

Dissertation

At

IIHMR, DELHI

A Project Report On

**Barriers and Facilitators Influencing Healthcare Worker's
Adherence to Prasav Watch Monitoring Protocols in Bundi,
Rajasthan**

By Amisha Awasthi

PG/23/014

Under the guidance of

Dr. Nishikant Bele

PGDM (Hospital & Health Management)

2023-25



International Institute of Health Management Research,

New Delhi

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**International Institute of Health Management Research
New Delhi**

(Completion of Dissertation from respective organization)

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Area of Dissertation: *Rajasthan.*

Attendance: *yes*

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Suggestions for Improvement: *heavy data analysis tool*

Suggestions for Institute (course curriculum, industry interaction, placement, alumni):


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ABSTRACT

This study discusses the barriers and the facilitators affecting the ability of healthcare workers to adhere to Prasav Watch surveillance standards in Bundi, Rajasthan. The digital solution (Prasav Watch), focusing on improving the level of maternal and newborn care involving the real-time monitoring of the process during labor and the postpartum stage, could positively influence clinical outcomes. But its use can be effective provided it is regularly and correctly used by frontline health care providers. As a descriptive study, conducted across a set of 50 healthcare workers- nurses, auxiliary nurse midwives (ANMs), ASHAs and Anganwadi workers at different government hospitals, community health centers, and sub-centers in Bundi, the research was done using structured questionnaires, which consisted of both closed and open-ended questions. It has been found that the participants are well trained and familiar with the protocols of Prasav Watch and 90 percent of the participants admitted its usefulness in the healthy status of the mother and the baby. Nonetheless, less than half of all respondents (32 percent) indicated that they always followed the protocols, and 68 percent said that they followed them most of the time, which shows a disparity between what is known and what is done. The most critical factors that impede adherence were documentation difficulties, personnel shortages, time pressures, and recurrent technical difficulties but key barriers to adherence were relevant training, availability of resources, peer support, and administrative support. The participants suggested that compliance could be improved through better technical support, internet connectivity, more staffing, and more regular refresher trainings. These findings suggest the importance of overcoming systemic and operational issues as well as capacity building to make the most out of digital health innovations such as Prasav Watch. The reinforcement of infrastructure, logistical arrangements of workflow, and supervision with support have potential to develop sustainable maternal care of high quality in resource-limited conditions. The present study provides substantial information of use to policymakers and program implementors who want to maximize the use of digital monitoring tools as means of enhancing maternal and newborn health outcomes.

ACKNOWLEDGEMENT

This dissertation, **“Barriers and Facilitators Influencing Healthcare Worker’s Adherence to Prasav Watch Monitoring Protocols in Bundi, Rajasthan”** represents the culmination of significant effort and collaboration. I wish to express my profound gratitude to all those who contributed to its successful completion.

First and foremost, I extend my deepest appreciation to my esteemed supervisor,

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I am sincerely grateful to the Institutional Ethics Committee of the International Institute of Health Management Research (IIHMR), Delhi, for granting the necessary ethical approval for this study. Their commitment to ethical research practices ensured the integrity and responsible conduct of this work.

My heartfelt thanks go to the health care wrkers of bundi Rajasthan who graciously participated in this study. Their willingness to share their experiences and insights was fundamental to the success of this research, providing the rich data that underpins our findings. Their voices are central to this work.

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LIST OF ABBRIVATION

INTRODUCTION

Major problems on the global health scene are maternal and neonatal morbidity and death. The global health community sees these as important priorities, as is evident in the UN Sustainable Development Goals (SDGs). With particular targets to reduce the worldwide maternal mortality rate to less than 70 per 100,000 live births and to eradicate preventable deaths among newborns and children under five by 2030, SDG 3 especially seeks to advance healthy lives and well-being for all at all ages. Though there have been great developments in many fields, unnecessary maternal and newborn deaths are still shockingly high in low- and middle-income countries (LMICs).

Around 295,000 women died globally in 2017 as a result of complications connected to pregnancy and delivery, according to the World Health Organization (WHO). Newborn deaths made up 47% of all under-five fatalities worldwide, many of which happened within the first week of life. The difference is most evident in LMICs, where health systems are under several limitations including workforce deficits, insufficient infrastructure, and restricted access to excellent care. Preventing poor results depends on good clinical monitoring during labor and the immediate postpartum time, hence it is a foundation. Early identification and control of issues including hemorrhage, pre-eclampsia/eclampsia, infection, and fetal distress depend on accurate and prompt observation of maternal and fetal well-being.

Decades ago, conventional paper-based monitoring tools like partographs were developed to standardize labor monitoring and help decision-making. Although partographs have shown promise in lowering extended labor and related problems, constant use presents a significant obstacle. Issues like missing papers, past data entry, and lack of ongoing monitoring weaken their influence. This has sparked worldwide increasing interest in digital health solutions trying to improve data accuracy, deliver real-time alerts, and support evidence-based clinical choices.

Opportunities abound in digital health technology. By encouraging adherence to clinical protocols, they promise to improve patient safety in addition to simplify procedures and lower clinician burden. Still, the successful adoption and continuous application of digital tools depend on several connected elements including infrastructure availability, technology alignment with user needs, simplicity of use, and organizational culture. Particularly in resource-poor settings, knowing these elements is absolutely necessary to convert technical possibilities into actual health benefits.

Over the last two decades, India has been at the vanguard of carrying out major maternal and child health programs and has seen significant decreases in maternal mortality ratio (MMR) and neonatal mortality rate (NMR). These changes, meanwhile, are not evenly spread spatially and economically; rural and remote areas continue to have more unfavorable results than metropolitan areas. Data from the Sample Registration System (SRS) 2022 show that Rajasthan's MMR and NMR are still higher than the national mean, hence emphasizing the necessity of aggressive, context-specific measures in the state.

India's maternal and newborn care delivery quality faces persistent obstacles that include infrastructural shortcomings, shortages of trained healthcare professionals particularly in rural regions, erratic compliance with clinical procedures, and dependency on manual record-keeping. Though many facilities struggle to guarantee constant, accurate monitoring—often because of excessive paperwork, high patient loads, and inadequate training—the labor and delivery period is vital for both mother and newborn.

The Indian government has included digital tools in its health plan to meet these problems. Under the National Health Policy and the National Digital Health Mission, programs highlight the application of technology to enhance healthcare quality and equality. To uniform procedures, enable data-driven decision-making, and provide assistance to front-line employees via clinical decision aids, digital monitoring systems including mobile and tablet-based applications are becoming more and more utilized. Early pilot initiatives have shown possible advantages, yet data on their continuing efficacy and the elements affecting their acceptance is still scarce—more so at the district and facility levels.

Distinct difficulties for healthcare delivery arise in Rajasthan, which has a largely rural population and varied sociocultural scene. In Rajasthan, maternal and newborn health metrics show modest improvement relative to national standards, especially in underappreciated areas. Common systemic problems seen in rural areas abound in the Bundi district: resource limitations, infrastructural deficits, staff shortages, and high patient-provider ratios.

Usually struggling with poor infrastructure, stock-outs of necessary supplies, and dependence on paper-based data recording systems that impede prompt and precise clinical decision-making, Bundi's healthcare institutions. These restrictions directly affect morbidity and

death rates by delaying the detection of maternal and newborn problems. Social factors like educational inequities, gender norms, and cultural habits affecting health-seeking behavior and service use compound these problems.

Prasav Watch was presented as a creative digital labor monitoring tool here. Providing health professionals with a user-friendly interface for point-of-care data entry during the labor and postpartum phases, this tablet-based system methodically captures vital signs, labor advancement, and newborn condition. Real-time decision-support and warnings guide medical professionals to swiftly identify and respond to hazard indications, hence distinguishing Prasav Watch from conventional paper-based partographs.

Prasav's introduction Watch presents a great chance for Bundi to raise the standard and safety of maternal and neonatal care. Still, the real effect of such digital developments is directly connected to the extent to which healthcare professionals adhere to the guidelines set in place inside the system. Irregular or incomplete application will greatly reduce the tool's advantages, thereby undermining its possibilities for improving clinical results.

PROBLEM STATEMENT

Even with Prasav Watch, a digital device designed to enhance labor and postpartum surveillance in Bundi, Rajasthan, healthcare professional's adherence to its guidelines is erratic. This change in compliance restricts the tool's ability to lower neonatal and maternal problems. While support systems and leadership may help to ensure compliance, factors like insufficient training, technological challenges, workload pressures, and organizational problems might serve as obstacles. Limited studies now pinpoint these main obstacles and

enablers in the local environment. Improving maternal and newborn health outcomes in Bundi and comparable resource-constrained areas depends on an awareness of these elements and ultimately on protocol adherence.

RATIONALE OF THE STUDY

Although Prasav Watch, a brilliant digital tool intended to enhance labor and postpartum monitoring, has been introduced, compliance with its guidelines by healthcare professionals in Bundi, Rajasthan, is still erratic. This volatility restricts the instrument's capacity to improve neonatal and maternal health results. Since variables like insufficient training, technology difficulties, workload demands, and organizational support can have a great impact on healthcare professionals' compliance, understanding the causes of this irregular adherence is absolutely vital.

Though digital health treatments have shown potential everywhere, their effectiveness depends much on how thoroughly they are incorporated into regular clinical practice—especially in resource-limited areas such Bundi. Few studies now target defining the particular obstacles and enablers influencing healthcare providers' use of Prasav Watch procedures in this setting.

By methodically investigating these variables, this study aims to close that gap and offer important insights that will help to create focused plans to raise compliance. Better quality maternal and newborn care will result from improved protocol adherence ultimately, therefore increasing the effectiveness and sustainability of digital health projects in rural healthcare environments.

OBJECTIVES OF THE STUDY

1. To assess the level of adherence among healthcare workers to Prasav Watch monitoring protocols during labor and postpartum care in Bundi, Rajasthan.
2. To identify the barriers that hinder healthcare workers' compliance with Prasav Watch protocols.
3. To explore the facilitators and enablers that promote adherence to Prasav Watch monitoring protocols.
4. To recommend practical strategies for improving healthcare workers' adherence to the Prasav Watch monitoring protocols in similar resource-limited settings

REVIEW OF LITERATURE

A major measure of the general efficacy of healthcare systems worldwide is maternal and neonatal health. Most of which were preventable, around 287,000 women died in 2020 from problems connected to pregnancy and childbirth, the World Health Organization (WHO) estimated. Intrapartum problems including obstructed labor, bleeding, and sepsis continue to be main causes of maternal mortality. Accounting for almost 47% of all under-five deaths, neonatal mortality is mostly caused by prematurity, infections, and birth asphyxia.

Appropriate labor monitoring employing the use of partograph, electronic fetal monitoring, and digital surveillance tools has been highlighted in the worldwide plan to decrease maternal and neonatal mortality. Nevertheless, irrespective of the existence of such tools, gaps between knowledge and practice remain high in a majority of low- and middle-income countries (LMICs). Researchers in sub-Saharan Africa and Southeast Asia claim that even when the procedures are in place, healthcare professionals tend to fail at following them owing to the

systematic challenges, training gaps, and the limitation of resources (Bhutta et al., 2014).

The growing trends in adoption of digital health interventions-wearable monitoring instruments and mobile-based alarm systems, has demonstrated potential in enhancing labor monitoring and decision making that is timely. But these tools, in fact using and understanding them by the health workforce, are very important with regard to how successful it will be to implement.

India has done quite an excellent job in both maternal death and providing substantial support, as the MMR decreased due to 130 (2014-16) to 97 (2018-20) deaths per 100,000 live births. Even so, inequalities still exist among the states, rural and urban residents. Many of the maternal and neonatal deaths are actually taking place in the course of the events of birth and the immediate after birth stage making it necessary to monitor the course of giving birth well.

Government of India has come up with number of initiatives to help curb such problems, which include Janani Suraksha Yojana (JSY), LaQshya, and the use of the Safe Childbirth Checklist by WHO. The main features of these programs are the focus on skilled birth attendance, assessment of labor, and referral. Although this has been undertaken, the compliance with the labor monitoring procedures has always indicated the existence of gaps.

According to a study conducted by Mony et al. (2016) in Karnataka, the use of the partograph was not consistent as most health workers were not trained adequately, did not have enough time, and no emphasis had been given to their institutions regarding its utilization. Likewise, the study conducted by Sharma and Gupta (2019) demonstrated that despite the application of electronic monitoring devices, low technological literacy and poor infrastructure did not allow these tools to be used to increase effectiveness.

The National Digital Health Mission has encouraged the use of digital health tools in care delivery in India. Such innovation is Prasav Watch, which is expected to better intrapartum monitoring through wearables technology and standardised protocols. Nonetheless, its adoption in numerous areas is still low, and it is necessary to devote special attention to studying problems with its implementation.

Being one of the larger states in the north and heavily populated by rural people, Rajasthan has long “challenged” in terms of maternal and neonatal health. According to SRS 2020, the MMR in Rajasthan is 113 out of 100000 live births; it is above the national average. These outcomes are contributed by delays in receiving care, lack of trained personnel and poor referral connections.

The state government has implemented the national initiatives such as JSY and LaQshya, as well as using the tools such as Safe Childbirth Checklist. Digital innovations, including Prasav Watch system, were tested during recent years with the selected districts to reinforce labor surveillance and limit avoidable complications. To support the work of frontline healthcare workers, the system will offer real-time monitoring and alerts according to the indicators of labor progression.

There is little implementation research in Rajasthan, however. Drawing back on informal observation and initial assessment, it is established that the technology has been valued however some complications thereof include but are not limited to lack of technical training, poor connectivity, fear of being answerable and unwillingness to change. The study in adjacent districts (Verma et al., 2021) has revealed that despite the presence of digital tools, in some cases, only 40 50 per cent of the staff could operate them regularly due to the operational limitations.

It will be essential to comprehend the obstacles and the enablers that affect the compliance of these health care workers with the schemes such as Prasav Watch in such districts such as Bundi. Bundi has both

rural and semi-urban infrastructure, and it serves as an apt background to study such dynamics in real-time. Such studies can be used in advancing superior training interventions, favorable supervision programs, and the enhancing policy changes to the advancement of maternal and neonatal outcomes in Rajasthan and other settings.

Research Gap

Although the significant literature exists on the effectiveness of digital health interventions in different countries, a narrow segment of literature reflects on the localized studies in India through research systematically assessing the convergence of barriers and enabling factors in the rural Indian environment. Moreover, only a few pieces of research disaggregate adherence issues according to realities on the district level, or provide concrete and actionable advice aimed at providing administrators of health and policy makers in a region like Bundi. Filling this gap, the current research utilizes a combination of a mixed-methods approach, where quantitative scoring of protocol compliance was supplemented with the qualitative comments of healthcare providers, to have a complete picture of the issue. By so doing, it also intends to record difficulties as well as to shed perspicuous light on feasible as well as viability routes to enhancement of the normalization and viability of technological innovations such as Prasav Watch.

METHODOLOGY

Study Design

This research was conducted as **a descriptive cross-sectional study**, aiming to evaluate healthcare workers' adherence to Prasav Watch monitoring protocols and explore the barriers and facilitators influencing this adherence in Bundi District, Rajasthan.

Study Setting

This study was conducted in Bundi District of Rajasthan in India, a place where there is a contrast between urban and predominantly rural residents. In order to support diversity and diversity of opinion, the study involved healthcare facilities that were at different levels of services delivery. These included Government Hospitals, Community Health Centers (CHCs) and Sub-centers, which have a very crucial role in the provision of maternal and newborn healthcare in the district. The involvement of a variety of facilities led the research to a complete understanding of the location in which Prasav Watch is applied, as well as the challenges and opportunities of the healthcare professionals at different stages of the health system.

Study Population

Participants: Healthcare workers involved in maternal and child health, including:

- Auxiliary Nurse Midwives (ANMs)
- Nurses
- Accredited Social Health Activists (ASHAs)
- Anganwadi Workers (AWWs)

Selection covered staff from healthcare facilities working directly or indirectly with Prasav Watch.

Sample Size

- Total Participants: 50 healthcare workers

Sample Size Determination

The sample size for this study was determined using the standard formula for calculating a sample size when estimating a proportion in

a population. The aim was to achieve a representative estimate of healthcare workers' adherence to Prasav Watch protocols in Bundi District, Rajasthan.

The formula used is:

$$n = \frac{Z^2 \times p \times (1 - p)}{d^2}$$

Where:

- n=required sample size
- Z = Z value for confidence level (1.96 for 95% confidence)
- p = anticipated proportion (prevalence or adherence rate); when uncertain, 0.5 is used for maximum variability
- d = absolute precision or margin of error (commonly set at 0.14 or 14% in small-scale health facility studies)

Applying the values:

- Z=1.96
- p=0.5
- d=0.14

Calculation:

$$n = \frac{(1.96)^2 \times 0.5 \times (1 - 0.5)}{(0.14)^2}$$

$$n = \frac{3.8416 \times 0.25}{0.0196}$$

$$n = \frac{0.9604}{0.0196}$$

$$n \approx 49$$

Based on the above calculation, the minimum sample size required was approximately 49. To ensure representativeness and account for possible non-response or incomplete data, a final sample of 50 healthcare workers was selected for the study. This sample size was deemed appropriate for achieving the study objectives related to assessing adherence and identifying barriers and facilitators among different cadres of staff across various healthcare facilities in Bundi District.

Sampling Technique

A purposive sampling approach was used to ensure inclusion of relevant cadres actively participating in labor monitoring and usage of the Prasav Watch system in Bundi District health facilities.

Data Collection Tool

Structured Questionnaire: A standard questionnaire was prepared, which included close-ended as well as open-ended questions

Areas Covered:

- Demographic details
- Professional experience

- Familiarity and training related to Prasav Watch
- Access to reference guidelines
- Self-reported adherence to Prasav Watch protocols
- Identification of barriers and facilitators
- Suggestions for improving protocol compliance

Data Collection Method

- The structured questionnaire was used as a means of collecting data based on in-person interviews and self-administered forms.
- The time for the interviews was fixed at convenience to the participants so that routine service was not interfered with.

Ethical Considerations

All processes of this study were ethical in nature. This participation was on a fully voluntary basis, and each of the healthcare workers was given clear information about the purpose, the procedure, and the possible benefits of the research. All the participants gave consent on data collection before the data collection process started. Strict measures of keeping confidentiality and anonymity of respondents were observed; no information that could identify the respondent was noted and the responses were treated carefully to avoid breaching privacy of respondents. The data were analytically applied only in academic research purposes. Ethical clearance had been granted by the institution before the study started and all the research works were

conducted within a known ethical guide and standards stipulated by the institution.

Data Analysis

The responses obtained by the 50 participants working in health care in Bundi District in Rajasthan were analyzed thoroughly to know about compliance to Prasav Watch monitoring practices and obstacles and promoters that affected this compliance.

Professional Background/Experience

Most of the respondents were Nurses (52%), followed by Auxiliary Nurse Midwives (ANMs, 48%). A substantial number of respondents (84%) experienced over 6 years in maternal and newborn care and the study population is well-experienced. Among the facilities represented, Government Hospitals (48%), Community Health Centers (15%), and Sub-Centers (22%) were covered, and they fit a wide range of healthcare settings in the district.

Training and Familiarity

- All participants(100%) had been properly educated on Prasav Watch, mostly in workshops and on the job training.

- A majority of (88%) healthcare workers were reported to be very familiar with monitoring protocols.

Approximately, outermost percentage of the respondents (90%) thought that Prasav Watch enhances maternal and newborn outcomes, which indicated that the value of the tool is positively perceived.

Compliance and Guidelines to Protocols

- Almost each respondent (98%) was able to have access to reference guidelines or materials on Prasav Watch.
- Only 32 percent said they find it consistent to follow the Prasav Watch monitoring practices upon delivering, with 68 percent saying they follow it frequently.

Obstacles to Compliance

8%of the respondents reported documentation issues, which implies an overriding problem of record-keeping.

- General obstacles were:

- Shortage of personnel (41%)
- Time limits (46%)
- Technical problems (40%) like malfunction of hardware and Internet connection.
- There were technical problems:

Frequently (64%)

Occasionally (36%)

Support and facilitators

An overwhelming (94%) believed that it was adequately supported administratively in spite of the adoption of Prasav Watch.

The biggest facilitators of compliance were:

- Correct training
- Access to resources
- Supervisory and peer support

Recommendation of healthcare workers:

- Improved quick access technical support (78%)

- bettered internet connection (60%)
- Frequent refreshing up (55%)
- Greater deployment of staff (68%)

Summary

The analysis establishes the high base of knowledge about Prasav Watch and positive attitude towards such a tool among the healthcare workers, but the weak quality related to the tendency towards inconsistent use of it due to the lack of the working power, time challenges, and technical difficulties. Peer and administrative support are a facilitator of key importance. To increase adherence and improve maternal and newborn health outcomes in Bundi, it is important to address infrastructure and resource limitation as well as continuous education and technical assistance.

Result

Respondents Professional Background: There were 50 healthcare workers who were included in the study, which consisted of both Nurses (52%) and Auxiliary Nurse Midwives (ANMs, 48%). This allocation is done in accordance to the key frontline cadres that are charged with maternal and newborn care in Bundi District.

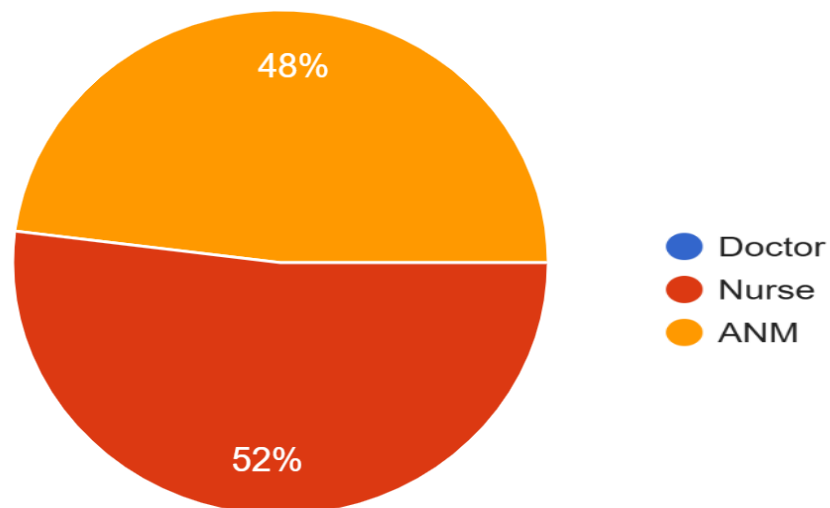


Figure 1. Professional background of the respondents

Experience in Maternal and Newborn care: A majority of the respondents had an experience of more than 6 years, depicting a well experienced workforce.

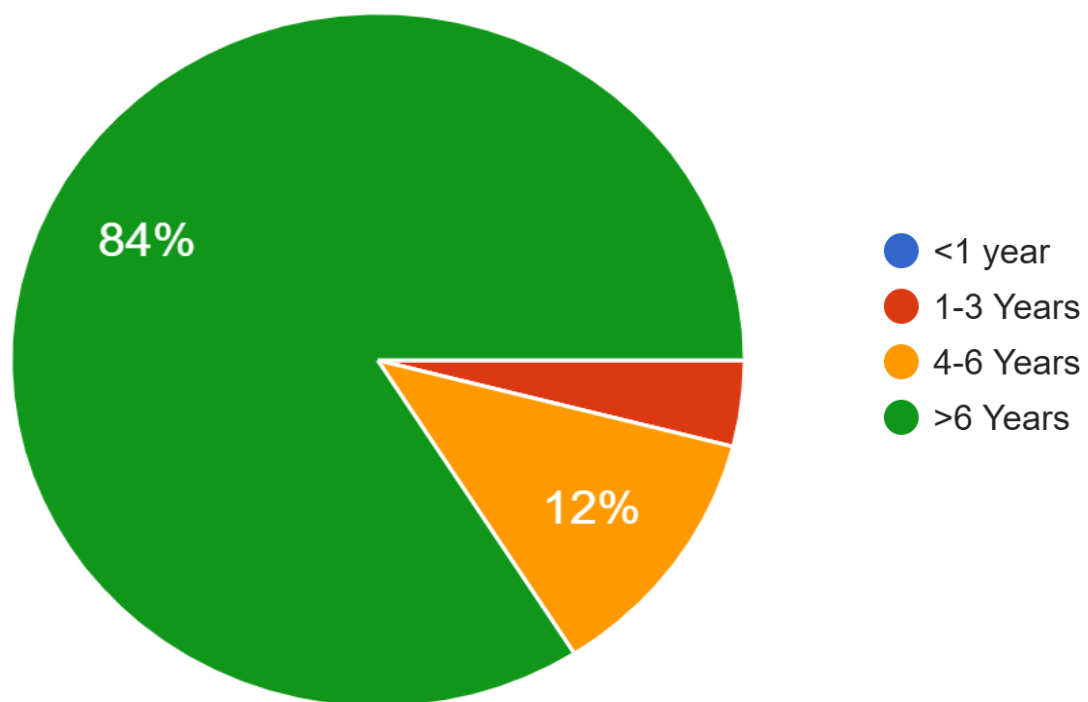


Figure 2. Years of experience among respondents

Facility Type Distribution: The respondents were representative of a diversity of types of healthcare facilities with almost half being Government Hospitals and the remainder being mostly CHCs, Sub-Centers and others.

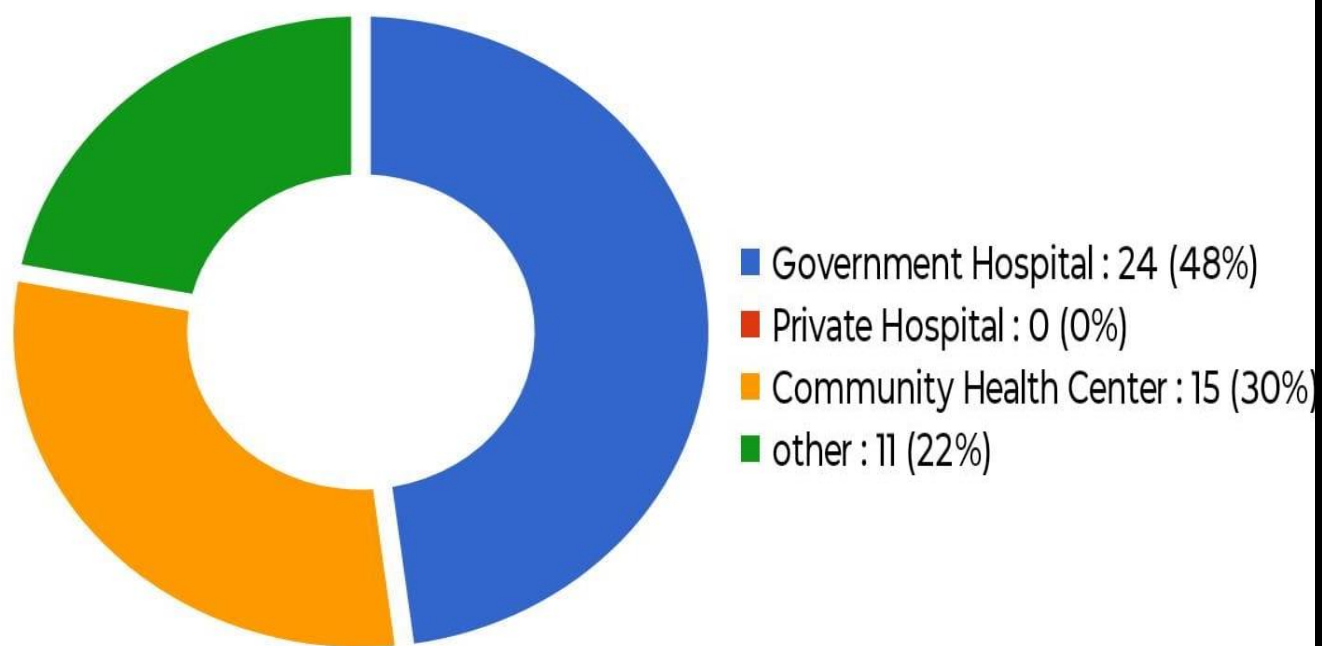


Figure 3. Distribution of respondents by healthcare facility type

Prasav Watch Protocols compliance: Barely 32 percent of the respondents reported always following Prasav Watch protocols in their deliveries whereas 68 percent of the respondents reported frequently following the protocols.

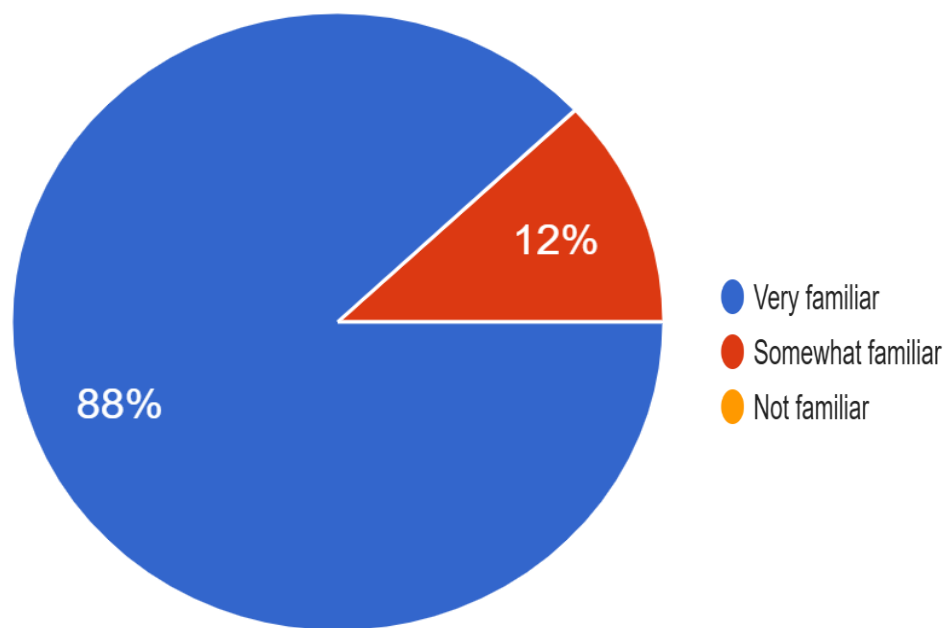


Figure 4. Frequency of Prasav Watch protocol adherence

Barriers to adherence are common problems and may include: The most common reported barrier was documentation related (88%), followed by constraints of time, lack of staff, and technical problems.

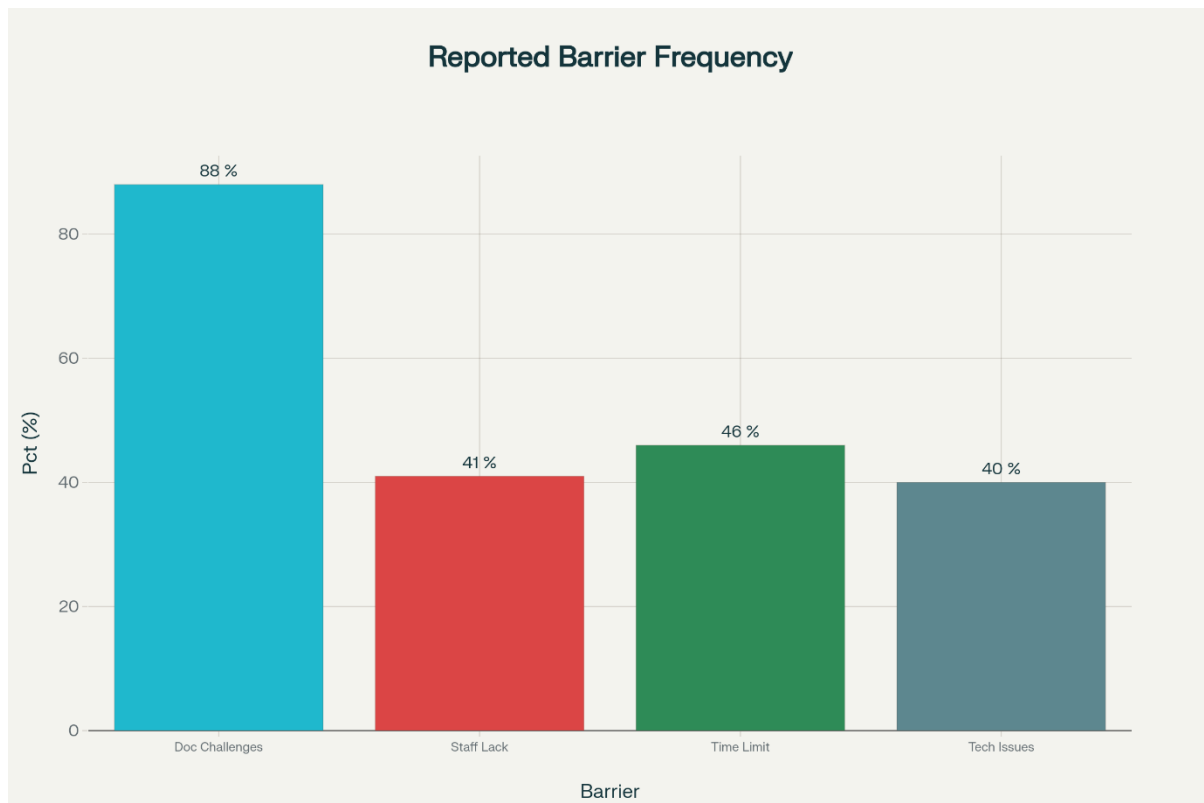


Figure 5. Common barriers to Prasav Watch protocol adherence

Key Findings

Experienced and Well-Trained Workforce: Most of the respondent Nurses (52%) and ANMs (48%) had in excess of 6 years experience in maternal and newborn care and 84%. Participants had all undergone formal training on Prasav Watch protocols (most 88% had described themselves as very familiar with protocols with nearly all those who

had not given on the job training over the one year that they had been working as a significant factor in their familiarity with the protocol).

High Awareness but Non-consistent Compliance: Fewer nearly all healthcare workers reported that the reference materials or guidelines were available, but during deliveries, just 32 percent said they were always following Prasav Watch protocols. Most (68%) adhered to the protocols not always on all occasions.

High belief in effectiveness: Belief in the positive role of using Prasav Watch on maternal and newborn outcomes also was overwhelming: 90 percent of participants believed that the use of this tool helps to achieve better outcomes.

Noteworthy Operational hindrances: The most common one was the problem with documentation (88%). The other set of significant obstacles consisted of the shortage of staff (41%), a time limit (46%), and technical challenges (device malfunctions or insufficient internet connection) (40%). The (64) or the (36) percentage of technical problems were felt.

Supportive Environment and Key Facilitators: A majority (94%) of the respondents believed that the implementation of Prasav Watch had enough administrative backing. Access to adequate training, resources availability, and support of peers were all other significant facilitators that contributed to the protocol adherence.

Suggestions to improve: Respondents emphasized the need of quicker technical assistance (78%), better internet connection (60%), periodic refresher courses (55%), and higher personnel deployment (68%) to further boost compliance and to decrease barriers to working processes.

Overall, the results are indicative of an informed and committed cadre of healthcare professionals confronting operational problems which impede the complete adherence to the protocol. A major way to enhance consistent and effective application of Prasav Watch protocols in Bundi, Rajasthan is to tackle resource limitation, technical problems, and continuous support and refresher training.

Discussion

The study focused on the identification of any barriers and facilitators that affect compliance of healthcare workers with Prasav Watch healthcare monitoring protocols at the Bundi, Rajasthan, site. The results that I found confirm that although healthcare professionals are highly trained and largely assume that digital monitoring of maternal and newborn care is valuable, the lack of knowledge is substantial as compared to the regular adherence to the protocols in the field.

Among the most interesting findings in my research, I would like to mention the fact that although formal training was available to all of us (universal training), with very high rates of familiarity with Prasav .Watch (88% very familiar with protocols), only 32% of participants answered that they follow monitoring standards during the process of childbirth always. Most of them (68%) said they use procedures on a time-to-time basis, meaning that compliance is circumstantial and based on concerns that may arise in real life.

Adherence barriers were multi-dimensional. Most prevalent was the problem of documentation (88 percent), a finding that reflects the

presence of a challenge in complexity and time consuming nature of digital record-keeping and manual record-keeping in understaffed environments. Shortage related to staffing (41%) and time constraints (46%) was also dominant and showed high patient inflow and competing clinical needs that is normal in resource-constrained government health facilities. Technical problems such as a high rate of device breakages and disabled internet service were also identified as an operational problem, by 40 percent of staff and by the majority that experienced this problem regularly or occasionally. Such factors are more than a disruption to the workflow but also may disincentivize healthcare workers to jump-incm into digital protocols, even when available and trusted.

Nonetheless, there were some noteworthy facilitators as well in the study. A near unanimous majority (94%) of participants indicated that they had adequate administrative support to apply Prasav Watch and several respondents reported effective training, resource access, and peer influence as enabling protocol compliance. A favorable impact of leadership buy-in and teamwork became apparent, and such a conclusion coincided with the results of the multiple studies showing

that favorable workplace culture is one of the key factors that condition the implementation of new practices.

Respondents offered suggestions on how they would improve adherence that were feasible and implementable. The need to improve the speed of technical support (78%), internet strength (60%), periodic refresher training (55%), and staff deployment (68%), should address the need to revise both technical equipment and human resources on an ongoing basis. In my opinion, the outcomes support the idea that the launching of a digital innovation such as Prasav Watch is just a start of enhancing clinical practice. The success is dependent on the fact that personnel should be technically and logistically capable of using new tools regularly, with no excess load and the necessity to decide between filling in the protocol or assisting patients. To achieve sustainable improvement, it will be necessary to conduct ongoing training, documentation procedures that are simplified, supportive supervision, and receptive technical advice. To conclude, my research highlights the necessity of overcoming structural, operational and technical barriers to achieve maximum benefit of invoking digital monitoring to monitoring of maternal and newborn health care in the rural areas.

Focusing on supportive environment and dealing with the current barriers, Bundi and other such districts can go a step further towards high-quality and protocols-based care of all mothers and babies.

Recommendations

Depending on the results of my research, here are some recommendations and strategies that could be offered to make healthcare workers more consistent with Prasav Watch monitoring procedures in Bundi, Rajasthan:

1. Empower Labor Management and Labor Management

- **Raise the Number of Staff:** Hire and deploy more nurses and ANMs to mitigate staffing pressures so that personnel have sufficient time to follow protocol correctly with every delivery.
- **Re-examine and refine workflow:** Integrate Prasav Watch in daily work functions in such a manner that as little effort as possible is spent, duplicating efforts between computerized and non-computerized documentation.

2. Increase Technical and Infrastructure Support

- **Enhance Technical Support:** Put in place other systems of quick and efficient technical support (e.g. dedicated technical support helpline or on-site IT support) so that any technical issue that arises is quickly fixed.
- **Stable and High-Speed Internet:** Invest in infrastructure to ensure that there is good and fast Internet access in all maternity facilities with minimal risks caused by connectivity issues.
- **Periodic Check and Maintenance:** Establish a regular check and maintenance of the tablets, and other hardware supporting devices and structures to ensure minimal breakdown during a crucial clinical situation.

3. Ease and Facilitate Documentation

- **Lighten Documentation Slog:** streamline forms and eliminate duplicative data entry requirements, perhaps through further streamlining Prasav Watch with pre-existing health information systems.

- **Designate Support Staff at Peak Delivery Hours:** Dedicate staff resources or provide respite during high delivery times so that they may help with the data entry and protocol adherence.

4. Constant Training and Professional Progress

- **Regular Refresher Training:** This should be in the form of regular refresher training of all cadres on the technicalities of the concept of Prasav Watch as well as the clinical reasoning behind the protocols.
- **Peer Learning and Team Collaboration:** Build a culture of collaboration by meeting at regular interval and participate in knowledge-sharing by using peer support groups to address problems and solutions.

APPENDIX

INSTRUMENTATION

INFORMED CONSENT FORM FOR PARTICIPANTS

STUDY TITLE:

Barriers and Facilitators Influencing Healthcare Worker's Adherence to Prasav Watch Monitoring Protocols in Bundi, Rajasthan

Investigator:

Amisha Awasthi

IIHMR Delhi

Purpose of the Study:

You are invited to participate in a research study aimed at identifying the factors that hinder or support healthcare workers in following the Prasav Watch monitoring protocols during childbirth. The results will help develop strategies to improve adherence and enhance maternal and newborn care.

Procedures:

If you choose to participate, you will be asked to complete a structured questionnaire. The survey will include questions about your experiences, challenges, and enablers related to using Prasav Watch. It will take approximately 20–30 minutes of your time.

Voluntary Participation:

Participation is completely voluntary. You are free to decline participation or withdraw from the study at any time, without any consequences to your job or role.

Confidentiality:

All the information you provide will remain confidential. Your responses will be anonymized and used solely for research purposes. No personal identifiers will be disclosed in any reports or publications.

Consent Statement

I have read the information above and understand the purpose and nature of this study. I voluntarily agree to participate and understand that I may withdraw at any point without any penalty. I consent to the use of my anonymized responses for academic research purposes

Date: _____

Researcher's Name & Signature: _____

QUESTIONNAIRE

BARRIERS AND FACILITATORS INFLUENCING HEALTHCARE WORKER'S ADHERENCE TO PRASAV WATCH

Dear Participant,

I am Amisha Awasthi, a Post Graduate student at IIHMR Delhi,
currently conducting a research study as part of my dissertation titled:
Barriers and Facilitators Influencing Healthcare Worker's Adherence
to Prasav Watch Monitoring Protocols in Bundi, Rajasthan.

Purpose of the Study:

You are invited to participate in a research study aimed at identifying
the factors that hinder or support healthcare workers in following the
Prasav Watch monitoring protocols during childbirth. The results will
help develop strategies to improve adherence and enhance maternal
and newborn care.

- Your participation in this study is completely voluntary.
- You are free to withdraw from the study at any point, without any
consequences.
- The information collected will be kept strictly confidential and
used only for academic and research purposes.

- No personally identifiable information will be shared or published.

By continuing to fill out this form, you are providing your informed consent to participate in this study.

Section 1: Demographic Information

1. What is your profession?

- (a) Doctor
- (b) Nurse
- (c) ANM
- (d) Other (please specify)

2. How many years of experience do you have in maternal and newborn care?

- (a) <1 year
- (b) 1-3 years
- (c) 4-6 years
- (d) >6 years

3. What type of healthcare facility do you work in?

- (a) Government hospital
- (b) Private hospital
- (c) Community health center

(d) Other(please specify)

4. Have you received formal training on Prasav Watch monitoring?

(a) Yes

(b) No

5. If yes, how was the training provided?

(a) Workshop

(b) Online module

(c) On-the-job training

(d) Other (please specify)

Section 2: Awareness and Knowledge

6. How familiar are you with Prasav Watch monitoring protocols?

(a) Very familiar

(b) Somewhat familiar

(c) Not familiar

7. Do you believe Prasav Watch monitoring is important for maternal and newborn health?

(a) Yes

(b) No

(c) Not sure

8. Do you have access to guidelines or reference materials on Prasav Watch monitoring?

(a) Yes

(b) No

Section 3: Adherence to Prasav Watch Monitoring

9. How often do you follow Prasav Watch monitoring protocols during deliveries?

(a) Always

(b) Often

(c) Sometimes

(d) Rarely

(e) Never

10. What factors influence your ability to adhere to Prasav Watch protocols? (Select all that apply)

(a) Availability of equipment

(b) Workload

(c) Training

(d) Support from senior staff

(e) Patient cooperation

(f) Other (please specify)

11. Do you face challenges in documenting or recording Prasav Watch data?

(a) Yes

(b) No

Section 4: Barriers to Adherence

12. What are the main obstacles to following Prasav Watch monitoring protocols? (Select all that apply)

- (a) Lack of training
- (b) Lack of staff
- (c) Equipment unavailability
- (d) Time constraints
- (e) Patient refusal
- (f) Lack of management support
- (g) Other (please specify)

13. How often do you experience technical issues with Prasav Watch?

- (a) Always
- (b) Often
- (c) Sometimes
- (d) Rarely
- (e) Never

14. Do you feel there is sufficient administrative support for implementing Prasav Watch monitoring?

- (a) Yes
- (b) No
- (c) Not sure

Section 5: Facilitators to Adherence

15. What factors help you adhere to Prasav Watch protocols? (Select all that apply)

- (a) Proper training
- (b) Availability of resources
- (c) Supportive work environment
- (d) Recognition or incentives
- (e) Effective teamwork
- (f) Other (please specify)

16. What improvements would help increase adherence to Prasav Watch monitoring in your facility?

- (a) More training programs
- (b) Increased staffing
- (c) Better equipment availability
- (d) Stronger administrative support
- (e) Other (please specify)

Section 6: Suggestions and Feedback

17. Do you have any suggestions for improving Prasav Watch implementation in your healthcare facility?

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18. Would you be willing to participate in further studies on improving maternal and newborn health interventions?

(a) Yes

(b) No

THANK YOU FOR YOUR TIME AND COOPERATION.

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