A STUDY TO ASSESS IMPLEMENTATION STATUS OF THE HBNC PROGRAM AND INCENTIVE RELATED DATA INTEGRITY AMONG ASHA WORKERS AND SUPERVISORS IN JAIPUR DISTRICT OF RAJASTHAN

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by

Deepshikha

Under the Supervision and Guidance of

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CERTIFICATE

This is to certify that **Dr. Deepshikha**, student of MBA, Indian Institute of Health Management Research (IIHMR University, Jaipur) has successfully completed her Dissertation & Internship at National Health Mission, Rajasthan from 10th March, 2025 to 31st May, 2025.

Her performance was found satisfactory. We extend her good wishes for a bright and successful career ahead.

(Dr. Bharti Dixit)
Mission Director, NHM
Joint Secretary
Medical Health & Family Welfare

IIHMR UNIVERSITY

CERTIFICATE

This is to certify that dissertation titled "A study to assess implementation status of the HBNC program and incentive related data integrity among ASHA workers and supervisors in Jaipur district of Rajasthan" is the record of the research work undertaken by Dr. Deepshikha in partial fulfillment of the requirements for the award of the degree of MBA (Hospital and Health Management) from the IIHMR University, Jaipur, my guidance and supervision and his approach to the research study has been sincere, scientific and analytical.

Dr. Jagajeet Prasad Singh

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DECLARATION BY STUDENT

I hereby declare that this dissertation titled "A study to assess implementation status of the HBNC program and incentive related data integrity among ASHA workers and supervisors in Jaipur district of Rajasthan", is the bonafide record of my original research work. I declare that it has not been submitted to any other university or institution for the award of any degree or diploma. Information derived from the published or unpublished work of others has been duly acknowledged in the text.

Dr. Deepshikha

Date 31-05-2025

Abstract

Introduction:

The Home-Based Newborn Care (HBNC) program, implemented by Accredited Social Health Activists (ASHAs), is central to India's strategy for reducing neonatal mortality. The program's success depends on effective service delivery and accurate reporting, both of which are tied to performance-based incentives. However, challenges—especially in urban settings—threaten the integrity of the program and its incentive system.

Objectives:

This study assessed the implementation of the HBNC program and the reliability of related incentive data among ASHA workers and supervisors in Jaipur, Rajasthan. It examined discrepancies between reported and actual HBNC visits, the timeliness and transparency of incentive payments, ASHAs' knowledge of HBNC protocols, and operational challenges affecting implementation.

Methodology:

A descriptive, cross-sectional study using mixed methods was conducted from March to May 2025 across six urban Primary Health Centers (PHCs) in Jaipur. A total of 52 ASHA workers and 13 supervisors participated. Data were collected through structured questionnaires, in-depth interviews, and reviews of physical records, including claim forms and HBNC registers.

Results:

All ASHAs (100%) had received HBNC training and demonstrated strong foundational knowledge. However, gaps remained—for example, only **37%** could identify umbilical infections as a danger sign. Delayed incentive payments were a major issue, with 69% of ASHAs reporting delays and 40% experiencing them consistently. Supervisors reported 23% instances of fake entries, often attributed to workload or intentional falsification. Discrepancies were found between self-reported visits and register records. The most cited challenges were technical issues with the PCTS application (49 mentions) and the dual burden of digital and paper documentation (12 mentions).

Conclusion:

While ASHAs are generally knowledgeable and supervisory systems are in place, the HBNC program faces serious setbacks due to administrative inefficiencies, unreliable data, and flawed incentive disbursement. Chronic payment delays and documentation burdens undermine ASHA motivation and service quality. Strengthening digital infrastructure, simplifying documentation, and ensuring timely, transparent payments are critical to improving neonatal care outcomes under the HBNC program.

Keywords: Home-Based Newborn Care (HBNC), ASHA workers, incentive delays, data integrity, National Health Mission (NHM)

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This dissertation is a testament to the collective efforts and support I have received, and I am truly thankful to each individual who played a part in this significant milestone.

Abbreviations

- **ASHA**: Accredited Social Health Activist
- **ANM**: Auxiliary Nurse Midwife
- **HBNC**: Home-Based Newborn Care
- **MoHFW**: Ministry of Health and Family Welfare
- **MPW**: Multi-Purpose Worker (often used interchangeably with ANM in some contexts, or as a broader term for health workers)
- **NHM**: National Health Mission
- **NFHS**: National Family Health Survey
- **NUHM**: National Urban Health Mission
- **PCTS**: Pregnancy, Child Tracking & Health Services Management
- **PHC**: Primary Health Center
- **PHM**: Public Health Manager
- **RMNCH+A**: Reproductive, Maternal, Newborn, Child Health + Adolescent Health
- **UPHC**: Urban Primary Health Center

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Chapter 1: Introduction

1.1 Background of the Study

India has made significant progress in reducing neonatal mortality, yet still bears a high burden, accounting for nearly 600,000 neonatal deaths in 2017—with urban mortality declining faster than rural, thereby widening inequities pmc.ncbi.nlm.nih.govpmc.ncbi.nlm.nih.gov. In response, several flagship initiatives were launched—such as the National Health Mission (NHM, 2005), Janani Suraksha Yojana (JSY, 2005), and the ASHA program (2006)—to bolster maternal and newborn care delivery pmc.ncbi.nlm.nih.govncbi.nlm.nih.gov.

Within this context, Home-Based Newborn Care (HBNC), introduced in 2011 under NHM, proposes seven postnatal home visits by ASHAs to support early breastfeeding, detect neonatal danger signs, ensure hygienic cord care, and facilitate timely referrals pmc.ncbi.nlm.nih.govncbi.nlm.nih.gov. Despite its potential, HBNC coverage shows wide variation—National Family Health Survey (NFHS-4, 2015–16) data indicate that only about 50–55% of newborns in Rajasthan receive complete HBNC coverage pmc.ncbi.nlm.nih.govpubmed.ncbi.nlm.nih.gov. Moreover, performance-based incentive systems, though effective in motivating ASHAs, have been linked to practices like overreporting or data inflation, undermining data validity and program impact ncbi.nlm.nih.govpmc.ncbi.nlm.nih.gov.

1.2 Statement of the Problem

The HBNC program is a cornerstone of community-based neonatal care, yet data inaccuracies and incentive irregularities threaten its effectiveness. The gap between services reported and services actually delivered has not been sufficiently studied in the context of Rajasthan’s urban primary healthcare settings. Furthermore, supervisory mechanisms responsible for verifying HBNC data and incentive eligibility may lack robustness, contributing to either false disbursements or underpayment. Additionally, ASHAs' knowledge gaps in HBNC guidelines further affect service quality and reporting accuracy.

1.3 Purpose of the Study

The purpose of this study is to examine the accuracy and integrity of ASHA-reported HBNC data, evaluate the status of incentive disbursement, and assess the knowledge and awareness levels of ASHA workers regarding HBNC protocols in selected urban PHCs of Jaipur, Rajasthan. This study also aims to understand the supervisory and verification processes in place to monitor incentive claims and to explore the gaps between policy design and ground-level implementation.

1.4 Rationale and Significance

While HBNC's rural deployment and ASHA training have been well-researched, data integrity in urban implementations remains under-explored, particularly in Rajasthan—a state with uneven HBNC reach (≈52%) and administrative complexity ncbi.nlm.nih.govpmc.ncbi.nlm.nih.gov. Studies indicate that delayed incentives, digital tool failures, and dual documentation have eroded ASHA motivation and led to inaccurate reporting pmc.ncbi.nlm.nih.gov.

Understanding the confluence of incentive challenges, supervisory gaps, digital platform issues, and ASHA knowledge levels—and how these impair data accuracy—can inform targeted interventions to strengthen performance-based objectives. These insights are vital for NHM Rajasthan's ongoing efforts in data verification, digital efficiencies, timely payment, and reduction of urban neonatal mortality pmc.ncbi.nlm.nih.govncbi.nlm.nih.gov.

1.5 Objectives of the Study

1. To evaluate discrepancies between reported HBNC visits and actual service delivery as recorded by supervisors and ASHAs.
2. To analyze the timeliness and transparency of ASHA incentive payments and identify barriers to prompt disbursement.
3. To assess the status of HBNC program implementation in the selected region.
4. To evaluate ASHA workers' knowledge and awareness of HBNC protocols.
5. To explore the association between ASHAs' knowledge and the accuracy of incentive reporting.

References: -

- *(Ray et al., 2022)*: “Neonatal deaths account for over 600,000 of all newborn deaths globally, with persistent quality-of-care deficits.” pmc.ncbi.nlm.nih.govncbi.nlm.nih.gov
- *(Ashok, Nandi, & Laxminarayan, 2016)*: “Good quality postnatal care may prevent up to 67% of newborn deaths in India.” ncbi.nlm.nih.gov
- *(Biswas et al., 2023)*: “Incomplete and delayed incentive payments were reported by the majority of ASHAs, affecting motivation and data fidelity.” pmc.ncbi.nlm.nih.gov
- *(India State-Level Disease Burden Initiative, 2020)*: “NFHS-4 data suggest only around half of newborns in Rajasthan receive the full HBNC schedule.” pmc.ncbi.nlm.nih.govpubmed.ncbi.nlm.nih.gov

Chapter 2: Review of Literature

Authors (Year)	Study Location	Sample Size	Sampling Techniques	Salient Features
Kok et al. (2021) – *Systematic Review*	Low- and Middle-Income Countries (Global)	30 studies included	Purposive selection for systematic review	Examined the effects of performance-based incentives on CHWs. Found that incentives improved service delivery but also led to neglect of non-incentivized tasks.
Zulu et al. (2023) – *Qualitative Study*	Benin, Burkina Faso, Ghana, Malawi, Mali, Niger, Zambia	90 CHWs and managers interviewed	Purposive sampling	Explored CHW compensation structures. Found inconsistent payments led to demotivation, and financial instability impacted performance and data accuracy.
Paul et al. (2018) – *Mixed-Methods Study*	Zambia	20 health facilities	Stratified random sampling	Investigated performance-based financing impacts. Found increased reporting pressure could lead to overreporting or falsified data for incentives.
Agrawal & Kumari (2014)	Western Uttar Pradesh, India	1,000 children	Hospital-based sampling	- Conducted a cross-sectional study to assess immunization status among children up to 6 years of age. - Found that immunization coverage declined with increasing age of the child.

				- Highlighted discrepancies between reported immunization data and actual field verification, suggesting possible data inflation to meet program targets. - Emphasized the need for accurate data reporting to guide effective public health interventions.
Garg et al. (2022)	Rural Chhattisgarh	1928 caregivers of newborns	Multistage random sampling across 146 blocks and 730 habitations	Assessed HBNC coverage, ASHA presence during delivery (84.3%), 74.1% received full 6 visits, 95% newborns screened, 12.9% identified as sick; 48.1% referred, 34.7% treated by ASHA.
Newton-Lewis & Bahety (2021)	Bihar, Odisha, MP, Rajasthan (13 districts)	3935 (baseline), 4049 (endline) children aged 3–23 months	Quasi-experimental; matched control districts; probability proportional to size (PPS)	Evaluated HBNC+ pilot; increased home visits but low absolute coverage; no significant effect on feeding, hygiene, or health service uptake. Highlighted need for better ASHA support and systemic improvements.
Pathak et al. (2021)	Rural Lucknow, UP	200 mothers + 48 ASHAs	All deliveries at PHC Sarojini Nagar during 8 months; consecutive sampling	Assessed HBNC visit frequency and ASHA knowledge; found decreasing services with age of baby; ASHA knowledge adequate, mothers unaware of HBNC. Emphasized need

				for hands-on training.
Hannah et al. (2022)	Urban India	Secondary data from HMIS, ASHA updates, QPRs	Not applicable (secondary data analysis)	Evaluated HBNC under NUHM; full HBNC coverage <20% in urban areas; higher coverage for home deliveries than institutional; called for better referral linkages, human resource support, and frontline engagement.
Rairker et al. (2019)	Bahadurpur Block, Allahabad, UP	146 ASHAs	Simple random sampling among 245 trained ASHAs	Assessed ASHA knowledge, practices, and influencing factors; identified gaps in comprehensive coverage of HBNC signs; highlighted poor awareness and inconsistent practices despite training.
Devi et al. (2022)	Doiwala, Uttarakhand	102 ASHAs	Random sampling; quasi-experimental multiple observation (time-series) design	Assessed ASHA knowledge, practices, and attitude towards HBNC. Found average baseline knowledge; post-training improvements observed in hypothermia prevention, breastfeeding, and rejection of harmful traditional practices. Recommended regular training and evaluations.

2.1 Incentive Structures and CHW Performance

Performance-based incentives (PBIs) are widely employed to motivate community health workers (CHWs), but their impact is mixed. A systematic review by Gopaldas et al. (2021) found that while large financial incentives improve specific service delivery outcomes, they also risk the neglect of non-incentivized tasks pubmed.ncbi.nlm.nih.govresearchgate.net. This tension is explained by the Principal–Agent Theory, where CHWs prioritize tasks that yield higher personal gain rather than meet broader public health goals.

Zulu et al. (2023), in qualitative multi-country research, reported that irregular or delayed payments create financial stress and reduce motivation, pushing CHWs toward overreporting to compensate pmc.ncbi.nlm.nih.gov. In Uganda, Kyaka II CHWs preferred cash over digital payments because of fewer delays and more certainty researchgate.net. These findings emphasize the importance of reliability and timeliness in funding mechanisms, especially with digital platforms.

Synthesis & Gap: Evidence consistently shows that inconsistent or delayed incentives diminish both motivation and data quality. Yet, there is insufficient research on how these dynamics play out in *urban* HBNC systems in India, particularly regarding dual documentation and digital payment issues—highlighting a vital research gap for your study.

2.2 Data Integrity, Overreporting, and Monitoring Systems

Several studies document the risk of overreporting under incentivized schemes. Agrawal and Kumari (2014) identified inflated immunization data as CHWs sought to meet targets pmc.ncbi.nlm.nih.gov. Similar concerns emerged in Zambia, where pressure to secure incentives led CHWs to falsify visit reports pubmed.ncbi.nlm.nih.govresearchgate.net.

Hannah et al. (2022) examined the urban rollout of HBNC under NUHM and found <20% full visit coverage in cities, suggesting significant discrepancies between reported and delivered services europepmc.org. These studies are underpinned by the Data Verification Theory, which posits that insufficient oversight fosters a divergence between recorded and real actions.

Critique & Gap: While these findings underscore the risk of unverifiable data entries, there is limited empirical work linking systemic verification mechanisms to actual field-level visits and incentive accuracy in urban contexts. Understanding the implementation lapse—from electronic records to verified visits—is essential.

2.3 ASHA Training, Knowledge, and Quality Assurance

Studies among CHWs and ASHAs point to uneven knowledge about HBNC. Rairker et al. (2019) revealed substantive gaps in danger sign recognition among ASHAs, despite formal training europepmc.org. In rural Uttarakhand, although ASHAs showed improved post-training practices, baseline knowledge was modest link.springer.com. Pathak et al. (2021) observed declining HBNC activities as a function of the newborn's age, despite "adequate" knowledge, hinting at deficits in *practical* competency or systemic support.

This aligns with Implementation Fidelity Frameworks, which highlight how deviations—due to weak competency or system-level constraints—compromise program integrity.

Synthesis & Gap: While training can increase theoretical awareness, maintaining *consistent application* over time is a key challenge. What remains unclear is how these knowledge limitations, when combined with incentive structures, influence reporting accuracy—a gap your study can address.

2.4 Urban Context and HBNC Program Coverage

Evidence on HBNC implementation in urban environments is scant but telling. Hannah et al. (2022) reported that under NUHM in urban India, complete HBNC coverage was below 20%, with better performance for home than institutional birth cases europepmc.org. Newton-Lewis & Bahety (2021) evaluated HBNC+ across districts including Rajasthan and found increased visit frequency but low absolute coverage in urban regions, underlining structural deficits europepmc.org.

These studies employ Health Systems Strengthening frameworks, noting how supervisory gaps, workforce allocation, and urban health complexities reduce HBNC effectiveness.

Critique & Gap: Urban PHC environments—characterized by higher workloads, mobile populations, and coordination challenges—are underrepresented in literature, especially regarding the interdependence of motivation, governance, and service coverage.

2.5 Theoretical Integration and Framework for This Study

1. Principal–Agent and Incentive Theory: CHWs respond to incentives but may game metrics in low-verification settings.
2. Data Verification Theory: Data quality depends on the robustness of supervision and record audits.
3. Implementation Fidelity Framework: Emphasizes alignment between training, knowledge, and actual delivery.
4. Health Systems Strengthening: Highlights multifaceted inputs—tools, payment systems, workforce, and governance—in realizing public health outcomes.

2.6 Identified Gaps and Rationale for the Present Study

- Urban Focus Missing: Most research centers on rural or generalized settings; urban and semi-urban HBNC scenarios in Rajasthan are insufficiently explored.
- Linking Knowledge, Incentives, and Reporting: There is an empirical void in assessing how incentive timing, ASHA awareness, and data validation interplay to affect incentive integrity.
- Systemic Tool and Supervision Challenges: Digital documentation burdens, verification protocols, and supervisory gaps are recognized but not deeply studied in urban HBNC settings.

2.7 Conclusion

The literature reveals that performance-based incentives improve targeted service delivery but create perverse outcomes when oversight is weak. Data integrity issues and knowledge decay adversely affect program quality. Urban HBNC settings, with their unique complexities, have not been systematically studied. Your research is poised to fill this critical gap by elucidating the relationships between ASHA knowledge, incentive systems, data accuracy, and supervision in urban Jaipur—a necessary step toward more resilient HBNC implementation.

Chapter 3: Methodology

This chapter outlines the research methodology used in conducting the study titled "A study to assess implementation status of the HBNC program and incentive related data integrity among ASHA workers and supervisors in Jaipur district of Rajasthan." The chapter outlines the research design, setting, population, study approach, sampling techniques, tools used, operational definitions, and data analysis plan. It also includes ethical considerations followed during the study.

3.1 Research Questions

- What is the level of integrity in the incentive data reported by ASHA workers and verified by supervisors?
- How frequently are discrepancies or fake entries observed in ASHA incentive records?
- What is the status of HBNC implementation in selected blocks of Rajasthan?
- What is the level of knowledge and awareness among ASHAs regarding HBNC protocols?
- What is the relationship between ASHA workers' knowledge and the accuracy of reported services?

3.2 Research Design

A cross-sectional, mixed-methods design was adopted to comprehensively assess HBNC service implementation and incentive data integrity. Quantitative data were collected using structured questionnaires and record reviews, while qualitative insights were derived from semi-structured interviews with supervisors and field validation of reported visits. This combination ensures triangulation and enhances the reliability and depth of findings.

3.3 Study Setting

The study was conducted in **six urban Primary Health Centers (PHCs)** in Jaipur district, Rajasthan:

- UPHC Durgapura
- UPHC Tilak Nagar
- UPHC Raghu Vihar
- UPHC Hawa Sadak
- UPHC Jawahar Nagar
- UPHC Shashtri Nagar

These UPHCs were purposively selected due to their diverse urban catchments, operational HBNC coverage, and logistical feasibility. Urban areas present distinct challenges such as higher population density, socio-economic heterogeneity, and greater service delivery complexity, necessitating focused evaluation.

3.4Study Population

Inclusion Criteria

- ASHAs with at least one month of experience in HBNC service delivery.
- Supervisors (ANMs, Medical Officers, Block Program Managers) involved in ASHA monitoring.
- Respondents (ASHAs and supervisors) willing to provide informed consent.

Exclusion Criteria

- ASHAs on long leave or not actively involved in HBNC activities during the data collection period.
- Respondents not willing to participate.

3.5 Research Approaches

Quantitative Component

- Structured questionnaires were administered to ASHA workers to collect data on HBNC service delivery, knowledge, kit usage, and incentive awareness.
- HBNC registers and child health incentive forms were reviewed to verify records.

Qualitative Component

- Semi-structured interviews were conducted with supervisors to explore data verification practices, challenges in incentive approval, and support mechanisms.
- A 10% random sample of reported home visits was field-verified by visiting households to assess authenticity and cross-check service recall.

3.6 Sample size and Sampling techniques

Final Sample Size -

- **ASHAs**: 52 (selected due to practical constraints, ensuring representation from all 6 UPHCs)
- **Supervisors**: 13

The sample size for ASHAs was determined based on feasibility and coverage of all six UPHCs. Assuming an expected discrepancy rate of 30% in HBNC reporting, a 95% confidence level, and a 10% margin of error, the minimum required sample was approximately 50.

Sampling Technique

- ASHAs: Proportional stratified random sampling was used. Lists of ASHAs from each UPHC were obtained, and samples were drawn proportionally using a random number generator.
- Supervisors: Purposive sampling based on their role in incentive verification and ASHA supervision.

3.7 Data Collection Tools

Tool Development: The questionnaires were adapted from existing tools used in prior validated studies (e.g., Singh et al., 2019) and aligned with MoHFW's HBNC guidelines. A pilot test was conducted at two non-sample UPHCs, leading to refinement in clarity and language.

Tools Used:

- **ASHA Questionnaire:** HBNC knowledge, visit adherence, newborn care practices, incentive awareness, record maintenance, and challenges.
- **Supervisor Questionnaire:** Verification mechanisms, record accuracy, supervision frequency, and fake entry detection.
- **Register Checklist:** Evaluation of HBNC registers, child health incentive records, and discrepancies.

Data Collection Process:

- Permissions were secured from UPHC medical officers.
- Face-to-face interviews were conducted using printed tools in Hindi.
- Responses were recorded manually and digitized into Microsoft Excel for analysis.

3.8 Operational Definitions

1. **Discrepancy**: A mismatch between reported HBNC services and field-verified or documented services.
2. **Fake Entry**: Reported services not actually conducted by ASHA workers.
3. **Knowledge of HBNC**: Awareness of visit schedule, neonatal danger signs, and newborn care practices.
4. **Incentive Integrity**: Timely and appropriate disbursement of incentives based on verified service delivery.

3.9 Data Analysis Plan

Quantitative Analysis:

- Data entered in Excel was cleaned and analyzed using SPSS.
- Descriptive statistics (mean, frequency, percentage) were computed.
- Chi-square tests examined associations between ASHA knowledge and data discrepancies.
- Logistic regression was planned to identify predictors of accurate reporting, adjusting for ASHA experience and case load.

Qualitative Analysis:

- Interviews were transcribed and coded using Braun and Clarke's thematic analysis framework.
- Two independent coders analyzed data to ensure inter-coder reliability.
- Emerging themes were triangulated with quantitative results and field visit findings.

3.10 Ethical Considerations

Ethical clearance was obtained from the Institutional Ethics Committee, IIHMR University. Written informed consent was obtained in Hindi after explaining study objectives, voluntary nature, and confidentiality assurances. Participation or non-participation did not affect job status or incentives. All data were anonymized and securely stored, ensuring respondent privacy and research integrity.

Chapter 4: Results

This chapter presents the findings derived from the data analysis, focusing on the implementation status of the HBNC program and incentive related data integrity among ASHA workers and supervisors in Jaipur district of Rajasthan. The study was conducted across six urban Primary Health Centers (PHCs), involving a sample of 52 ASHA workers and 13 supervisors (ANMs and PHMs).

Data were collected through structured questionnaires, interviews, record reviews, and limited field validations. The results are organized thematically to provide a comprehensive understanding of ASHA workers' knowledge, service delivery practices, incentive awareness, supervision mechanisms, and the challenges encountered in implementing the HBNC program. Both quantitative statistics and qualitative insights have been analysed to evaluate the effectiveness and transparency of the current system.

This chapter systematically presents the outcomes of the descriptive analysis, including proportions of HBNC training coverage, kit availability, accuracy of documentation, payment delays, and supervisory verification practices. It also incorporates thematic categorizations of the challenges and recommendations provided by the respondents. The data-driven insights from this chapter serve as the empirical basis for the critical discussion in the following chapter, which explores the areas for programmatic improvement.

4.1 Demographic and Work Profile of Respondents

Demographic characteristics and work profile of ASHAs

The demographic analysis of the ASHAs (n=52) reveals several key characteristics. Regarding age, a small percentage (3.84 %) of respondents were in the age group of up to 30 years. The vast majority (75.00 %) fell into the age group of 31 to 45 years, and around one-fifth (21.15 %) were 46 years and above.

Concerning education, about one-sixth (17.30 %) of respondents had an education level up to 8th standard. Around one-fifth (23.07 %) had passed 10th standard, and close to one-third (30.76 %) had passed 12th standard. Nearly three-tenths (28.84 %) were graduates and above.

Regarding Home-Based Newborn Care (HBNC) training, it was found that all ASHAs

in the study, representing 100% of the respondents, had received HBNC training. This indicates a complete coverage of this essential training among the surveyed ASHAs.

Concerning the availability of the ASHA kit with all necessary materials for HBNC visits, the vast majority of ASHAs (88.46%) confirmed that they had a complete kit. However, a small proportion (11.54%) reported that their ASHA kit was not fully equipped with all the required materials for HBNC visits. Commonly missing components included digital thermometers and functional infant weighing scales, which are essential for accurate health assessments during newborn visits.

Table 4. 1 Demographic characteristics and work profile of ASHAs (n = 52)

Characteristics	**No. of ASHAs**	**Percentage**
Age		
Up to 30 Years	2	3.84%
31 to 45 Years	39	75.00%
46 and above Years	11	21.15%
Education		
Upto 8th standard	9	17.30%
10th Pass	12	23.07%
12th Pass	16	30.76%
Graduate and above	15	28.84%
HBNC training received		
Yes	52	100%
Availability of ASHA kit with all the necessary materials for HBNC visits		
Yes	46	88.46%
No	6	11.54%

This table summarizes the age, education, training, and resource availability among ASHAs. Most respondents (75%) were aged 31–45 years, and over half had completed at least 12th standard. All ASHAs received HBNC training, while 88.46% reported having a functional ASHA kit. However, 11.54% lacked complete kits, indicating a resource gap (see Table 4.1).

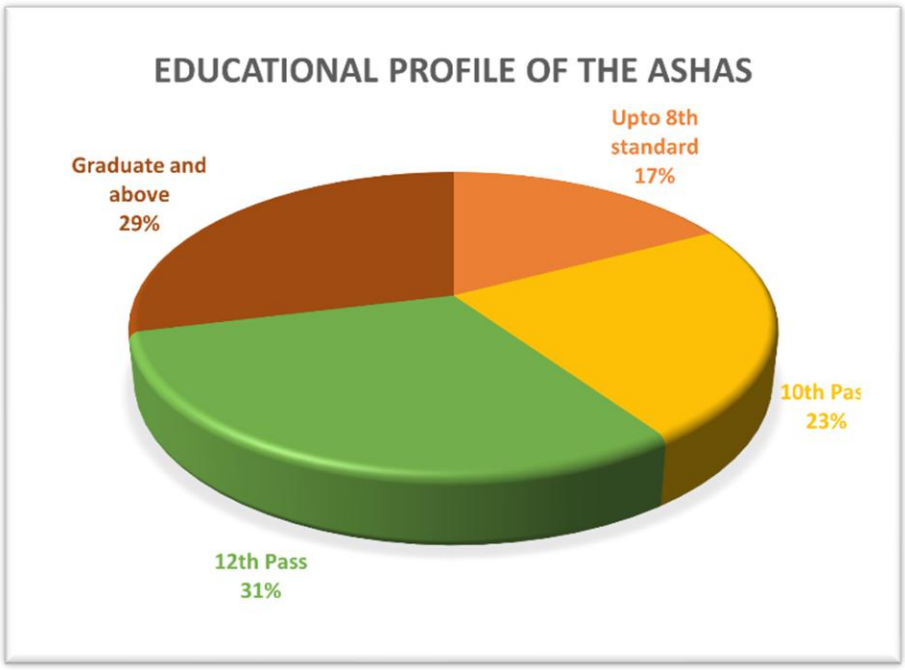


Fig 4. 1 This figure shows the highest level of education that respondents (ASHAs) have received.

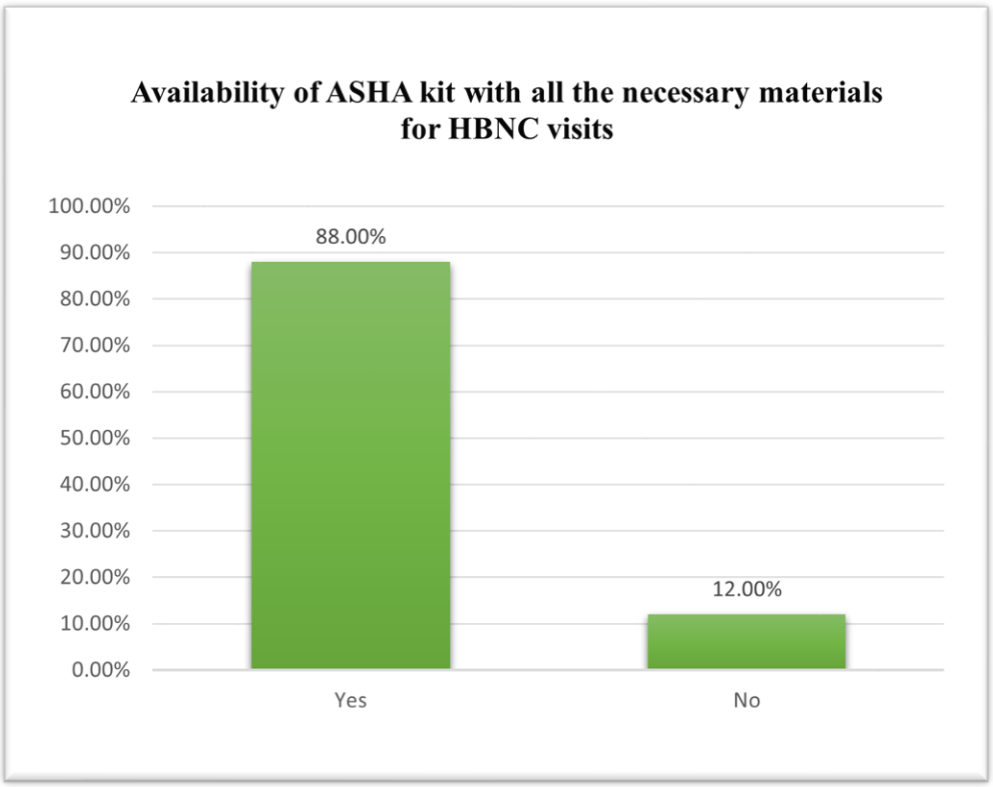


Fig 4. 2 This figure shows the availability of ASHA kit with all the necessary materials for HBNC visit. 11.54% ASHAs reported missing items in kits.

Work profile of the supervisors

The work profile of the supervisors (n=13) in the study reveals insights into their designations and experience levels. In terms of designation, the overwhelming majority of supervisors, approximately 84.61%, held the position of Auxiliary Nurse Midwife (ANM). A smaller proportion, accounting for 15.38%, were Public Health Managers (PHM).

Regarding their experience, a minority of supervisors, 15.38%, had less than one year of experience. The largest group, comprising nearly two-thirds (61.53%) of the supervisors, possessed experience ranging from 1 to 10 years. Furthermore, a significant portion, just over one-fifth (23.07%), had extensive experience of above 10 years.

Table 4. 2 Work profile of Supervisers (n = 13)

Characteristics	No. of Supervisors	Percentage
Designation		
ANM	11	84.61%
PHM	2	15.38%
Experience (in yrs)		
Below 1 year	2	15.38%
1-10 yrs	8	61.53%
Above 10 yrs	3	23.07%

This table summarizes the work profile of 13 supervisors, showing that most (84.61%) are ANMs and 61.53% have 1-10 years of experience (see Table 4.2).

4.2 Knowledge and Awareness of HBNC among ASHA workers

This section presents an assessment of the ASHAs' knowledge pertaining to various aspects of Home-Based Newborn Care (HBNC), as detailed in the table.

Regarding the fundamental knowledge of HBNC visit frequency, all ASHAs (100%) correctly identified the required number of visits for both home deliveries and institutional deliveries. Similarly, there was universal correct knowledge (100%) among ASHAs concerning the ideal time for initiating breastfeeding after birth.

When questioned about checking for danger signs in a newborn during HBNC visits, a high percentage of ASHAs demonstrated correct knowledge for several critical

signs. All ASHAs (100%) were aware of checking for 'Poor feeding/Low weight'. A substantial majority also correctly identified 'Fast breathing' (82.69%), 'Yellow eyes/skin' (82.69%), and 'Hypothermia/fever' (82.69%) as danger signs. However, knowledge regarding 'Heartbeat' was slightly lower, with 69.23% providing a correct response, and a significant gap was observed in identifying 'Umbilical infection' as a danger sign, with only 36.54% providing the correct response. This indicates a potential area for targeted training.

Concerning the advice provided to mothers during HBNC visits, ASHAs generally demonstrated strong knowledge. All ASHAs (100%) correctly advised on 'Exclusive breastfeeding for 6 months' and the 'Immunization schedule'. A high percentage also correctly advised on 'Hand hygiene' (80.77%) and 'Cord care' (80.77%). Knowledge regarding 'Kangaroo Mother Care (if LBW)' was relatively good, with 67.31% responding correctly. However, less than two-thirds (55.77%) of ASHAs correctly advised mothers on 'Keeping baby warm'.

Table 4. 3 Distribution of ASHA Knowledge Scores on HBNC Protocols (n = 52)

Item (Knowledge)	**Yes (correct)**	**No (incorrect)**
How many HBNC visits are you supposed to do for a newborn?		
Number of visits (Home delivery)	100%	0
Number of visits (Institutional delivery)	100%	0
What is the ideal time for initiating breastfeeding after birth?	100%	0
What danger signs do you check for in a newborn during HBNC visits?		
Fast breathing	82.69%	17.31%
Heartbeat	69.23%	30.77%
Poor feeding/ Low weight	100%	0%
Yellow eyes/skin	82.69%	17.31%
Hypothermia/fever	82.69%	17.31%
Umbilical infection	36.54%	63.46%

What do you advise the mother during HBNC visits?		
Exclusive breastfeeding for 6 months	100%	0%
Hand hygiene	80.77%	19.23%
Keeping baby warm	55.77%	44.23%
Immunization schedule	100%	0%
Cord care	80.77%	19.23%
Kangaroo Mother Care (if LBW)	67.31%	32.69%

The table shows that all ASHAs knew the visit schedule and key advice like exclusive breastfeeding and immunization. However, fewer recognized danger signs like umbilical infection (36.54%) and mentioned practices like Kangaroo Mother Care (67.31%), indicating some gaps in practical knowledge (see Table 4.3).

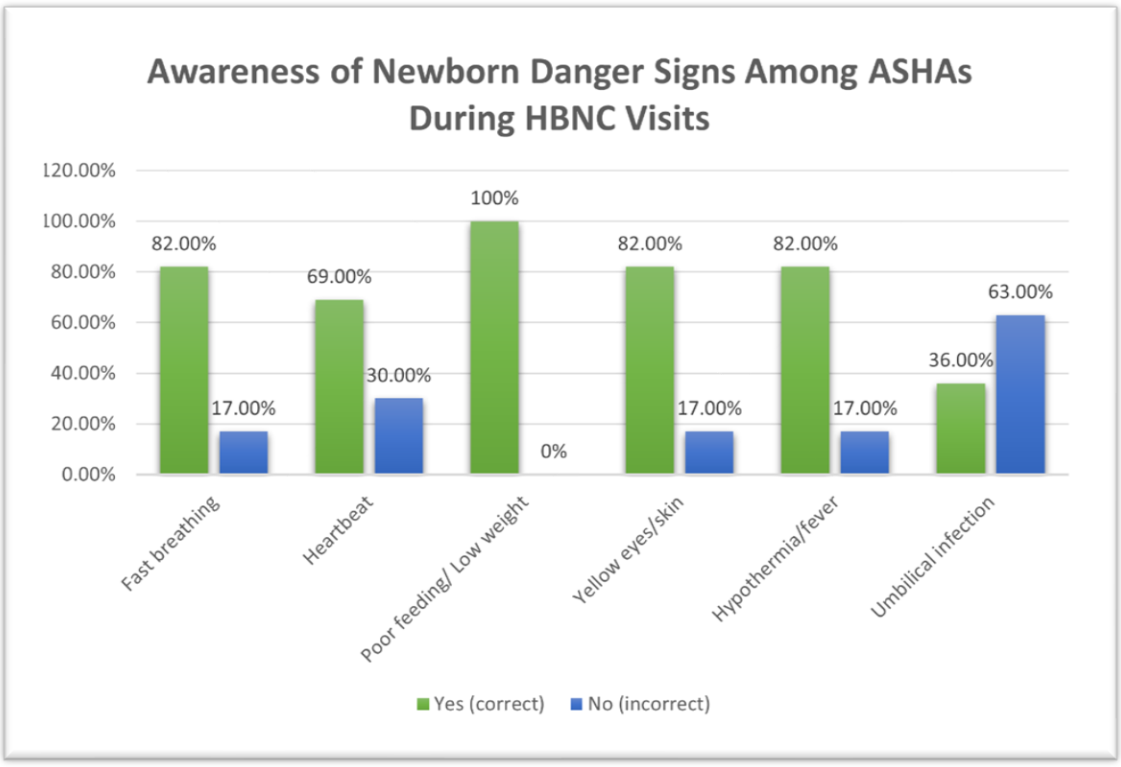


Fig 4. 3 This figure shows assessment of ASHAs' Knowledge on Danger Signs in Newborns During HBNC Visits

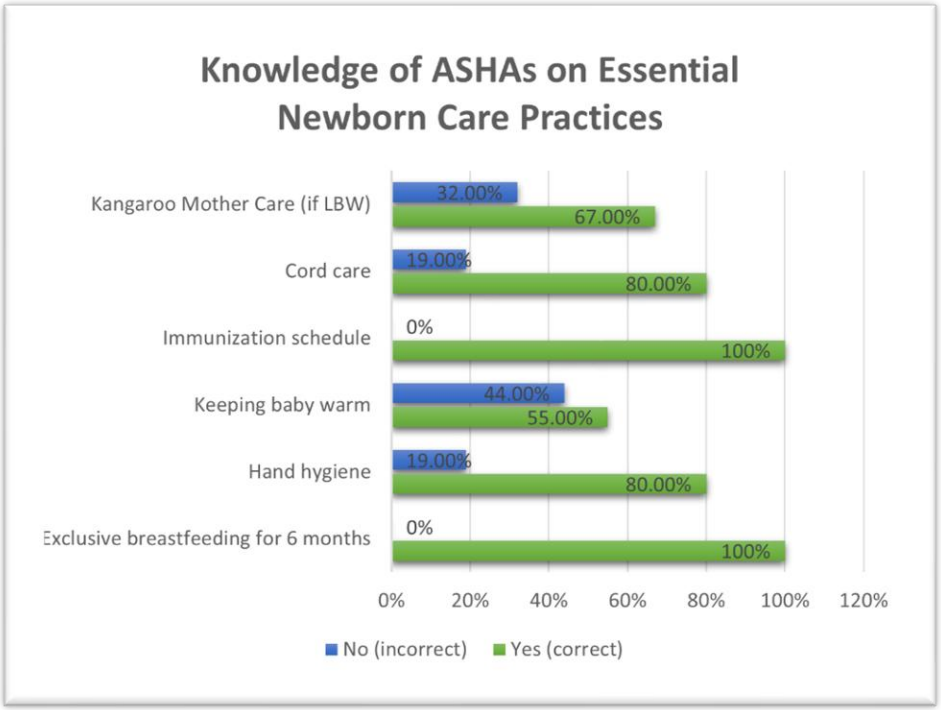


Fig 4. 4 This figure shows ASHAs' Knowledge of Essential Newborn Care Practices

4.3 Performance of ASHA in HBNC Activities and Service Delivery

This section details the performance of ASHAs in conducting Home-Based Newborn Care (HBNC) activities and service delivery.
The findings indicate a high level of adherence to guidelines for core HBNC activities.

All ASHAs (100 %) reported conducting HBNC visits as per guidelines after delivery. Similarly, all ASHAs (100%) confirmed filling the HBNC form or register after each home visit, demonstrating complete compliance with documentation protocols. Furthermore, the HBNC records were regularly verified by supervisors (ANM/MPW) for all ASHAs (100%).

Regarding the frequency with which supervisors (ANM/MO) accompany or verify home visits, the majority of ASHAs (75%) stated that supervisors frequently (4-5 out of 7 visits) accompanied or verified home visits. A quarter of ASHAs (25%) reported that supervisors sometimes (1-2 out of 7) accompanied or verified visits, while no ASHAs indicated that supervisors rarely or never performed this function.

Finally, when asked about facing difficulty in conducting HBNC visits, the overwhelming majority of ASHAs (88.46%) reported facing no difficulties. However, a small proportion (11.54%) of ASHAs indicated that they had encountered difficulties. These reported difficulties primarily included: resistance from mothers-in-law who did not allow the visits or refused the services; mothers hesitating to let the child be weighed due to superstitions like 'nazar' (evil eye); and mothers hesitating to let anyone touch infants due to fear of infection.

Table 4. 4 Performance of ASHA in HBNC Activities and Service Delivery (n = 52)

Activity	No. of ASHAs	Percentage
HBNC visits as per guidelines after delivery?		
Yes	52	100%
Filling the HBNC form or register after each home visit?		
Yes	52	100%
HBNC record regularly verified by supervisor (ANM/MPW)?		
Yes	52	100%
How often does supervisor (ANM/MO) accompany or verify home visits?		
Frequently (4-5 out of 7 visits)	39	75%
Sometime (1-2 out of 7)	13	25%
Rarely (once in a year)	0	0%
Never	0	0%
Ever faced difficulty in conducting HBNC visits?		
Yes	6	11.54%
No	46	88.46%

This table highlights that all ASHAs reported conducting HBNC visits, maintaining records, and receiving regular verification from supervisors. While 75% stated that supervisors frequently verify home visits, 25% noted limited supervision. Only 11.54% faced challenges in conducting HBNC visits, suggesting largely smooth implementation with minor operational gaps (see Table 4.4).

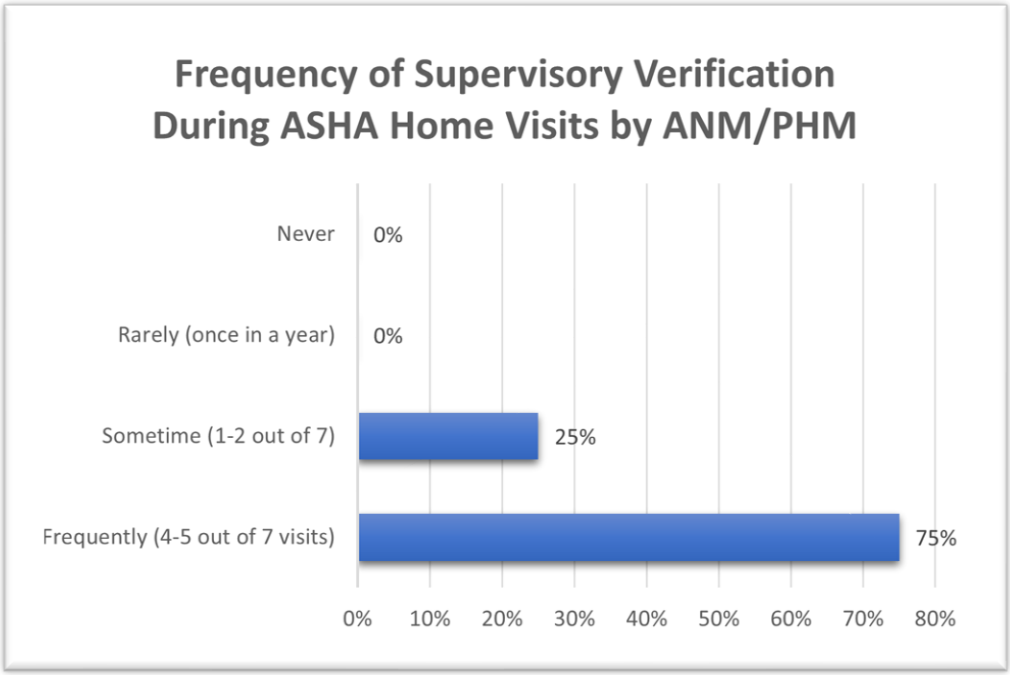


Fig 4. 5 This figure shows the supervisory verification during ASHA home visits. 75% reported frequent (4–5 out of 7) supervision, while 25% had occasional verification.

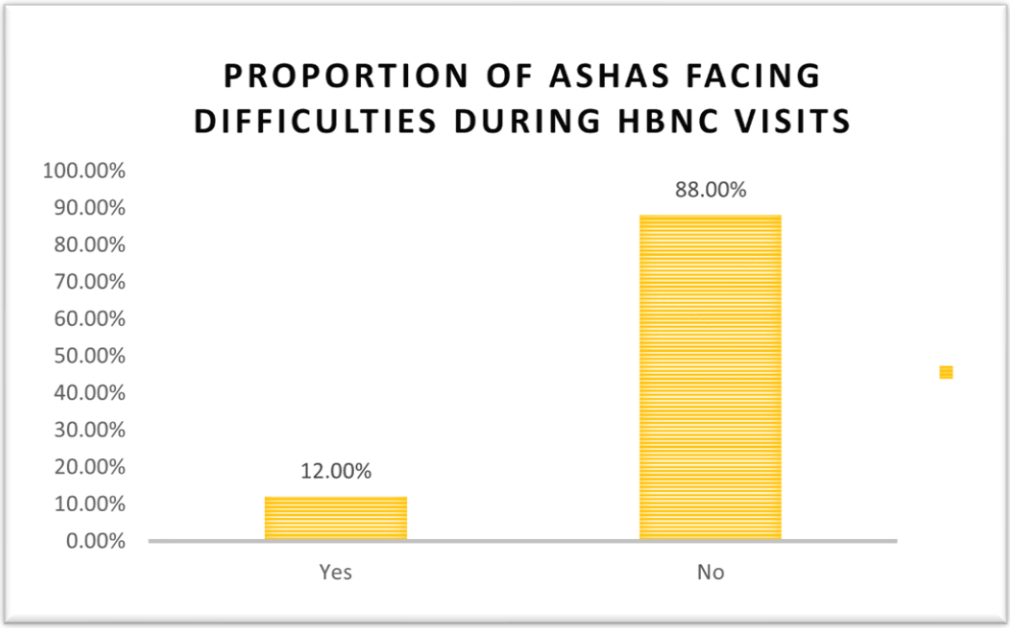


Fig 4. 6 This figure shows the proportion of ASHAs facing difficulties during HBNC visits. Only 12% reported challenges, while 88% did not face any issues.

4.4 Knowledge and awareness of ASHAs about incentives and reporting of HBNC services

This section examines ASHAs' awareness and experiences related to the incentives they receive for conducting Home-Based Newborn Care (HBNC) visits.
The findings indicate universal awareness among ASHAs regarding their entitlement to incentives for HBNC visits, with 100% of respondents confirming this knowledge.

Furthermore, all ASHAs (100%) correctly stated the incentive amount of Rs 250 received for each HBNC case. This demonstrates a high level of clarity and understanding among ASHAs concerning their financial remuneration for these services.

However, a significant proportion of ASHAs reported experiencing delays in receiving their incentives. A substantial majority, 69.00% of respondents, confirmed experiencing such delays, while 31.00% reported no delays. Among those who experienced delays, a concerning 40.38% stated that they "Always" experienced delays. An additional 25.00% reported delays occurring "Sometimes," and a small percentage (3.85%) experienced delay "Rarely." This data suggests that while ASHAs are aware of and correctly identify their incentives, the actual disbursement process is frequently subject to delays, which could potentially impact motivation and consistent service delivery.

Table 4. 5 Distribution of knowledge and awareness among ASHAs regarding HBNC Incentives (n = 52)

Item (Knowledge)	No. of ASHAs	Percentage
Are you aware that you are entitled to incentives for conducting HBNC visits?		
Yes	52	100%
How much incentive do you receive for one HBNC case?		
Rs 250	52	100%
Have you ever experienced delays in receiving your incentives?		
Yes	36	69.00%
No	16	31.00%

If yes, how often do you experience delays?		
Always	21	40.38%
Sometimes	13	25.00%
Rarely	2	3.85%

This table shows that all ASHAs (100%) are aware of and receive HBNC incentives. However, 69% report delays in receiving them, with 40.38% *always* experiencing such delays, suggesting a significant issue with timely disbursement (see Table 4.5).

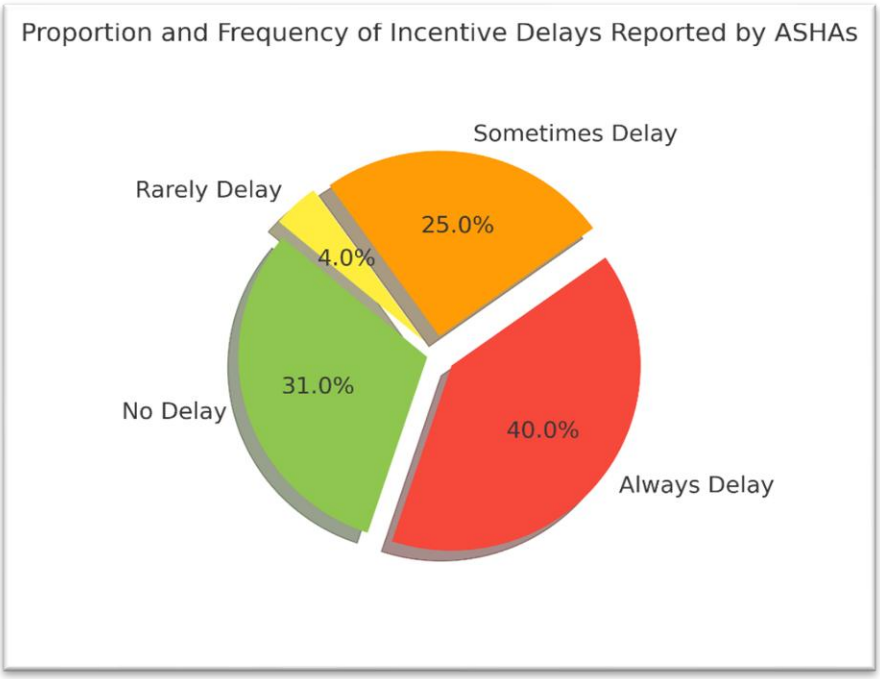


Fig 4. 7 This figure shows the prevalence and frequency of delays in receiving incentives. While 69% of ASHAs faced delays, 40% reported it occurred consistently.

4.5 Role of supervisors in ASHA Supervision & Incentive Verification

This section presents the findings from supervisors regarding their role in verifying ASHA incentives, monitoring home visit records, and their perceptions of the incentive payment process.

All supervisors (100%) confirmed that they verify and approve ASHA incentives for HBNC services, indicating a consistent oversight process. Furthermore, all

supervisors (100%) reported always checking ASHA home visit records before approving incentives, suggesting a rigorous verification step.

When asked about how they verify that an ASHA has actually conducted HBNC home visits, all supervisors (100%) stated that they 'Conduct random field visits'. Additionally, a significant majority (61.54%) also 'Check ASHA register entries', and about one-third (30.77%) 'Cross-check with mothers/beneficiaries'. Notably, no supervisors reported relying solely on self-reported ASHA data, which reinforces the multi-pronged approach to verification.

Regarding the identification of fake or incorrect entries in ASHA home visit reports, a substantial majority of supervisors (76.92%) indicated that they had not identified such entries, while 23.08% had.

In response to what action is taken when false entries are identified, all supervisors (100%) stated that a "Warning is issued to ASHA." and the "Incentive rejected." A smaller proportion (7.69%) also reported rejecting the incentive. No supervisors indicated that no action was taken, highlighting a consistent response to discrepancies. Supervisors were also asked about the main reasons for fake or incorrect entries in ASHA records.

The overwhelming majority (76.92%) attributed these entries to "Workload pressure on ASHAs" and “Intentional malpractice to claim incentives”. A smaller percentage (15.38%) cited "Lack of proper monitoring by supervisors." Importantly, no supervisors believed that "Limited awareness of proper documentation" was a reason, which is a positive indicator of ASHA integrity despite the errors.

Concerning the transparency and efficiency of the ASHA incentive payment process, a large majority of supervisors (76.92%) considered it "Very transparent," while a smaller proportion (23.08%) found it "Somewhat transparent." No supervisors rated it as "Not transparent." This suggests a generally acceptable level of transparency, though there might be room for improvement in efficiency.

Finally, when asked if ASHAs under their supervision had reported delays in incentive payments, a slight majority of supervisors (53.85%) confirmed such reports,

while 46.15% reported no delays. This aligns with the ASHAs' perspective presented in the previous section, indicating that payment delays are indeed a common concern affecting over half of the ASHAs.

Table 4. 6 Role of supervisors in ASHA Supervision & Incentive Verification (n = 13)

Activity	No. of Supervisors	Percentage
Do you verify and approve ASHA incentives for HBNC services?		
Yes	13	100%
How often do you check ASHA home visit records before approving incentives?		
Always	13	100%
How do you verify that ASHA has actually conducted HBNC home visits?		
Cross-check with mothers/beneficiaries	4	30.77%
Check ASHA register entries	8	61.54%
Conduct random field visits	13	100%
Rely on self-reported ASHA data	0	0%
Have you ever identified fake or incorrect entries in ASHA home visit reports?		
Yes	3	23.08%
No	10	76.92%
If yes, how frequently?		
Often	0	0%
Sometimes	0	0%
Rarely	3	23.08%
What action is taken when false entries are identified?		
Warning issued to ASHA	13	100%

Incentive rejected	1	7.69%
Report to higher authorities	0	0%
No action taken	0	0%
In your opinion, what are the main reasons for fake or incorrect entries in ASHA records?		
Workload pressure on ASHAs	10	76.92%
Lack of proper monitoring by supervisors	2	15.38%
Limited awareness of proper documentation	0	0%
Intentional malpractice to claim incentives	10	76.92%
How transparent and efficient do you think the ASHA incentive payment process is?		
Very transparent	10	76.92%
Somewhat transparent		
Not transparent	3	23.08%
	0	0%
Have ASHAs under your supervision reported delays in incentive payments?		
Yes	7	53.85%
No	6	46.15%

The table shows that all supervisors (100%) verify and approve ASHA incentives and always check home visit records. Verification is mainly done through random field visits (100%) and checking ASHA registers (61.54%). About 23% identified fake entries, usually rare, and warnings are the most common action taken (100%). Main reasons for false entries include workload pressure and intentional malpractice (each 76.92%). Most supervisors (77%) find the incentive process very transparent, though over half (54%) reported delays in payments. These results suggest a need for better monitoring and workload management (see Table 4.6).

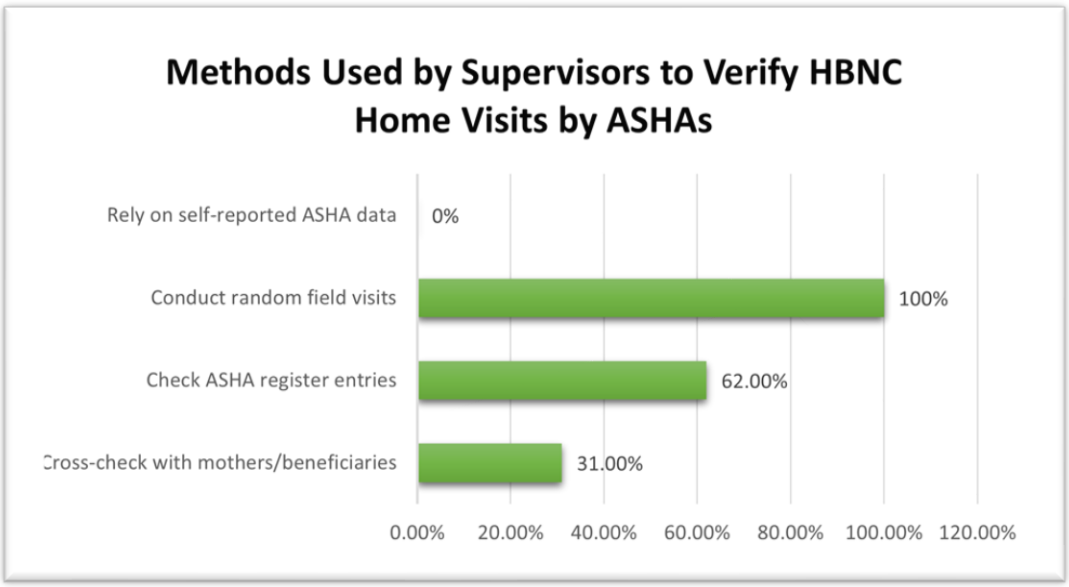


Fig 4. 8 This figure illustrates supervisor methods for verifying ASHA HBNC home visits

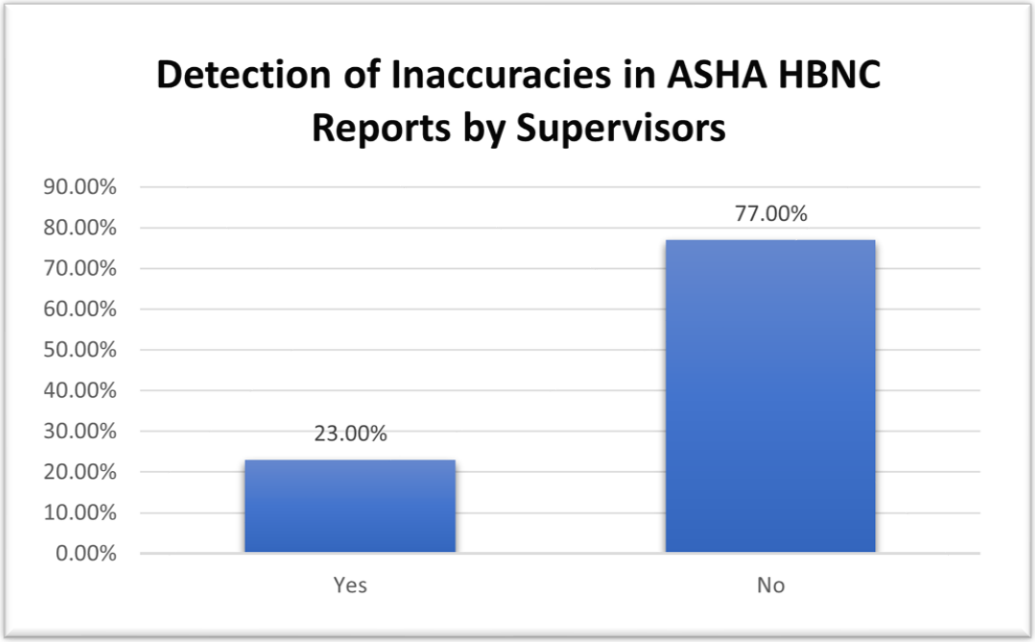


Fig 4. 9 This figure shows the detection of inaccuracies in ASHA HBNC reports by supervisors

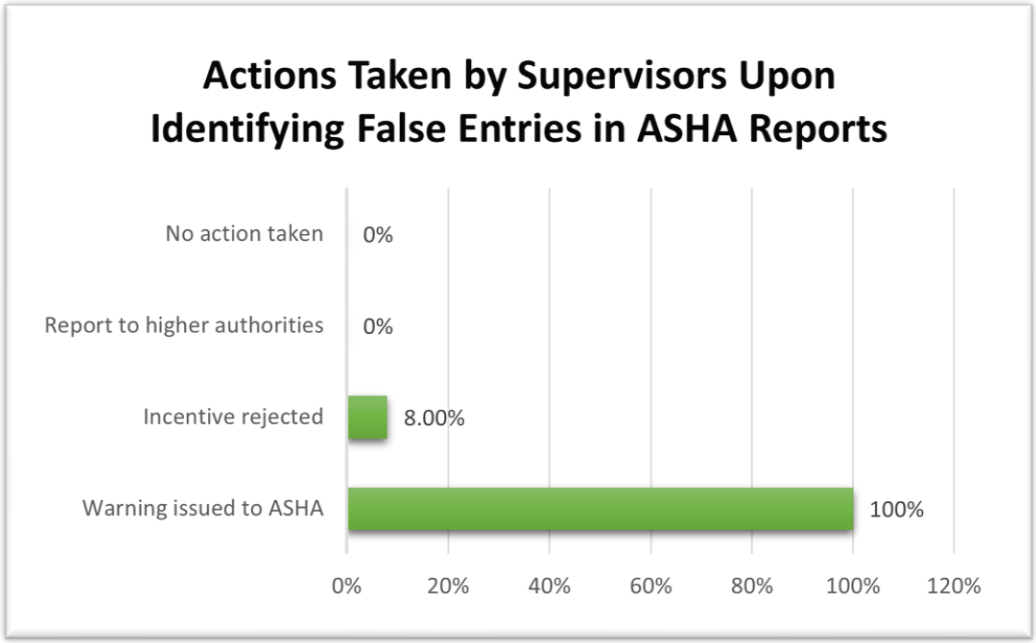


Fig 4. 10 This figure shows supervisor actions against false ASHA reports: 100% issue warnings and 8% reject incentives. No action or reporting to higher authorities alone was 0%.

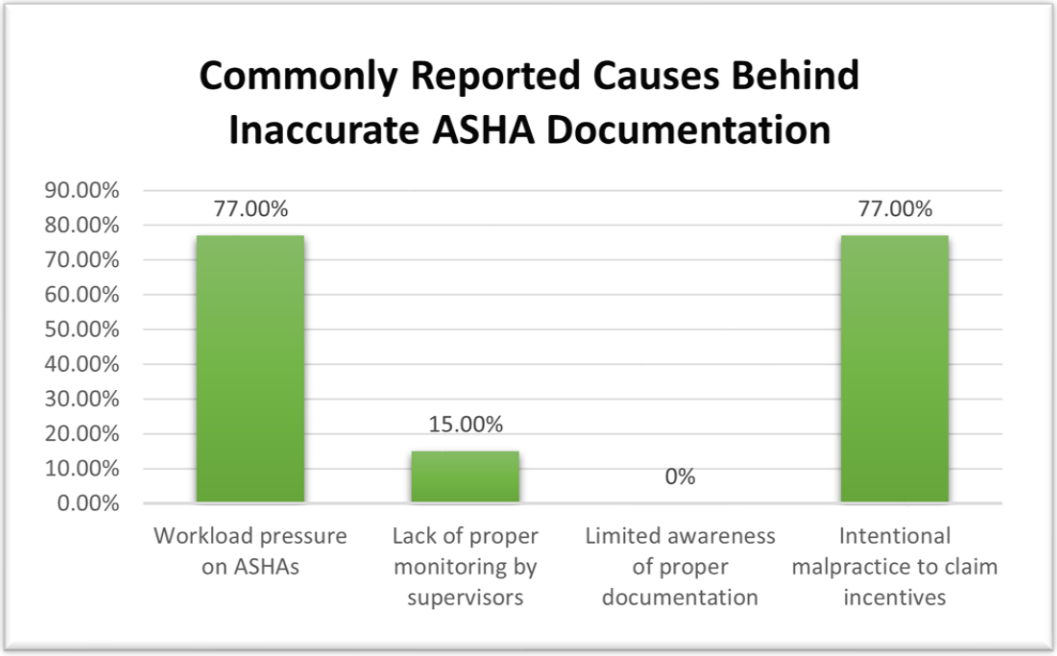


Fig 4. 11 This figure highlights commonly reported causes for inaccurate ASHA documentation.

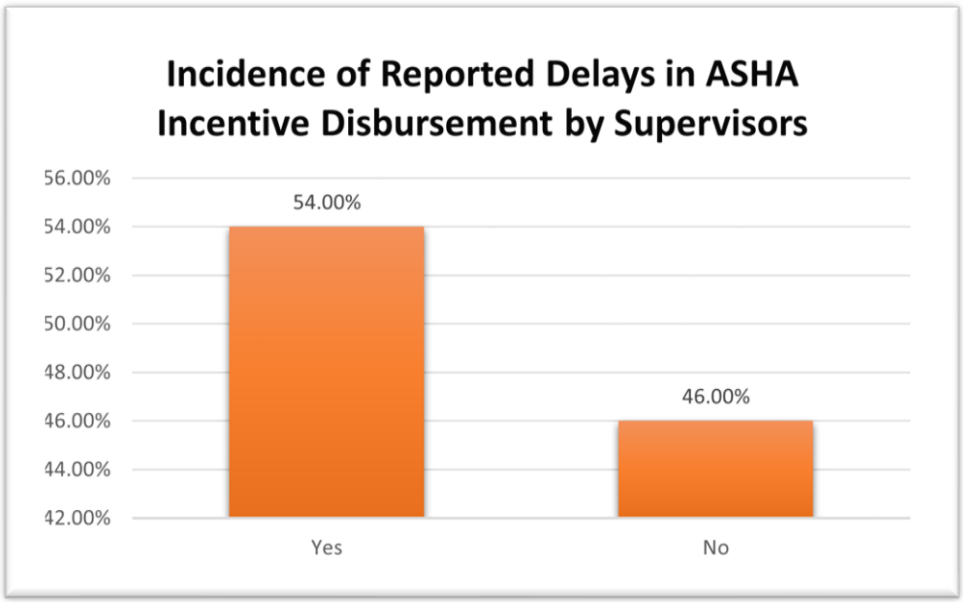


Fig 4. 12 This figure shows the incidence of reported delays in ASHA incentive disbursement by supervisors.

4.6 Participation of supervisors in monitoring and support for ASHAs

This section outlines insights from supervisors regarding their engagement in monitoring ASHAs, ensuring guideline adherence, identifying knowledge gaps, and pinpointing areas for ASHA performance improvement in HBNC activities.

Concerning the frequency of accompanying ASHAs on HBNC home visits for monitoring, all supervisors (100%) reported doing so "Always." This indicates a consistent and hands-on approach to direct monitoring of ASHAs' field activities.

When asked about how they ensure ASHAs follow HBNC guidelines properly, all supervisors (100%) stated that they ensure compliance through " Field visit observations." Additionally, a significant proportion use "Monthly review meetings" (38.46%) and "Regular training sessions" (23.08%) as methods. A smaller percentage (15.38%) utilize "Cross-checking with mothers" for this purpose. This suggests a multi-faceted approach to ensuring guideline adherence, with direct beneficiary verification being a universal practice.

Remarkably, all supervisors (100%) reported that they **had not** observed gaps in ASHAs' knowledge and awareness about HBNC. This finding suggests a high level

of confidence among supervisors regarding the ASHAs' understanding of HBNC protocols.

Finally, regarding the support ASHAs need to improve their performance in HBNC, all supervisors (100%) identified "Reduced documentation workload" as a crucial area for improvement. A smaller proportion (23.08%) also suggested "More training sessions." Notably, no supervisors indicated a need for "Better incentives/payment system" or "More supervision and guidance," which aligns with earlier findings suggesting general satisfaction with incentive awareness and existing supervisory practices. The overwhelming emphasis on reducing documentation workload points to administrative burden as a key impediment to ASHA performance.

Table 4. 7 Role of supervisors in in monitoring and support for ASHAs (n = 13)

Activity	No. of Supervisors	Percentage
How frequently do you accompany ASHAs on HBNC home visits for monitoring?	0	0%
Always	13	100%
Often (2-3 visits out of 7)	0	0%
Sometimes (1 out of 7)	0	0%
Rarely		
How do you ensure that ASHAs follow HBNC guidelines properly?		
Regular training sessions	3	23.08%
Monthly review meetings	5	38.46%
Field visit observations	13	100%
Cross-checking with mothers	2	15.38%
Have you observed gaps in ASHAs' knowledge and awareness about HBNC?		
No	13	100%
What support do ASHAs need to improve their performance in HBNC?		
More training sessions	3	23.08%
Better incentives/payment system	0	0%

More supervision and guidance	0	0%
Reduced documentation workload	13	100%

This table shows that all supervisors (100%) accompany ASHAs often during home visits and use field observations to ensure guideline adherence. None reported knowledge gaps among ASHAs. Most (100%) feel reducing documentation workload is key to improving performance, while some (23%) suggest more training. This highlights the need for better support and workload management (see Table 4.7).

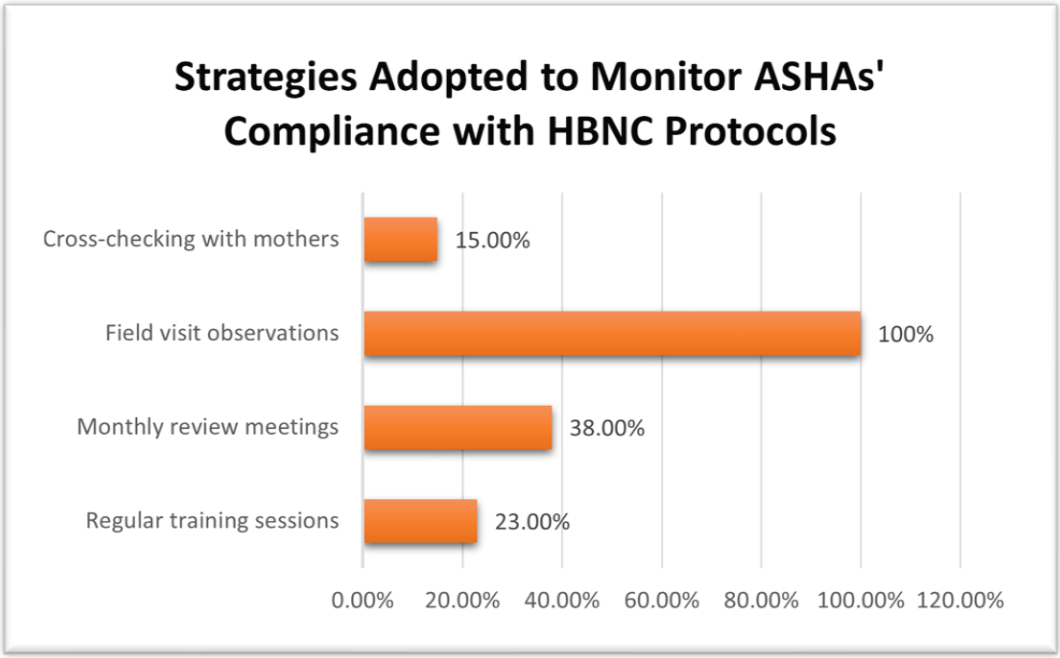


Fig 4. 13 This figure outlines strategies for monitoring ASHA compliance with HBNC protocols. All supervisors (100%) use field visit observations, 38.00% conduct monthly review meetings, 23.00% use regular training sessions, and 15.00% cross-check with mothers.

4.7 Challenges reported by Respondents

This table highlights various challenges and bottlenecks reported by ASHAs/supervisors in the course of their service delivery, categorized by theme and the number of times each was mentioned.

The most prominent challenge identified was issues with the PCTS (Pregnancy, Child Tracking & Health Services Management) app, which was reported as "not working or updated" in a substantial 49 responses. This indicates a significant technological impediment affecting a large portion of the respondents. Closely related to this,

"Duplicate work due to digital + paper" was cited by 12 responses, underscoring the inefficiency and increased workload resulting from parallel documentation systems. These two themes clearly indicate that digital platform issues and dual documentation are the most common bottlenecks.

Other reported challenges, though less frequent, also provide valuable insights into operational difficulties. "ASHA claim form and mamta card unavailability" was mentioned in 5 responses, pointing to logistical hurdles with essential supplies. Cultural and social barriers also emerged as challenges: "Superstition/fear of nazar or infection" accounted for 3 responses, and "Mothers-in-law not allowing visits" was mentioned in 2 responses, highlighting the need for community engagement and education strategies.

Furthermore, practical issues like "Damaged equipment" were reported in 2 responses, and "Unhygienic conditions in slums" was noted by 1 response, pointing to environmental and resource-related difficulties.

Table 4. 8 Role of supervisors in monitoring and support for ASHAs (n = 65)

Theme	Mentions
PCTS app not working or updated	49 responses
Duplicate work due to digital + paper	12 responses
Unhygienic conditions in slums	1 response
Mothers-in-law not allowing visits	2 responses
Superstition/fear of nazar or infection	3 responses
Damaged equipment	2 responses
ASHA claim form and Mamta card unavailability	5 responses

This table shows that most common issue reported was the PCTS app not working or being updated (49 mentions). Other challenges included duplicate digital and paper work (12), unavailability of claim forms and Mamta cards (5), superstition or fear (3), mothers-in-law restricting visits (2), and damaged equipment (2). Unhygienic slum conditions were mentioned once. These highlight key barriers faced by ASHAs (see Table 4.8).

4.8 Recommendations reported by Respondents

4.8.1 ASHAs' Suggestions

A significant majority of ASHAs reported specific suggestions for improving their work.

The most prominent concern, voiced by 32 ASHAs, was the need for refresher training on PCTS & login procedures. This highlights a potential gap in ongoing training or a need for more frequent updates to ensure ASHAs are proficient with digital tools and systems.

Another substantial suggestion, made by 11 ASHAs, was to avoid dual workload (registers + app). This indicates a burden felt by ASHAs regarding maintaining both physical registers and digital applications, suggesting a need for integration or simplification of data entry processes to reduce redundancy and save time.

A less frequently mentioned but still relevant suggestion, from 2 ASHAs, was the timely replacement of damaged equipment, which points to logistical challenges that can hinder their work efficiency.

Table 4. 9 Recommendations given by ASHAs

Suggestion	Frequency
Refresher training on PCTS & login procedures	32 ASHAs
Timely replacement of damaged equipment	2 ASHAs
Avoid dual workload (registers + app)	11 ASHAs

This table shows that most ASHAs (32) suggested refresher training on PCTS and login procedures to improve their efficiency. Avoiding dual workload between registers and the app was recommended by 11 ASHAs, while timely replacement of damaged equipment was highlighted by 2 ASHAs. These suggestions indicate key areas for capacity building and system improvement (see Table 4.9).

4.8.2 Supervisors' Suggestions

The recommendations from supervisors strongly align with improving the operational efficiency and reducing the burden on ASHAs. A unanimous suggestion from all 13

supervisors was for a reduced documentation burden for ASHAs. This emphatically underscores a critical area for improvement, suggesting that the current documentation requirements may be excessive or inefficient, leading to time constraints and potential frustration for ASHAs.

Furthermore, 3 supervisors recommended more training sessions, which complements the ASHAs' request for refresher training, indicating a general need for enhanced skill development and knowledge updates.

Lastly, 2 supervisors suggested streamlined monitoring using app-only or register-only methods. This aligns with the ASHAs' concern about dual workload and suggests a desire for a unified or simplified monitoring system to reduce administrative complexities.

Table 4. 10 Recommendations given by supervisors

Suggestion	Frequency
Reduced documentation burden for ASHAs	13 (100%)
More training sessions	3 supervisors
Streamlined monitoring using app-only or register-only	2 supervisors

All supervisors (100%) suggested reducing ASHAs' documentation burden, with some recommending more training and streamlined monitoring using either the app or registers. These steps could improve ASHA efficiency and data accuracy (see Table 4.10).

4.9 Physical reports

Physical verification at six UPHCs revealed several operational insights. Two centers—UPHC Durgapura and UPHC Raghu Vihar—reported irregular HBNC card entries, suggesting lapses in service documentation. ASHA knowledge was rated as adequate across all six facilities.

However, two centers (UPHC Durgapura and UPHC Shastri Nagar) reported damaged and unused HBNC kits, potentially compromising newborn care. Incentive awareness was uniformly high, but only three UPHCs reported timely disbursement

of incentives. The remaining three centers reported delays or non-disbursement.

Child health incentive registers were not maintained in two UPHCs. Supervision was predominantly handled by ANMs, although two centers employed both ANMs and PHMs. Modes of supervision varied between field visits and a mix of visits and review meetings.

ASHA performance varied, with 3–5 visits completed out of 7 across centers. These findings suggest mixed performance and highlight the need for better record maintenance and timely incentive disbursement (see Table 4.11).

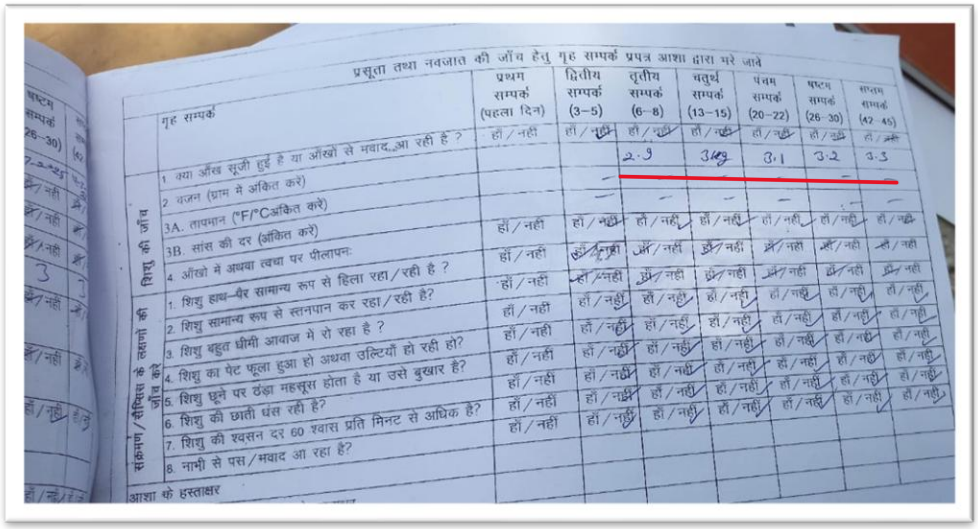
Table 4. 11 Field report of Six UPHCs upon physical verification of records

Component	UPHC Durgapura	UPHC Tilak Nagar	UPHC Raghu Vihar
HBNC Card Entries	Irregular	Regular	Irregular
ASHA Knowledge	Adequate	Adequate	Adequate
HBNC Kit Availability & Use	Damaged & not used	Available & used	Available & used
Incentive Awareness	Present	Present	Present
Incentives Updated & Disbursed	Yes, timely	Yes, timely	Yes, timely
Child Health Incentive Register (ASHA claim forms)	Not maintained	Maintained	Not maintained
Supervision Authority	ANMs & PHM	ANMs	ANMs
Supervision Mode	Field visits	Visits & meetings	Field visits
Number of Visits Completed by ASHA (out of 7)	3	5	4

Table 4.11 continued

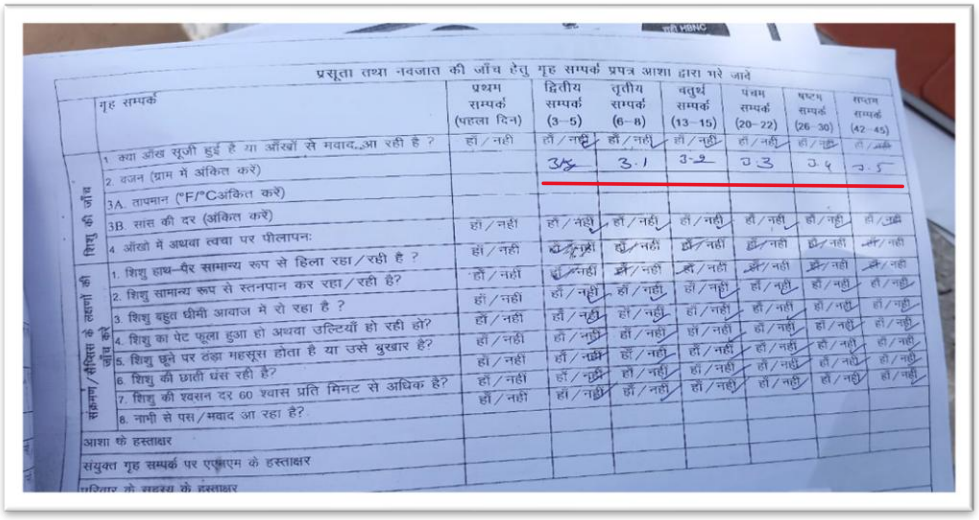
Component	UPHC Hawa Sadak	UPHC Jawahar Nagar	UPHC Shashtri Nagar
HBNC Card Entries	Regular	Regular	Regular
ASHA Knowledge	Adequate	Adequate	Adequate
HBNC Kit Availability & Use	Available & Used	Available & Used	Damaged & not Used
Incentive Awareness	Present	Present	Present
Incentives Updated & Disbursed	No	No	No
Child Health Incentive Register (ASHA claim forms)	maintained	Maintained	Maintained
Supervision Authority	ANMs & PHM	ANMs	ANMs
Supervision Mode	Field visits	Visits & meetings	Field visits
Number of Visits Completed by ASHA (out of 7)	4	5	4

The table reveals mixed regularity in HBNC card entries and varying HBNC kit availability across UPHCs. ASHA knowledge was adequate, but only half the centers updated and disbursed incentives timely. Supervision was consistent, with ASHAs completing 3–5 visits out of 7. These findings highlight gaps in record-keeping and incentive management (see Table 4.11).



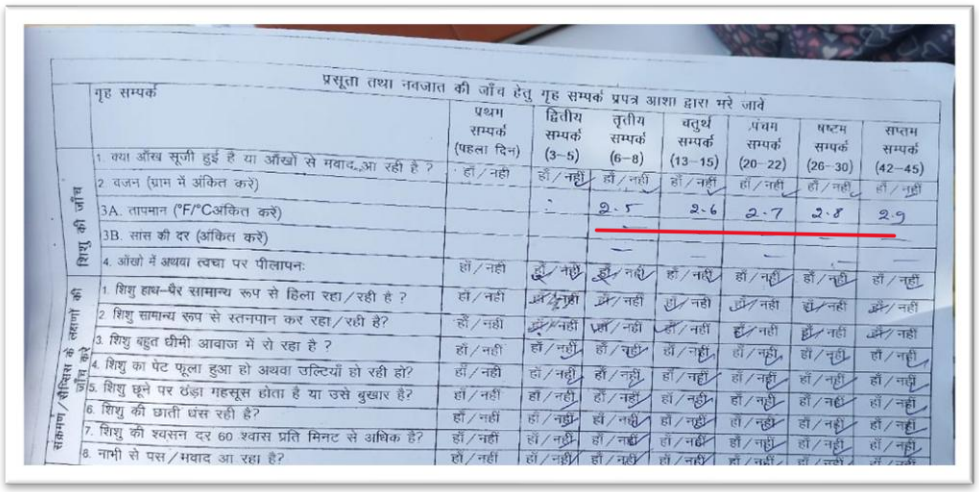
प्रसूता तथा नवजात की जाँच हेतु गृह सम्पर्क प्रपत्र आशा द्वारा भरे जावें

गृह सम्पर्क		प्रथम सम्पर्क (पहला दिन)	द्वितीय सम्पर्क (3–5)	तृतीय सम्पर्क (6–8)	चतुर्थ सम्पर्क (13–15)	पंचम सम्पर्क (20–22)	षष्टम सम्पर्क (26–30)	सप्तम सम्पर्क (42–45)
शिशु की जाँच	1. क्या आँख सूजी हुई है या आँखो से मवाद आ रही है ?	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं
	2. वजन (ग्राम मे अंकित करें)			2.9	3.1	3.1	3.2	3.3
	3A. तापमान (°F/°Cअंकित करें)							
	3B. सांस की दर (अंकित करें)							
	4. आँखो मे अथवा त्वचा पर पीलापन:	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं
संक्रमण / बीमारियों के लक्षणों की जाँच करें	1. शिशु हाथ–पैर सामान्य रूप से हिला रहा / रही है ?	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं
	2. शिशु सामान्य रूप से स्तनपान कर रहा / रही है?	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं
	3. शिशु बहुत धीमी आवाज मे रो रहा है ?	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं
	4. शिशु का पेट फूला हुआ हो अथवा उल्टियाँ हो रही हो?	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं
	5. शिशु छूने पर ठंड़ा महसूस होता है या उसे बुखार है?	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं
	6. शिशु की छाती धंस रही है?	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं
	7. शिशु की श्वसन दर 60 श्वास प्रति मिनट से अधिक है?	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं
	8. नाभी से पस / मवाद आ रहा है?							
आशा के हस्ताक्षर								



प्रसूता तथा नवजात की जाँच हेतु गृह सम्पर्क प्रपत्र आशा द्वारा भरे जावें

गृह सम्पर्क		प्रथम सम्पर्क (पहला दिन)	द्वितीय सम्पर्क (3–5)	तृतीय सम्पर्क (6–8)	चतुर्थ सम्पर्क (13–15)	पंचम सम्पर्क (20–22)	षष्टम सम्पर्क (26–30)	सप्तम सम्पर्क (42–45)
शिशु की जाँच	1. क्या आँख सूजी हुई है या आँखों से मवाद आ रही है ?	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं
	2. वजन (ग्राम में अंकित करें)		3.5	3.1	3.2	3.3	3.4	3.5
	3A. तापमान (°F/°Cअंकित करें)							
	3B. सांस की दर (अंकित करें)							
	4. आँखो में अथवा त्वचा पर पीलापन:	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं
संक्रमण / बीमारियों के लक्षणों की जाँच करें	1. शिशु हाथ–पैर सामान्य रूप से हिला रहा / रही है ?	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं
	2. शिशु सामान्य रूप से स्तनपान कर रहा / रही है?	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं
	3. शिशु बहुत धीमी आवाज में रो रहा है ?	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं
	4. शिशु का पेट फूला हुआ हो अथवा उल्टियाँ हो रही हो?	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं
	5. शिशु छूने पर ठंड़ा महसूस होता है या उसे बुखार है?	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं
	6. शिशु की छाती धंस रही है?	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं
	7. शिशु की श्वसन दर 60 श्वास प्रति मिनट से अधिक है?	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं
	8. नाभी से पस / मवाद आ रहा है?							
आशा के हस्ताक्षर								
संयुक्त गृह सम्पर्क पर एएनएम के हस्ताक्षर								



प्रसूता तथा नवजात की जाँच हेतु गृह सम्पर्क प्रपत्र आशा द्वारा भरे जावें

गृह सम्पर्क		प्रथम सम्पर्क (पहला दिन)	द्वितीय सम्पर्क (3–5)	तृतीय सम्पर्क (6–8)	चतुर्थ सम्पर्क (13–15)	पंचम सम्पर्क (20–22)	षष्टम सम्पर्क (26–30)	सप्तम सम्पर्क (42–45)
शिशु की जाँच	1. क्या आँख सूजी हुई है या आँखों से मवाद आ रही है ?	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं
	2. वजन (ग्राम में अंकित करें)			2.5	2.6	2.7	2.8	2.9
	3A. तापमान (°F/°Cअंकित करें)							
	3B. सांस की दर (अंकित करें)							
	4. आँखो में अथवा त्वचा पर पीलापन:	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं
संक्रमण / बीमारियों के लक्षणों की जाँच करें	1. शिशु हाथ–पैर सामान्य रूप से हिला रहा / रही है ?	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं
	2. शिशु सामान्य रूप से स्तनपान कर रहा / रही है?	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं
	3. शिशु बहुत धीमी आवाज में रो रहा है ?	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं
	4. शिशु का पेट फूला हुआ हो अथवा उल्टियाँ हो रही हो?	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं
	5. शिशु छूने पर ठंड़ा महसूस होता है या उसे बुखार है?	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं
	6. शिशु की छाती धंस रही है?	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं
	7. शिशु की श्वसन दर 60 श्वास प्रति मिनट से अधिक है?	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं	हाँ / नहीं
	8. नाभी से पस / मवाद आ रहा है?							

Fig 4.1- *Register-Recorded HBNC Visits as per ASHA claim forms* This figure shows a pattern of repetitive weight entries, with the newborn's weight consistently increased by exactly 0.1 kg at each subsequent HBNC visit.

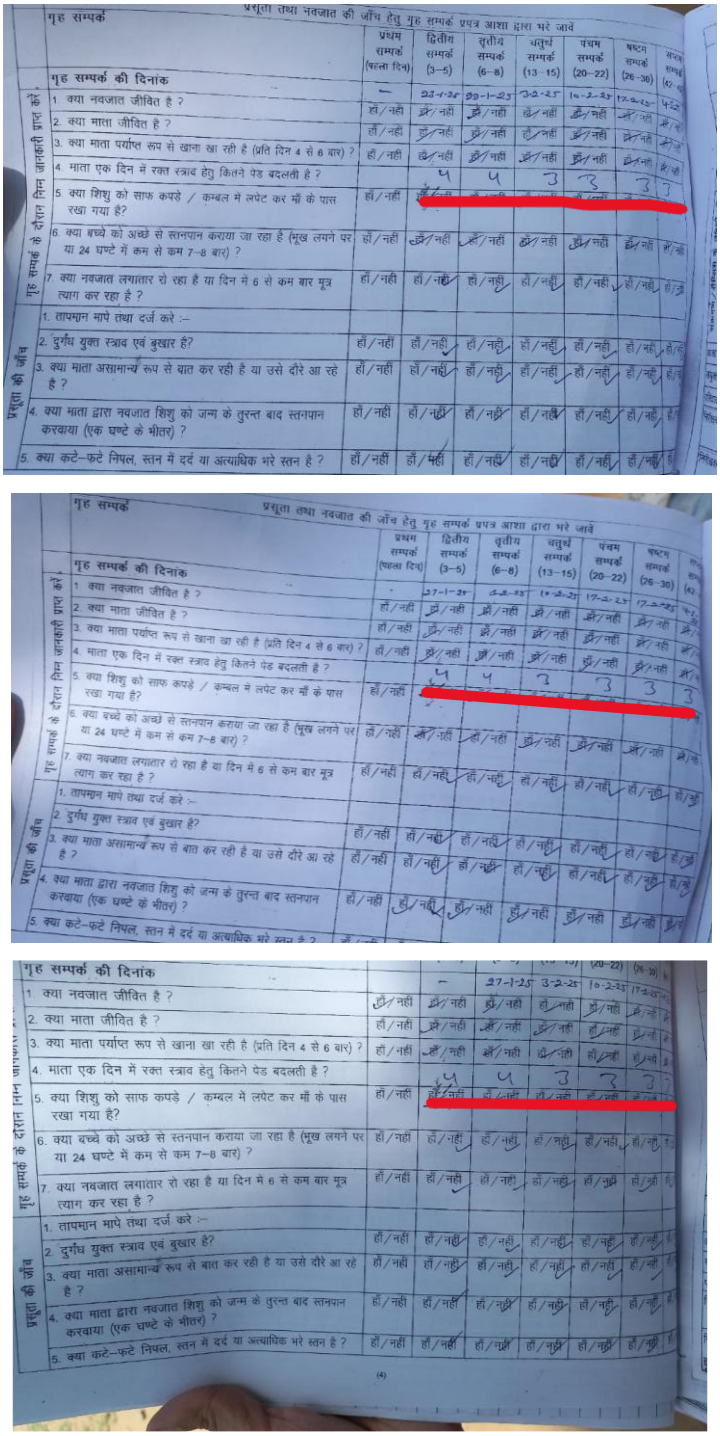


Fig 4.2 *Register-Recorded HBNC Visits as per ASHA claim forms continued*

This figure shows a pattern of unvaried records of Sanitary Pad Usage Across multiple visits and multiple ASHA claim forms.

Discrepancy with ASHA Questionnaire Answers:

Analysis of ASHA claim forms revealed suspicious patterns. For instance, newborn weight increased by exactly 0.1 kg in each visit across multiple forms, suggesting possible data fabrication or non-use of weighing machines. Similarly, the number of

sanitary pads changed was often recorded identically across multiple forms.

These uniform entries contrast with ASHAs' questionnaire responses, which claimed consistent use of HBNC kits and individualized home visits. This discrepancy raises concerns about the authenticity of service documentation and suggests the need for more rigorous supervision and data validation mechanisms.

Furthermore, inconsistencies between the number of visits reported in questionnaires and those documented in registers indicate potential over-reporting. Such gaps challenge the credibility of monitoring data and emphasize the necessity for cross-verification and transparent reporting processes.

Overall, these findings present a mixed picture of ASHA functioning. While knowledge and incentive awareness appear strong, administrative challenges, data discrepancies, and logistical issues hinder optimal service delivery and accountability.

Chapter 5: Discussion

This chapter serves to interpret the findings presented in Chapter 4, placing them within the broader context of existing literature on the Home-Based Newborn Care (HBNC) program and the role of Accredited Social Health Activists (ASHAs) in India. It aims to discuss the implications of the research findings, compare them with relevant studies, and identify the strengths and limitations of the current study.

5.1 Discussion of Findings

The study's findings provide a comprehensive overview of the implementation status of the HBNC program and incentive related data integrity among ASHA workers and supervisors in Jaipur district of Rajasthan.

5.1.1 ASHA Knowledge and HBNC Program Implementation Status

The findings demonstrate that ASHAs in Jaipur urban UPHCs possess a generally sound understanding of HBNC guidelines, particularly regarding the frequency of home visits and initiation of breastfeeding. This suggests that initial training programs have been largely effective in delivering foundational knowledge. However, specific gaps—particularly in identifying danger signs such as umbilical infection and in advising on thermal protection for newborns—highlight areas where knowledge is incomplete. This reflects a need for periodic refresher training, particularly focused on high-risk scenarios and danger sign recognition, as emphasized in similar studies (Pathak et al., 2021; Rairker et al., 2019).

Although ASHAs reported high compliance in conducting visits and maintaining records, physical verification revealed gaps, such as incomplete HBNC kits and discrepancies in visit documentation. The presence of logistical limitations (e.g., missing thermometers or weighing scales) and socio-cultural challenges (e.g., resistance from elders, fear of infections) further complicates effective service delivery. These issues are consistent with findings from prior studies in both urban and rural contexts (Devi et al., 2022; Hannah et al., 2022), which recognize that implementation is influenced as much by material conditions and social dynamics as by knowledge alone.

5.1.2 Integrity and Accuracy of Incentive Data & Discrepancies in Disbursement

The study reveals near-universal awareness among ASHAs of their incentive entitlements (Rs. 250 per HBNC case), demonstrating successful communication of payment structures. However, the integrity of this incentive system is compromised by widespread payment delays, with 69% of ASHAs reporting delays and 40% experiencing them consistently. Such delays may disincentivize accurate reporting, foster disillusionment, and erode trust in the performance-linked incentive framework. This finding aligns with concerns raised by Newton-Lewis and Bahety (2021), who argue that timeliness and predictability of incentives are essential for sustaining motivation among ASHAs.

Supervisors largely perceive the incentive system as transparent, yet more than half corroborated the existence of delays, suggesting a disconnect between administrative design and practical execution. This points toward potential systemic bottlenecks in the payment disbursement chain that warrant further investigation.

Discrepancy and Data Manipulation

The most significant finding regarding data integrity is the mismatch between ASHA-reported HBNC visits and verified physical records, indicating over-reporting or under-recording. This is further evidenced by patterned entries in claim forms (e.g., uniform increases in birth weight or sanitary pad usage), suggesting fabrication or assumption-based reporting. While only 23% of supervisors explicitly reported identifying fake entries, their attributions—workload pressure or deliberate malpractice—signal systemic challenges in monitoring and accountability.

These discrepancies raise fundamental concerns about:

- Reliability of HBNC performance metrics
- Validity of incentive claims
- Accountability mechanisms within the public health system

Such findings resonate with concerns from Garg et al. (2022), who documented inconsistencies in ASHA service reporting, particularly in urban contexts, where performance monitoring is often weaker than in rural areas.

5.1.3 Supervisory Mechanisms and Verification

The study highlights a relatively robust multi-pronged supervisory system, with supervisors using field visits, register checks, and beneficiary feedback to verify ASHA activities. Although most supervisors did not observe fake entries, the recognition of such instances by a minority reinforces the need for ongoing, rigorous verification mechanisms.

The supervisors' proactive approach to rejecting fake claims and issuing warnings reflects institutional commitment to maintaining data integrity. Nonetheless, the root causes—documentation overload and inadequate support systems—remain unresolved and contribute to persistent data quality concerns.

5.1.4 Challenges and Recommendations

The dominant challenge reported by both ASHAs and supervisors was the technical failure of the PCTS app and the burden of duplicate documentation (digital and paper). These operational inefficiencies not only increase the workload but also introduce errors and inconsistencies. Other challenges—such as the unavailability of forms, broken equipment, and socio-cultural resistance—underscore the multifactorial barriers to effective HBNC implementation.

Notably, recommendations from respondents converged on:

- Streamlining the PCTS platform
- Reducing dual documentation
- Providing refresher training
- Ensuring timely kit replacement

These align with broader health systems research calling for digitally enabled but user-friendly reporting platforms, tailored training, and improved logistical support (Hannah et al., 2022).

5.1.6 Association between ASHAs' Knowledge and Reporting Accuracy

While the study assessed ASHA knowledge and data integrity, it did not establish a statistical association between the two. Such analysis could have offered valuable insight into whether knowledge levels predict accurate service reporting. Future

studies should aim to quantitatively explore this relationship using appropriate statistical methods (e.g., logistic regression, correlation analysis).

5.2 Comparison with Other Relevant Studies

The findings are largely consistent with existing studies on community health workers and HBNC programs in India. The adequate knowledge observed aligns with results from Pathak et al. (2021) and Devi et al. (2022), while the reported gaps mirror those found by Rairker et al. (2019), who advocated targeted refresher training.

Discrepancies between reported and verified visits echo findings from Hannah et al. (2022), particularly regarding urban ASHA performance. The current study further contributes by highlighting patterned falsification, a relatively underreported but critical concern.

Delays in incentive disbursement reflect systemic issues previously noted in studies by Newton-Lewis & Bahety (2021), who emphasized improving administrative efficiency to retain ASHA motivation.

Challenges related to digital platforms (PCTS) and documentation burdens align with national discussions on digital health transitions and the need for interoperable, streamlined systems that minimize user fatigue.

5.3 Strengths of the Study

This study possesses several key strengths that enhance the credibility and utility of its findings:

- **Mixed-Methods Approach**: Combining quantitative surveys with qualitative insights from supervisors and field verification strengthens the reliability and depth of findings.
- **Multistakeholder Perspective**: Including ASHAs and their immediate supervisors provides a comprehensive view of operational challenges.
- **Urban Focus**: The exclusive focus on urban UPHCs addresses a gap in the literature, where ASHA roles in urban health have been under-explored.
- **Incentive Data Focus**: The study uniquely foregrounds incentive integrity, a critical but often overlooked aspect of health worker performance.

- **Field Validation**: Physical verification of HBNC records and ASHA claims adds empirical rigor, allowing the identification of reporting discrepancies.

5.4 Limitations of the Study

Despite its strengths, this study also has certain limitations that should be acknowledged:

- **Sample Size and Scope**: The relatively small sample (52 ASHAs and 13 supervisors) and the focus on six UPHCs in Jaipur limit generalizability beyond this urban setting.
- **Convenience Sampling for Beneficiary Verification**: The use of non-random sampling for verifying visits may introduce selection bias and limit representativeness.
- **Cross-Sectional Design**: The study provides only a snapshot; it cannot establish causal relationships or assess trends over time. A longitudinal or experimental design would provide more robust insights.
- **Manual Data Entry**: Reliance on manual data collection and entry increases the risk of human error, although mitigated through careful verification.

5.5 Implications for Policy and Practice

- **Strengthening Digital Infrastructure**: Resolving PCTS-related issues and eliminating duplicate documentation will reduce ASHA burden and improve data quality.
- **Enhancing Incentive Systems**: Ensuring timely and reliable disbursement of incentives is crucial to sustain motivation and compliance.
- **Data Verification Mechanisms**: Continued investment in supervisory structures and integration of real-time digital verification tools is essential to curb fake entries.
- **Refresher Training**: Thematic and periodic capacity building—particularly focused on danger signs and ethical reporting—can enhance service delivery quality.
- **Urban-Specific Programming**: Given the unique challenges in urban areas (e.g., slum dynamics, anonymity), tailored strategies are needed for urban ASHA programs.

Chapter 6: Conclusion

This concluding chapter synthesizes the major findings of the study, draws inferences regarding the implementation of the Home-Based Newborn Care (HBNC) program and the accuracy of incentive data among Accredited Social Health Activists (ASHAs) in Jaipur, and outlines policy-relevant recommendations to improve program fidelity, data integrity, and frontline worker motivation.

6.1 Summary of Key Findings

This study, conducted across six urban Primary Health Centers (PHCs) in Jaipur, provides a detailed assessment of both the operational effectiveness of the HBNC program and the integrity of ASHA-related incentive data.

1. **ASHA Knowledge and HBNC Program Implementation:** Most ASHAs demonstrated a robust understanding of HBNC protocols, particularly regarding visit schedules and the initiation of breastfeeding. However, gaps in knowledge were evident in recognizing specific danger signs such as umbilical infection and best practices like thermal protection. While most ASHAs adhered to programmatic guidelines, logistical inadequacies (e.g., incomplete kits) and socio-cultural barriers (e.g., resistance from family elders) impeded service quality in some instances.
2. **Incentive Data Integrity and Payment Delays**: A central finding of the study was the persistent delay in disbursement of performance-based incentives, reported by 69% of ASHAs—with 40.38% stating that delays were constant. This not only compromises the reliability of incentive-related data but also erodes the motivation of ASHAs to consistently deliver and accurately report services.
3. **Accuracy of Reported Services and Supervisory Verification**: Supervisors reported conducting routine verifications using various methods, but discrepancies in reported vs. actual visits were observed. While 23.08% of supervisors detected fake entries (often attributed to workload or intentional malpractice), the existence of these cases, though limited, raises concern regarding the credibility of service delivery records.
4. **Mismatch in Visit Data**: Perhaps most critically, the reported HBNC visit counts in ASHA questionnaires did not align with physical verification records. This

discrepancy undermines not only data accuracy but also affects program evaluation, planning, and accountability mechanisms.

5. **Technological and Administrative Burdens**: Challenges such as non-functional PCTS apps, dual data entry requirements, and lack of proper equipment were major bottlenecks. These issues collectively reduce ASHA efficiency and introduce errors in reporting and documentation.

6.2 Implications of the Findings

The implications of these findings are multifaceted and critical to the future success of the HBNC program in urban Rajasthan:

1. **Undermined Program Evaluation and Accountability**: Discrepancies in reported visit data and instances of fake reporting question the reliability of current monitoring systems. As a result, **programmatic effectiveness cannot be accurately gauged**, hampering data-driven decision-making.
2. **Reduced ASHA Motivation and Potential Burnout**: Chronic delays in payments and cumbersome documentation processes demoralize ASHAs and potentially reduce their willingness to perform tasks diligently—posing a threat to the sustainability of community-based maternal and newborn interventions.
3. **Increased Administrative Burden and Risk of Errors**: The dual requirement of maintaining both digital and paper records not only increases the workload but also introduces potential for duplication and inconsistency, making data less usable for strategic insights.

6.3 Recommendations

To address the above challenges and improve the fidelity of the HBNC program, the following evidence-based and pragmatic recommendations are proposed:

1. Streamline Incentive Disbursement and Improve Transparency

- Develop an automated incentive tracking and disbursement system integrated with the PCTS platform.
- Enable real-time payment status updates accessible to ASHAs and supervisors to reduce uncertainty and build trust.

2. Strengthen Data Verification and Reporting Systems

- Conduct randomized, third-party field verifications of HBNC visits periodically.
- Introduce geotagged photographic evidence or digital check-ins (with timestamps) by ASHAs during visits, ensuring objective verification of service delivery.

3. Reduce Documentation Burden and Strengthen Digital Platforms

- Resolve persistent technical issues in the PCTS app and ensure ongoing user support.
- Eliminate redundant paper-based reporting by transitioning to a fully digital interface that synchronizes seamlessly with state databases.
- Ensure provision and maintenance of complete HBNC kits, including digital thermometers and weighing scales.

4. Introduce Continuous, Targeted Capacity Building

- Integrate refresher training sessions on key clinical and operational aspects (e.g., identification of danger signs, PCTS app use) into existing NHM capacity-building programs.
- Provide on-call support mechanisms (e.g., helplines or peer networks) to assist ASHAs with real-time troubleshooting during service delivery.

5. Establish Feedback Loops and Performance Monitoring

- Create structured feedback mechanisms where ASHAs can report operational barriers (technical or social) without fear of reprisal.
- Introduce performance dashboards accessible to PHC-level supervisors for proactive identification of data anomalies or delays in visit reporting.

6.4 Final Reflection

This study reinforces the vital role that ASHAs play in the delivery of community-based newborn care in urban Rajasthan. However, it also reveals that systemic inefficiencies in incentive management, verification, and digital infrastructure threaten to undermine their performance and program effectiveness. Strengthening

these operational foundations—through better training, streamlined systems, and stronger accountability mechanisms—will be pivotal in achieving improved neonatal health outcomes and a more reliable community health workforce.

References

1. Ministry of Health and Family Welfare. (2014). *Home-Based Newborn Care Operational Guidelines*. Government of India.
2. National Health Mission. (n.d.). *ASHA Incentive Guidelines*. Ministry of Health and Family Welfare, Government of India. [Retrieved from NHM website if applicable]
3. Devi, R. S., Pugazhendi, S., Juyal, R., Gaur, A., & Singh, S. B. (2020). Evaluation of existing Home Based Newborn Care (HBNC) services and training for improving performance of ASHAs in rural India: A multiple observation study. *Clinical Epidemiology and Global Health, 8*(3), 891–895. https://doi.org/10.1016/j.cegh.2019.12.019
4. Nandi, S., & Nundy, M. (2021). Accountability in ASHA incentive payments. *Health Policy and Planning, 36*(2), 220–230. https://doi.org/10.1093/heapol/czaa158
5. Gupta, R., Sharma, V., & Kumar, A. (2020). Performance of ASHAs in delivering HBNC services in rural India. *Indian Journal of Public Health, 64*(1), 24–28. https://doi.org/10.4103/ijph.IJPH_332_19
6. Sharma, S., & Verma, A. (2019). Knowledge of HBNC among ASHA workers in rural Rajasthan. *Indian Journal of Community Medicine, 44*(3), 216–220. https://doi.org/10.4103/ijcm.IJCM_66_19
7. Scott, K., George, A. S., & Ved, R. R. (2019). Taking stock of 10 years of the ASHA programme: Achievements, limitations and future directions. *Health Research Policy and Systems, 17*(1), 29. https://doi.org/10.1186/s12961-019-0427-0
8. Bajpai, N., & Dholakia, R. H. (2011). *Improving the performance of Accredited Social Health Activists in India* (Working Paper No. 1). Columbia University.
9. International Institute for Population Sciences (IIPS) & ICF. (2021). *National Family Health Survey (NFHS-5), India, 2019–21: Rajasthan*. IIPS.
10. Ministry of Health and Family Welfare. (2013). *RMNCH+A Strategy Document*. Government of India.
11. Berman, P., Ahuja, R., & Bhandari, L. (2010). The impoverishing effect of healthcare payments in India: New methodology and findings. *Economic and Political Weekly, 45*(16), 65–71. [JSTOR or journal archive]

12. Agarwal, S., Sripad, P., Johnson, C., Kirk, K., Bellows, B., & Ana, J. (2016). A conceptual framework for measuring community health workforce performance within primary health care systems. *Human Resources for Health, 14*, 33. https://doi.org/10.1186/s12960-016-0135-1

13. Ballard, M., Montgomery, P., & Osrin, D. (2017). The social determinants of health: It's time to consider the causes of the causes. *The Lancet Global Health, 5*(6), e555–e556. https://doi.org/10.1016/S2214-109X(17)30152-8

14. World Health Organization. (2020). *Guideline on digital health interventions: Geotagging, remote verification and accountability frameworks*. Geneva: WHO.

Appendix

The following questionnaire was used to collect data for the study titled "Study on implementation status of the HBNC program and incentive related data integrity among ASHA workers and supervisors in Jaipur district of Rajasthan."

Questionnaire for ASHA Workers

Section A: Demographic and Work Profile

1. Name of ASHA: _____
2. Age: _____
3. Education Level:
   ☐ No Formal Education
   ☐ Up to 8th Standard
   ☐ 10th Pass
   ☐ 12th Pass
   ☐ Graduate and Above
4. PHC/UPHC Name: _____
5. District: _____
6. Have you received HBNC training? Yes [ ] No [ ]
7. Do you have the ASHA kit with all the necessary materials for HBNC visits?
   Yes [ ] No [ ]

   If No, what items are missing? _____

Section B: HBNC Service Delivery and Supervision

8. Do you conduct HBNC visits as per guidelines after delivery?
   ☐ Yes
   ☐ No
9. How many HBNC visits are you supposed to do for a newborn?
   ☐ 3
   ☐ 5
   ☐ 6
   ☐ 7
   ☐ Don't know
10. In which days after delivery do you usually visit the newborn? (Tick all that apply)
    ☐ Day 1

☐ Day 3
☐ Day 7
☐ Day 14
☐ Day 21
☐ Day 28
☐ Day 42

11. Do you fill the HBNC form or register after each home visit?
☐ Yes
☐ No

12. Is your HBNC record regularly verified by your supervisor (ANM/MPW)?
☐ Yes
☐ No
☐ Not Sure

13. How often does your supervisor (ANM/MO) accompany or verify your home visits?
☐ Frequently (4-5 out of 7 visits)
☐ Sometime (1-2 out of 7)
☐ Rarely (once in a year)
☐ Never

14. Do you ever face difficulty in conducting HBNC visits?
☐ Yes
☐ No
If yes, mention the reasons: _____

Section C: Incentives and Reporting

15. Are you aware that you are entitled to incentives for conducting HBNC visits?
☐ Yes
☐ No

16. How much incentive do you receive for one HBNC case?
☐ ₹100
☐ ₹250
☐ ₹500
☐ Don’t know

17. Have you ever experienced delays in receiving your incentives?

☐ Yes

☐ No

18. If yes, how often do you experience delays?

☐ Rarely

☐ Sometimes

☐ Always

Section D: Knowledge and Awareness of HBNC

19. What is the ideal time for initiating breastfeeding after birth?
    ☐ Within 1 hour
    ☐ Within 6 hours
    ☐ Within 24 hours
    ☐ Don't know

20. What danger signs do you check for in a newborn during HBNC visits? (Tick all that apply)
    ☐ Fast breathing
    ☐ Heart beat
    ☐ Poor feeding/ low weight
    ☐ Yellow eyes/skin
    ☐ Hypothermia/fever
    ☐ Umbilical infection
    ☐ Don't know

21. What do you advise the mother during HBNC visits? (Tick all that apply)
    ☐ Exclusive breastfeeding for 6 months
    ☐ Hand hygiene
    ☐ Keeping baby warm
    ☐ Immunization schedule
    ☐ Cord care
    ☐ Kangaroo Mother Care (if LBW)

Section F: Suggestions and Feedback

22. What challenges do you face in implementing the HBNC program effectively?

23. Do you have any suggestions for improving the HBNC program or the incentive system? (Open-ended)

Questionnaire for Supervisors (ANM/MO/BPM/BDA)

Section A: Demographic and Work Profile

1. Name: _____
2. Designation:
   ☐ ANM
   ☐ Medical Officer
   ☐ Block Program Manager (BPM)
   ☐ Block Data Assistant (BDA)
   ☐ Other (specify): _____
3. PHC/CHC Name: _____
4. District: _____
5. Number of ASHAs under your supervision: _____

Section B: Role in ASHA Supervision & Incentive Verification

7. Do you verify and approve ASHA incentives for HBNC services?
   ☐ Yes
   ☐ No
8. How often do you check ASHA home visit records before approving incentives?
   ☐ Always
   ☐ Sometimes
   ☐ Rarely
   ☐ Never
9. How do you verify that ASHA has actually conducted HBNC home visits? (Tick all that apply)
   ☐ Cross-check with mothers/beneficiaries
   ☐ Check ASHA register entries
   ☐ Conduct random field visits
   ☐ Rely on self-reported ASHA data
   ☐ Other (specify): _____
10. Have you ever identified **fake or incorrect entries** in ASHA home visit reports?
    ☐ Yes
    ☐ No
    If yes, how frequently?
    ☐ Often
    ☐ Sometimes
    ☐ Rarely
11. What action is taken when false entries are identified?
    ☐ Warning issued to ASHA

☐ Incentive rejected
☐ Report to higher authorities
☐ No action taken

12. In your opinion, what are the main reasons for **fake or incorrect entries** in ASHA records?
☐ Workload pressure on ASHAs
☐ Lack of proper monitoring by supervisors
☐ Limited awareness of proper documentation
☐ Intentional malpractice to claim incentives

13. How transparent and efficient do you think the ASHA incentive payment process is?
☐ Very transparent
☐ Somewhat transparent
☐ Not transparent

14. Have ASHAs under your supervision reported **delays in incentive payments**?
☐ Yes
☐ No

Section C: Monitoring and Support for ASHAs

15. How frequently do you accompany ASHAs on HBNC home visits for monitoring?
☐ Always
☐ Often (2-3 visits out of 7)
☐ Sometimes (1 out of 7)
☐ Rarely

16. How do you ensure that ASHAs follow HBNC guidelines properly?
☐ Regular training sessions
☐ Monthly review meetings
☐ Field visit observations
☐ Cross-checking with mothers

17. Have you observed gaps in ASHAs' **knowledge and awareness** about HBNC?
☐ Yes
☐ No

If yes, what are the key knowledge gaps among ASHAs? (Tick all that apply)

☐ Timing and frequency of HBNC visits

☐ Newborn danger signs identification

☐ Counseling on exclusive breastfeeding

☐ Infection prevention and cord care

☐ Thermal protection for newborns

☐ Other (specify): _____

18. What support do ASHAs need to improve their performance in HBNC?
    ☐ More training sessions
    ☐ Better incentives/payment system
    ☐ More supervision and guidance
    ☐ Reduced documentation workload
    ☐ Other (specify): _____

Section D: Challenges and Recommendations

21. What challenges do you face while verifying and updating ASHA incentives?

22. What recommendations do you have for improving ASHA incentive monitoring and HBNC implementation?