Aro, Nurmi, Halmesmäki (2001) emphasized that anxiety is an important determinant in the increase of childbirth fear. Similarly, Subaşı et al., (2013) found a significantly positive correlation between the average W-DEQ-A and BAI scores.

Our study showed that as the number of live births increased, the birth fear increased too (Table 3). When obstetric factors were analyzed, the parity was reported to be effective on the childbirth fear and anxiety (Çiçek& Mete, 2015). Likewise, Şahin, Din and Dişsiz (2009) and Subaşı et al., (2013) also reported that as the number of live births increased, fear of birth also increased (Table 3). As indicated in the literature, this situation can be associated with previous negative birth experiences of pregnant women.

## 5. Conclusion and Recommendations

As a result of our findings, it was determined that pregnant women experienced moderate level of anxiety and fear of birth about pregnancy and delivery. It can be said that especially the training about childbirth provided to the pregnant women is inadequate and it is important to eliminate the deficiencies in this field. The training given to pregnant women can provide them with behavior control, development of positive feelings, an increase in the self-confidence and improvement in the birth process and its outcomes. In this direction, it is important for the midwives and nurses providing antenatal care to determine the birth fear and anxiety that pregnant women experience and offer them counseling in these areas. It is recommended to extend childbirth preparation classes as in developed countries, increase their availability and support the participation of both peers in these classes to provide a more positive experience of pregnancy and childbirth experience.

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