Psychological Barriers to Natural Delivery: How Childbirth Anxiety Shapes Mode of Delivery and Hospital Preferences Among Najaf Women

Alraya Mohammed Abdali
Department of Obstetrics and Gynecology, Faculty of Medicine, Jaber ibn Hayan University for Medical and Pharmaceutical Sciences, Najaf, Iraq

* Corresponding Author: **Alraya Mohammed Abdali**

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Abstract
Tokophobia is defined by extreme fear that childbirth will be painful or result in harm to the woman or baby, and is considered a psychological risk factor for negative perinatal outcomes. Where structural issues for healthcare provision and deep-rooted cultural influences are present, like Najaf City, Iraq, the relationship between maternal psychological distress and obstetric decision making is largely unknown.
Objectives: To assess the effect of child birth anxiety on the mode of giving birth (spontaneous vaginal delivery or elective cesarean delivery) and place of receiving health care services (public or private sector) among women of reproductive age in Najaf City.
Methods: This study was a community-based cross-sectional study with purposive sampling of 419 reproductive age women (15-45 years). Structured electronic questionnaire was used for assessing sociodemographic characteristics, obstetric history, fear level (1–5) and psychological triggers and choices of health care facilities. Pearson's chi square (χ^2) test was used to test for associations and statistical significance was achieved at $p < 0.05$.
Results: There were 419 participants, 250 (59.7%) of whom had a high level of fear of childbirth (scores 4–5). The high fear group had a significantly higher elective cesarean section preference (69.6% vs. 46.2%, $\chi^2 = 22.185$, $p = 2.51 \times 10^{-6}$). There was also a significant relationship between high fear and preference for the private-sector facilities (79.2% vs. 66.9%; $\chi^2 = 8.051$, $p = 0.018$). The most common psychological triggers were severe labor pain (n = 95) and fear of episiotomy or perineal tearing (n = 41). There was no significant difference in fear of childbirth between the primiparas and multiparas (62.7% and 58.0%, respectively; $p = 0.406$), indicating that it is universal irrespective of parity.
Conclusion: In Najaf City, psychological factors are one of the most important reasons for the increase in elective cesarean rate and preference for private obstetric care. These findings suggest that psychological screening should be made part of standard antenatal care, there should be more pain management facilities (including epidural analgesia) in public hospitals and structured perinatal education programmes should be implemented.

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Keywords: Childbirth anxiety, Tokophobia, Elective cesarean section, Private healthcare, Najaf, Iraq

1. Introduction

Modern obstetric practice is now aware that the physiology of labor and delivery is closely linked to the psychological state of the mother [1]. Childbirth is not just a biomechanical event in which the uterus contracts and the cervix dilates, it is a psychosocial experience that is influenced by cultural beliefs, social expectations and the woman's emotional readiness [2]. These psychological aspects have become increasingly important in urban areas throughout the Middle East, such as Najaf City, Iraq,

where women have access to a growing number of obstetric private and public services [3].

There is a continuum of childbirth fear. On one extreme, experiencing anxiety about pain and the safety of the baby is a normal adaptive response. On the opposite spectrum is tokophobia (fear of childbirth), which is a disabling fear that becomes so intense it causes significant psychological distress, hinders bonding and fosters avoidance of childbirth [4]. Tokophobia can be primary (when the fear of giving birth is without prior birth experience) or secondary (when it occurs after a traumatic birth). In a society like Najaf, where the family story, the community expectations and the cultural norms play a significant role in shaping women's attitude towards childbirth, such fears may be compounded by the social environment [5].

The impact of high rates of childbirth anxiety on clinical practice and public health is significant. Although cesarean section is a lifesaving procedure when medically indicated, it is associated with higher rates of bleeding, venous thromboembolism, surgical adhesions, longer recovery period, and problems with future pregnancies such as abnormal placentation [1, 7]. Elective cesarean sections add to the increased use of surgery without improving maternal or neonatal outcomes, if they are performed for psychological rather than obstetric reasons.

In addition to mode of delivery, childbirth anxiety seems to be associated with higher rates of giving birth in the private sector. In Iraq, OOPHE is still high and many families face financial difficulties to gain access to private health facilities which are seen as being more comfortable, more private and providing better options for pain management [8]. This puts pressure on family income and helps to explain the steady withdrawal of routine maternity services from the public sector, increasingly to the benefit of high-risk women and those who cannot afford other options [3,6].

Although there is a known relationship between maternal anxiety with obstetric outcomes, there is limited empirical evidence from the local area of Southern Iraq. Most of the models in the field of birth fear were brought up in the western European settings where integrated midwifery care and routine use of epidural analgesia are practiced, which is different from the Najaf healthcare setting [2, 5]. To design effective antenatal interventions and resource allocation strategies, it is therefore crucial to have locally generated evidence for this region.

The aim of this study was to assess the effects of childbirth anxiety on two important maternal choices: mode of delivery choice (SVD or EC) and choice of the healthcare provider (public or private sector) among women of reproductive age in Najaf city. Furthermore, this study explored specific psychological triggers for these preferences, and how obstetric parity is associated with baseline fear levels.

2. Methods

2.1. Study Design and Setting

A descriptive cross sectional study was carried out among the communities of Najaf City in Iraq. Data collection lasted for about two months and ended in May 2026. The city of Najaf was chosen because of its unique demographic and healthcare features, such as a high population density, rapid population growth rate, and thriving private sector in healthcare, as well as a relatively well-developed public hospital system. To achieve geographical representation, fieldwork was conducted in different subdistricts, both in older urban areas, where the holy shrine is located and in newer residential areas.

2.2. Participants and Sampling

The participants included a purposive sample of 419 women of reproductive age (15-45) who were sampled in two ways: (1) face-to-face sampling in primary health care centres and ante-natal clinics in Najaf City and (2) sampling by a digital version of the questionnaire distributed on local community and maternal health groups in public and private places. The study participants were selected by inclusion criteria: female, 15–45 years, living in the city of Najaf and being either pregnant or having had a live infant in the last 24 months. No parity, employment or literacy restrictions were used, resulting in a sociodemographically diverse sample.

2.3. The survey instrument and variables are presented in this section

A structured multi-module questionnaire in Arabic and English was created and adapted from the Wijma Delivery Expectancy/Experience Questionnaire (W-DEQ, Version A) [4]. The instrument included the following domains:

Sociodemographic characteristics: Age was divided into three groups (15–24, 25–34, and 35–45 years), and the employment status of the homemakers was noted (home makers, students, professionals, and others).

Obstetric history: The women were divided into two groups: primiparous (first pregnancy) and multiparous (one or more previous pregnancies). Multiparous women were then further divided into two groups based on number of previous births (1-2 or ≥3) and method of delivery (vaginal only, cesarean only, or mixed).

A self-reported Likert scale ranging from 1 (no fear/complete confidence) to 5 (extreme panic/severe anxiety) was used for childbirth fear assessment. The scores of 1-3 were categorised as 'low-to-moderate fear' and 4-5 as 'high fear (tokophobia)' for analysis [4].

Specific psychological triggers: The women who preferred or accepted cesarean delivery were asked to indicate their main fear from a pre-defined fear list which included the fear of severe labor pain, fear of episiotomy or vaginal tearing, fear for fetal safety during labor, and fear of previous adverse birth experience.

Healthcare facility preference: Participants were asked to mention their preferred healthcare facility of choice for delivery (private sector hospital, public sector hospital, or no preference [3]).

2.4. Statistical Analysis

Data manipulation and analysis was done using python (Pandas library) and SciPy. Categorical variables have been presented as frequency and percentages. Pearson's chi-square (χ^2) test for independence was used to test associations between childbirth fear intensity and maternal choice variables (delivery mode, hospital sector), using continuity correction where appropriate because of low expected cell counts. A p-value of < 0.05 was considered to be statistically significant. For each analysis, chi-square statistics, degrees of freedom, and exact p-values are given.

3. Results

There were 419 women who answered the survey. 250 women (59.7%) indicated that they were very afraid of childbirth (scores 4-5) and 169 women (40.3%) indicated that

they were not as afraid or were slightly afraid (scores 1-3). A high percentage of women said that they experienced high anxiety, which reflects the prevalence of childbirth anxiety within the community.

3.1. Intensity of fear and preferred delivery mode

The results on the relationship between the level of fear of childbirth and the preferred method of childbirth among women are given in Table 1.

Table 1: Childbirth Fear Intensity and Preferred Delivery Mode (N = 419)

Fear Intensity	Elective CS n (%)	Vaginal Delivery n (%)	Total
High fear (score 4–5)	174 (69.6%)	76 (30.4%)	250
Low/moderate fear (score 1–3)	78 (46.2%)	91 (53.8%)	169
Total	252	167	419

$\chi^2 = 22.185$, df = 1, $p = 2.51 \times 10^{-6}$ (Yates-corrected). Highly significant.

The association with fear and delivery preference was very prominent. For women with high fear, approximately 7 of every 10 women reported that they would prefer a planned cesarean, while only less than 1/2 (46.2%) of women with low-to-moderate fear would prefer a planned cesarean. That is, women who had the highest fear of childbirth were much more likely to opt for cesarean section delivery. This was a highly significant statistical difference ($\chi^2 = 22.185$, $p < 0.001$).

3.2. Fear Intensity and Preferred Hospital Sector

The study also examined whether fear levels shaped women's choice of healthcare facility for delivery.

Table 2: Childbirth Fear Intensity and Preferred Hospital Sector (N = 419)

Fear Intensity	Private Sector n (%)	Public Sector n (%)	No Preference n (%)	Total
High fear (score 4–5)	198 (79.2%)	25 (10.0%)	27 (10.8%)	250
Low/moderate fear (score 1–3)	113 (66.9%)	26 (15.4%)	30 (17.8%)	169
Total	311	51	57	419

$\chi^2 = 8.051$, df = 2, $p = 0.018$. Statistically significant.

Private hospitals were overwhelmingly the preferred choice in both groups, with higher levels of the preference to use a private hospital among women with high fear. Almost four-fifths (79.2%) women in the high-fear group desired private facilities, while two-thirds (66.9%) women in the lower fear group did. Meanwhile, there was a 5.4% difference between the number of women who were very fearful and selected a public hospital (10.0%) and those who were not so fearful (15.4%). This association was statistically significant ($\chi^2 = 8.051$, $p = 0.018$), and indicated that fear not only pushes women towards surgery but away from the public sector.
252 women preferred cesarean delivery and the researchers asked them what was the most important psychological factor that had led them to opt for cesarean delivery.

Table 3: Specific Fear Triggers and Hospital Sector Preference (n = 252)

Fear Trigger	Private n (%)	Public n (%)	No Preference n (%)	Total
Severe labor pain	81 (85.3%)	7 (7.4%)	7 (7.4%)	95
Fear of episiotomy / tearing	34 (82.9%)	0 (0.0%)	7 (17.1%)	41
Prior cesarean section history	43 (89.6%)	3 (6.3%)	2 (4.2%)	48
Fear for fetal safety	31 (86.1%)	3 (8.3%)	2 (5.6%)	36
Other anxieties / social pressures	22 (68.8%)	3 (9.4%)	7 (21.9%)	32
Total	211 (83.7%)	16 (6.3%)	25 (9.9%)	252

$\chi^2 = 14.195$, df = 8, $p = 0.077$. Not statistically significant at $\alpha = 0.05$.

Whatever the reason, the trend was consistent - women overwhelmingly opted for private hospitals. Severe labour pain was the most frequent fear (n = 95) and 85.3% of these women opted for private care. Women who reported fear of episiotomy or tearing during childbirth (n = 41) reported a greater avoidance of public hospitals (0 women chose a public hospital). Among the women, those who had had a cesarean delivery had the highest private preference (89.6%). The trend of preference for the private sector was consistent across all categories, although not quite statistically significant ($p = 0.077$).

3.3. Parity and Childbirth Fear

Lastly, the research examined how women's birth histories would impact their fear, with mothers anticipating their first baby being more fearful than women with a previous birth.

Table 4: Parity and Baseline Childbirth Fear (N = 419)

Parity	High Fear (4–5) n (%)	Low/Moderate Fear (1–3) n (%)	Total
Primiparous (first pregnancy)	94 (62.7%)	56 (37.3%)	150
Multiparous (prior deliveries)	156 (58.0%)	113 (42.0%)	269
Total	250	169	419

$\chi^2 = 0.691$, df = 1, $p = 0.406$ (Yates-corrected). Not statistically significant.

It was obvious that there were no significant differences in fear of childbirth between parity groups. 62.7% of first time mothers and almost the same of experienced mothers (58.0%) said they had a high level of fear. There was no statistically significant difference noted between the small difference ($\chi^2 = 0.691$, $p = 0.406$). So practically speaking, it means that women who have given birth before are just as frightened as women going into labor for the first time.

4. Discussion

4.1. Childbirth Anxiety as a Pathway to Cesarean Section Preferences

Based on the results of this study, it can be concluded that childbirth anxiety has a significant effect on the obstetric decision-making of women in Najaf City.

The high level of fear score in this study and the preference for cesarean section for nearly 70% of women is congruent with the international literature, which reports the relationship between tokophobia and preference for cesarean section [9]. This finding implies that the incorporation of structured psychological evaluation and psychological counseling into the regular follow-up of prenatal care may benefit women in tackling their concerns prior to decision-making for delivery [7].

A useful way to understand this pattern is in the context of maternal self-efficacy, which is a woman's confidence in her ability to cope with labour and to be an active participant in the birth process [4, 10]. A high fear score is likely correlated with low birth-related self-efficacy of women. This lack of confidence can be exacerbated by warnings that are passed down in families and social circles in environments where formal childbirth education is restricted. In the absence of evidence-based information to refute these messages, women may perceive surgical delivery as a safer, more controllable option compared to vaginal delivery.

4.2. Navigating institutional Factors- Public vs. Private Sector care

Table 2 and Table 3 show that there are certain local institutional factors linked to the preference to private-sector care. Al-Zahra Teaching Hospital, as well as other public facilities, are well known and serve as important referral centres for high-risk obstetric management and are also known to have other known challenges including high numbers of patients, low staff to patient ratios, and the limited use of routine epidural analgesia for spontaneous vaginal delivery [3, 11].

The trigger specific analysis (Table 3) showed that there was a preference for private hospitals for all the fear categories. Women who were worried about labor pain, episiotomy and injury in the perineum were more likely to see private facilities as providing more reliable pain relief, individual care and physical comfort [11]. This attitude is a typical example of the attitude of the general population regarding private health care as a promise of a more individualised experience of birth [9]. The consequences of this transformation, however, include increased socioeconomic inequities because families are responsible for high out-of-pocket expenses to receive care from private providers, and the lower-income women's fears are compounded in a public system they feel is too weak [3,12].

These preferences are also shaped by cultural norms about privacy and dignity in childbirth. Women in the private sector may choose their obstetrician and have the option of a private delivery room [9]. In contrast, public-sector facilities often have common labor wards because of patient numbers which can affect the privacy of women in an already vulnerable clinical experience. Shared labor rooms could be distressing for high baseline anxious women, as a way for them to maintain control of the birth environment they prefer to have private.

4.3. The presence of fear in parity groups

This finding is noteworthy as the fear level of primiparous and multiparous women was not statistically different ($p = 0.406$, Table 4) [8]. This finding challenges the notion that fear of childbirth is a problem mostly for women who have not had a child. The percentage of women with high fear was 58.0 % in the multiparous women and 62.7 % in the primiparous women in this sample.

In primiparous women, the anxiety is probably related to the lack of awareness about delivery, combined with negative stories in their social network [2]. In multiparous females, fear can be an indication of the previous negative birth experiences or secondary tokophobia [12]. This finding highlights the need for antenatal counseling programs that take into account the unique sources of anxiety for first time as well as experienced mothers [7,10].

The fact that high fear is still prevalent among multiparous women has wider implications for the understanding of the long term effects of obstetric trauma. Secondary tokophobia can occur after an unexpected complication, poor pain management or lack of support during childbirth [5,8]. Affected women then may ask to have a cesarean section or to have their care in private to get a different kind of birth. This implies that one negative birth experience can have consequences on reproductive choices for years. Therefore, to increase the quality of care and psychosocial support in a public labor ward is important, not only for the immediate outcomes of the patient, but also as a community strategy to decrease childbirth anxiety.

4.4. Public Health and Clinical implications in Najaf Governorate

High FHB, preference for surgical delivery and the shift towards private sector care has significant public health implications for Najaf Governorate. Increased CS rates due to non-obstetric reasons raise maternal surgical morbidity on the population level [1,7]. Despite the improvement in surgical technique that has made cesarean delivery more safe, cesarean delivery is still associated with a higher risk of infection, bleeding, and lengthier recovery time than normal vaginal delivery. Repeated cesarean sections can cause abnormalities of the placenta in future pregnancies, which will need to be managed in a high-risk setting.

The financial impact is no better. Private obstetric care in Iraq is not cheap and the families who want to go to private delivery may borrow from others or spend their savings [3]. This disproportionately impacts middle and lower income households and exacerbates socio-economic vulnerabilities. If the family cannot afford to take care of themselves in private, they are forced to give birth in a public system that they find stressful, thus perpetuating a vicious cycle of stress and financial burden. All these findings underscore the critical need to enhance, within the public sector, the quality of care, pain management and psychosocial support in order to make maternity services accessible, safe, and affordable for all women.

4.5. Limitations

There are a number of limitations to these results. First, the cross section design does not provide causal explanations, nor can it be determined if the anxiety was responsible for the delivery preferences or if the delivery preferences were

responsible for the anxiety. Second, as a result of using purposive sampling and both in-person and digital recruitment, selection bias could have occurred due to the digitally recruited being systematically different from the in-person recruited. Third, the fear of childbirth assessment was done with the shorter self-reported Likert version which may limit the ability to compare with studies that used the full validated W-DEQ. Fourth, the study was performed in one city (Najaf City) and the results may not be transferred to another city or to rural areas in Iraq and other countries. Finally, information on household income and educational attainment are not provided, which hinders the capacity to control for potential socio-economic confounders of fear and preference for hospital.

5. Conclusion and Recommendations

Thus, the present community-based study provides empirical evidence that women's childbirth anxiety is a key factor that affects obstetric decision making and women's health-seeking behaviors in Najaf City. The prevalence of high childbirth fear was high among all the women in the study population and not exclusive to primiparous women. It was significantly associated with preference for elective cesarean section and preference for private-sector maternity care and the most common psychological triggers were severe labor pain and fear of perineal injury.

Based on these findings, the following recommendations are proposed:

1. Screen women in primary healthcare and during antenatal clinic visits in Najaf for childbirth anxiety using a brief and valid instrument, which helps to identify women with high childbirth anxiety for timely and individualized intervention [15].
2. Improve the scale and quality of antenatal education and counseling programmes: Evidence based information on the physiology of labour, coping strategies and available options for pain management should be provided to increase the confidence of mothers and reduce negative cultural perceptions of the birth process [13].
3. Enhance pain management and privacy at public hospitals: Give more access to good pain relief - such as epidural - at public hospitals, like Al-Zahra Teaching Hospital. Provide individual rooms and/or partitions to improve labor ward privacy [14].
4. Enhance training in respectful maternity care: Continuous professional development for obstetric nurses, midwives and residents should focus on supportive communication and patient-centered care, to enhance birth experience in public settings [11].
5. Development of specialised perinatal mental health services: Multidisciplinary counselling services for women who experience severe fear of childbirth should be developed to decrease the extent of secondary fear of childbirth and inform women's birth choices [15].

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