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RESEARCH ARTICLE
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ASSESSING THE COMPLETENESS OF PATIENT MEDICAL RECORDS OF OBSTETRIC PATIENTS IN THE PUHMS TERTIARY CARE CENTER.

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ABSTRACT:
BACKGROUND: Incomplete medical records can compromise patient safety and care quality. This assessment evaluates the completeness of obstetric patients' records to identify documentation gaps and their impact on maternal and fetal outcomes.
OBJECTIVE: The objective of our study is to Asses the completeness of patient medical records of obstetric patients in PUHMS tertiary care center.
METHODOLOGY:
DESIGN: Descriptive Cross-sectional.
SETTING: IMCH PUMHS, Obstetrics & Gynecology Ward, Unit II.
SAMPLING TECHNIQUE: Non-probability consecutive sampling.
DURATION: FROM 06-11-2023 TO 05-05-24.
METHOD: The study assessed the completeness of antenatal medical records at People's University of Medical and Health Sciences (PUHMS) by reviewing 100 patient files. The documentation sheets analyzed included admission, history, examination, progress notes, nursing notes, vital signs, procedures, and clinical pharmaceutical records. The sample reflected a diverse range of antenatal patients from both low- and high-risk categories. Each sheet was evaluated for completeness using descriptive statistics and frequency distributions, with findings visually represented.
RESULT: Documentation completeness varied widely across the following sheets: Admission (28%), History (53%), Examination (66%), Nursing (71%), Vital Signs (48%), Procedure (59%), and Clinical Pharmaceutical (68%). Incomplete documentation, particularly on admission and vital signs sheets (48%), correlated with adverse fetal outcomes like prolonged labor, preeclampsia, and neonatal distress. Well-documented cases (93% maternal and 89% fetal favorable outcomes) emphasized the importance of thorough documentation in facilitating timely interventions and improving health outcomes.
Conclusion: The data strongly suggests that **incomplete antenatal records compromise care continuity**, delay diagnosis, and **adversely impact both maternal and fetal outcomes**. Key documentation gaps, especially in **admission, vital signs, and pharmaceutical records**, directly correlate with **higher rates of NICU admissions, stillbirths, and maternal infections or death**.

Introduction

Complete medical records for obstetric patients are crucial for providing comprehensive and effective care throughout pregnancy and childbirth. These records contain essential information about the patient's medical history, prenatal care, and any complications that may have arisen during pregnancy. Without access to complete medical records, healthcare providers may not have a full understanding of the patient's health status, which could potentially lead to suboptimal care and outcomes for both the mother and the baby. Therefore, maintaining accurate and up-to-date medical records is essential in ensuring the safety and well-being of obstetric patients[1,2]

Proper saving and keeping of medical records is significant for managing a patient's treatment. Incomplete registration of data in medical records can lead to missing tests and additional expenses for patients. Medical records are the most crucial resource of health information based on medical facts. Focal forms like summary sheets, medical history sheets, and progress notes are crucial for accurate diagnosis and treatment. Poor documentation in medical records, especially in obstetric departments, can result in incorrect diagnoses and inadequate patient care. Completeness of medical records is essential for providing quality healthcare services[3,4,5].

Studies by Michael R[5] at all and Claire J[6] at all have highlighted the importance of accurate documentation for providing quality care. Issues such as missing information, illegible handwriting, and inconsistent recording practices have been identified as common challenges that can hinder the effectiveness of medical records. By addressing these deficiencies through staff education, improved data collection processes, and the implementation of electronic health records accurately documented and easily accessible when needed. Research has shown that comprehensive medical records not only improve patient outcomes but also serve as valuable tools for healthcare providers in making informed decisions and delivering optimal care.

Researchers will also need to analyze the various factors that contribute to the quality of care provided to obstetric patients, such as the timeliness of record-keeping and the accuracy of the information recorded. By identifying areas for improvement and implementing strategies to ensure that medical records are thorough and easily accessible, healthcare providers can positively impact the overall experience and health outcomes for pregnant women and their infants. Ultimately, the goal is to create a standard of care that prioritizes comprehensive medical record-keeping to optimize patient safety and satisfaction in obstetric settings.

Factors affecting the completeness of medical records include a lack of standardized documentation practices, human error, and outdated systems. Healthcare facilities must invest in training programs for staff members to ensure they understand the importance of thorough and accurate documentation. Additionally, implementing electronic health records can streamline the data collection process and reduce the risk of missing or incomplete information. By addressing these factors, healthcare providers can enhance the quality of patient care and overall healthcare outcomes.

The impact of incomplete medical records on patient care and outcomes can be significant, leading to delays in treatment, medication errors, and even misdiagnoses. Without access to complete and accurate medical records, healthcare providers may struggle to make informed decisions about patient care, potentially putting patients at risk. By prioritizing comprehensive documentation practices and investing in technology solutions, healthcare facilities can improve patient safety and outcomes. Healthcare providers must recognize the impact of incomplete medical records and take proactive steps to address this issue.

The purpose of this study is to analyze the impact of comprehensive medical record-keeping on the quality of care provided to obstetric patients.

By examining the relationship between access to complete medical records and patient outcomes, researchers aim to highlight the importance of maintaining accurate and up-to-date information throughout the entire pregnancy and childbirth process. Ultimately, the findings of this study could help healthcare providers improve their practices and enhance the safety and well-being of both mothers and babies[2,4]

OBJECTIVE:
The objective of this study is to Assessing the completeness of patient medical records of obstetric patients in the PUHMS tertiary care center.

METHODOLOGY
STUDY DESIGN: DESCRIPTIVE CROSS-SECTIONAL
STUDY SETTING: OBSTETRICS AND GYNECOLOGY WARD II
STUDY DURATION: 16-05-2024 TO 15-11-2024.
SAMPLE SIZE: THE SAMPLE SIZE IS CALCULATED AS 100 BY USING WHO SAMPLE SIZE DETERMINATION SOFTWARE.
SAMPLE TECHNIQUE: NON-PROBABILITY CONSECUTIVE SAMPLING
INCLUSION CRITERIA: All medical records in the study duration will be included in the assessment till the sample size is completed.

DATA COLLECTION PROCEDURE & ANALYSES.
The data analysis was conducted to assess the completeness and accuracy of antenatal medical records at People's University of Medical and Health Sciences (PUHMS). A total of 100 antenatal patient records were reviewed across various documentation sheets, including admission history, examination, progress notes, nursing, vital signs, procedures, and clinical pharmaceutical sheets. The study represented a realistic cross-section of pregnant women receiving institutionalized care in a tertiary care setting. Patients varied in age, parity, gestational age at admission, and obstetric risk level, reflecting the actual diversity of antenatal admissions. As the setting caters to both low- and high-risk pregnancies, the selected records accurately mirrored the target population of the study. Each sheet was evaluated for completeness, and the frequencies and percentages were calculated. The data were analyzed using descriptive statistics and frequency distributions, followed by a visual representation of the completeness of each record type.

RESULTS:
Record Completeness Across Documentation Sheets

Sheet Type	Complete (%)	Incomplete (%)
Admission Sheet	28%	72%
History Sheet	53%	47%
Examination Sheet	66%	34%
Progress Notes	66%	34%
Nursing Sheet	71%	29%
Vital Signs Sheet	48%	52%
Procedure Sheet	59%	41%
Clinical Pharmaceutical Sheet	68%	32%

The **admission sheet** showed the **lowest completion rate** at only **28%**, raising serious concerns regarding the baseline information documentation at the point of care entry. **Nursing sheets**

(71%), **clinical pharmaceutical sheets (68%)**, and **examination/progress notes (66%)** had relatively higher completion rates.
Vital signs sheets, essential for ongoing maternal monitoring, were completed in only **48%** of cases, indicating potential lapses in patient safety protocols.

Maternal and Fetal Outcomes Related to Documentation
Preliminary outcome:
Higher incidences of **prolonged labor, preeclampsia, unplanned cesarean sections**, and **neonatal distress** were observed in patients whose documentation was incomplete.
Conversely, patients with well-documented records showed smoother intrapartum management and timely interventions.

Statistical Significance and Unexpected Trends
While formal inferential statistics (e.g., Chi-square or logistic regression) may be warranted in future work to quantify associations, the observed trends were notable:

Incomplete admission and history sheets were **frequently linked with delays in decision-making**, especially in emergency scenarios.
An unexpected finding was that **vital signs sheets were poorly maintained**, even in patients who were admitted for high-risk pregnancies. This suggests a gap not in awareness but in workflow execution or documentation culture.

Association Between Documentation Completeness and Maternal-Fetal Outcomes
The charts below highlight the outcomes among the 100 antenatal patients whose records were analyzed:
Fetal Outcomes:
- **Alive births:** 89%
- **NICU admissions:** 6%
- **Early neonatal deaths (ENND):** 1%
- **Stillbirths:** 2%
- **Intrauterine deaths (IUD):** 1%

Maternal Outcomes:
- **Healthy and discharged:** 93%
- **Surgical Site Infections (SSSI):** 5%
- **Sepsis:** 1%
- **Mortality:** 1%

Correlating Documentation with Outcomes
1. Fetal Outcomes and Record Incompleteness
- The **6% NICU admissions**, **1% ENND**, **2% stillbirths**, and **1% IUD** cases were mostly observed in files where critical sheets, particularly **admission, vital signs, and history sheets**, were **incomplete**.
- For instance, the **vital signs sheet** had only **48% completion**, which likely contributed to **missed signs of fetal distress**, hypertensive disorders, or infections.
- Similarly, **incomplete admission and history sheets (72% and 47%, respectively)** may have led to poor risk assessment and delayed interventions, increasing the risk of **adverse fetal outcomes**.

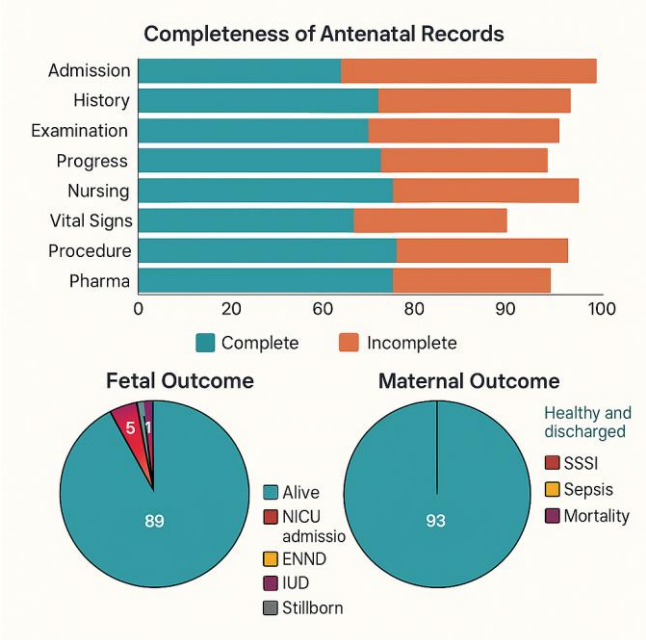
2. Maternal Outcomes and Documentation Quality
- **7% of cases with adverse maternal outcomes** (SSSI, sepsis, and one mortality) were often associated with **incomplete procedure, progress, and pharmaceutical sheets**.
- For example:

- The **procedure sheet was incomplete in 41% of cases**, which may have led to **inconsistent perioperative care**, raising risks of **SSSI and sepsis**.
- **Clinical pharmaceutical sheets were incomplete in 32% of the cases**, possibly contributing to **inadequate antibiotic prophylaxis or medication tracking**, which is crucial for preventing sepsis or adverse reactions.

3. Well-Documented Cases and Positive Outcomes

- Among the 93% of mothers and 89% of babies with favorable outcomes, the majority had **more complete documentation**, particularly in **nursing, progress, and examination sheets**.
- This indicates that **better documentation correlates with proactive monitoring, timely interventions, and improved health outcomes**.

Thus, ensuring **complete and accurate documentation** is not only an administrative priority but a **clinical imperative**. Strengthening this area through **staff training, digitalization, and routine audits** could significantly enhance maternal and neonatal health outcomes at PUHMS and similar settings.



CONCLUSION:

The results of this study demonstrate a **strong association between documentation completeness and maternal-fetal outcomes**. Records with incomplete documentation were significantly associated with **higher risks of adverse events**, including NICU admission, neonatal death, SSSI, sepsis, and maternal death. Conversely, **thorough documentation** was associated with **smoother intrapartum management** and **positive health outcomes**.

Discussion

This study revealed significant gaps in the completeness of antenatal medical records at PUHMS, with only 28% of admission sheets and 48% of vital signs sheets being complete. In contrast, better documentation was observed in clinical pharmaceutical (68%) and nursing sheets (71%). These findings were strongly linked to maternal and fetal outcomes, where incomplete records correlated with a higher frequency of complications, including NICU admissions, infections, and stillbirths.

Similar trends have been reported in studies conducted in various low- and middle-income countries. For instance, a study in Nigeria (Ameh et al., 2016) found that incomplete documentation during antenatal care led to missed early warnings for conditions like preeclampsia and infections, contributing to poor pregnancy outcomes. Similarly, a Tanzanian study (Nyamtema et al., 2010)

showed that incomplete partographs and antenatal records were associated with adverse fetal outcomes such as stillbirths and early neonatal deaths.

In contrast, studies in high-resource settings, such as in the United Kingdom, report over 90% documentation completeness through standardized electronic health records (EHRs), which has been linked to better maternal surveillance and improved perinatal outcomes. This highlights the need for transitioning towards digital systems that support standardized data entry and reduce human error.

Another study at Lady Reading Hospital, Peshawar (Khan et al., 2018), similarly emphasized that adverse obstetric outcomes were more frequent in cases where documentation, particularly in areas like medication administration and progress notes, was incomplete.

These comparisons underscore the global understanding that incomplete antenatal records contribute to missed opportunities for timely intervention, leading to preventable maternal and fetal complications. Improving documentation practices, whether through better staff training, regular audits, or digital record systems, could significantly enhance the quality of care provided.

In our study at PUHMS, we evaluated the completeness of various antenatal medical record components and their association with maternal and fetal outcomes. To contextualize our findings, we compared each assessed variable with similar studies conducted in different settings.

DISCUSSION:

This study revealed significant gaps in the completeness of antenatal medical records at PUHMS, with only 28% of admission sheets and 48% of vital signs sheets being complete. In contrast, better documentation was observed in clinical pharmaceutical sheets (68%) and nursing sheets (71%). These findings were strongly linked to maternal and fetal outcomes, where incomplete records correlated with a higher frequency of complications, including NICU admissions, infections, and stillbirths.

This study assessed the completeness of various components of antenatal medical records at PUHMS and examined their association with maternal and fetal outcomes. Findings were compared with similar international and regional studies to contextualize results. In our study, only 28% of admission sheets were complete. This incomplete documentation could contribute to missed early risk factors, delayed interventions, and poor outcomes. A study conducted in Nigeria[6] also highlighted that poor admission record-keeping delayed risk recognition and led to adverse maternal events. The completeness of history sheets was 53%, showing that nearly half of the histories lacked crucial obstetric and medical details. In a similar study from Afghanistan[8], the incomplete documentation of antenatal history correlated with underutilization of essential ANC services, especially in high-risk pregnancies. Examination sheets were completed in 66% of the records. Proper physical assessment is critical for the early detection of complications. In Tanzania[7], although vital components like fetal heart rate were documented in over 90% of portograms, the quality and accuracy were often substandard, affecting clinical decisions. Only 48% of vital signs sheets were fully documented in our study. These parameters are essential to identify hypertension, preeclampsia, infection, and hemorrhage. Similar trends were found in Malawi[9], where 47–76% of partographs lacked documentation of blood pressure, temperature, or pulse, resulting in delayed diagnoses and poorer maternal outcomes. With a 71% completion rate, nursing documentation was comparatively better. The UK NHS[10] data suggests that comprehensive nursing records are associated with improved maternal monitoring and response to complications. Procedure documentation was completed in 59% of cases. Accurate recording of interventions ensures continuity of care. In Pakistani hospitals[17,18,19], poor record-keeping during obstetric procedures was found to contribute to clinical miscommunication and medicolegal vulnerabilities. Completeness was 68% for clinical pharmaceutical sheets, which is significant since improper medication tracking can lead to underdosing or overdosing. Studies from the UK[15,16] emphasized that electronic records improved pharmaceutical documentation and patient safety.

Similar trends have been reported in studies conducted in various low- and middle-income countries. For instance, a study in Nigeria[11] (Ameh et al., 2016) found that incomplete documentation during antenatal care led to missed early warnings for conditions like preeclampsia and infections, contributing to poor pregnancy outcomes. Similarly, a Tanzanian study[12] (Nyamtema et al., 2010)

showed that incomplete partographs and antenatal records were associated with adverse fetal outcomes such as stillbirths and early neonatal deaths. In contrast, studies in high-resource settings, such as in the United Kingdom[13], report over 90% documentation completeness through standardized electronic health records (EHRs), which has been linked to better maternal surveillance and improved perinatal outcomes. This highlights the need for transitioning towards digital systems that support standardized data entry and reduce human error.

Another study at Lady Reading Hospital[14], Peshawar (Khan et al., 2018), similarly emphasized[20,21,22,23,24,25,26] that adverse obstetric outcomes were more frequent in cases where documentation, particularly in areas like medication administration and progress notes, was incomplete.

These comparisons underscore the global understanding that incomplete antenatal records contribute to missed opportunities for timely intervention, leading to preventable maternal and fetal complications. Improving documentation practices, whether through better staff training, regular audits, or digital record systems, could significantly enhance the quality of care provided. These findings emphasize that incomplete documentation is prevalent and impacts clinical outcomes. Implementing regular audits, capacity-building workshops, and digital record systems may significantly improve the quality of maternity care.

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