European Journal of Clinical Pharmacy
Print ISSN: 2385-409X, **Online ISSN**: 3105-0409
Website: https://farmclin.com/

UTILISATION OF INTRANATAL CARE SERVICES AND ASSOCIATED FACTORS AMONG WOMEN IN RURAL GURUGRAM, HARYANA: A COMMUNITY-BASED CROSS-SECTIONAL STUDY

Article History:

***Received**:* 02-11-2025
***Revised**:* 26-11-2025
***Accepted**:* 16-12-2025
***Published**:* 31-12-2025

Name of Author:
Dr Harsh Punia[1], Dr Deepika Chauhan[2], Dr Urvashi Yadav [3]

Affiliation: *[1-3] Department of Community Medicine, SGT University*

Corresponding Author:

This is an open access journal, and articles are distributed under the terms of the Creative CommonsAttribution-Noncommercial-Share Alike 4.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

Abstract: Background: Institutional delivery coverage has improved substantially in India, but the place of birth alone does not establish whether women receive timely, skilled, respectful and complete intranatal care. Rural communities adjoining rapidly urbanising Gurugram may experience distinctive barriers related to transport, migration, cost, public–private service choice and referral fragmentation. **Objective:** To assess utilisation of intranatal care services and determine associated socio-demographic, obstetric and health-system factors among women residing in selected rural areas of Gurugram, Haryana. **Methods:** A community-based cross-sectional survey of 200 women aged 18–49 years who experienced a live birth or stillbirth within the preceding 12 months is proposed. Multistage cluster sampling will be used. A structured interviewer-administered schedule will measure participant characteristics, obstetric history, birth preparedness, facility access, skilled attendance, monitoring, respectful care, immediate maternal and newborn care, referral, entitlements and barriers. A 25-item utilisation index will generate domain and total percentage scores. Descriptive statistics, chi-square/Fisher's exact tests and, if sample distribution permits, multivariable logistic regression will be applied. **Ethics and dissemination:** Written informed consent, privacy, distress-sensitive interviewing and secure data management will be used. Findings will be shared through a peer-reviewed article, academic dissertation and local stakeholder briefing.

Keywords: intranatal care; maternal health services; skilled birth attendance; respectful maternity care; rural women; Gurugram; Haryana; cross-sectional study.

INTRODUCTION

The intranatal period—from the onset of labour through birth and completion of the placental stage—is a short but clinically decisive phase of the maternal-care continuum. Haemorrhage, hypertensive emergencies, infection, obstructed labour, fetal compromise and newborn failure to transition can develop rapidly. Timely access to a functional facility, competent attendance, appropriate monitoring, emergency response and referral can therefore prevent avoidable morbidity and mortality **[1–3].**

Contemporary definitions of quality extend beyond survival. The World Health Organization describes a positive childbirth experience as clinically and psychologically safe care provided by kind and competent personnel, consistent with the woman's sociocultural expectations and informed choices **[1]**. Respectful maternity care includes dignity, privacy, confidentiality, understandable communication, consent, non-discrimination and freedom from verbal, physical or financial abuse. These dimensions affect trust, disclosure of symptoms and future help-seeking. India has expanded access through the National Health Mission, Janani Suraksha Yojana, Janani Shishu Suraksha Karyakram, LaQshya and Surakshit Matritva Aashwasan. NFHS-5 documented national improvement in institutional births, although inequalities persist by residence, education, household resources, antenatal contact and geography **[4–8]**. Coverage can also conceal incomplete care, unnecessary intervention, out-of-pocket expenditure, poor communication or delays after reaching a facility.

Gurugram is commonly viewed through its urban corporate identity, yet the district contains rural communities embedded in a rapidly changing public–private service market. Women may travel across blocks or administrative boundaries, bypass nearer facilities, depend on household decision-makers, or face documentation, language and affordability barriers. High aggregate institutional-delivery coverage does not answer whether rural women receive the full package of timely and respectful intranatal care.

1.1 Research gap

Much Indian evidence uses institutional delivery or skilled attendance as a binary outcome. Fewer community studies integrate birth preparedness, transport, admission, maternal and fetal monitoring, respectful care, immediate postpartum and newborn practices, referral continuity and financial barriers in one patient-reported assessment. Local evidence from rural Gurugram is limited. The proposed study addresses this gap using a multidomain utilisation index while explicitly recognising that patient reports cannot replace clinical observation or facility audit.

1.2 Aim and objectives

The aim is to assess utilisation of intranatal care services among women in selected rural areas of Gurugram and identify associated factors. The specific objectives are to:

describe socio-demographic and obstetric characteristics;

estimate receipt of selected intranatal-care components and domain scores;

classify overall utilisation using a pre-specified scoring plan;

identify perceived access, financial and service barriers; and

test associations between utilisation and selected participant, pregnancy and health-system variables.

Methods

2.1 Study design and setting

A quantitative, community-based cross-sectional design will be used. The study will be undertaken in selected rural clusters of Gurugram district, Haryana. The final article will report verified details of the selected blocks, villages, population, linked subcentres/PHCs/CHCs, referral facilities and public–private delivery context. No village or facility statistics will be inserted without an official source.

2.2 Population and eligibility

The source population comprises women aged 18–49 years residing in rural Gurugram. Eligible participants must be usual residents of a selected cluster for at least six months, have experienced a live birth or stillbirth within the preceding 12 months, be able to communicate in a validated study language, and provide informed consent. Women who are acutely ill or distressed at contact will not be interviewed; bereavement-sensitive exclusions or deferred approaches will follow ethics guidance.

2.3 Sample size

The planned sample is 200. If prevalence-based justification is required by the target journal, the protocol will show $n=Z^2p(1-p)/d^2$, the assumed utilisation proportion, absolute precision, cluster design effect and non-response allowance. The fixed sample should not be reverse-engineered with implausible assumptions. Precision and the number of outcome events will determine whether adjusted regression is defensible.

2.4 Sampling strategy

Multistage cluster sampling is proposed. Rural administrative units will be listed from an official frame. Clusters will be selected using a documented probability method. Eligible women will be enumerated from approved ASHA/ANM registers, immunisation records and household verification. The sample will be allocated proportional to cluster size, followed by random or systematic selection. At least two revisit attempts will be planned before classifying a selected woman as non-contact.

Stage	Procedure	Quality safeguard
1	Obtain the official rural-cluster sampling frame	Record source and date
2	Select clusters by a reproducible random method	Retain seed/draw record

©2025 European Journal of Clinical Pharmacy; All Rights Reserved

3	Create a de-duplicated eligibility list	Cross-check records and household
4	Allocate n proportional to the eligible population	Preserve the allocation sheet
5	Select participants and conduct revisits	Maintain coded recruitment log

2.5 Primary outcome

The primary outcome is intranatal-care utilisation, expressed as a participant-specific percentage of applicable index items and categorised provisionally as inadequate (<60%), moderate (60–79%) or adequate (≥80%). These cut-offs are pragmatic, require expert review and will not be presented as a universal clinical standard.

2.6 Data-collection instrument

A structured interviewer-administered schedule will be developed from WHO intrapartum-care recommendations, Indian maternal-health programme standards and empirical literature [1,5,6,9–12]. It will contain five parts: socio-demographic profile; obstetric and service history; a 25-item utilisation index; respectful maternity-care experience; and barriers, expenditure and suggestions. Wording will focus on observable events and permit "do not know" or "not applicable" where a woman cannot reasonably observe a technical action.

Domain	Items	Examples
Access/admission	5	Birth plan, transport, timely arrival, reception, initial assessment
Skilled/emergency care	3	Competent attendant, explained referral, prompt response
Monitoring/support	5	Vitals, fetal assessment, progress, comfort, information
Safe/respectful care	5	Privacy, consent, respectful speech, non-discrimination, hygiene
Immediate maternal care	3	Bleeding/uterus assessment, observation, response to concern
Essential newborn care	4	Warmth, breathing assessment, skin-to-skin, breastfeeding support

2.7 Scoring

"Yes/received" will score 1 and "no/not received" 0. Legitimately not-applicable items will be removed from the individual denominator. "Do not know" will remain a distinct response and will score zero in the conservative primary analysis, with sensitivity analysis considered if it is frequent. Utilisation percentage will equal obtained points divided by applicable maximum points multiplied by 100. Item-level and domain-level estimates will be reported so that a total score does not conceal a critical gap.

2.8 Explanatory variables

Pre-specified factors will include age, education, occupation, household economic indicator, family type, parity, birth interval, number of antenatal contacts, identified high-risk pregnancy, birth preparedness, late-pregnancy ASHA/ANM contact, distance/travel time, transport arrangement, facility sector, mode of birth, referral, direct expenditure and reported barriers. Sensitive social identifiers will be collected only if justified and approved.

2.9 Validity, translation and reliability

Seven to eleven experts in obstetrical nursing, midwifery, community health nursing, obstetrics, public health and biostatistics will assess relevance, clarity, simplicity, observability and cultural appropriateness. Item- and scale-level content-validity indices will be calculated. Hindi translation will use forward translation, reconciliation and independent back-translation. Pilot data will evaluate feasibility, response distribution, and skip logic. KR-20/internal consistency and test–retest or kappa statistics will be used where conceptually appropriate; actual coefficients will be reported, not pre-filled.

2.10 Pilot study

Approximately 20 women from a similar non-study cluster may participate in the pilot, subject to approval. Interview duration, privacy, recruitment, sensitive-question response, scoring, missingness and data-entry checks will be examined. Pilot participants will be excluded from the main study if the tool changes materially.

2.11 Data-collection procedure

After ethics and administrative approvals, trained female interviewers will approach selected women privately, verify eligibility, explain the study and obtain written consent or a witnessed thumb impression. Interviews are expected to last 25–35 minutes. Consent forms will be stored separately from coded schedules. Daily checks will identify omissions without pressuring participants to answer sensitive questions.

2.12 Ethical considerations

Participation will be voluntary and unrelated to eligibility for services or benefits. Participants may skip questions or withdraw without consequence. Questions concerning difficult childbirth,

©2025 European Journal of Clinical Pharmacy; All Rights Reserved

mistreatment or loss may cause distress; interviews will pause or stop at the participant's request, and an ethics-approved referral pathway will be available. No facility or provider will be identifiable in publications unless separately approved. Electronic data will be encrypted or password-protected, access limited and retention governed by institutional policy.

2.13 Statistical analysis

Objective	Analysis
Describe sample	Frequency/percentage; mean±SD or median [IQR] after checking distribution
Estimate utilization	Item, domain and total estimates; 95% confidence intervals where appropriate
Classify level	Inadequate, moderate and adequate utilization with explicit denominator
Assess associations	Chi-square or Fisher's exact test; effect estimates and confidence intervals
Explore independent factors	Binary logistic regression is only applicable if the event count and assumptions are adequate
Missing/cluster effects	Describe missingness; consider cluster-robust variance or survey methods

Analysis will be performed using IBM SPSS, R, Jamovi or another approved package. Two-sided $p<0.05$ will be used, but interpretation will emphasise magnitude, confidence intervals and plausibility. Variables will be chosen for adjusted analysis from a conceptual framework and prior evidence rather than univariable significance alone. Collinearity, sparse cells, model calibration and influential observations will be assessed. Category collapsing after viewing the results solely to achieve significance will be avoided.

2.14 Reporting

The final original research article will follow the STROBE checklist for cross-sectional studies. A participant-flow diagram will report eligible, selected, contacted, excluded, declined and analysed women. Every table will state its denominator and missing responses. The protocol and any post hoc deviations will be distinguished transparently.

Results:

planned presentation

The completed results section will present: (1) recruitment flow; (2) participant and obstetric profile; (3) place, mode and referral pathway of childbirth; (4) receipt of each intranatal-care component; (5) domain and total utilisation scores; (6) respectful-care indicators and barriers; and (7) unadjusted and adjusted associations. Suggested shells are provided below.

DISCUSSION

The final discussion will begin with the principal finding and distinguish overall utilisation from individual domains. Strong institutional-delivery coverage may coexist with incomplete communication, consent, supportive care, skin-to-skin contact, breastfeeding assistance, transport readiness or referral continuity. Findings will be compared with NFHS-5 and community studies while accounting for differences in population, recall period, definitions and facility mix **[4,7,8,13–16].**

Associations will be interpreted as non-causal. Education may influence knowledge and communication, but may also represent a household advantage. Antenatal contact may improve birth preparedness and referral linkage. Public–private differences may reflect case mix, affordability, perceived amenities and bypassing behaviour. Caesarean or complicated births may change the applicability of supportive and newborn-care items; stratified or sensitivity analyses may therefore be required.

Patient-reported experience provides information unavailable from routine records, but it cannot determine whether monitoring intervals or clinical decisions were technically correct. The study is best viewed as a community utilisation and experience assessment that can identify priorities for clinical audit, not as a substitute for audit.

4.1 Anticipated implications

For community nursing, the study can identify whether late-pregnancy contacts adequately address facility choice, transport, emergency funds, danger signs and entitlements. For maternity services, item-level findings can guide woman-friendly admission, privacy, communication, consent, companion support, breastfeeding assistance and referral handover. For administrators, domain scores may support quality-improvement cycles alongside clinical outcome and readiness indicators.

4.2 Strengths

community-based recruitment rather than facility-only sampling;
a short 12-month recall period and focus on the most recent birth;
multidomain measurement beyond the place of delivery;
inclusion of respectful care, barriers, referral and entitlements; and
pre-specified scoring and analysis with explicit handling of non-applicable items.

©2025 European Journal of Clinical Pharmacy; All Rights Reserved

4.3 Limitations

Recall and social desirability bias are possible. Women may not observe technical actions, and expectations can shape satisfaction. Cross-sectional associations cannot establish causality. Cluster sampling and n=200 may reduce precision and restrict regression. Selected rural clusters may not represent the whole district. The facility sector, mode of birth and clinical risk may confound comparisons. Composite cut-offs require validation and should not be treated as universal quality standards.

CONCLUSION

This study will assess whether women in rural Gurugram receive a complete, timely and respectful package of intranatal care rather than relying on institutional delivery as the sole indicator. Its multidomain approach is expected to identify actionable gaps in access, monitoring, communication, immediate maternal/newborn care, referral and entitlements. Conclusions will be drawn only after genuine data collection and analysis.

BIBLIOGRAPHY

1. World Health Organisation. WHO recommendations: intrapartum care for a positive childbirth experience. Geneva: WHO; 2018.
2. World Health Organization. Standards for improving the quality of maternal and newborn care in health facilities. Geneva: WHO; 2016.
3. World Health Organization, UNICEF, UNFPA, World Bank Group, UNDESA. Trends in maternal mortality 2000 to 2020. Geneva: WHO; 2023.
4. International Institute for Population Sciences (IIPS), ICF. National Family Health Survey (NFHS-5), 2019–21: India. Mumbai: IIPS; 2021.
5. Ministry of Health and Family Welfare, Government of India. LaQshya: Labour Room Quality Improvement Initiative—guidelines. New Delhi: MoHFW; 2017.
6. Ministry of Health and Family Welfare, Government of India. Surakshit Matritva Aashwasan (SUMAN): standard operational guidelines. New Delhi: MoHFW; 2020.
7. International Institute for Population Sciences (IIPS), ICF. National Family Health Survey (NFHS-5), 2019–21: Haryana. Mumbai: IIPS; 2021.
8. Tripathi S, et al. Key findings from NFHS-5 India report: observing trends of health indicators. J Family Med Prim Care. 2023.
9. Bohren MA, Vogel JP, Hunter EC, et al. The mistreatment of women during childbirth in health facilities globally: a mixed-methods systematic review. PLoS Med. 2015;12:e1001847.
10. Bohren MA, Mehrtash H, Fawole B, et al. How women are treated during facility-based childbirth in four countries: a cross-sectional study. Lancet. 2019;394:1750–63.
11. Tunçalp Ö, Were WM, MacLennan C, et al. Quality of care for pregnant women and newborns—the WHO vision. BJOG. 2015;122:1045–9.
12. Campbell OMR, Calvert C, Testa A, et al. The scale, scope, coverage, and capability of childbirth care. Lancet. 2016;388:2193–208.
13. Girotra S, et al. Utilization and determinants of adequate quality antenatal care services in India: evidence from NFHS-5. BMC Pregnancy Childbirth. 2023.
14. Thakkar N, et al. Factors associated with underutilization of antenatal care in India: evidence from NFHS-5. BMC Pregnancy Childbirth. 2023.
15. Kar R, et al. Determinants of public institutional births in India. BMC Public Health. 2024.
16. Dutta R, et al. State-wise variation and inequalities in caesarean delivery in India: evidence from NFHS-5. BMC Pregnancy Childbirth. 2024.
17. Bankar S, et al. Accessing antenatal care services during the COVID-19 pandemic: experiences of women in rural Haryana, India. BMC Pregnancy Childbirth. 2022.
18. Singh T, et al. Maternal healthcare services in a rural area of Haryana during the COVID-19 pandemic. J Family Med Prim Care. 2023.
19. Thaddeus S, Maine D. Too far to walk: maternal mortality in context. Soc Sci Med. 1994;38:1091–110.
20. Andersen RM. Revisiting the behavioural model and access to medical care: does it matter? J Health Soc Behav. 1995;36:1–10.
21. von Elm E, Altman DG, Egger M, et al. The STROBE statement: guidelines for reporting observational studies. Lancet. 2007;370:1453–7.
22. World Health Organisation. Companion of choice during labour and childbirth for improved quality of care. Geneva: WHO; 2020.
23. National Health Mission. Guidelines on operationalisation of midwifery units. New Delhi: Ministry of Health and Family Welfare.
24. World Health Organisation. Making childbirth a positive experience. Geneva: WHO. Available from: https://www.who.int/activities/making-childbirth-a-positive-experience

©2025 European Journal of Clinical Pharmacy; All Rights Reserved