

USER EXPERIENCE OF PRASAV WATCH APPLICATION IN THE RAJASTHAN STATE

Dissertation submitted to



The IIHMR University, Jaipur

for the partial fulfilment for the award of the degree of Master of
Business Administration (MBA)

in

Hospital and Health Management

by

Dr Pooja

Under the Supervision and Guidance of

Dr Goutam Sadhu

2022

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DECLARATION BY STUDENT

I hereby declare that this dissertation titled “**User experience of Prasav Watch application in the Rajasthan state**” 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 Information derived from the published or unpublished work of others has been duly acknowledged in the text.



(Signature)

Name of the student: Dr Pooja

Date:

CERTIFICATE

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INTERNSHIP CERTIFICATE

Letter No:Admin/ 2022-23/22

Date : June 30, 2022

This is to certify that **Dr. Pooja** a student of MBA, HHM, IIHMR University, Jaipur, India (batch 2020-2022), has completed an internship at **Khushi Baby** from May 13 to June 30, 2022.

During her internship, Pooja worked under a digital intervention project titled "Intrapartum/labor Room digital Monitoring and Decision Support Tool", (a.k.a. Prasav Watch), being implemented by DMHFW, GoR in technical support of Khushi Baby. Under this project, Pooja conducted a study titled "User Experience on Prasav Watch Application in the Rajasthan State" wherein she tried to understand experiences and challenges towards adaptability of Prasav Watch platform by Health Workers.

During this internship, we have found Pooja hardworking, timbound and sincere. We wish her success in her future endeavours.

DocuSigned by:
A handwritten signature in blue ink that reads "Mohammed Shahnawaz".
C1 D6407A9D3147C

Mohammed Shahnawaz

COO, Khushi Baby

Khushi Baby
6016 Louis Way, El Dorado Hills, CA, 95762, USA
123 Kharol Colony, Fatehpura, Udaipur, 313001, Rajasthan, India
admin@khushibaby.org, +1 281 725 8062, +91 9001469934
www.khushibaby.org

CERTIFICATE

This is to certify that dissertation titled “User experience of Prasav Watch application in the Rajasthan state” is a record of the research work undertaken by Dr Pooja in partial fulfillment of the requirements for the award of the degree of MBA (Hospital and Health Management) from the IIHMR University, Jaipur under my guidance and supervision and his/her approach to the research study has been sincere, scientific, and analytical.

Faculty Guide

IIHMR University, Jaipur

Date

ACKNOWLEDGEMENTS

I would like to express my deep gratitude to my guide Dr Goutam Sadhu, Professor, IIHMR University for her stimulating guidance, instructions, and continuous encouragement for the completion of my dissertation.

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Finally, my deep and sincere gratitude to my family for their continuous and unparalleled love, help and support. I am grateful to my friends for always being there for me. Thank you for encouraging me in all my pursuits and inspiring me.

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Abbreviations

- **MMR:** Maternal Mortality Rate
- **NMR:** Neonatal Mortality Rate
- **SRS:** Sample Registration System
- **UNICEF:** United Nations Children's Fund
- **NFHS:** National Family Health Survey
- **ASMAN:** Alliance for Saving Mothers and Newborns
- **USAID:** The United States Agency for International Development
- **DMHFW:** Department of Medical Health and Family Welfare
- **UX:** User experience
- **PV:** Per vaginal
- **PNC:** Post Natal Care
- **WHO:** World Health Organisation
- **SCC:** Safe Childbirth Checklist
- **GoI:** Government of India
- **TSP:** Technical Support Partner
- **TAM:** Technological Acceptance Model
- **SDA:** Safe Delivery App
- **IU:** Intention to Use
- **CDSS:** Clinical Decision Support System
- **HIS:** Health Information System
- **LR:** Labour Room
- **PHC:** Primary Health Centre
- **CHC:** Community Health Centre
- **SDH:** Sub-divisional Hospital
- **DH:** District Hospital
- **MH:** Maternal Health
- **JSY:** Janani Suraksha Yojana

ABSTRACT

Background: Over the years, the Maternal Mortality Ratio (MMR) of India has been decreased from 130 per 100,000 live births in SRS 2014-16 to 113 per 100,000 live births in SRS 2016-18. For Rajasthan, the Maternal Mortality Ratio (MMR) has been decreased from 199 per 100,000 live births in SRS 2014-16 to 164 per 100,000 live births in SRS 2016-18. While comparing NFHS-5 with NFHS-4 for Neonatal Mortality Rate (NMR), it has been reduced from 29.5 to 24.9 per 1,000 live births for India and 29.8 to 20.2 per 1,000 live births for Rajasthan. The Rajasthan state is contributing significantly to India's burden of maternal and neonatal deaths. To improve this condition of maternal and neonatal deaths, the Government of Rajasthan had launched an application to monitor intrapartum and postpartum events and decision support tool named Prasav Watch.

Objectives: The objective of the study is to understand the user experience of Prasav Watch application with the understanding of the behaviours, motivations and needs of Labour room staff and the comparison of the feasibility of paper based filling and digitally filling of case sheet in Labour room staff

Methodology: This study is observational cross-sectional study which is conducted in all facilities level like PHC, CHC, SDH and DH of Rajasthan state. The study population chosen for this study is labour room service providers. For the study purpose a structured questionnaire has been prepared which is being used for conducting the interviews

Result: The ease of use is very good according to the 60 percent of the respondents and 80 percent of the respondents thinks that it helps in decision making and they can use it as decision support tool while filling the case sheet. 80 percent of the respondents think that this application help them in decision making and enhance their performance while doing the cases and the motivation factor for them is the decision support tool and the motivation factor for the labour room staff for using this application is the decision support tool. The behaviours of the respondents to use Prasav watch application in terms of time consumption is positive and 78 percent of respondents agreed upon that the time spend using Prasav Watch application in the labour room is acceptable. While 22 percent of the respondents disagree

with that. They think that filling the real-time case sheet in the labour room hinders their work and service provision in the labour room.

Conclusion: The usefulness of Prasav Watch is very high if users start using it in a systematic way. There are several barriers too in acceptability of this application as reported by the respondents which includes staff shortage, time constraints, patients urgency for the discharge, internet connectivity issues and sometimes technical glitches in the application. This platform collects real-time and high-quality data during peripartum period with improved decision making which consequently affects maternal and neonatal outcomes.

Chapter 1: Introduction

Maternal health is the health of women throughout pregnancy, childbirth and the postnatal period. Safe motherhood and childbirth are the rights of every pregnant woman and it depends on the care that pregnant women receive during pregnancy and while childbirth. In India each year, there are approximately 25 million children born and it accounts of approximately one fifth of the annual child births worldwide. According to the report of UNICEF, one of those babies dies every minute.

Over the years, the Maternal Mortality Ratio (MMR) of India has been decreased from 130 per 100,000 live births in SRS 2014-16 to 113 per 100,000 live births in SRS 2016-18. For Rajasthan, the Maternal Mortality Ratio (MMR) has been decreased from 199 per 100,000 live births in SRS 2014-16 to 164 per 100,000 live births in SRS 2016-18. While comparing NFHS-5 with NFHS-4 for Neonatal Mortality Rate (NMR), it has been reduced from 29.5 to 24.9 per 1,000 live births for India and 29.8 to 20.2 per 1,000 live births for Rajasthan. As we can interpret from the above data that there has been significant improvement but still there is a long way to go. The state of Rajasthan is contributing significantly to India's burden of maternal and neonatal mortality rates. The life of millions of women in the reproductive period group has been a worldwide concern for decades. The period of the labour or first 24 hours after birth is very crucial for maternal health and neonatal health. According a report by UNICEF, near about 46 percent of all maternal deaths and 40 percent of all neonatal deaths occur during the period of labour or the first 24 hours after birth. To improve this condition of maternal and neonatal deaths, the Government of Rajasthan had launched an application to monitor intrapartum and postpartum events and decision support named Prasav Watch application.

The Prasav Watch application was launched in April 2021 after the rebranding of the ASMAN application. The ASMAN programme was launched in 2017 with the goal of reducing early maternal and new-born mortality through the adoption of technology and the development of provider capacity to improve the standard of care during the peripartum period. From 2017 to 2020, this platform underwent a pilot programme in four areas in the states of Madhya Pradesh and Rajasthan. This application has been supported by Tata trusts, Reliance Foundation, the Bill and Melinda Gates Foundation, MSD for Mothers and USAID

with Jhpiego as a technical implementation agency. Presently, this application has been owned by the DMHFW under the Nirogi Rajasthan campaign and Khushi Baby is the technical support partner. The department had planned to roll out this application at 360 high load delivery facilities in the state of Rajasthan during the year 2021-22.

Our study aim to know about the user experience of Prasav watch application, amongst the labour room staff in Rajasthan, India. In the User experience (UX) of Prasav watch, we aim to discover the behaviours, motivations and needs of the labour room staff through observation and interaction with the staff and by gathering their cumulative user feedback.

Implication of the study

The study will help in improving the usage of Prasav Watch application to monitor maternal health and give decision support to users and we will be able to give users the best solution as we can understand from this study exactly what they need. In the coming years, the DMFHW, Rajasthan has planned to roll out this application at 360 high load delivery facilities in the state of Rajasthan and this study will be going to way forward for that.

The ultimate goal behind this study is to reduce maternal deaths and neonatal deaths by providing quality care in the labour room.

PRASAV WATCH

It is a digital tool developed by different development partners and was given the name ASMAN and key stakeholders were the Government of Rajasthan and Madhya Pradesh. After the ownership by DMHFW, it was named Prasav Watch. It is a tablet-based application to monitor intrapartum and postpartum events and provide decision support which is intended for informed decision-making by the labour room service provider. The users of this application are labour room service providers. This tablet based application records information about women who are admitted for delivery in the healthcare facility at various points from admission until discharge. The most important information to record in the application is the patient's demographic information, primary assessment, obstetric and medical history information, investigations, general examination, abdominal examination, and PV examination. Next, delivery notes are taken, followed by post-delivery and PNC monitoring (three days in the case of a normal or assisted delivery and seven days in the case of a Caesarean), referral, and discharge notes in the chart. In this, there is also the inclusion of the WHO Safe Childbirth Checklist (SCC).

The objective to use this application is to deliver innovative solutions by allowing provider training which helps in improving performance and leading to improving adherence to effective clinical practices during intrapartum and immediate postpartum care. This is achieved by effective technology-driven competency building and standardization. With the help of this application, can guide the service providers for effective clinical practice for intrapartum and postpartum care with dashboards to analyse their performance. The goal is to reduce neonatal mortality and maternal mortality through innovative facility-based interventions which enable the provision of quality care during and immediately after childbirth. This app helps in tracking the maternal health care services along with providing support in decision-making to healthcare workers.

Prasav Watch application has following components:

- **Case Management:** It is a digital case sheet that is used from the time of admission until discharge. In the case sheet are clinical regulations such as admission notes, an electronic partograph, the Safe Childbirth Checklist, delivery notes, post-delivery

monitoring, post-natal care, discharge slips, and referral slips are incorporated. Notifications and alerts are also included in this.

- **Dashboard:** It is a dashboard created by the system that enables managers at the state, district, and health facility levels to get data from Prasav Watch.
- **Registers and Reports:** Prasav Watch data can be submitted to the appropriate health facilities, districts, and state-level management via system-generated registers and reports.
- **Training module:** All GoI training materials, policies, and tutorials are contained in this section of Prasav Watch and may be accessed in audio, video, or written form in either English or Hindi.
- **Games:** A case-based game called Prasav Watch Complication Management was created to help health professionals enhance the management of intrapartum, immediately postpartum, and postnatal complications while also honing their critical thinking abilities in relation to safe childbirth. This section is not active presently.
- **Safe delivery app:** This section of the Prasav Watch platform, provides the labor room with immediate access to the most recent clinical recommendations on emergency obstetrics and newborn care. This section is not active presently.
- **Remote support centre:** When the obstetricians and senior nurses at the district referral hospital, who work around-the-clock, are unable to effectively manage a case, the remote support centre offers assistance. The personnel at the remote assistance system have access to every case where an expert opinion was requested. This section is also not active presently, but the DMHFW is planning to activate this section.
- **Notifications and alerts:** In this application, based on the condition of mother and new-born alerts and notifications are being generated.
- **e- Partograph:** As suggested by WHO, there is digital and graphical representation of labor using essential parameters
- **Data capturing and data analysis:** In this application, data is captured through digitized case sheet which is being used at various stage of labor and data analysis is being done through simple and complex calculations which is presented on the dashboard



Figure 1.1: Prasav Watch application



Figure 1.2: Main interface of Prasav Watch application

Chapter 2: Review of Literature

S No	Authors	Study location	Salient features
1.	Acceptability and Barriers to Use of the ASMAN Provider-Facing Electronic Platform for Peripartum Care in Public Facilities in Madhya Pradesh and Rajasthan, India: A Qualitative Study Using the Technology Acceptance Model-3 <i>Gulnoza Usmanova , Ashley Gresh, Megan A. Cohen, Young-Mi Kim, Ashish Srivastava, Chandra Shekhar Joshi, Deepak Chandra Bhatt, Rachel Haws, Rajni Wadhwa, Pompy Sridhar, Nupur Bahl, Pratibha Gaikwad and Jean Anderson</i>	Public health facilities in Rajasthan state and Madhya Pradesh state	• To ensure the effectiveness, user-friendly and sustainability of ASMAN platform, outstanding investments and efforts have been made. • The ASMAN application has high general acceptability, perceived usefulness and ease of use. • There are few barriers in acceptance of mobile health application reported by the respondents like shortages of staff, time constraints and urgency of patients etc.

2.	Health workers' experiences with the Safe Delivery App in West Wollega Zone, Ethiopia: a qualitative study <i>Camilla Faldt Thomsen, Anne Marie Frokiaer Barrie, Ida Marie Boas, Stine Lund, Bjarke Lund Sorensen, Feyisa Gudeta Oljira and Britt Pinkowski Tersbo</i>	The study was conducted in 5 districts of Ethiopia.	• The perceived usefulness of the SDA (Safe Delivery App) amongst the healthcare workers is high. The safe delivery app (SDA) helps the healthcare workers to memorize and update their knowledge and skills. Also the confidence level of the healthcare workers has been improved with this application • The safe delivery application improves the health workers ability to manage the complications during childbirth • With the help of this application, the health workers have gained trust within the communities and their recognition has been increased • The Safe Delivery App (SDA) has received positive feedback from healthcare professionals, which suggests that mHealth tools that offer visual learning videos and training materials may be a viable option for enhancing the knowledge and abilities of healthcare professionals working in remote locations.
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3.	Evaluating clinicians' user experience and acceptability of LearnTB, a smartphone application for Tuberculosis in India <i>Tripti Pande, Kavitha Saravu, Zelalem Temesgen, Al Seyoyum, Shipra Rai, Raghuvendra Rao, Deekshith Mahadev, Madhukar Pai, Marie-Pierre Gagnon</i>	Kasturba Hospital, Manipal, India	• In India, there are a lot of network issues and data usage concerns. So, mHealth applications need to consider this factor for better usage of the application • This LearnTB application has positive IU, and for public use, further development can be encouraged.
4.	Comparing Paper-based with Electronic Patient Records: Lessons Learned during a Study on Diagnosis and Procedure Codes <i>Jürgen Stausberg, Priv-Doz Dr med, Dietrich Koch, Josef</i>	Review article	• It was discovered that the paper-based record system had not yet been completely replaced with the electronic patient record. In addition, electronic documentation frequently replaces paper-based records systems. • If paper-based and electronic patient records are used concurrently, there may be inconsistencies in the reporting of medical records.

	<i>Ingenerf, Dr Rer Nat, Michael Betzler, Prof Dr Med</i>		The ultimate objective is to integrate all data into a single, widely used electronic record system.
5.	The effectiveness of mobile-health technologies to improve health care service delivery processes: a systematic review and meta-analysis <i>Caroline Free, Gemma Philips, Louise Watson, Leandro Galli, Lambert Felix, Phil Edwards, Vikram Patel, Andy Haines</i>	Systematic review and meta-analysis	- To firmly establish the effects of optimised mobile health care provider treatments on clinically significant concerns over the long term, high quality trials are required. - There may be slight advantages in concerns with accurate clinical diagnosis and management given via application software, however there were conflicting results for outcomes in medical processes including the length of time required, the accuracy of reports, or warning scores.
6.	Effects of clinical decision-support systems on practitioner performance and patient outcomes: a synthesis of high-quality systematic review findings <i>Monique W M</i>	Systematic review	- Preventive care reminder systems and drug prescription systems are the most blatant examples of how (clinical decision support system) CDSS can positively impact healthcare providers' decision-making and performance. - The studies are less positive for diagnostic CDSS (Clinical decision support system)

	<i>Jaspers, Marian Smeulers, Hester Vermeulen, Linda W Peute</i>		
7.	Association Between the Safe Delivery App and Quality of Care and Perinatal Survival in Ethiopia: A Randomized Clinical Trial <i>Stine Lund, Ida Marie Boas, Tariku Bedesa, Wondewossen Fekede, Henriette Svarre Nielsen, Bjarke Lund Sorensen</i>	This study was conducted in 5 rural districts of Ethiopia and 73 health care facilities	• The Safe Delivery App (SDA) was shown to be related with a non-significant lower perinatal mortality of 14 per 1000 births in clusters with interventions compared to 23 per 1000 births in control clusters, according to the study's findings. • After 6 and 12 months from the baseline, the skill scores of healthcare personnel in intervention-affected facilities considerably improved in comparison to those of controls.
8.	Simple and Efficient Measurement of the User Experience in Health Information Systems: A Persian Version <i>Arefe Heshmati, Nazila Moftian, Peyman Rezaei-</i>	Review article	• User experience (UX) is a key criterion for assessing if a health information system (HIS) or application has garnered enough positive user feedback. • The user's judgement should begin before utilising a new system or application. • A user experience questionnaire provide us the feature to rapidly evaluate the experience of user

	<i>Hachesu, Taha Samad-Soltani</i>		for the application and each health related information system
9.	Effects of Computerized Clinical Decision Support Systems on Practitioner Performance and Patient Outcomes: A systematic review <i>Amit X. Garg, Neill K. J. Adhikari, Heather McDonald</i>	Systematic review	• The Computerised Clinical Decision Support System improves practitioner performance in many cases. • But effect on the patient outcomes remain understand till date according to the study and when studied, it is inconsistent
10.	Using a modified technology acceptance model to evaluate healthcare professionals' adoption of a new telemonitoring system <i>Marie Pierre Gagnon, Estibalitz Orruno, Jose Asua, Anis Ben Abdeljelil, Jose Emparanza</i>	This research was done as part of a Basque Country clinical trial for home telemonitoring (Spain).	• According to this survey, healthcare professionals generally accepted telemonitoring systems. • This study showed that the most important factor that appears to affect healthcare workers' acceptance of an application or a digital system is the perception of a suitable organisational infrastructure, training, and support.

Chapter 3: Methodology

Research Question

What is the user experience of Prasav watch application amongst the Labour room staff of Rajasthan state of India?

Objective

- To understand the user experience of Prasav watch application amongst the Labour room staff
- To compare the feasibility of paper based filling and digitally filling of case sheet amongst the Labour room staff.
- To understand the behaviours, motivations and needs of Labour room staff

Study design

This study is observational cross-sectional study.

Study area

It was conducted in all the facilities level like PHC, CHC, SDH and DH of Rajasthan state of India within 6 district of Rajasthan.



Study population

The study population of this study was Labour room service providers

Inclusion criteria: Labour room staffs who are using Prasav Watch application at their facility in Rajasthan

Exclusion criteria: The facilities who are not using Prasav watch application in Rajasthan

Duration of the study

The study duration was from the month of May 2022 to June 2022.

Study approach

The qualitative assessment approach is being used in the study.

Sample Size

This study was done in a total of 7 facilities of Rajasthan state of India. So, based on convenience a total of 60 sample size of labour room service providers was taken who gave consent for the study.

There was some dropout from sample size because of unavailability and not picking up the call. So at last only 50 samples were interviewed and then analysis was done.

S No	District	Facilities	Sample population
1	Jaipur	PHC, Watika	5
2	Jaipur	PHC Hingonia	2
3	Udaipur	CHC Gogunda	14
4	Bhilwara	CHC Kotri	6
5	Jhalawar	CHC Bhawani Mandi	5
6	Ajmer	SDH, Krishangarh	6
7	Baran	DH, Rajkiya Jila Chikitsalya	12
		Total	50

Sampling technique

Purposive sampling technique is being used in this study.

Mode of data collection

A structured qualitative questionnaire was prepared to understand the user experience of Prasav Watch application. This questionnaire was prepared on the google forms and then at 2 facilities personal interviews and at rest facilities telephonic interviews were being conducted.

Statistical method used

In this study for analysis purpose of the data, descriptive statistics and MS Excel was used.

Operational definitions

- **Maternal Health:** Maternal health refers to the health of women during pregnancy, childbirth and the postnatal period.
- **Maternal Deaths:** The annual number of female deaths from any cause related to or aggravated by pregnancy or its management (excluding accidental or incidental causes) during pregnancy and childbirth or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, expressed per 100,000 live births, for a specified time period.
- **Maternal Mortality Ratio (MMR):** Number of maternal deaths during a given time period per 100,000 live births during the same time period. It depicts the risk of maternal death relative to the number of live births and essentially captures the risk of death in a single pregnancy or a single live birth.
- **Neonatal Mortality Rate (NMR):** Number of deaths during the first 28 completed days of life per 1000 live births in a given year or other period.

Chapter 4: Results

Table 4.1: Characteristics of the respondents and the facility

- **Median age of the respondents:** 42 years
- **Average duration from which users are using Prasav Watch application:** 6 months- 1 year

Characteristics	Types	No of respondents
Type of facility	PHC	7
	CHC	25
	DH	18
	Total	50
Average per month delivery load at facility level	PHC	56 deliveries per month
	CHC	95 deliveries per month
	DH	533 deliveries per month
Qualification of the respondents	10 th	5
	12 th	0
	Diploma	24
	Graduate	4
	Post graduate	3
	Total	50

User experience:

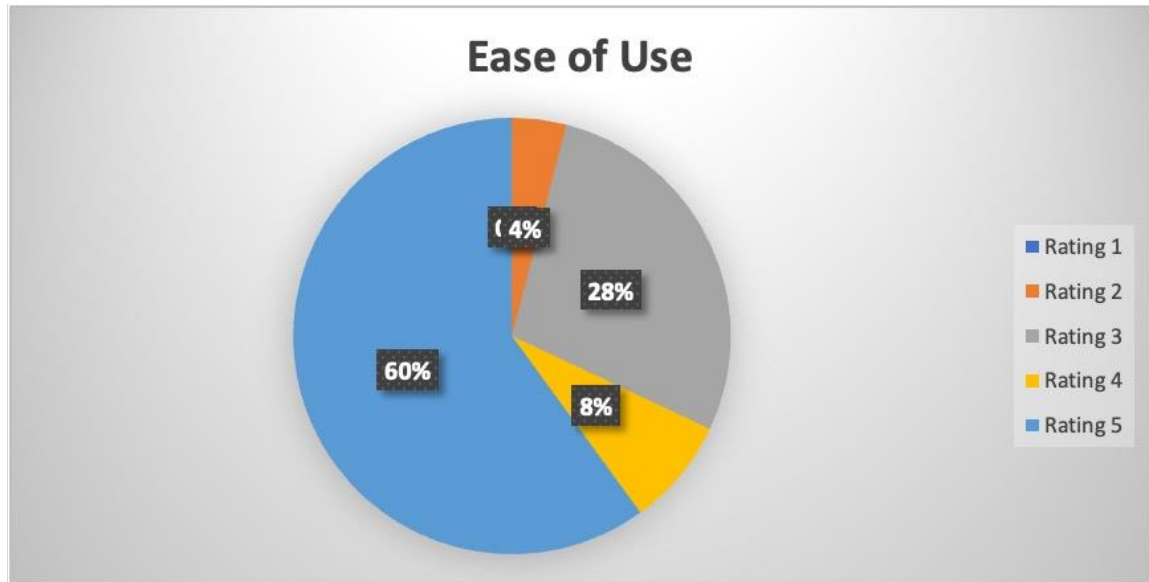


Figure 4.1: Rating by the respondents based on ease of use (N= 50)

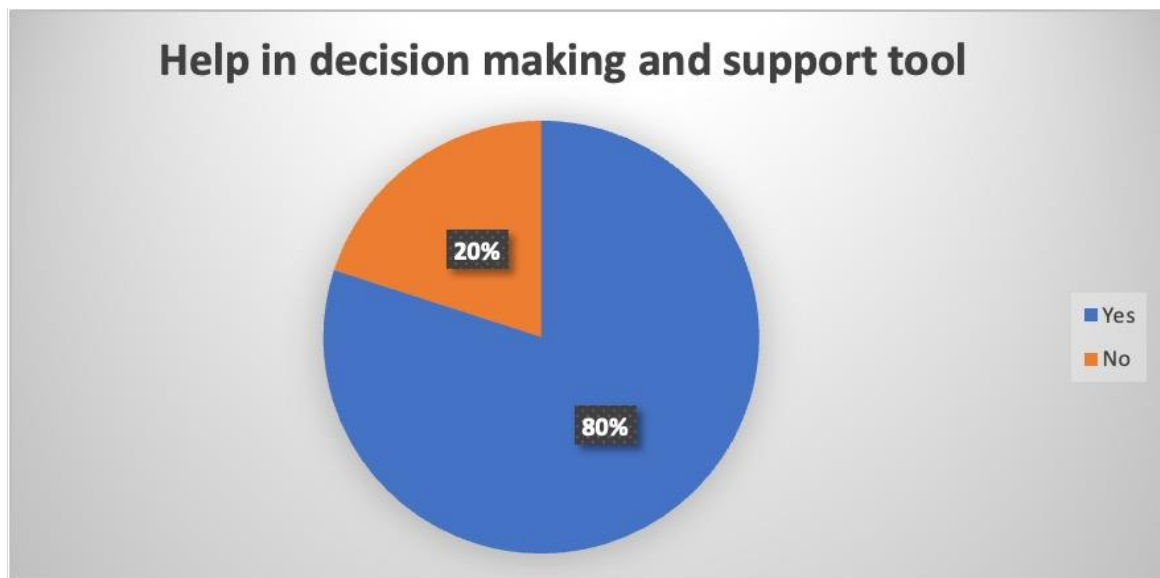


Figure 4.2: Showing whether Prasav Watch application helps the respondents in decision making and acts as support tool or not (N= 50)

Key points:

- From the figure 1.1, it is clearly evident that the usability of Prasav Watch application is high
- Though a very few respondents finds it difficult to use this application
- Figure 1.2 showing that this application helping 80 percent of the respondents in decision making and they can use it as decision support tool while filling the case sheet
- While 20 percent of the respondent doesn't agree with that this application provide them decision support tool.
- The most likely reason behind that is "Not filling the case sheet in real-time and doing the back log entries"

Comparison of the feasibility of paper based filling and digitally filling of case sheets amongst the Labour room staff

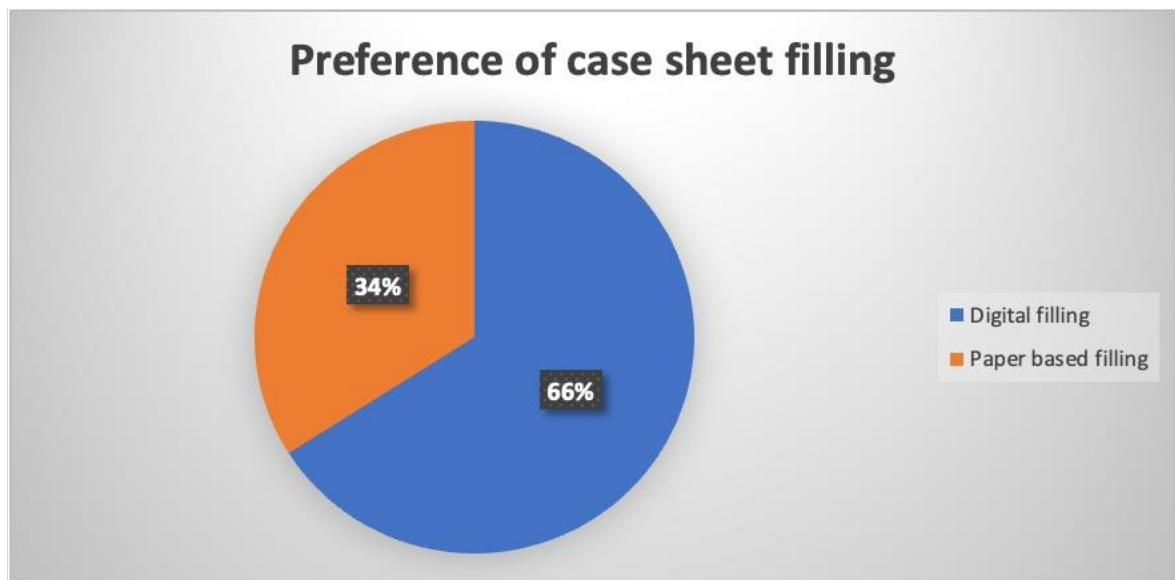


Figure 4.3: Preference of respondents for case sheet filling in the labour room (N=50)

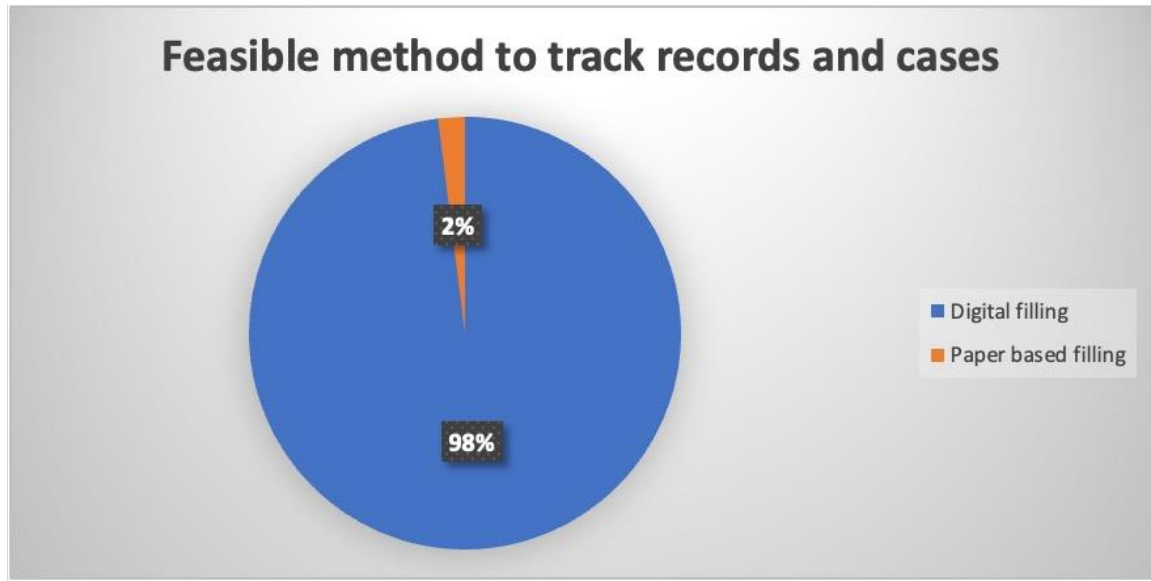


Figure 4.4: Feasible method to track records and cases according to the respondents
(N= 50)

Comparing paper filling and digital filling of case sheet in labour room:

- From the figure 4.3, it has been depicted that the 66 percent of the respondents prefer digital filling of case sheet over paper filling of case sheet in labour room while 34 percent of the respondents still prefer conventional paper based filling of JSY sheet in labour room
- Also, if we cross tabs it with age of the respondents, the respondents population who are choosing conventional paper based filling of JSY sheet in the labour room has the mean age of 49 years. This implicate that this population is non-technology friendly and does not want to change their conventional method.
- From the figure 4.4, the respondents clearly choose digital filling method over paper based filling of case sheet to track record and cases in the labour room

Behaviours, motivations and needs of Labour room staff

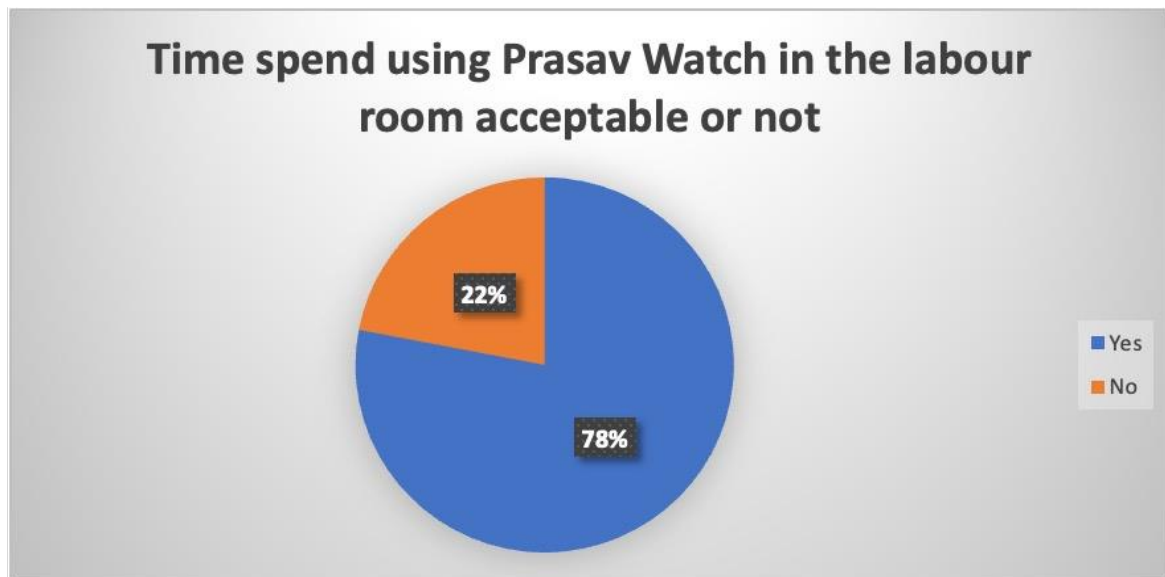


Figure 4.5: Acceptability of time spend by the respondents to use Prasav Watch application in the labour room (N= 50)

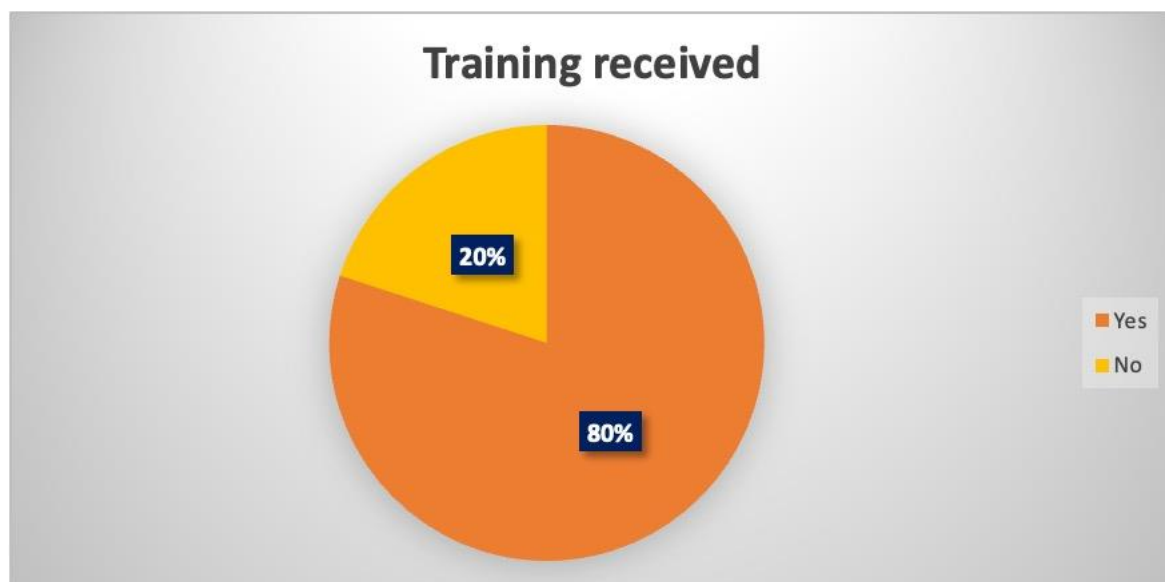


Figure 4.6: Training received by the respondents (N= 50)

Key points:

- Figure 4.5 shows that the behaviours of the respondents to use Prasav watch application in terms of time consumption is positive and 78 percent of respondents agreed upon that the time spend using Prasav Watch application in the labour room is acceptable.
- While 22 percent of the respondents disagree with that. They think that filling the real-time case sheet in the labour room hinders their work and service provision in the labour room.
- The motivation factor for the labour room staff for using this application is the decision support tool. 80 percent of the respondents think that this application help them in decision making and enhance their performance while doing the cases.
- Figure 4.6, depicted the need assessment, whether the respondents have received trainings to use this application. 80 percent of the respondents received trainings to use this application while 20 percent of the respondents are using this application without trainings.
- After analysing our response from the response sheet, the need assessment of the respondents can be done. Almost every respondent is facing some problem while using the application. Some of them are: Approximately one fifth of the staff is facing issue with the old staff name and staff is not update in the application, one fifth is facing internet connectivity issues or technical glitches, one fifth is facing problem with e-ticketing as the response time is too long and the rest are facing issue with difficulty in generating discharge slips

Chapter 5: Discussion

- The previous study on ASMAN application depict that the ASMAN application has high general acceptability, perceived usefulness and ease of use and after analysis result of this study it shows that the Prasav Watch application perceived ease of use is good but still one fourth of the respondents consider it as burden and face many problems while using this application
- The study of health workers experience with the safe delivery app shows positive feedback by health staff, and the study claims that this increases their capacity to handle difficulties during labour. The same result is shown with this study considering healthcare workers filling the real-time case sheet while doing the patients. The healthcare workers who are not using this application for real-time case sheet filling are not experiencing the benefits of using this application.
- A study of comparison of paper based with electronic patient records system depicts that the paper-based record system had not yet been completely replaced with the electronic patient record. Our study shows the same due to which the respondents are using both paper based and digitally filling of the case sheet. With addition to that the respondents thinks digitally filling of case sheet is better way to track records and cases.
- While conversing with the labour room staff during interview, many respondents said that, “We find Prasav Watch application easy to use but sometimes there are problems too.” They find it as extra burden as they have to do entries two times both in Paper based JSY case sheet and in Prasav Watch application.
- In few facilities, it has been found that there are shortage of staffs and the labour room staffs were not filling the case-sheet in real time instead they were piling up the case sheet by filling them manually. This creates a back log in the application and they would not be able to utilize the main feature of the application like decision support tool and e-partograph.
- The majority of respondents in the study preferred digital filling of case sheet but still few respondents want to stick with the conventional method of case-sheet filling. They consider it as extra burden instead of using it as monitoring and decision support tool

- The notifications and alert features are really helpful as said by few respondents. Also, e-partograph features deliver real-time decision support system, provide access to information for appropriate labour management in the labour room
- The staff who have left the facility still showing in the application while the staff who have joined recently are not showing in the application. This issue has been faced by many facilities that needed to be resolved.
- The labour staff told us about other problems too like difficult in printing discharge slip when there is patient urgency to get discharge, technical glitch due to which PNC data disappears, uptake of too much time in resolving the issue via e-ticketing.
- If we compare the utilization of application and attitude of labour room service providers at higher level facility like DH with lower level facility like PHC, the staff attitude of higher level facility is more positive towards the usage of this application and they are using all the features of the application. At the same time, the lower level facility staff are not well versed with few features like e-ticketing and decision support tool.

Besides all the problem, the labour room staffs show high level of acceptability for Prasav Watch application. The labour room staffs consider it an easy application to use which helps them to improve their ability to manage the complicated cases during childbirth. Though continuous monitoring and training of the new recruited staff need to be given at timely basis for its sustainability and long-term impact

Table 5.1: Comparison between PHC and CHC facility on the basis of usage of Prasav Watch application

S No.	Primary Health Centre (PHC Watika, Jaipur)	Community Health Centre (CHC Gogunda, Udaipur)
1.	The average monthly delivery load is approximately 70-80 deliveries per month	The average monthly delivery load is approximately 100-120 deliveries per month
2.	There are 2 staff nurses and 3 ANMs appointed in the labour room	There are 12 staff nurses appointed in the labour room
3.	There is no implementation partner at this facility. Though development partner had previously given the training and support to this facility	Development partner support the facility and helps in implementation at this facility. The staff is getting all the support and trainings on the regular basis by Jhpiego
4.	There is shortage of staff in labour room at this facility level hence according to the staff the Prasav Watch application hinders their service provision to the patients	The labour room staff appointed at this facility is appropriate hence no hinderance in service provision to the patients
5.	The labour room staff at this facility was not filling the real-time case sheet in Prasav Watch application Hence there were back log of case sheet piled up	The staff at this facility was filling the real- time case sheet in Prasav Watch application. There was no back log of case sheet at this facility
6.	The labour room staff at this facility prefers paper based filling of case sheets over digital filling of case sheets in Prasav Watch application	The labour room staff at this facility prefers digital filling of case sheets over paper based filling of case sheets in Prasav Watch application
7.	As the labour room staff at this facility was not filling the real- time case	As the labour room staff at this facility was filling the real-time case sheets,

	sheets, hence they are not using the decision support tool of the application	hence they were fully utilizing the decision support tool of the application
8.	The labour room staff at this facility were not aware of many features of the Prasav Watch application like e-ticketing and decision support tool	The labour room staff at this facility were very well versed with all the features of the Prasav Watch application
9.	As this is lower level facility, the labour room staffs were facing many problems like issue with the printer and internet connectivity	At this facility, there were not such issues. The only issue they were facing was some technical glitch in the application and they had to do the entries again
10.	Recommendation: The staff should be given the training for the usage of Prasav Watch application and they should be guided about how this application is useful in their decision making while doing the cases only if they fill real time case-sheets	Recommendation: The technical issues which the labour room staff were facing need to be resolved shortly and the labour room staff should be appreciated for their work by DMHFW.

Chapter 6: Conclusion

The Prasav Watch application is user-friendly and the users find it easy to use. We can say usefulness of Prasav Watch is very high if users start using it in a systematic way. There are several barriers too in acceptability of this application as reported by the respondents which includes staff shortage, time constraints, patients urgency for the discharge, internet connectivity issues and sometimes technical glitches in the application. The clinical decision support system, notification, alerts and e-partograph are really useful features of this application. Although e-ticketing needs some improvements in terms of response time. This platform collects real-time and high-quality data during the peripartum period with improved decision making which consequently affects maternal and neonatal outcomes.

Recommendations

- The staff should be sensitized and motivated about usage of application
- They should be guided about how this application is useful in their decision making while doing the cases only if they fill real time case-sheets.
- Based on the user experience, the applications module needs to be revised and their problems of technical glitches need to be resolved
- Improvement needs to be done on the ease of use as there are few users who find it difficult to use this app
- The training should be arranged for the labour room staff who have recently joined the facility
- There should be some inbuilt capacity building modules in the application for the labour room staff
- The features of the application like gamification and remote support centre need to be activated to provide support to the users
- The labour room staff who are using this application on a regular basis and doing the real-time case sheet filling need to be appreciated for their work by DMHFW

A way forward

This Prasav Watch application is presently used by 160 facilities of 11 districts in Rajasthan state and the DMFHW, Rajasthan had planned to roll out this application at 360 high load delivery facilities in the state of Rajasthan in coming years. So, understanding of user experience, behaviour and needs are really important to successfully roll out this plan.

Limitation of the study

- Due to lack of time and resources, it was not feasible to visit all the facility to conduct interview.
- There were some biasness in result as sometimes we need to use the leading questions, while interviewing the staff over telephone.

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Annexures

Ethical consideration

All the labour room service providers included in the study has provided their oral consent to participate in the study. They were being informed that their participation was voluntarily and they can choose not to answer any question if they want so.

Appropriate measure has been taken to ensure privacy and confidentiality of the health care service providers.

There is no conflict of interest in the study.

Informed consent (Oral) from the participants

नमस्ते। मेरा नाम डॉक्टर पूजा है।

संपर्क - PoojaXXXX@khushibaby.org, 9XXXXXXXXXX।

संगठन - खुशी बेबी

खुशी बेबी एक संस्था है जो कि राजस्थान सरकार को नोडल टेक्निकल सपोर्ट देती है। राजस्थान सरकार ने लेबर रूम में डिसिजन सपोर्ट और रियल टाइम मॉनिटरिंग के लिए प्रसव वॉच ऐप्लिकेशन का इस्तेमाल करने का निर्णय लिया है। क्या आप लबूर रूम में केस शीट भरने के लिए अपने लेबर रूम में प्रसव वॉच ऐप्लिकेशन का इस्तेमाल करते हैं? अगर हाँ, मुझे उसी से सम्बंधित आपसे कुछ सवाल करने हैं। क्या आप इस अध्ययन में भाग लेने के लिए सहमत हैं। अगर हाँ, तो इस अध्ययन से सम्बंधित जानकारी आपको विस्तार से प्रदान की जाएगी। आपके ध्यान में लाने के लिए, इस अध्ययन में भाग लेना पूरी तरह से स्वैच्छिक है और अध्ययन के किसी बिंदु पर यदि आप जारी नहीं रखना चाहते हैं तो आप अध्ययन से हटने के लिए स्वतंत्र हैं।

मैं आपको बता दूँ इस अध्ययन में मैं आपका सिर्फ ५ मिनट का समय चाहती हूँ। आपके द्वारा दिए गए सभी उत्तर गोपनीय रखे जाएँगे और ये किसी के साथ साझा नहीं किए जाएँगे। साक्षात्कार के दौरान यदि आपको कोई संदेह है या किसी बात के स्पष्टीकरण की आवश्यकता है तो बेझिझक मुझसे पूछें।

क्या मैं अभी साक्षात्कार शुरू कर सकती हूँ?

Consent for using image



फोटोग्राफर/ वीडियोग्राफर सहमतिपत्र

संस्था को जिस लाभार्थी की फोटो लेनी है/वीडियो बनाना है यदि उसकी उम्र 18 वर्ष से कम है तो फोटो लेने से पहले उसके माता पिता/ अभिभावक द्वारा सहमति ली जानी चाहिए।

प्रोजेक्ट/ संस्था नाम :

फोटोग्राफर/वीडियोग्राफर का नाम:

हस्ताक्षर..... दिनांक:

संस्थान *प, म. दिग्देश से भविष्य में फोटो व वीडियो टूट कर जाये लाये/ लाना/ मारपीट/ अभिभावक सचेत रहें

फोटो/वीडियो में व्यक्ति/ लाभार्थी का नाम.....

मैं खुशी बेबी संस्था को अपनी/उपरोक्त नामित आश्रित व्यक्ति की फोटोग्राफी व/या वीडियोग्राफी (मल्टीमीडिया सामग्री) लिए जाने की अनुमति प्रदान करता हूँ/करती हूँ। मैं समझता हूँ/समझती हूँ कि इसका एक मात्र उद्देश्य समुदाय की भागीदारी से आम जन स्वास्थ्य सेवाओं का सुदृढिकरण करना है।

मैं मेरे/आश्रित व्यक्ति की मल्टीमीडिया सामग्री का खुशी बेबी संस्था द्वारा भविष्य में कभी भी ऐसे विभिन्न उद्देश्यों से उपयोग किए जाने के लिए अनुमति प्रदान करता हूँ/करती हूँ जिससे आम जन स्वास्थ्य सेवाओं के सुदृढिकरण में सहयोग प्रदान हो जैसे प्रचार सामग्री, विभिन्न प्रकार के प्रकाशन, समाचार पत्र, डिजिटल मिडिया और पत्रिका के लेख।

मैं खुशी बेबी संस्था को यह अधिकार देता/देती हूँ, कि वे जब चाहें तब इन मल्टीमीडिया सामग्री का उपयोग केवल उपरोक्त लिखित उद्देश्यों कर सकते हैं।

मैं यह समझता/ समझती हूँ की इस मल्टीमीडिया सामग्री का उपयोग उपयुक्त और सम्माननीय तरीके से किया जायेगा। मैं इस बात की पुष्टि करता /करती हूँ की इस मल्टीमीडिया सामग्री को मेरी जानकारी और सहमति के बाद बनाया गया है और मुझे पूरा अधिकार दिया गया है कि मैं अपनी/अपने आश्रित की इस मल्टीमीडिया सामग्री को लेने या उपयोग करने के लिए इनकार कर सकता /सकती हूँ और ऐसा करने से मुझे मिलने वाली सेवा या सुविधा पर कोई भी प्रतिकूल प्रभाव नहीं पड़ेगा। मुझे समझ है कि इसके लिये मुझे कोई भी मुआवजा नहीं मिलेगा

लाभार्थी/अभिभावक नाम.....

पता

हस्ताक्षर दिनांक

Study tool- A structured questionnaire for the interview

Link: <https://forms.gle/MAYLCTo9NToHnPSc6>

User experience of Prasav Watch application

Prasav Watch application is a tablet based intrapartum and postpartum monitoring and decision support tool which is intended for informed decision making by the labor room service provider. This is a study to evaluate the user experience of LR staff in Labour room for Prasav Watch application

[Sign in to Google](#) to save your progress. [Learn more](#)

* Required

Do you give consent to be a part of this study? *

- ☐ Yes
- ☐ No

District *

Your answer

Type of facility *

- ☐ Medical college

Response sheet for the study participants of Prasav Watch application

Link:

<https://docs.google.com/spreadsheets/d/11Jqg854Q11iSaIroDWDjqV8DR0VilxxWdegoYgC6OHM/edit?usp=sharing>

Response sheet for user experience of Prasav Watch										
File Edit View Insert Format Data Tools Extensions Help Last edit was seconds ago										
100% \$ % 0.00 123 Arial 10 B I U A										
A24	23									
1	A	B	C	D	E	F	G	H	I	J
2	S No	Do you give consent to be a part of this study?	District	Type of facility	Name of the facility	Delivery load in the facility?	Name	Gender	Age	Education
3	1	Yes	Ajmer	SDH	SDH, Krishanga	400	Anonymous Female		35	Diploma
4	2	Yes	Jaipur	PHC	PHC, Watika	70	Anonymous Female		42	Diploma
5	3	Yes	Udaipur	CHC	CHC Gogunda	100	Anonymous Female		40	Post-graduation
6	4	Yes	Udaipur	CHC	CHC Gogunda	100	Anonymous Female		44	Graduate
7	5	Yes	Udaipur	CHC	CHC Gogunda	100	Anonymous Male		47	Graduate
8	6	Yes	Udaipur	CHC	CHC Gogunda	100	Anonymous Female		34	Diploma
9	7	Yes	Udaipur	CHC	CHC Gogunda	100	Anonymous Female		49	Diploma
10	8	Yes	Udaipur	CHC	CHC Gogunda	100	Anonymous Female		37	Diploma
11	9	Yes	Udaipur	CHC	CHC Gogunda	100	Anonymous Female		46	Diploma
12	10	Yes	Udaipur	CHC	CHC Gogunda	100	Anonymous Female		40	Diploma
13	11	Yes	Udaipur	CHC	CHC Gogunda	100	Anonymous Female		42	Diploma
14	12	Yes	Udaipur	CHC	CHC Gogunda	100	Anonymous Female		43	Diploma
15	13	Yes	Udaipur	CHC	CHC Gogunda	100	Anonymous Female		36	Diploma
16	14	Yes	Udaipur	CHC	CHC Gogunda	100	Anonymous Female		48	Diploma
17	15	Yes	Udaipur	CHC	CHC Gogunda	100	Anonymous Male		34	Diploma
18	16	Yes	Jaipur	PHC	PHC Hingonia	20	Anonymous Male		30	Diploma
19	17	Yes	Jaipur	PHC	PHC Hingonia	20	Anonymous Male		40	Diploma
20	18	Yes	Jaipur	PHC	PHC Watika	70	Anonymous Female		52	10th
21	19	Yes	Jaipur	PHC	PHC Watika	70	Anonymous Female		56	10th
22	20	Yes	Jaipur	PHC	PHC Watika	70	Anonymous Female		48	10th
23	21	Yes	Jaipur	PHC	PHC Watika	70	Anonymous Female		43	Diploma
24	22	Yes	Bhilwara	CHC	CHC Kotri	80	Anonymous Female		42	Diploma
25	23	Yes	Bhilwara	CHC	CHC Kotri	80	Anonymous Female		48	Diploma
26	24	Yes	Bhilwara	CHC	CHC Kotri	80	Anonymous Female		45	Diploma
27	25	Yes	Bhilwara	CHC	CHC Kotri	80	Anonymous Male		52	Diploma