eZazi

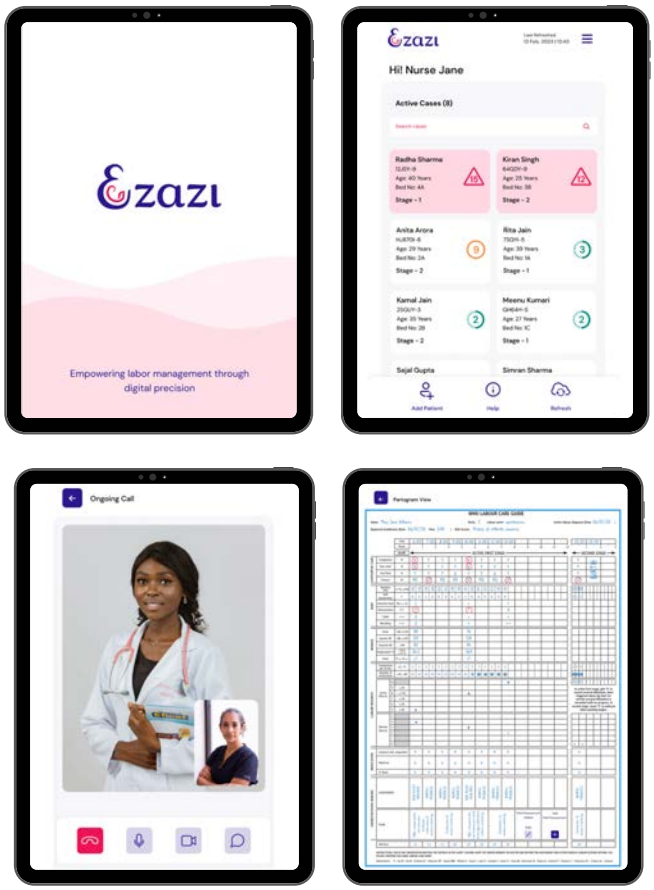
Usability and Perceived Usefulness of the eZazi Mobile Application for Labour and Delivery Monitoring

Intelehealth
April 2024

eZazi

The digital labor decision support system

Dramatically improve labor management, birth outcomes and provide high quality respectful maternity care



KEY FEATURES

Track progress of labor

Fully compliant with the WHO Labor Care Guide (2018) and new guidelines for intrapartum care that replace the Partogram

Risk scores, alerts & reminders

Easily triage patients with risk scores, alerts for abnormal readings. Identify areas of concern through visual and sound alerts.

Easy, accurate data entry

Drop down menus, voice to text, and many more features to reduce time for data entry. Reminders for timely data entry.

Collaborative tools & teleconsultations

Video, audio and chat consultations between remote providers and frontline health workers for shared decision making

Real time dashboards & interoperability

Monitor all labor cases at all hospitals through a central dashboard. Export data to surveillance systems or health information systems

Low cost, low bandwidth & offline

Works on low cost tablet and mobile devices. Records readings even when offline and syncs with a cloud server when internet is available

Skilled Birth Attendants using digital tools are more likely than those using paper to take action to maintain normal labor, such as ambulation, feeding, and fluid intake, and to address abnormal measurements of fetal well-being. They are more likely to be complaint with following evidence based guidelines for labor monitoring.

The use of digital tools for labor monitoring is associated with a 56% (95% CI 27%–73%) lower likelihood of suboptimal fetal outcomes (composite of FSB, early NND, Apgar 5 or below at 1 min, below 7 at 5 min, and newborn resuscitation need) than paper based tools.

Why eZazi?

+91 84475 43827

contact@intelehealth.org

WWW.INTELEHEALTH.ORG/CONTACT

Table of Contents

Background

The purpose of this study is to assess the perceived usability and usefulness of the eZazi mobile application in managing labour and adhering to WHO's intrapartum care guidelines while supporting clinical governance systems. This report presents the feedback and experiences of obstetrician-gynecologists (OB-GYNs) who reviewed the eZazi demonstration video. Through a mixed-method approach (quantitative and qualitative analyses), we explore the aspects of the eZazi application that doctors found most beneficial and identify areas that require refinement for enhanced usability and efficacy. The insights gathered from this evaluation will provide valuable guidance for further advancements and improvements in the eZazi application, ultimately promoting safe and effective labour care practices in alignment with WHO's latest guidelines.

The eZazi application is designed to improve labour management and enhance the quality of care provided to expectant mothers during childbirth. To ensure the application's effectiveness and user-friendliness, this assessment seeks to understand how well it meets the needs of doctors and skilled birth attendants. By adhering to WHO's intrapartum care guidelines, the eZazi application aims to support evidence-based decision-making and elevate the standards of clinical governance in labour care.

Methods

Study Design

The study used Key Informant Interviews (KIIs) to investigate the perceived usability and usefulness of the eZazi application among medical professionals. This audience was selected to understand the perspectives of leaders who would serve as clinical champions for eZazi in their healthcare facilities.

Sampling

Convenience sampling was chosen due to its practicality in accessing participants easily. We invited 11 clinical champions (OB-GYNs) from various medical facilities in our partner networks (UNICEF, MSF, Jhpiego, FOGSI, etc.), and eight agreed to participate.

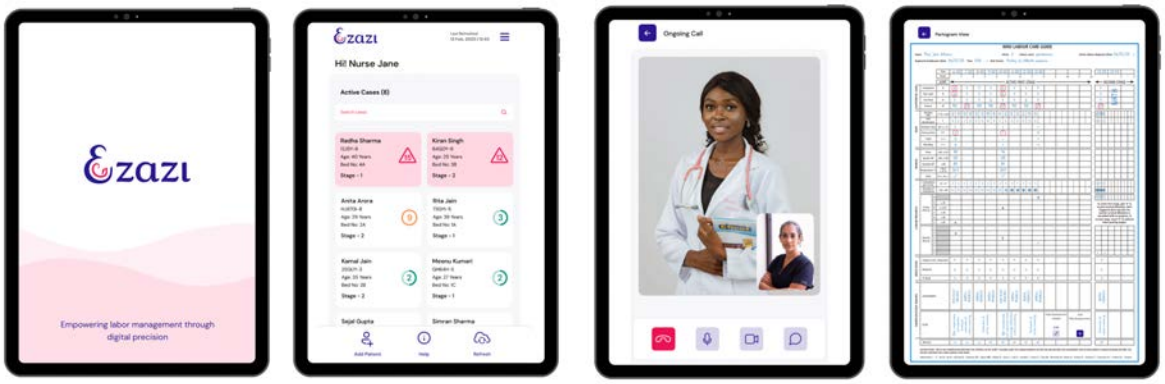
Data Collection

Data was collected through virtual interviews conducted via Zoom meetings. The virtual mode allowed flexibility in engaging with clinical champions from various locations.

The data collection process was structured to include three key steps. Firstly, a demonstration of the eZazi mobile application [midwife/Skilled Birth Attendant (SBA) portal] was presented to the participants, followed by a demonstration of the web application (remote OB-GYNs/Supervisors portal). This visual presentation aimed to provide participants with a comprehensive understanding of the application's features and functionalities (see screenshots of the application presented below).

Subsequently, participants were administered the structured questionnaire. The questionnaire covered multiple sections, such as usability, user interface design, workflow integration, and the

overall acceptability of the eZazi application. The participants' responses were gathered during the virtual interviews and recorded for further analysis.



Data Analysis

Quantitative and qualitative data from the software demonstrations and questionnaire were analyzed to comprehensively understand the participants' experiences and perspectives regarding the eZazi application.

Quantitative Analysis: Quantitative data from the questionnaire were subjected to a descriptive statistical analysis. This involved the calculation of percentages and frequencies to summarise the participants' responses effectively. Through this method, the distribution of opinions and experiences was quantified; however, due to the small sample size, these results are not representative.

Qualitative Analysis: Delving deeper into the insights shared by participating OB-GYNs, a qualitative analysis was conducted using a thematic approach. Thematic analysis, characterized by its systematic and iterative nature, was employed to identify recurrent themes and patterns embedded within the qualitative responses.

Results

Respondent profile

The respondents in this study had a balanced distribution of overall work experience as an OB-GYN. One-half (4, 50%) of the respondents had 3-15 years of experience, while the other half (4, 50%) had 16-30 years of experience. Further, the same distribution was found for experience in labour care and delivery. Half the participants (4, 50%) were using paper-based labour care guides or partograms, while the other half were not. All participants were aware of the WHO Labour Care Guidelines (LCG). All participants were considered to be clinical champions in their respective institutions.

Regarding training on using partograms and the new WHO LCG guidelines, (2, 25%) had received training on partograms only, while (6, 75%) had received training on both partograms and the new

WHO LCG guidelines. Among the respondents, (3, 37.5%) expressed the need for training on the latest WHO LCG guidelines, while (5, 62.5%) did not require additional training.

Section 1: General Feedback of Users about the eZazi Application

The general feedback from users regarding the eZazi application was predominantly positive, with (5, 62.5%) rating their overall experience as ***good*** and (3, 37.5%) as ***very good***. Additionally, (6, 75%) of the respondents found the app's user interface to be ***very understandable***, while (2, 25%) considered it ***somewhat understandable.*** Moreover, most users (6, 75%) found the eZazi application to be ***very useful*** in their work, with (2, 25%) stating it was ***somewhat useful.***

Qualitative Feedback from health providers on the eZazi Application:

Positive Feedback: The clinical champions provided positive feedback on several aspects of the eZazi application:

- Ease of Use: Doctors appreciated the application's user-friendly interface. They felt it was easy to navigate and interact with the application.
- Simplicity: Doctors/OB-GYNs appreciated the intuitive design and functionality of the app.
- Visualization: Doctors found the visual displays of the LCG and other information helpful in understanding labour progress and decision-making.
- Chat and Video: Including chat and video features enabled real-time communication and remote patient monitoring.
- Prioritization: Doctors commended the app's ability to prioritize cases based on risk profile, facilitating efficient patient management.
- Digital Printing: The feature of digital printing for the partogram streamlined documentation and record-keeping during labour care.
- Decision-making: The app captured crucial inputs for informed decision-making during labour.
- Data Capturing: Doctors found the ease of data capturing valuable for recording maternal and fetal well-being observations.

Areas for Improvement: The doctors also identified areas for improvement in the eZazi application:

- Layout (Font Size, Style, etc.): Adjusting font size and style to enhance readability was suggested.
- Terminology: Using more specific terminology, such as "doctor" instead of "provider," was recommended to avoid ambiguity.
- Multiple Data Points: Streamlining and organizing data inputs for ease of use, especially when tracking multiple data points, was advised.

- Task Shifting (Nurse): Standardising certain decisions, currently dependent on the nurses' judgment, could reduce discrepancies.
- Patient Communication Pathway: Improving patient communication and decision-making alerts, especially for medication prescriptions, was proposed.
- Smartphone Compatibility: Optimising the app for compatibility with a wider range of smartphones was emphasized.
- Limited Training: Additional hands-on experience and practical training were suggested to enhance app proficiency.

Section 2: Usability

The usability assessment of the eZazi application indicated that (3, 37.5%) of the respondents found it ***very easy*** to use, (4, 50%) found it ***somewhat easy***, and (1, 12.5%) expressed a neutral opinion.

Regarding instructions, (7, 87.5%) of the respondents found them ***very clear***, and (1, 12.5%) found them ***somewhat clear***.

The labels or icons used in the eZazi application were perceived positively, with (5, 62.5%) finding them ***very clear***, (2, 25%) finding it ***somewhat clear,*** and (1, 12.5%) expressing a neutral opinion.

However, while implementing eZazi in real-life situations, (7, 87.5%) of the respondents anticipated encountering difficulties, challenges, or barriers, with only (1, 12.5%) stating they would not experience any.

This section presents an analysis of the qualitative responses collected from the users with experiences and insights about the difficulties they expect to encounter while integrating the eZazi application into their daily workflows and about the potential areas for improvement.

Perceived Difficulties, Challenges, and Barriers in Implementing eZazi Application:

Several difficulties, challenges, and barriers to the implementation of the eZazi application were identified:

- Operational Challenges: High-risk situations and sudden events may require immediate attention, posing challenges while relying on the app. In high-volume settings with limited resources, effective app usage may be difficult. Connectivity issues in remote areas can hinder app usage for case referrals.
- Data Accuracy and Timeliness: Ensuring data accuracy during critical events and entering data in real-time pose challenges. Time constraints and scarce resources may lead to delays in data entry.

- Cultural Shift and Documentation Practices: Encouraging real-time data entry and transitioning from retrospective recording may require a culture change. Multiple patients being managed by one midwife/SBA may hinder consistent data entry.
- Interoperability and Multiple Staff Management: Smooth data sharing between healthcare providers is vital for effective collaboration and continuity of care.
- Unforeseen Challenges: Anticipating all potential difficulties during real-life implementation remains uncertain until the app is fully used.

Section 3: User Interface Design

The eZazi application received positive feedback on its visual appeal, with (7, 87.5%) finding it ***appealing*** and (1, 12.5%) finding it ***very appealing***. Regarding the design's alignment with its intended purpose, (6, 75%) found it ***very well***, (1, 12.5%) found it ***moderately***, and (1, 12.5%) found it ***perfectly*** matched its purpose.

Users generally found it easy to capture information in different sections of the application. In the patient registration section, (5, 62.5%) found it ***very easy***, and (2, 25%) found it **somewhat easy**. In the observation section, (6, 75%) found it ***very easy***, and (2, 25%) found it ***somewhat easy***. In the assessment and medicine section, (5, 62.5%) found it ***somewhat easy***, and (3, 37.5%) found it ***very easy***. Respondents found the clinical words used in the application to be familiar, with (7, 87.5%) finding them ***very familiar*** and only (1, 12.5%) expressing a neutral opinion. The logo used in the application was well-received, with (3, 37.5%) finding it ***very appealing***, (4, 50%) finding it ***somewhat appealing***, and (1, 12.5%) expressing a neutral opinion.

Users considered the font used in the eZazi application legible, with (4, 57.14%) finding it ***very legible***. Meanwhile, the remaining three users expressed various opinions, with ***neutral***, ***somewhat illegible***, and ***somewhat legible,*** each accounting for 14.29% of the font usage, indicating a relatively even distribution among these categories.

Regarding its impact on job easiness, (4, 50%) of respondents ***strongly agreed*** that the eZazi application would make their job easier, (3, 37.5%) ***somewhat agreed***, and (1, 12.5%) expressed a ***neutral*** opinion.

Regarding the usefulness of data captured by the eZazi application for remote assessment by clinical champions, (6, 75%) found it ***very useful***, and (2, 25%) found it ***somewhat useful***.

Resistance to using the eZazi application towards its adoption by intended users was reported by (1, 12.5%) as ***very likely***, (4, 50%) as ***somewhat likely***, (1, 12.5%) as neutral and (2, 25%) as **somewhat unlikely**.

Critical information required for informed decision-making about the patient and the labour care:

OB-GYNs identified the following items as critical information required for informed decision-making:

1. Identification of C-Section Process: The app should provide visual cues or indicators when a patient requires urgent attention and a possible C-section.
2. Multiple Fetal Heart Rates: Tracking multiple fetal heart rates is crucial for understanding fetal well-being and making informed decisions.
3. Determining High-Risk Patients: Additional indicators or algorithms are needed to identify high-risk cases even when vital signs appear normal.
4. Urgent Alarms for Doctors: The app should include urgent alarm features for sudden changes in patient conditions requiring prompt intervention.

OB-GYNs' feedback on the eZazi application's perceived usefulness:

The usefulness of the eZazi application was seen in various aspects:

1. Improved Decision-making and Supervision: The app facilitated remote supervision and evidence-based decision-making.
2. Workload Reduction and Stress Management: The app was anticipated to ease the workload and reduce stress related to patient conditions.
3. Enhanced Communication and Feedback: Remote follow-up and feedback features facilitated seamless communication and decision-making.
4. Data Storage and Backup: Data storage and backup capabilities were viewed as beneficial, ensuring data security.
5. Alerts and Real-time Information: Constant alerts and real-time information were valuable for timely interventions.
6. Impact on Nurses and Documentation: The app's impact on the documentation practices of nurses depended on facility-specific factors.
7. Ease of Information Access and Partogram Management: The app's ease of information access and partogram management streamlined processes.

Anticipated resistance and challenges in adopting eZazi application:

Potential resistance to the adoption of the eZazi application was anticipated for the following reasons:

1. Cost and Resource Concerns: Implementation costs and resource requirements may raise concerns from management.
2. Change in Process and Accountability: More senior staff and midwives may resist process changes and added accountability associated with digital documentation.
3. Workload and Post-Natal Care: Increased workload and switching between digital and paper documentation for post-natal care may cause resistance.

4. Tech Resistance and User Preferences: Not all healthcare providers may be interested in using the app, and some may prefer traditional pen-and-paper methods.
5. Challenges in Shifting from Paper-based Tool to eZazi Application: Shifting from paper-based tools to the eZazi app may pose challenges in terms of workload, work practices, capacity building, process changes, device availability, connectivity, culture change, time consumption, and existing digital partograms.

Section 4: Workflow

Users responded positively to the workflow integration of the eZazi application. Most users (5, 62.5%) felt that it fits ***somewhat well*** into their current day-to-day operations, and (2, 25%) found it to fit ***extremely well***. Only a small percentage (1, 12.5%) had a ***neutral*** opinion.

Regarding training time, (5, 62.5%) estimated that it would take 2-4 hours to get trained on the eZazi application, and (2, 25%) estimated 1-2 hours. A smaller proportion (1, 12.5%) estimated it would take more than 4 hours.

The eZazi application's impact on efficiency was well-received, with (5, 62.5%) of users believing it would ***significantly help*** them complete tasks more efficiently. Additionally, (2, 25%) thought it would help ***somewhat***, and (1, 12.5%) had a ***neutral*** opinion.

Users found the application valuable for providing data used in day-to-day operations, with (5, 62.5%) rating it ***very well***. For improving service quality through information retrieval, (3, 37.5%) rated it as ***very well***, 50% ***moderately***, and 12.5% as ***perfectly***.

The majority (7, 87.5%) found that the e-Zazi application made it ***easier*** to track and manage patient data, while (1, 12.5%) found it ***somewhat helpful*** for this purpose. Overall, users were satisfied with the eZazi application's workflow integration and the potential to improve efficiency in their work.

eZazi application customizations suggested by the doctors:

Doctors suggested several customizations for the eZazi application to enhance its functionality and usability. Here is a detailed breakdown of their suggestions:

- Time-limit Customization: Users should have the option to adjust time limits as needed for different tasks or assessments within the application.
- Comprehensive Data Collection: Collect more comprehensive data, including information about a woman's married life and past pregnancies.
- Tabular eLCG Outcome: Present eLCG outcomes in a tabular format for easier interpretation.
- Inclusion of the Type of Delivery: Include details about the type of delivery (e.g., normal, cesarean section, etc.) in the records.

- Link to National Reporting Template: Create a seamless link to the current national reporting template, preferably in Excel format, to streamline data entry and improve acceptability.
- Patient Receiving Delivery Summary: Ensure patients receive a summary of their delivery for better postpartum care.
- Decision Support Features: Implement decision-support tools to aid healthcare providers in making informed decisions during childbirth.
- Additional Text Boxes: Add extra text boxes to capture additional information when necessary.
- Doctors' Notification Alerts: Enable doctors to receive real-time notifications and alerts related to patient care.
- Language Customization: Allow users to customize the application's language to accommodate different language preferences.
- Customizing Types of Providers: Provide options to customize the types of healthcare providers using the application.
- Customizing the Number of Beds: Allow customization of the number of beds to match the specific needs of healthcare facilities.
- Offline Communication Capabilities: Ensure the application supports offline communication, especially in areas with unreliable Internet connectivity.

Training and implementation recommendations:

Some of the respondents felt there was a clear need for training requirements in the following domains:

- Training on LCG guidelines and clinical decision-making
- Technical training on app functionality
- Training for management personnel
- Device upkeep and maintenance training
- Connectivity and Internet handling training

For a smooth adoption of the telemedicine solution and implementation of the process, the following steps have been recommended in no particular order of priority:

- Involvement of key personnel and departments
- Highlighting the benefits of on-time data recording
- Conducting cost implication analysis
- Considering the country context and device procurement

- Ensuring adequate connectivity and device allocation
- Continuous support and mentorship from the app providers
- Providing specific and sufficient training time
- Conducting motivation sessions and advocating for the benefits of the eZazi application.

Section 5: Acceptability

The eZazi application received positive feedback regarding its acceptability among users. (4, 50%) of the respondents said that they were likely to use the eZazi application in their daily work, while (3, 37.5%) said they were very likely to do so. In terms of confidence in using the application effectively, (3, 42.86%)[1] were somewhat confident, and the same percentage–(3, 42.86%)--felt very confident. As for feasibility, (6, 75%) of the respondents found it somewhat feasible, and (2, 25%) considered it very feasible to use the eZazi application, assuming nurses have the necessary training.

Furthermore, an overwhelming majority (6, 75%) of the participants reported that they would highly recommend the eZazi program to other nurses and doctors in the maternity ward. The results indicate a favorable level of acceptability for the eZazi application among its intended users.

Summary of results

Positive Feedback on eZazi Application: Doctors lauded several features of the eZazi application, including its ease of use, simplicity, and visualization capabilities. The application's chat and video features enabled real-time communication and remote patient monitoring. The prioritization feature based on risk profiles facilitated efficient patient management. The digital printing of partograms streamlined documentation, and the application captured critical data for informed decision-making.

Areas for Improvement: To enhance the application's usability, doctors suggested addressing concerns about font size, using specific terminology, managing multiple data points, and standardizing decision-making criteria. Improvements in patient communication pathways, decision alerts, smartphone compatibility, and training were also recommended.

Difficulties, Challenges, and Barriers in Implementation: Doctors identified several challenges in implementing the eZazi application, including managing sudden events and high-risk situations, ensuring data accuracy, and adapting to cultural shifts around documentation practices. Connectivity issues in remote areas and interoperability between multiple staff were also highlighted.

Anticipated Resistance and Challenges in Adoption: Doctors anticipated resistance to application adoption due to cost and resource concerns, process changes, increased workload, and potential tech resistance among users. Challenges anticipated during the shift from paper-based tools included time consumption for data entry, device availability, and connectivity issues.

[1] The total number of respondents for the second question are lesser in number and hence a different percentage compared to the first question.

Critical Information Required for Informed Decision-Making: Respondents stressed the need for the eZazi application to capture multiple fetal heart rates and provide visual cues for C-section processes. They emphasised the importance of accurately determining high-risk patients and incorporating urgent alarms for sudden changes in patient conditions.

Perceived Usefulness: Doctors foresee the eZazi application's positive impact on decision-making, patient supervision, and stress reduction. Enhanced communication, data storage, and real-time information were perceived as advantageous. However, some concerns about increased documentation for nurses and preference for mobile app usage were raised.

Annexure

eZazi – Figma Demo Feedback Questionnaire

Labour management is complex: SBAs need to record periodic observations of maternal and fetal well-being, use these data to distinguish normal from abnormal progress, and predict and plan the next steps over the course of labour. Interpreting a single measurement, such as fetal heart rate, is relatively simple, but evaluating combinations of measurements, e.g., labour progression in relation to frequency and duration of contractions, is complex. In 2018, the WHO issued new guidelines for intrapartum care for positive birth outcomes and subsequently replaced the WHO partogram with the labour care guide.

eZazi is a digital application for labour and delivery monitoring that incorporates the WHO's new intrapartum care guidelines and conforms to the WHO LCG guide. This decision-support tool aims to improve labor management, provide a better quality of care, and support the desire to have workable clinical governance systems.

Please fill in your responses to the following questions after reviewing the eZazi demonstration video:

Respondent Profile

A. Name of respondent:

B. Years of experience:

C. Years of experience in labour care and delivery:

D. Qualification(s):

E. Are you currently using any paper-based Labour Care Guide/ partogram?
   a. Yes
   b. No

F. Are you aware of the WHO Labour Care Guidelines (LCG)?
   a. Yes
   b. No

G. Have you received any training on using partogram/ LCG?

a. Yes (only partogram)
b. Yes (partogram and new WHO LCG guidelines)
c. None

H. Do you require training on the new WHO LCG guidelines?
   a. Yes
   b. No

Section 1: General Feedback

1. How would you rate your overall experience with the eZazi application?

   a. Very poor
   b. Poor
   c. Neutral
   d. Good
   e. Very good

2. How understandable is the user interface of the eZazi application?
   a. Very understandable
   b. Somewhat understandable
   c. Neutral
   d. Somewhat understandable
   e. Not very understandable

   2.1. **If the response is c, d, or e, probe:** Which parts of the user interface were confusing or difficult to understand?

   Response:

3. Do you think the eZazi application would be useful to you in your work?

   a. Very useful

   b. Somewhat useful

   c. Neutral

   d. Not very useful

   e. Not at all useful

4. What are the three things you liked most about the eZazi application? (Probe for reasons.)

5. What are the three things you liked least about the eZazi application? (Probe for reasons.)

Section 2: Usability

6. Do you think the eZazi application is easy to use?
   a. Yes, very easy
   b. Yes, somewhat easy
   c. Neutral
   d. No, difficult
   e. No, very difficult

   6.1. **If the response is d or e, probe:** Why did you find the application difficult to use? Which specific parts of the application were difficult to use?

7. Do you expect to encounter any difficulties when you use the eZazi application in a real-life scenario?
   (While implementing eZazi in a real-life situation, do you think you will encounter any difficulties, challenges, or barriers?)
   a. Yes
   b. No
8. If you answered "Yes" to the previous question, please describe the difficulties/challenges/barriers you think you will encounter in implementing such an application in a real-life scenario.
9. Were the instructions clear and easy to understand?
   a. Yes, very clear
   b. Yes, somewhat clear
   c. Neutral
   d. No, somewhat confusing
   e. No, very confusing

   9.1. If the response is d or e, probe: Which instructions in the application specifically were confusing? Why did you find these instructions confusing?

10. Were the labels or icons clear and easy to understand?
    a. Yes, very clear
    b. Yes, somewhat clear
    c. Neutral
    d. No, somewhat confusing
    e. No, very confusing

    10.1. If the response is d or e, probe: Why did you find the labels/icons confusing? Which specific labels/icons of the application were confusing?

Section 3: User Interface Design

11. How visually appealing is the eZazi application?
    a. Very unappealing
    b. Unappealing
    c. Neutral
    d. Appealing

e. Very appealing

12. How well does the design of the eZazi application match its intended purpose? (*Instruction:* Given that this is a paper-based tool that has been digitized, are the sections in the application appropriate? Does it account for all the data/information that has to be entered? Is it functional? etc.)

    a. Not at all
    b. Somewhat
    c. Moderately
    d. Very
    e. Perfectly

13. Does the application capture all the information required to make an informed decision about the patient and the labour that is in progress?

    a. Yes
    b. No

    13.1. **If no, then probe**: Is there any important information that the application is not capturing currently? Please mention

14. Is the eZazi application capturing all the necessary information?

    a. Capturing all necessary information
    b. Capturing too much information
    c. Capturing too little information
    d. Not capturing the right information

    14.1. If the response is **a or c, probe:** Do you feel the application captures less information than required or more information than required? What changes would you suggest?

15. How easy was it to capture information in the patient registration section in the eZazi application?

    a. Very easy
    b. Somewhat easy
    c. Neutral
    d. Somewhat difficult
    e. Very difficult

    15.1. **If the response is d or e, probe**: What difficulties did you face while capturing information on the application?

16. How easy was it to capture information in the observation section in the eZazi application?

    a. Very easy
    b. Somewhat easy
    c. Neutral
    d. Somewhat difficult
    e. Very difficult

16.1. if the response is **d or e, probe:** Which information in the observation section is difficult to capture?

17. How easy was it to capture the information in the assessment and medicine section in the eZazi web application?

    a. Very easy
    b. Somewhat easy
    c. Neutral
    d. Somewhat difficult
    e. Very difficult

    17.1. if the response is **d or e,** probe**:** Which information in the assessment and medicine sections is difficult to capture?

18. Do the clinical words used in the eZazi application match the clinician language you are used to?

    a. Very familiar
    b. Somewhat familiar
    c. Neutral
    d. Somewhat unfamiliar
    e. Very unfamiliar

    18.1. If the response is **d or e,** probe**:** Which clinical words are unfamiliar?

19. Do you think the eZazi application will make your job easier?

    a. Strongly agree
    b. Somewhat agree
    c. Neutral
    d. Somewhat disagree
    e. Strongly disagree

    19.1. How will the application make your job easier or difficult?

20. Is the data captured by the eZazi application useful for a remote assessment by a doctor?
    a. Very useful
    b. Somewhat useful
    c. Neutral
    d. Not very useful
    e. Not at all useful

21. What do you think of the logo used in the eZazi application?

    a. Very appealing
    b. Somewhat appealing
    c. Neutral
    d. Somewhat unappealing

e. Very unappealing

21.1. **If the response is d or e, probe**: Why do you find the logo unappealing?

22. How do you rate the font used in the eZazi application?

a. Very legible
b. Somewhat legible
c. Neutral
d. Somewhat illegible
e. Very illegible

22.1. **If the response is d or e, probe**: Why are you unlikely to use the application?
Reasons:

22.2. Do you see any resistance to using the eZazi application towards its adoption by intended users?

a. Very likely
b. Somewhat likely
c. Neutral
d. Somewhat unlikely
e. Very unlikely

22.3 **If the response is a or b, probe**: Why do you anticipate resistance in using the application?

22.4 Do you see any challenges in shifting from a paper-based tool to an eLCG application?

a. Yes
b. No

If yes, what are those challenges?

23. Would you like any customizations in the eZazi application?

a. Yes, I would like some customizations.
b. No, the current application meets my needs.

21.1. If the response is a, probe: what customizations would you suggest for the application?

a. Patient registration
b. Case history
c. Partograph
d. Call/Video features
e. Recording information
f. Others

Section 4: Workflow

23. How well does the workflow of the eZazi application fit into your current day-to-day operation?

    a. Fits extremely well
    b. Fits somewhat well
    c. Neutral
    d. Does not fit well
    e. Does not fit at all

    24.1. **If response is d or e, probe**: Which aspects of your current day-to-day operations do not fit well with the application's workflow?

24. How long do you estimate it would take to get trained on the eZazi application?

    a. Less than an hour
    b. 1-2 hours
    c. 2-4 hours
    d. More than 4 hours

25. Do you think the eZazi application will help you complete your tasks more efficiently?

    a. Yes, significantly
    b. Yes, somewhat
    c. Neutral
    d. No, somewhat slower
    e. No, significantly slower

26. How well can the application provide data to be used for day-to-day operations?

    a. Not at all
    b. Somewhat
    c. Moderately
    d. Very well
    e. Perfectly

27. How well can the application help in improving the quality of service through retrieving information ?

    a. Not at all
    b. Somewhat
    c. Moderately
    d. Very well
    e. Perfectly

28. Will the e-Zazi application make it easier for you to track and manage patient data?

    a. Yes, significantly

b. Yes, somewhat
c. Neutral
d. No, somewhat harder
e. No, significantly harder

Section 5: Acceptability

29. How likely are you to use the eZazi application in your daily work?

    a. Very unlikely
    b. Unlikely
    c. Neutral
    d. Likely
    e. Very likely

31. How confident are you in your ability to use the eZazi application effectively?

    a. Very confident
    b. Somewhat confident
    c. Neutral
    d. Not very confident
    e. Not confident at all
    31.1 **If the response is d or e, probe**: Why do you feel unconfident while using the application?

32. Assuming nurses have the necessary training, how feasible is it to use the eZazi application?

    a. Very feasible
    b. Somewhat feasible
    c. Neutral
    d. Somewhat unfeasible
    e. Very unfeasible

    32.1. **if response is d or e, probe:** What other reasons may make using the application unfeasible?

33. Did you think you will encounter any issues or concerns with the eZazi application that would prevent you from using it in your daily work?

    a. Yes
    b. No

34. If you answered “Yes” to the previous question, please describe the issues or concerns you encountered.

35. What are the training requirements that need to be addressed ?
    Response:

36. What are the aspects that need to be included in the app for its smooth adoption and implementation?

    Response:

37. How likely are you to use the eZazi application?

    a. Very likely
    b. Somewhat likely
    c. Neutral
    d. Somewhat unlikely
    e. Very unlikely

38. Would you recommend the eZazi application to other nurses and doctors in the maternity ward?

    a. Very unlikely
    b. Unlikely
    c. Neutral
    d. Likely
    e. Very likely

    38.1. If the **response is a or b, probe:** Why would you not recommend the application to your colleagues?

39. Were labels legible and icons visible during this video demonstration?

    a. Yes

    b. No

40. Do you have any additional comments or suggestions about/on how we can improve the eZazi application? Please mention those here.

Thank you for your time and feedback!