Journal of Public Health Science (JoPHS)
Volume 3, No 2 – Juni 2026
e-ISSN :3047-3632

MANAGEMENT OF APPLICATION-BASED MIDWIFERY CARE DOCUMENTATION IN INDEPENDENT MIDWIFERY PRACTICES IN CIREBON REGENCY, INDONESIA

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Received: 28-05- 2023	Revised:20-06-2023	Approved: 26-06-2026

ABSTRACT

The implementation of Electronic Medical Records (EMR) has become mandatory for all healthcare facilities in Indonesia following the enactment of the Indonesian Ministry of Health Regulation Number 24 of 2022. Independent Midwifery Practices (Praktik Bidan Mandiri/PBM) are required to improve the quality of midwifery documentation by adopting digital documentation systems. However, the readiness of PBM in managing application-based documentation remains inadequately explored. Objective: This study aimed to describe the management of application-based midwifery care documentation in Independent Midwifery Practices in Cirebon Regency. Methods: A descriptive study with a formative evaluation approach and a cross-sectional design was conducted in 2024. The study involved 30 Independent Midwifery Practices selected through purposive sampling from 612 registered PBMs in Cirebon Regency. Data were collected through direct observation of the implementation of the SIM Klinik application using a structured observation checklist. Observations were conducted by reviewing the completeness of digital midwifery documentation and observing documentation practices performed by midwives during routine healthcare services in Independent Midwifery Practices. Data were analyzed using descriptive statistics. The findings revealed that 20 of 30 Independent Midwifery Practices (66.7%) had a moderately complete documentation system, while 4 of 30 practices (13.3%) demonstrated very complete documentation. Regarding the implementation of the SIM Klinik application, 18 of 30 practices (60.0%) performed documentation very well, 7 practices (23.3%) performed well, and 5 practices (16.7%) performed adequately. These findings indicate that although documentation completeness still requires improvement, the implementation of the SIM Klinik application has supported the transition toward Electronic Medical Records (EMR) in Independent Midwifery Practices. The findings may serve as evidence for the Cirebon District Health Office to strengthen technical assistance and digital health policies for primary midwifery services... Regarding documentation implementation, 60.0% of the practices performed documentation very well, 23.3% performed well, and 16.7% performed adequately. Despite these encouraging findings, several practices still experienced challenges in maintaining complete documentation due to workload, time constraints, and the transition from manual documentation to application-based systems. Conclusion: Most Independent Midwifery Practices in Cirebon Regency have demonstrated satisfactory readiness in implementing application-based documentation. Nevertheless, strengthening digital infrastructure, continuous training, and technical assistance are essential to optimize Electronic Medical Record implementation and improve the quality of midwifery services.

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Keywords: *Application-Based Documentation, Electronic Medical Record, Independent Midwifery Practice, SIM Klinik, Formative Evaluation*

INTRODUCTION

The digital transformation of healthcare services has become one of the primary strategies for improving healthcare quality worldwide. Advances in information technology have encouraged healthcare providers to transition from conventional paper-based documentation toward electronic documentation systems that facilitate data management, improve service efficiency, strengthen continuity of care, and enhance patient safety. Electronic Medical Records (EMR) are recognized as an essential component of modern healthcare because they enable comprehensive, accurate, and timely documentation while supporting evidence-based clinical decision-making.

In Indonesia, digitalization of healthcare documentation has become a national priority following the issuance of the Indonesian Ministry of Health Regulation Number 24 of 2022 concerning Medical Records. The regulation mandates that all healthcare facilities, including hospitals, community health centers, clinics, and Independent Midwifery Practices (Praktik Bidan Mandiri/PBM), gradually implement Electronic Medical Records. The policy is expected to improve the quality, accessibility, integration, security, and continuity of patient health information while supporting national health information systems.

Independent Midwifery Practice is one of the primary healthcare facilities that provides comprehensive maternal and child healthcare services throughout the reproductive life cycle, including antenatal care, childbirth assistance, postpartum care, neonatal services, family planning, and women's reproductive health services. In delivering these services, midwives are professionally and legally responsible for documenting every clinical assessment, intervention, evaluation, and patient outcome. Complete documentation not only reflects professional accountability but also functions as legal evidence, communication media among healthcare professionals, quality assurance, and an important source of health information for service evaluation and policymaking.

Despite the increasing importance of documentation, many studies have reported that documentation quality in primary healthcare settings remains suboptimal. Several factors contribute to incomplete documentation, including excessive workload, limited time during patient care, inadequate administrative support, insufficient knowledge regarding documentation standards, and limited utilization of health information technology. In Independent Midwifery Practices, documentation is frequently performed manually, resulting in duplication of work, delayed recording, incomplete data, and difficulties in retrieving patient information. These conditions may reduce service efficiency and potentially compromise patient safety.

In this study, the application-based documentation system refers to SIM Klinik, a web-based health information system designed to support clinical documentation, patient registration, service reporting, and Electronic Medical Record (EMR) management in primary healthcare facilities, including Independent Midwifery Practices. The system facilitates standardized digital documentation of maternal and child healthcare services while supporting compliance with the Indonesian Ministry of Health Regulation Number 24 of 2022 concerning Medical Records. Therefore, evaluating the implementation of the SIM Klinik application is essential to determine the readiness of Independent Midwifery Practices in adopting Electronic Medical Records..

Several previous studies have evaluated documentation practices among midwives, primarily focusing on the completeness of paper-based records, compliance with SOAP documentation standards, or documentation quality in general healthcare settings. However, these studies were conducted before the nationwide implementation of Electronic Medical Records or were limited to evaluating manual documentation practices. Consequently, evidence regarding the readiness and management of application-based midwifery documentation in Independent Midwifery Practices following the implementation of the Ministry of Health Regulation Number 24 of 2022 remains limited, particularly in Cirebon Regency.

Existing studies have predominantly examined conventional documentation systems and have paid limited attention to digital documentation management within Independent Midwifery Practices. Furthermore, few studies simultaneously evaluate both the availability of documentation instruments and the actual implementation of documentation practices as indicators of organizational readiness for Electronic Medical Record adoption. Therefore, empirical evidence describing the current condition of application-based documentation management at the primary healthcare level is still insufficient. In Cirebon Regency, many Independent Midwifery Practices have started adopting the SIM Klinik application to support digital documentation and facilitate the gradual implementation of Electronic Medical Records (EMR) in accordance with the Indonesian Ministry of Health Regulation Number 24 of 2022.

The novelty of this study lies in its evaluation of application-based midwifery care

documentation management following the implementation of Indonesia's Electronic Medical Record policy. Unlike previous studies that mainly assessed manual documentation completeness, this research simultaneously evaluates the availability of documentation forms and the implementation quality of application-based documentation in Independent Midwifery Practices. The findings provide empirical evidence regarding the readiness of PBMs in Cirebon Regency to adopt digital documentation systems and offer practical recommendations for strengthening Electronic Medical Record implementation in primary midwifery services.

Based on these considerations, this study aimed to describe the management of application-based midwifery care documentation in Independent Midwifery Practices in Cirebon Regency. The findings are expected to contribute to the development of digital health policies, improve documentation quality, support Electronic Medical Record implementation, and strengthen the quality and continuity of midwifery care in Indonesia.

RESEARCH METHODS

This study employed a descriptive quantitative research design using a formative evaluation approach with a cross-sectional method. A formative evaluation was selected to assess the current implementation of application-based midwifery documentation and to provide feedback for improving documentation management within Independent Midwifery Practices (Praktik Bidan Mandiri/PBM). The cross-sectional approach enabled data collection at a single point in time to describe the existing condition of documentation management during the study period.

The study was conducted from January to June 2024 in Independent Midwifery Practices located in Cirebon Regency, West Java, Indonesia. Cirebon Regency was selected because it has a relatively large number of registered Independent Midwifery Practices and is currently undergoing the transition from conventional documentation systems to Electronic Medical Records (EMR) following the implementation of the Indonesian Ministry of Health Regulation Number 24 of 2022 concerning Medical Records.

The study population consisted of 612 registered Independent Midwifery Practices operating in Cirebon Regency in 2024. The study sample included 30 Independent Midwifery Practices, selected using a purposive sampling technique. Sampling was conducted based on predefined inclusion criteria, including: (1) actively providing maternal and child health services during the study period; (2) holding a valid practice license; (3) willing to participate in the study; and (4) utilizing or preparing to utilize application-based documentation systems. Practices that were temporarily closed or declined participation were excluded from the study.

The study investigated a single variable, namely the management of application-based midwifery care documentation in Independent Midwifery Practices. The variable was evaluated through two main dimensions:

Availability of documentation forms, including the completeness of documentation forms required for maternal and child health services, patient registration, clinical examination, diagnosis, treatment, referral documentation, medication records, informed consent, and service reporting.

Implementation of documentation practices, including the completeness, accuracy, timeliness, consistency, and compliance of documentation with the SOAP (Subjective, Objective, Assessment, Plan) format as well as the utilization of application-based documentation during service delivery.

Primary data were collected through direct observation of the implementation of the SIM Klinik application using a structured observation checklist developed according to national standards for midwifery documentation and Electronic Medical Records. The observations included both the completeness of digital documentation stored in the SIM Klinik application and the documentation practices performed by midwives during routine healthcare services. To minimize the Hawthorne effect, observations were conducted during routine service delivery without researcher intervention, and all observers received standardized training before data collection.Each observation item was assessed based on predetermined criteria and categorized

into five levels: very incomplete, incomplete, moderately complete, complete, and very complete for documentation availability, while documentation implementation was categorized as very poor, poor, adequate, good, and very good according to the percentage of compliance with documentation standards.

Prior to data collection, administrative permission was obtained from the relevant authorities and all participating midwives provided informed consent. Confidentiality and anonymity of all participating practices were maintained throughout the research process, and all collected data were analyzed only for research purposes.

Data analysis was performed using descriptive statistical analysis. Frequency distributions and percentages were calculated to describe the availability of documentation forms and the implementation of application-based documentation in Independent Midwifery Practices. The findings were subsequently presented in tables and interpreted narratively to illustrate the current condition of application-based documentation management in Cirebon Regency.

RESULTS AND DISCUSSION

The availability of documentation forms in Independent Midwifery Practices (PBM) was assessed to determine the readiness of midwives in implementing application-based documentation systems. The completeness of documentation forms is an important prerequisite for ensuring continuity of care, maintaining accurate medical records, and supporting the implementation of Electronic Medical Records (EMR) in primary healthcare services.

Table 1. Availability of Midwifery Care Documentation Forms in Independent Midwifery Practices (n = 30)

Category	Frequency (n)	Percentage (%)
Very incomplete	0	0.0
Incomplete	3	10.0
Moderately complete	20	66.7
Complete	3	10.0
Very complete	4	13.3
Total	30	100.0

Table 1 shows that the majority of Independent Midwifery Practices (66.7%) had a moderately complete documentation system, while only 13.3% demonstrated very complete documentation. A small proportion (10.0%) still had incomplete documentation forms, indicating that not all practices had fully complied with the administrative requirements for comprehensive midwifery documentation.

These findings suggest that most Independent Midwifery Practices have initiated efforts to improve documentation management in accordance with the national transition toward Electronic Medical Records. Nevertheless, the predominance of moderately complete documentation indicates that further improvements are still necessary before achieving optimal digital documentation implementation.

The availability of complete documentation forms is fundamental to ensuring the continuity and quality of maternal and child healthcare services. Comprehensive documentation facilitates communication among healthcare professionals, supports clinical decision-making, enhances patient safety, and serves as legal evidence of healthcare services provided. In addition, complete documentation contributes to health service monitoring, program evaluation, reimbursement processes, and policy development.

The findings are consistent with previous studies reporting that documentation completeness remains one of the major challenges in primary healthcare services. Midwives frequently experience difficulties in maintaining complete documentation due to heavy workloads, limited administrative personnel, time constraints during patient care, and reliance on manual recording systems. These barriers often lead to delayed documentation, incomplete patient records, and duplication of administrative work.

The implementation of application-based documentation offers considerable advantages over conventional paper-based systems. Digital documentation enables automatic data storage, reduces transcription errors, improves data accessibility, facilitates reporting, and enhances service efficiency. Furthermore, application-based documentation supports compliance with the Indonesian Ministry of Health Regulation Number 24 of 2022, which requires healthcare facilities to gradually implement Electronic Medical Records.

Despite these benefits, the transition toward digital documentation requires adequate infrastructure, reliable internet connectivity, continuous technical support, and sufficient digital literacy among healthcare providers. Therefore, improving documentation completeness should be accompanied by capacity-building programs and institutional support to ensure sustainable implementation of Electronic Medical Records in Independent Midwifery Practices.

The second component evaluated in this study was the implementation of documentation practices during the provision of midwifery care.

Table 2. Implementation of Application-Based Midwifery Documentation in Independent Midwifery Practices (n = 30)

Category	Frequency (n)	Percentage (%)
Very poor	0	0.0
Poor	0	0.0
Adequate	5	16.7
Good	7	23.3
Very good	18	60.0
Total	30	100.0

The implementation assessment specifically evaluated the use of the SIM Klinik application as the digital documentation platform utilized by the participating Independent Midwifery Practices. As presented in Table 2, most Independent Midwifery Practices (60.0%) demonstrated very good implementation of documentation practices, while 23.3% performed documentation at a good level and 16.7% achieved adequate implementation. None of the observed practices were categorized as poor or very poor.

These results indicate that although documentation forms were not yet completely available in all practices, midwives generally demonstrated good compliance in documenting patient care activities. This finding reflects a high level of professional commitment among midwives to maintain documentation quality despite existing administrative limitations.

The relatively good implementation of documentation may also indicate increasing awareness among midwives regarding the legal, professional, and clinical importance of accurate documentation. Documentation not only records patient care but also functions as evidence of professional accountability, facilitates communication among healthcare providers, supports continuity of care, and contributes to patient safety.

Another possible explanation is the increasing adoption of digital technology within primary healthcare settings. Application-based documentation systems simplify data entry, improve data retrieval, reduce repetitive administrative tasks, and facilitate automatic reporting. Consequently, midwives can allocate more time to patient care while maintaining comprehensive documentation.

However, several practices were still categorized as adequate rather than good or very good. This condition may be associated with limited experience in using digital applications, insufficient training, inadequate technical infrastructure, or resistance to changes from manual documentation systems. Similar findings have been reported in previous studies demonstrating that successful implementation of Electronic Medical Records depends not only on technology availability but also on organizational readiness, leadership support, user competence, and continuous technical assistance.

The findings of this study have important implications for maternal healthcare services. Strengthening digital documentation systems through regular training, standardized documentation guidelines, mentoring programs, and infrastructure development will contribute

to improving documentation quality and healthcare service efficiency. Furthermore, strengthening documentation practices will support the national digital health transformation agenda and improve the quality of maternal and child healthcare services in Indonesia.

This study provides new evidence regarding the implementation of application-based midwifery documentation within Independent Midwifery Practices following the enactment of the Indonesian Ministry of Health Regulation Number 24 of 2022 concerning Electronic Medical Records. Unlike previous studies that mainly focused on documentation completeness using manual recording systems, this study simultaneously assessed the availability of documentation forms and the implementation of digital documentation practices as indicators of organizational readiness for Electronic Medical Record adoption.

The findings demonstrate that although most practices have not yet achieved complete documentation availability, the implementation of documentation practices has reached a satisfactory level. This suggests that the transition toward digital documentation is progressing positively and that midwives are adapting to changes in healthcare documentation systems. These findings may serve as baseline evidence for local health authorities in developing policies related to digital health implementation, strengthening technical assistance, and improving documentation quality in Independent Midwifery Practices.

Overall, the study highlights that successful implementation of application-based documentation requires not only technological innovation but also continuous investment in human resources, organizational commitment, standardized procedures, and supportive health policies. These components are essential for ensuring the sustainability of Electronic Medical Record implementation and for improving the quality, safety, and continuity of maternal healthcare services.

CONCLUSION

This study demonstrates that the management of application-based midwifery care documentation in Independent Midwifery Practices (PBM) in Cirebon Regency has generally shown positive progress toward the implementation of Electronic Medical Records (EMR). Most practices had a moderately complete availability of documentation forms (66.7%), while the implementation of documentation practices was predominantly categorized as very good (60.0%). The evaluation focused on the utilization of the SIM Klinik application, including the completeness of electronic documentation forms, compliance with documentation standards, and the consistency of documentation practices recorded within the application.

The findings highlight that the successful implementation of application-based documentation depends not only on the availability of digital technology but also on organizational readiness, adequate infrastructure, continuous training, and technical support for healthcare providers. Strengthening these components is essential to optimize Electronic Medical Record implementation, improve documentation quality, enhance patient safety, and support the continuity of maternal and child healthcare services.

This study provides empirical evidence regarding the readiness of Independent Midwifery Practices to implement digital documentation following the enactment of the Indonesian Ministry of Health Regulation Number 24 of 2022. The results may serve as a reference for local health authorities and professional organizations in developing policies, capacity-building programs, and digital health strategies to accelerate the successful implementation of Electronic Medical Records in primary midwifery care throughout Indonesia. From a policy perspective, strengthening the implementation of the SIM Klinik application requires collaborative efforts involving the District Health Office, the Indonesian Midwives Association (IBI), and healthcare institutions. Regular technical training, digital infrastructure improvements, periodic monitoring, and helpdesk support should be prioritized to ensure sustainable Electronic Medical Record implementation within Independent Midwifery Practices.

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