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OVERVIEW OF THE COMPLETENESS OF PREGNANT WOMEN'S IDENTITY DATA IN THE ANTENATAL CARE REGISTER AND E-PUSKESMAS AT THE SINDANGJAWA PUBLIC HEALTH CENTER, CIREBON REGENCY IN 2025

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Abstrak

Background: The completeness of pregnant women's identity data is an essential component of medical records to ensure accurate patient identification and continuity of healthcare services. However, incomplete identity data recording is still found in antenatal care registers and e-Puskesmas systems, thus requiring an evaluation of data completeness. Research Methodology: This study employed a descriptive quantitative method with a qualitative approach. The study population included all identity data of new antenatal care visits recorded in the Antenatal Care Register and the e-Puskesmas system from January to September 2025 at Sindangjawa Public Health Center, Cirebon Regency. A total of 100 records from the Antenatal Care Register and 100 records from the e-Puskesmas were included, selected using a total sampling technique. Results: The results showed that the highest completeness of pregnant women's identity data in the antenatal care register was found in the date of birth variable (89%), while the lowest was in the husband's name (46%). In the e-Puskesmas system, several categories reached 100% completeness; however, occupation was only 23% and national identification number (NIK) was 67%. Overall, data completeness in the e-Puskesmas was better than in the antenatal care register. Conclusion: The completeness of pregnant women's identity data in the e-Puskesmas system is better compared to the antenatal care register. Therefore, it is necessary to improve the accuracy and diligence of health personnel in data entry

Keywords: Data Completeness, Patient Identity, Antenatal Care Register, e-Puskesmas, Patient Identity Data Completeness

Introduction

Recording the identity of pregnant women in healthcare services is a crucial aspect in ensuring accurate patient identification and continuity of care. The Antenatal Care (ANC) register at community health centers (Puskesmas) serves as an official document used to record maternal identity, visit history, examination results, and follow-up services. The recorded data include name, National Identification Number (NIK), address, phone number, date of birth, and clinical information related to pregnancy. The recording process begins during ANC services in the Maternal and Child Health (MCH) unit, where healthcare workers input data into the register as the primary source of service information [1].

The ANC register plays a strategic role as a tracking tool for monitoring the condition of pregnant women continuously from pregnancy to the postpartum period. According to Prisusanti, this register serves as an essential primary data source for recording identity and maternal and child healthcare

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service history [2]. However, several studies indicate that documentation in the ANC register is often incomplete, with some identity variables recorded at less than 60%, leading to data quality issues [3]. This incompleteness may affect data integrity when entered into electronic systems such as E-Puskesmas.

With the advancement of technology, Puskesmas have implemented electronic-based Health Information Systems, one of which is the E-Puskesmas application. This system is developed from manual recording (SP2TP) to improve efficiency, speed, and accuracy in health data reporting [4]. E-Puskesmas functions to manage patient data in an integrated manner from registration to reporting, thereby supporting more effective healthcare management decision-making [5].

In healthcare services, patient identity is a fundamental element in preventing medical errors. Accurate identification enables healthcare providers to distinguish patients correctly and avoid errors in treatment and service delivery [3]. Therefore, the completeness of identity data is a primary requirement in both manual and electronic medical record systems.

However, in practice, several challenges remain. Studies show that incomplete recording often occurs in family identity data, such as the husband's name, address, and phone number [6]. In addition, during the implementation of E-Puskesmas, healthcare workers tend to focus more on clinical data entry, such as anamnesis and diagnosis, while identity data are not always fully completed due to time and resource constraints [5]. This condition may lead to discrepancies between manual registers and electronic systems.

Incomplete and inconsistent identity data of pregnant women can have serious consequences, including service errors, data duplication, referral barriers, and inaccurate health reports. These impacts not only affect individual service quality but also influence maternal and child health program planning [7]. Therefore, data validation is an essential step to ensure the accuracy and consistency of information across different recording systems [8].

A preliminary study conducted at Puskesmas Sindangjawa, Cirebon Regency, showed that there were still incomplete identity data of pregnant women in both the ANC register and the E-Puskesmas system for the period January–September 2025. This condition affects data validation and may hinder the processes of recording, reporting, and continuity of healthcare services. In line with Maharani et al., incomplete data can obstruct the provision of essential information related to healthcare service quality [9]. Based on these issues, this study is important to determine the completeness of pregnant women's identity data in the Antenatal Care register and the E-Puskesmas system at Puskesmas Sindangjawa, Cirebon Regency, in 2025.

Method

The type of research used in this study is a descriptive quantitative approach with a qualitative component. The quantitative approach is used because the data analyzed are numerical in nature [24], while the descriptive method aims to describe the completeness of pregnant women's identity data in the Antenatal Care (ANC) Register and the E-Puskesmas system at Puskesmas Sindangjawa, Cirebon Regency. The qualitative approach is used to strengthen the quantitative findings through interviews with relevant health workers regarding the recording process, data entry constraints, and factors affecting incomplete maternal identity data. This study was conducted at Puskesmas Sindangjawa, Cirebon Regency, West Java, in December 2025.

The population in this study consists of all new pregnant women's identity data recorded in the ANC Register and E-Puskesmas system at Puskesmas Sindangjawa during January–December 2025, with a total of 100 records for each system [24]. The sample was selected using a total sampling technique, in which the entire population was used as the sample [25][26], resulting in 100 ANC register records and 100 E-Puskesmas records. The variables in this study include the completeness of maternal

identity data in the ANC Register and the completeness of maternal identity data in the E-Puskesmas system [27].

The operational definition of this study refers to the completeness of pregnant women's identity data in both systems, which includes 11 indicators: name, medical record number, national identification number (NIK), address, place of birth, date of birth, age, phone number, husband's name, occupation, and BPJS membership, based on maternal and child health recording standards and integrated antenatal care guidelines [28][29]. The measurement was conducted through observation using a checklist, with categories of complete (1) and incomplete (0) on a nominal scale.

The research instrument used was a checklist sheet containing the 11 identity indicators, developed using Microsoft Excel or Google Sheets to facilitate data processing. The data used in this study were secondary data obtained from the ANC Register and the E-Puskesmas database for the period January–December 2025 [30]. The percentage of data completeness was calculated using the formula: number of complete data divided by total data multiplied by 100%. In addition, semi-structured interviews were conducted with medical record officers and maternal health staff to obtain additional information regarding recording processes, constraints, and factors affecting data completeness.

Data processing was carried out using Microsoft Excel or Google Sheets by inputting each identity indicator into a checklist table, followed by calculating the percentage of completeness to describe the condition of maternal identity data. Data analysis used descriptive quantitative and qualitative methods with a univariate approach, presenting variables in the form of numbers, percentages, and frequency distributions [31]. This analysis aims to provide an overview of data completeness and serve as a basis for recommendations to improve data quality.

Ethical considerations were applied throughout the research process as a guiding principle for researcher conduct [32], including minimizing ethical risks, ensuring that the research is conducted ethically by all involved parties, and providing clear explanations to relevant stakeholders prior to data collection. The research process began with the preparation stage, including topic selection, proposal development, supervision consultations, and obtaining research permission. The implementation stage involved collecting and verifying secondary data from the ANC register and E-Puskesmas system. In the final stage, the researcher developed a checklist based on patient identity components to analyze data completeness in both recording systems.

Results

1. Overview of Puskesmas Sindangjawa

Puskesmas Sindangjawa is a primary healthcare facility located in Sindangjawa Village, Dukupuntang District, Cirebon Regency, West Java, and operates under the local government. It is classified as a non-inpatient health center that provides basic healthcare services for the surrounding community. The services offered include both community and individual health services such as general outpatient care, maternal and child health (MCH), family planning, immunization, nutrition services, elderly health services, and environmental health programs. In addition, supporting services such as a simple laboratory and pharmacy are available, along with promotive and preventive activities such as health education and community health monitoring.

2. Recorded Visits in the ANC Register and E-Puskesmas

This study used secondary data in the form of new pregnant women's identity records obtained from the Antenatal Care (ANC) Register and the E-Puskesmas system at Puskesmas Sindangjawa, Cirebon Regency, for the period of January–December 2025. Each system contained 100 records of new pregnant women visits.

Table 1. Number of New Pregnant Women Visits in ANC Register and E-Puskesmas (2025)

No	Month	ANC Register	E-Puskesmas
1	January	9	1
2	February	10	2
3	March	9	3
4	April	9	4
5	May	9	5
6	June	8	6
7	July	8	7
8	August	8	8
9	September	8	9
10	October	8	10
11	November	7	11
12	December	7	12
	Total	**100**	**100**

Based on Table 1, the number of new pregnant women visits recorded in the ANC Register was relatively stable, with the highest number in February (10 visits) and the lowest in November–December (7 visits each). Meanwhile, the E-Puskesmas data showed greater variation, with the highest peak in April (14 visits) and the lowest in February (4 visits).

3. Completeness of Pregnant Women's Identity Data in the ANC Register

Table 2. Completeness of Pregnant Women's Identity Data in ANC Register

Item	Complete (%)	Incomplete (%)
Medical Record No	62%	38%
NIK	74%	26%
Phone Number	58%	42%
Address	88%	12%
Occupation	73%	27%
Date of Birth	89%	11%
Place of Birth	88%	12%
Age	87%	13%
Husband's Name	46%	54%
BPJS	84%	16%

Based on Table 2, the completeness of pregnant women's identity data in the ANC Register varies significantly. The highest completeness is found in the date of birth (89%), while the lowest is in the husband's name (46%). This indicates that the recording of identity data is still not fully complete.

4. Completeness of Pregnant Women's Identity Data in E-Puskesmas

Table 3. Completeness of Pregnant Women's Identity Data in E-Puskesmas

Item	Complete (%)	Incomplete (%)
Medical Record No	100%	0%
NIK	67%	33%
Phone Number	67%	33%
Address	61%	39%
Occupation	23%	77%
Date of Birth	100%	0%
Place of Birth	98%	2%
Age	100%	0%
Husband's Name	74%	26%
BPJS	100%	0%

Based on Table 3, the completeness of pregnant women's identity data in the E-Puskesmas system also shows variation. Several items are fully complete (100%), such as medical record number, date of birth, age, and BPJS status. However, there are still significant deficiencies, particularly in occupation data (only 23% complete). This indicates that data entry in the electronic system is not yet fully optimal and still requires improvement.

Discussion

1. Antenatal Care Register

The results of this study show that the highest completeness in the Antenatal Care (ANC) Register is found in the date of birth category (89%). This indicates that date of birth is a basic identity component that is relatively easy to obtain and is prioritized because it is used to determine the patient's age. In contrast, the lowest completeness is found in the husband's name category (46%), indicating that data recording is still not optimal.

Based on interview results, the incompleteness is influenced by manual recording that requires more time, an increasing number of patients, and limited human resources, which lead to missing or incomplete entries. This finding is in line with Magdalena et al. (2024) [5], who stated that incomplete data is affected by high workload, limited time, and human error. Efforts made by health workers include improving accuracy, double-checking data, and educating patients to bring complete identification documents during subsequent visits. The ANC Register plays an important role in recording maternal health services and ensuring continuous monitoring. This is in accordance with Minister of Health Regulation No. 43 of 2019 on Primary Health Centers (Puskesmas), which emphasizes that health records must be complete and properly documented.

2. E-Puskesmas System

In the E-Puskesmas system, the highest completeness is found in medical record number, date of birth, age, and BPJS status (100%), indicating that these data are prioritized because they are directly related to patient identification and service processes. Meanwhile, the lowest completeness is found in occupation (23%) and NIK (67%). This is caused by the prioritization of essential data during service delivery and the unavailability of patient identification documents, such as patients not bringing their ID cards. In such cases, officers continue the registration process using available data or previous visit records.

Efforts taken include using existing data, utilizing previous records, and educating patients to complete their identity information during future visits. Overall, data completeness in the E-Puskesmas

system is better compared to manual registers. This is because electronic systems are more structured, whereas manual recording is more prone to human error and time constraints during data entry. A study published in *BMC Pregnancy and Childbirth* (2024) [21] also confirms that maternal identity data plays an important role in patient-centered maternity care, as it supports clinical decision-making and improves the quality of healthcare services [22].

Conclusion

Based on the research results, the completeness of pregnant women's identity data in the antenatal care register is still suboptimal, with the highest level of completeness in the date of birth category (89%) and the lowest in the husband's name (46%). This incompleteness is influenced by manual recording, which takes more time, and staff negligence. Meanwhile, in the E-Puskesmas system, several categories have achieved 100% completeness, but incompleteness remains, particularly in the occupation category (23%) and NIK (67%). Overall, the E-Puskesmas demonstrates a better level of data completeness than the manual register.

Based on these findings, it is recommended that medical records officers and KIA officers increase accuracy in filling out and double-checking patient identity data. Furthermore, data completion should be carried out at subsequent visits if there are still missing data. For future development, researchers are advised to design an integrated system or application to more effectively monitor the completeness of patient identity data, thereby minimizing recording errors and improving the quality of health data management.

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