International Journal of Reproduction, Contraception, Obstetrics and Gynecology
Rajagopal N et al. Int J Reprod Contracept Obstet Gynecol. 2026 Jun;15(6):xxx-xxx
www.ijrcog.org
pISSN 2320-1770 | eISSN 2320-1789

DOI: https://dx.doi.org/10.18203/2320-1770.ijrcog20261479

Original Research Article

Assessment of childbirth experience in a tertiary care hospital: a cross-sectional questionnaire-based study

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Received: 09 January 2026
Revised: 14 May 2026
Accepted: 15 May 2026

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ABSTRACT

Background: Childbirth is a multidimensional experience influenced by physical, emotional, interpersonal, and environmental factors. Understanding women's experiences during childbirth is essential to improving the quality of maternity care and promoting positive maternal outcomes.
Methods: A descriptive cross-sectional study was conducted among 150 postpartum women within 72 hours of delivery at a tertiary care teaching hospital. The childbirth experience questionnaire (CEQ), consisting of four domains - Own Capacity, Professional Support, Perceived Safety, and Participation was administered in English or Kannada. Sociodemographic, obstetric, and neonatal data were collected using structured proforma through interview of mother and review of hospital records. CEQ domain and total scores were converted to a 0-100 scale. Data were analyzed using descriptive statistics, t-tests, ANOVA, Pearson correlation, and multivariate linear regression. A p value <0.05 was considered statistically significant.
Results: The mean total CEQ score was 67.7±9.8, indicating a moderately positive childbirth experience. Highest scores were observed in Professional Support (78.6±10.1) and Perceived Safety (74.3±11.8), while Own Capacity (61.2±13.5) and Participation (56.8±14.9) were lower. Vaginal delivery was associated with significantly higher CEQ scores compared to caesarean section (p=0.01). Labour analgesia use was also associated with higher CEQ scores (p=0.03). Pain scores showed a negative correlation with childbirth satisfaction (r= –0.33), while perceived control correlated positively (r=+0.42). Independent predictors of positive childbirth experience included vaginal delivery, higher professional support, lower pain, and greater participation.
Conclusions: Although women reported strong support and perceived safety, their sense of control and involvement in decision-making required improvement. Enhancing respectful maternity care and promoting shared decision-making may improve childbirth experiences.

Keywords: Childbirth experience, CEQ, Labour support, Mode of delivery, Respectful maternity care, Labour analgesia

INTRODUCTION

Childbirth is a significant life event with profound physical, emotional, and psychological implications for women. It is not only a physiological process but also a deeply subjective experience influenced by personal expectations, cultural beliefs, healthcare practices, and the quality of interpersonal support received during labour and delivery.[4] A positive childbirth experience can enhance maternal confidence, facilitate effective mother and infant bonding, and support successful transition to motherhood. Conversely, a negative birthing experience may contribute to postpartum depression, impaired bonding, and long-term psychological distress, sometimes persisting into

subsequent pregnancies.[2,3] The childbirth experience is multidimensional, encompassing emotional responses, perceived control, participation in decision-making, respectful behaviour and communication from healthcare providers.[1]

Pain and its management represent a central aspect of labour experience. The intensity, duration, and adaptability to labour pain vary among women and are influenced by both physiological factors and emotional readiness. Effective pain relief, whether pharmacological or non-pharmacological, contributes to maternal satisfaction, while inadequate pain control or lack of supportive coping mechanisms may result in negative perceptions of childbirth.[5]

The interpersonal aspect of care has been consistently shown to be critical in shaping maternal experience. Women place significant value on continuous emotional support, empathetic communication, reassurance, and respectful behaviour from healthcare providers.[6] The presence of a supportive birth companion, such as a spouse or family member is associated with reduced anxiety, shorter labour duration, lower likelihood of operative delivery, and greater childbirth satisfaction.[7] In contrast, experiences of neglect, verbal disrespect, discrimination, or lack of involvement in decisions may result in feelings of fear, helplessness, and trauma.[8]

The concept of Respectful Maternity Care (RMC) has gained global attention and is now recognized as a core component of quality obstetric care. The RMC framework emphasizes dignity, privacy, confidentiality, informed consent, equity, and freedom from mistreatment.[9] It outlines the fundamental rights of childbearing women, ensuring they are treated with respect, protected from harm, and involved as active participants in their care. Violations of respectful maternity care remain widespread, particularly in low- and middle-income settings, where systemic constraints, staff shortages, and sociocultural hierarchies may compromise the quality of interpersonal care.[10,11]

In addition to interpersonal interactions, medical interventions during labour also influence childbirth experience. While skilled obstetric interventions such as induction, augmentation, instrumental delivery, and caesarean delivery are essential for managing complications, their overuse, lack of explanation, or absence of informed consent can reduce maternal satisfaction.[12] Women who feel informed, supported, and involved in decision-making are more likely to report positive experiences, even when interventions become necessary.[13] Sociocultural factors further shape childbirth perceptions.

Cultural beliefs regarding labour pain, family involvement, and expectations of medical care vary widely across populations.[14] Women's prior birth experiences, education level, access to antenatal counselling, and trust in the healthcare system influence how childbirth is perceived and remembered.[15] Moreover, disparities in access to quality maternity care contribute to variations in childbirth experiences among women from different socioeconomic backgrounds.[16] Postpartum period also contributes to the global childbirth experience. Guidance regarding breastfeeding, neonatal care, emotional support, and monitoring for postpartum complications can significantly influence maternal satisfaction and overall well-being.[4]

Women who receive adequate postpartum support are more likely to describe their birthing experience positively, even when labour was prolonged or medically complex.[17] Given the multidimensional nature of childbirth experience, questionnaire-based assessment tools have emerged as important instruments for evaluating maternal perceptions in a standardized and systematic manner.[1]

These tools allow for quantitative comparison across different healthcare settings, modes of delivery, and demographic groups, thereby helping identify gaps in care and guiding targeted quality improvement strategies. Conducting such assessments in tertiary care hospitals—where diverse case profiles and higher levels of obstetric intervention are common—provides meaningful insights into the effectiveness, strengths, and shortcomings of existing maternity care services.[18]

METHODS

Study design

A descriptive cross-sectional questionnaire-based study was conducted to assess childbirth experience among postpartum women. The questionnaire was administered within 72 hours of delivery to minimize recall bias and to capture the childbirth experience in its immediate context. All eligible women who met the inclusion criteria during the study period were enrolled consecutively.

A validated 32-item instrument was used to measure multiple dimensions of childbirth experience, enabling both descriptive and analytical comparisons.

Study setting

The study was carried out in the Department of Obstetrics and Gynecology, M. S. Ramaiah Medical College and Hospitals, Bengaluru, a tertiary care teaching institution. Data collection occurred across the labour wards, the delivery suite, and the postnatal wards.

Study duration

The study was conducted over an 18-month period from June 1, 2023 to November 30, 2024. This duration allowed adequate participant recruitment and accounted for variations in delivery rates and staffing patterns.

Study population

Women were included in the study if they were aged between 18 and 45 years, were within 72 hours postpartum following either vaginal or caesarean delivery, had delivered a live term singleton neonate, and were able to understand either English or Kannada. Women were excluded from the study if they had a preterm delivery, intrauterine fetal demise or stillbirth, a newborn with major congenital anomalies, or a known history of severe psychiatric illness or cognitive impairment.

Sampling technique

A consecutive sampling method was adopted. All eligible postpartum women present during investigator coverage hours were approached. Reasons for refusal or ineligibility were documented in screening logs. Data collectors received standardized training to ensure consistency in participant approach and questionnaire administration.

Sample size

Sample size estimation was performed using the standard deviation of global childbirth experience questionnaire (CEQ) scores reported by Khalife-Ghaderi et al.[24] Using the formula:

$N=(Z_{1-\alpha/2})^2\times SD^2/d^2$

With Z=1.96, SD=6.98, and precision (d)=2, the calculated sample size was 132. Accounting for a 10% non-response rate, the target sample was 146. A total of 150 postpartum women were recruited.

Study instrument and parameters

Responses were recorded on a four-point Likert scale. Higher scores indicated more positive childbirth experience. Additional variables collected included sociodemographic characteristics; obstetric history (gravidity, parity, prior caesarean); intrapartum details (onset of labour, analgesia use, duration of labour); neonatal outcomes (birth weight and Apgar scores); and pain and perceived control, each rated on a 10-point visual analogue scale.

Table 1: The CEQ used to measure four domains.

CEQ domain	No. of items	Focus
Own capacity	8	Coping, control, labour progress
Professional support	6	Communication, respect, encouragement
Perceived safety	4	Trust in staff, sense of security
Participation	4	Involvement in decisions

Study procedure

Eligible women were identified during the postnatal ward stay. After informed consent, the CEQ (English or Kannada version) was self-administered.

Clarifications were provided when needed without influencing responses. Each questionnaire required approximately 15-20 minutes. Obstetric and neonatal data were extracted from medical records.

Data management and statistical analysis

Data were entered into Microsoft Excel and analyzed using IBM SPSS Statistics Version 22.0. Continuous variables were summarized as mean±SD or median (IQR), and categorical variables as frequencies and percentages. CEQ domain scores were standardized to a 0-100 scale, and normality was tested using the Shapiro–Wilk test.

The independent t-test or one-way ANOVA was used to compare CEQ scores across categorical groups, and Pearson correlation was used to assess relationships between continuous variables. Variables with $p<0.10$ on univariate analysis were entered into a multivariate linear regression model to identify independent predictors of childbirth experience. A p value<0.05 was considered statistically significant.

Ethical considerations

The study received approval from the Institutional Ethics Committee of M. S. Ramaiah Medical College and Hospitals (Approval No.: MSRMC/EC/PG-12/05-2023). Written informed consent was obtained from all participants.

Confidentiality was ensured through anonymized data coding and password-protected database storage. The study adhered to the Declaration of Helsinki and national ethical guidelines.

RESULTS

A total of 150 postpartum women participated in the study. All questionnaires were complete and included in the final analysis.

Sociodemographic characteristics

The mean age of the participants was 26.8±4.3 years. The majority belonged to the 21-30 years age group (78%). Most women had completed secondary or higher secondary education.

Obstetric and intrapartum characteristics

Most women were primiparous (58%). Spontaneous labour occurred in 67% of cases. Labour analgesia was used in only 18% of deliveries.

Table 2: Sociodemographic profile of participants (n=150).

Variable	Category	N (%)
Age group (years)	≤20	12 (8)
	21-30	117 (78)
	≥31	21 (14)
Education status	No formal education	9 (6)
	Primary	27 (18)
	Secondary	69 (46)
	Graduate and above	45 (30)
Residence	Urban	102 (68)
	Rural	48 (32)

Table 3: Obstetric characteristics.

Parameter	Category	N (%)
Parity	Primipara	87 (58)
	Multipara	63 (42)
Onset of labour	Spontaneous	101 (67)
	Induced	32 (21)
	Elective caesarean (no labour)	17 (11)
Mode of delivery	Vaginal	94 (63)
	Assisted vaginal	12 (8)
	Caesarean section	44 (29)
Analgesia in labour	Yes	27 (18)
	No	123 (82)

Table 4: Neonatal outcomes.

Parameter	Mean±SD / N (%)
Birth weight (kg)	2.94±0.38
Apgar score at 1 minute	7.6±0.7
Apgar score at 5 minutes	8.9±0.4

Table 5: CEQ domain and total scores (n=150).

Domain	Mean±SD	Interpretation
Own capacity	61.2±13.5	Moderate perceived coping and control
Professional support	78.6±10.1	High satisfaction with staff support
Perceived safety	74.3±11.8	Women felt generally safe during childbirth
Participation	56.8±14.9	Lower involvement in decision-making
Total CEQ score	67.7±9.8	Overall, moderately positive childbirth experience

CEQ scores

Scores were transformed to a 0-100 scale, where higher scores indicate a more positive childbirth experience.

Comparison of CEQ scores by mode of delivery

Women who delivered vaginally had significantly higher CEQ total scores compared to those who underwent caesarean delivery (p=0.01).

Effect of labour analgesia on childbirth experience

Women who received labour analgesia reported significantly better experience scores.

Table 6: Mode of delivery vs. CEQ total score.

Mode of delivery	Mean CEQ score±SD	P value
Vaginal (n=94)	70.1±8.4	0.01
Assisted vaginal (n=12)	63.4±7.9	
Caesarean (n=44)	62.8±10.2	

Table 7: Labour analgesia vs. CEQ scores.

Analgesia	Mean CEQ score±SD	P value
Yes (n=27)	72.5±8.3	0.03
No (n=123)	66.5±9.6	

Correlation of pain and control scores with CEQ

Correlation of pain and control scores with CEQ are summarized in Table 8.

Table 8: Correlation analysis.

Variable	R value	P value	Interpretation
Pain score (VAS) vs CEQ total	-0.33	0.001	Higher pain lower childbirth satisfaction
Control score vs CEQ total	+0.42	<0.001	Higher sense of control better experience

Table 9: Independent predictors of positive childbirth experience (multivariate linear regression).

Predictor	B coefficient	P value
Vaginal delivery	+0.29	0.02
Professional support score	+0.41	<0.001
Lower pain score	-0.25	0.01
Participation score	+0.33	0.004

Multivariate regression analysis

Independent predictors of a positive childbirth experience are summarized in Table 9.

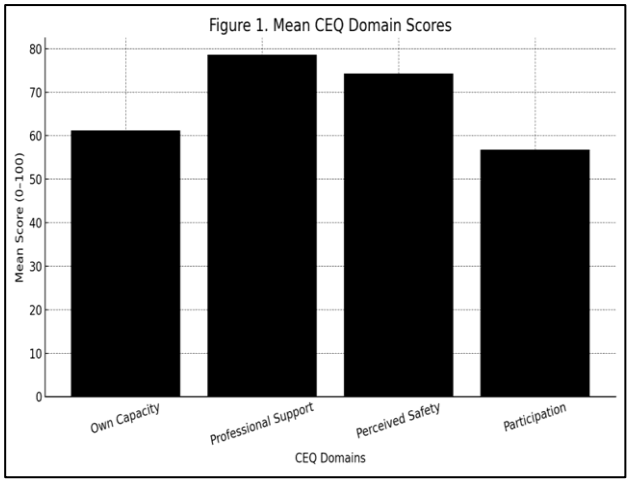

Figure 1: Mean scores across the four CEQ domains (0-100 scale) among 150 postpartum women.

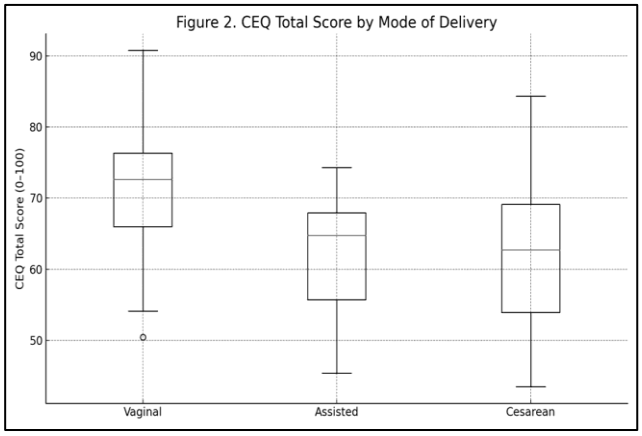

Figure 2: Distribution of total CEQ scores by mode of delivery (vaginal, assisted vaginal, and caesarean).

DISCUSSION

The present study assessed childbirth experiences among postpartum women in a tertiary care hospital using the validated CEQ. The overall mean CEQ score in this study was 67.7±9.8, indicating a moderately positive childbirth experience. Among the four CEQ domains, the highest scores were observed in Professional Support (78.6±10.1) and Perceived Safety (74.3±11.8), while Own Capacity (61.2±13.5) and Participation (56.8±14.9) scored lower. These findings suggest that although women generally felt supported and safe during childbirth, they experienced reduced sense of control and limited involvement in decision-making, consistent with patterns described in low- and middle-income maternity settings.[4,10]

Comparison with published CEQ studies

The CEQ has been widely used to measure childbirth experiences in different populations. Dencker et al reported mean CEQ domain scores similar in pattern to those observed in our study, with Professional Support consistently scoring highest.[1] In Iranian and Turkish validation studies, women also perceived strong provider support but lower autonomy in labour.[21,22] This reflects structured, provider-led intrapartum care models in many Asian healthcare settings, where clinical decision-making tends to be clinician-driven rather than shared.

Effect of mode of delivery

Mode of delivery emerged as a significant determinant of childbirth experience. Women who had vaginal births reported significantly higher CEQ total scores (70.1±8.4) compared to those undergoing caesarean sections (62.8±10.2, p=0.01). This is consistent with prior research demonstrating lower satisfaction following unplanned or emergency caesarean deliveries, particularly when performed under urgent conditions or with inadequate communication.[12,23] Vaginal birth is often perceived as a successful completion of pregnancy with active maternal participation, whereas operative delivery can introduce elements of fear, loss of control, and medical uncertainty.[19]

The findings highlight the need for enhanced counselling and communication around caesarean section indications and expectations to improve maternal experience regardless of delivery mode.

Role of labour analgesia and pain perception

Women who received analgesia reported significantly higher CEQ scores (72.5±8.3 vs. 66.5±9.6, p=0.03). Additionally, pain scores demonstrated a moderate negative correlation with childbirth experience (r=–0.33, p=0.001). Labour pain has consistently been identified as a major contributor to maternal distress.[5] However, perception of pain is strongly influenced by coping strategies, emotional preparedness, and supportive communication.[19] The findings suggest that increasing access to labour analgesia alongside antenatal counselling regarding pain expectations can meaningfully enhance childbirth satisfaction.

Importance of professional support

The Professional Support domain scored highest in the present study (78.6±10.1), indicating strong interpersonal care from healthcare staff. Continuous emotional reassurance, respectful communication, and guidance are known to reduce anxiety and enhance trust.[6] Systematic reviews demonstrate that continuous labour support leads to higher spontaneous vaginal birth rates, reduced analgesia use, and greater maternal satisfaction.[7]

The positive support reported in our setting may be attributed to the presence of trained obstetric residents, nurses, and structured labour monitoring protocols. However, maintaining such support requires adequate staffing, which remains a challenge in many public health facilities.

Participation and shared decision-making

The lowest scoring domain in this study was participation (56.8±14.9), indicating limited involvement of women in decisions during labour. Similar findings of reduced maternal autonomy in decision-making have been reported in obstetrician-led maternity care models internationally, where clinical decision-making tends to be provider-driven rather than shared.[20]

The WHO framework for Positive Childbirth Experience emphasizes respectful maternity care (RMC), including autonomy, informed consent, and choice of birth companion.[11] Adoption of structured communication tools, birth plans, and active labour companionship may help enhance women's sense of agency.

Regression analysis and predictors of positive childbirth experience

Multivariate regression identified vaginal delivery, a higher Professional Support score, lower pain levels, and a higher Participation score as independent predictors of a positive childbirth experience. This model aligns with global evidence that childbirth satisfaction arises not only from clinical outcomes but also from interpersonal respect, support, and emotional empowerment.[23]

Strengths and limitations

The strengths of this study include the use of a validated CEQ instrument, administration of the questionnaire within 72 hours of delivery to minimize recall bias, and the inclusion of both vaginal and caesarean births, which allows broader generalizability of the findings.

The limitations of this study include its single-center design, which restricts external validity; the lack of standardized measurement of companion support; and the absence of assessment of long-term psychological outcomes.

Implications for practice

The findings of this study indicate a need to strengthen shared decision-making during intrapartum care, to expand availability and counselling regarding labour analgesia, and to implement Respectful Maternity Care (RMC) practices consistently across the maternity unit.

CONCLUSION

The childbirth experience in this tertiary care setting was overall moderately positive, with strong professional support and perceived safety reported. However, lower scores in participation and personal control highlight the need for enhanced woman-centered and participatory intrapartum care. Strategies to improve communication, shared decision-making, and access to pain relief can significantly enhance maternal childbirth experiences.

ACKNOWLEDGEMENTS

The authors would like to thank the Department of Obstetrics and Gynaecology, M. S. Ramaiah Medical College and Hospital, Bangalore, for providing the clinical setting and support required for the conduct of this study. The assistance of the labour room nursing staff and lactation counsellors is acknowledged for their contribution to data collection and breastfeeding support. The mothers who participated in this study are also gratefully acknowledged for their cooperation and valuable time.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: The study was approved by the Institutional Ethics Committee (MSRMC/EC/PG-12/05-2023)

REFERENCES

1. Dencker A, Taft C, Bergqvist L, Lilja H, Berg M. Childbirth experience questionnaire (CEQ): development and evaluation of a multidimensional instrument. BMC Pregnancy Childbirth. 2010;10:81.
2. Bell AF, Andersson E. The birth experience and women's postnatal depression: a systematic review. Midwifery. 2016;39:112-23.
3. Ayers S, Bond R, Bertullies S, Wijma K. The aetiology of post-traumatic stress following childbirth: a meta-analysis and theoretical framework. Psychol Med. 2016;46(6):1121-34.
4. Downe S, Finlayson K, Oladapo OT, Bonet M, Gülmezoglu AM. What matters to women during childbirth: a systematic qualitative review. PLoS One. 2018;13(4):e0194906.
5. Lowe NK. The nature of labor pain. Am J Obstet Gynecol. 2002;186(5):S16-24.
6. Hodnett ED. Pain and women's satisfaction with the experience of childbirth: a systematic review. Am J Obstet Gynecol. 2002;186(5):S160-72.
7. Bohren MA, Hofmeyr GJ, Sakala C, Fukuzawa RK, Cuthbert A. Continuous support for women during childbirth. Cochrane Database Syst Rev. 2017;7:CD003766.
8. Bowser D, Hill K. Exploring evidence for disrespect and abuse in facility-based childbirth: report of a landscape analysis. Boston: USAID-TRAction Project, Harvard School of Public Health. 2010.
9. White Ribbon Alliance. Respectful maternity care: the universal rights of childbearing women. Washington, DC: White Ribbon Alliance. 2011.
10. Bohren MA, Vogel JP, Hunter EC, Lutsiv O, Makh SK, Souza JP, et al. The mistreatment of women during childbirth in health facilities globally: a mixed-methods systematic review. PLoS Med. 2015;12(6):e1001847.
11. WHO. WHO recommendations: intrapartum care for a positive childbirth experience. Geneva: World Health Organization. 2018. Available at:

https://www.who.int/publications/i/item/9789241550215. Accessed on 09 December 2025.
12. Benton M, Salter A, Tape N, Wilkinson C, Turnbull D. Women's psychosocial outcomes following an emergency caesarean section: a systematic literature review. BMC Pregnancy Childbirth. 2019;19(1):535.
13. Larkin P, Begley CM, Devane D. Women's preferences for childbirth experiences in the Republic of Ireland; a mixed methods study. BMC Pregnancy Childbirth. 2017;17(1):19.
14. Behruzi R, Hatem M, Goulet L, Fraser W, Misago C. Understanding childbirth practices as an organizational cultural phenomenon: a conceptual framework. BMC Pregnancy Childbirth. 2013;13:205.
15. Larkin P, Begley CM, Devane D. Women's experiences of labour and birth: an evolutionary concept analysis. Midwifery. 2009;25(2):e49-59.
16. Afulani PA, Diamond-Smith N, Phillips B, Singhal S, Sudhinaraset M. Predictors of person-centered maternity care: the role of socioeconomic status, empowerment, and facility type. BMC Health Serv Res. 2018;18(1):360.
17. Shorey S, Yang YY, Ang E. The impact of negative childbirth experience on future reproductive decisions: a quantitative systematic review. J Adv Nurs. 2018;74(6):1236-44.
18. Balaguru S, Pal A, Begum J, Mohan A. Experiences and felt needs of women during childbirth in a tertiary care center: a hospital-based cross-sectional descriptive study. J Obstet Gynaecol India. 2021;71(1):21-6.
19. Whitburn LY, Jones LE, Davey MA, Small R. The meaning of labour pain: how the social environment and other contextual factors shape women's experiences. BMC Pregnancy Childbirth. 2017;17(1):157.
20. Vogels-Broeke M, Cellissen E, Daemers D, Budé L, De Vries R, Nieuwenhuijze M. Women's decision-making autonomy in Dutch maternity care. Birth. 2023;50(2):384-95.
21. Ghanbari-Homayi S, Dencker A, Fardiazar Z, Jafarabadi MA, Mohammad-Alizadeh-Charandabi S, Meedya S, et al. Validation of the Iranian version of the childbirth experience questionnaire 2.0. BMC Pregnancy Childbirth. 2019;19(1):465.
22. Mamuk R, Şahin N, Dişsiz M. The Turkish version of the Childbirth Experience Questionnaire (CEQ): reliability and validity assessment. Bakirkoy Tip Dergisi. 2019;15(3):265-71.
23. Shiva L, Desai G, Satyanarayana VA, Venkataram P, Chandra PS. Negative childbirth experience and post-traumatic stress disorder – a study among postpartum women in South India. Front Psychiatry. 2021;12:640014.
24. Khalife-Ghaderi F, Amiri-Farahani L, Haghani S, Hasanpoor-Azghady SB. Examining the experience of childbirth and its predictors among women who have recently given birth. Nurs Open. 2021;8(1):63-71.

Cite this article as: Rajagopal N, Sujani BK. Assessment of childbirth experience in a tertiary care hospital: a cross-sectional questionnaire-based study. Int J Reprod Contracept Obstet Gynecol 2026;15:xxx-xx.