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ORIGINAL

The Application of Electronic Medical Record-Based Nursing Care Documentation in Improving the Effectiveness of Nursing Services

La aplicación de la documentación de la atención de enfermería basada en registros médicos electrónicos para mejorar la eficacia de los servicios de enfermería

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ABSTRACT

Introduction: incomplete nursing documentation can have an impact on client safety and the quality of service provided to clients, with the risk of miscommunication between nursing care providers and clients. The phenomenon occurring at the Community Health Center in Banyuwangi Regency is the non-implementation of SDKI, SLKI, and SIKI in documenting nursing care. So far, there has been no qualitative study in Indonesia related to nursing documentation using SDKI, SLKI, and SIKI. This study aims to explore further the documentation of nursing care using SDKI, SLKI, and SIKI at the Mojopanggung, Singotrunan, and Kelir Community Health Centers in Banyuwangi Regency.
Method: this study used a qualitative method with a descriptive phenomenological approach. The number of participants consisted of 16 people with purposive sampling technique. Data collection used in-depth interviews, observation, and nursing documentation review techniques.
Results: the results of this study revealed three themes, namely that human resource development has not been optimal. The second theme is the challenges and obstacles faced by nurses in nursing documentation. The third theme is that the application of digital information systems has not been optimal, particularly the implementation of SDKI, SLKI, and SIKI documentation in electronic medical records.
Conclusions: the success of implementing digital-based nursing documentation depends not only on the availability of technological systems, but also on strengthening human resource capacity, effective supervision, and managerial support in managing workloads and improving information systems.

Keywords: Nurses; Documentation; SDKI; SLKI; SIKI.

RESUMEN

Introducción: la documentación de enfermería incompleta puede afectar a la seguridad de los pacientes y a la calidad del servicio que se les presta, con el riesgo de que se produzcan malentendidos entre los proveedores de cuidados de enfermería y los pacientes. El fenómeno que se da en el Centro de Salud Comunitario de la regencia de Banyuwangi es la no aplicación de SDKI, SLKI y SIKI en la documentación de los cuidados de enfermería. Hasta ahora, no se ha realizado ningún estudio cualitativo en Indonesia relacionado con la documentación de enfermería utilizando SDKI, SLKI y SIKI. El objetivo de este estudio es explorar más a fondo la documentación de la atención de enfermería utilizando SDKI, SLKI y SIKI en los Centros de Salud Comunitarios de Mojopanggung, Singotrunan y Kelir, en la regencia de Banyuwangi.
Método: este estudio utilizó un método cualitativo con un enfoque fenomenológico descriptivo. El número de participantes fue de 16 personas, seleccionadas mediante una técnica de muestreo intencional. La recopilación

de datos se realizó mediante entrevistas en profundidad, observación y técnicas de revisión de la documentación de enfermería.
Resultados: los resultados de este estudio revelaron tres temas, a saber, que el desarrollo de los recursos humanos no ha sido óptimo. El segundo tema son los retos y obstáculos a los que se enfrentan las enfermeras en la documentación de la enfermería. El tercer tema es que la aplicación de los sistemas de información digital no ha sido óptima, en particular la implementación de la documentación SDKI, SLKI y SIKI en las historias clínicas electrónicas.

Palabras clave: Enfermeras; Documentación, SDKI, SLKI, SIKI.

INTRODUCTION

Based on Indonesian Minister of Health Regulation No. 19 of 2024, a community health center (Puskesmas) is a primary health care facility that organizes and coordinates promotive, preventive, curative, rehabilitative, and/or palliative health services in its working area.[1] Community health centers, as the spearhead of health efforts, are required to provide health services that meet standards, one of which is through optimal and quality nursing services. One form of nursing service in community health centers is the documentation of nursing care in accordance with established standards.[2]

Nursing care documentation is a document that contains information about the client's condition, starting from a bio-psycho-social-spiritual assessment, nursing plan, interventions in accordance with the plan that has been prepared, and evaluations carried out by nurses on the client.[3] Nursing documentation is the primary source of clinical information that can help meet legal standards in client care practices. In addition, clear, accessible, and accurate documentation is an important element of quality, safe, and evidence-based nursing care.[4]

Quality nursing documentation is useful for improving nursing care. The quality of nursing documentation globally is still low. Studies conducted in several countries show that less than 50 % of nursing care documentation is of low quality. Research results show that the quality of nursing documentation in New Zealand reaches 52 %, in the United States 32,7 %, and in Europe 32,3 %. The low quality of nursing care documentation in Europe is due to workload (42,8 %), lack of knowledge (25,5 %), and lack of managerial supervision (11,2 %).[5] Meanwhile, the results of research conducted at the East Java Community Health Center were only 59,1 %.[6]

Many nurses are still unaware of the importance of implementing documentation in accordance with nursing standards.[7] Incomplete or substandard nursing documentation can impact client safety and the quality of care provided to clients. It also risks miscommunication between nursing care providers and clients due to the lack of clear written communication, which can lead to a decline in the quality of nursing care.[8] This indicates that the nursing care process is not running optimally and continuously.

Factors that influence suboptimal nursing documentation and non-compliance with standards consist of external factors, namely nurse factors, work environment factors, and management factors. Meanwhile, internal factors consist of nurse behavior factors. Nurse behavior in documentation can be identified using the Theory of Planned Behavior. The Theory of Planned Behavior (TPB) is a theory that explains the causes of behavioral intentions. Based on this theory, in order for someone to do something, that person must have an intention. Intention is influenced by belief in the consequences of an action, in this case, the documentation of nursing care. Intention can arise if the attitude is supported by the subjective norms held by nurses. Synergistically, these attitudes and norms interact as perceived control behavior of nurses.[9] The results of research on this theory show that there is a significant relationship between nurses' attitudes and perceived behavioral control (PBC) and their intention to document nursing care.[10]

The quality of nursing care can be assessed using nursing practice standards. Nursing care standards serve as guidelines and benchmarks in the implementation of nursing practice to ensure that it is in line with professional values, ethics, and responsibilities.[11] The Indonesian National Nurses Association (PPNI) has officially issued a standard that serves as a guideline for nurses in the nursing process with reference to documentation standards. The policy implemented by PPNI is an effort to improve the quality of service for clients as recipients of health services.[12] Although there are several internationally recognized standards and references, because they have not been standardized and formalized, and have not been developed with consideration for cultural disparities and the unique characteristics of nursing services in Indonesia, these standards are considered unsuitable for application in Indonesia.[13] However, these existing standards can serve as a reference and input in the development of standards that are more suited to the culture and characteristics of nursing services in Indonesia.[13]

The Indonesian Nursing Diagnosis Standards (SDKI), Indonesian Nursing Outcome Standards (SLKI), and

Indonesian Nursing Intervention Standards (SIKI) are used to create uniformity in terminology when describing the scope of issues addressed by nurses and to facilitate nurses in carrying out one of their tasks in compiling nursing documentation.[13] Based on the Indonesian Minister of Health Decree (KMK) Number HK.01.07/ MENKES/425/2020 concerning nursing profession standards, the list of nursing diagnoses refers to the Indonesian Nursing Diagnosis Standards (SDKI), the list of skills contains nursing interventions that refer to the Indonesian Nursing Intervention Standards (SIKI), and the outcome criteria refer to the Indonesian Nursing Outcome Standards (SLKI).[14]

The use of standards in nursing documentation is very important to improve the quality and professionalism of health services. Based on a preliminary study conducted at the Banyuwangi District Health Center on 10 nurses, it was found that nurses have not implemented SDKI, SLKI, and SIKI in compiling nursing care documentation because nurses have been using documentation forms with NANDA, NIC, and NOC standards (narrative and checklist). Furthermore, SDKI, SLKI, and SIKI documentation has not been integrated into electronic medical records (EMR). The phenomenon occurring at the Mojopanggung Community Health Center, Singotrunan Community Health Center, and Kelir Community Health Center in Banyuwangi Regency is the non-implementation of SDKI, SLKI, and SIKI in documenting nursing care, even though the PPNI professional organization has recommended implementing these standards as guidelines to create uniformity in terminology. The nursing profession standards state that the use of nursing standards refers to SDKI, SLKI, and SIKI, but in reality, nurses at health centers in Banyuwangi Regency have not implemented nursing care documentation in accordance with these standards.

Nursing documentation has been studied in various countries and various health care contexts. A literature review conducted by researchers found 15 studies on nursing documentation. All of these articles were quantitative studies, with 10 articles using a cross-sectional study design and 5 articles using a quasi-experimental design. The studies were conducted in hospitals and community health centers in various countries. To date, there have been no qualitative studies in Indonesia related to nursing documentation using SDKI, SLKI, and SIKI.

Based on this background, the researcher was interested in conducting a phenomenological study of nursing documentation at the Mojopanggung Community Health Center, Singotrunan Community Health Center, and Kelir Community Health Center in Banyuwangi Regency. This study explores information from several different participant perspectives so that the results of this study can be used as material in developing and establishing standards and policies to improve the quality of nursing care documentation using SDKI, SLKI, and SIKI, which will later be applied in health centers, thereby improving the quality of nursing services.

METHOD

This study uses a qualitative method with a descriptive phenomenological approach. Phenomenology is a method that describes the general meaning of a number of individuals towards various life experiences of a person related to a concept or phenomenon.[15] The study was conducted from July to September 2025. The research locations were the Mojopanggung Community Health Center, the Singotrunan Community Health Center, and the Kelir Community Health Center in Banyuwangi Regency, East Java Province. There were 16 participants in this study, consisting of 9 practicing nurses and 7 people consisting of the Head of the Community Health Center, the Head of Administration, and the Cluster Manager, who were selected using non-probability sampling, namely purposive sampling. The sample size is considered adequate when the data is saturated, meaning that further participants will not provide new information.[16] Participants were also selected using inclusion and exclusion criteria. The inclusion criteria used in this study were practicing nurses (with ± 2–3 years of work experience) who worked at the Mojopanggung, Singotrunan, and Kelir Community Health Centers in Banyuwangi Regency, parties involved in the nursing documentation process at the Mojopanggung, Singotrunan, and Kelir Community Health Centers in Banyuwangi Regency (practicing nurses, heads of health centers, heads of administration, cluster managers), who were willing to participate in this study and sign an informed consent form, and who would be the source of data in this study (heads of health centers, heads of administration, cluster managers), and who were not sick, on leave, or studying. Meanwhile, the exclusion criteria in this study are participants who are on leave during the data collection period, refuse to participate, and cannot continue the interview process due to personal reasons.

The instruments used in this study were a list of questions compiled in an interview guide, observation sheets, nursing care documentation, and data collection aided by a voice recorder (Digital Voice Recorder), notebooks and writing instruments such as pencils and pens, and a camera. Data were collected using in-depth interviews, observation, and review of nursing documentation, lasting 30-40 minutes and recorded using a digital voice recorder. The interview guidelines were developed by the researcher based on the Indonesian Nursing Diagnosis Standards (SDKI), Indonesian Nursing Outcome Standards (SLKI), and Indonesian Nursing Intervention Standards (SIKI).[13,17,18]

The data collection process in this study began with the preparation stage, which included obtaining permits

from relevant institutions, submitting an ethics review to the health research ethics committee, and applying for research permits from local government agencies. After obtaining permission, the researchers developed interview guidelines and prepared data collection tools such as voice recorders, notebooks, and cameras. During the implementation stage, the researchers approached potential participants, explained the data collection procedures, and agreed on a schedule. In addition, participants were asked to sign an informed consent form as a form of agreement to participate in this study.

The interview results were transcribed and then analyzed using Braun and Clark's (2006) thematic analysis, which consists of six phases, including data familiarization, generating initial codes, searching for themes, reviewing themes, defining and naming themes, and reporting research results. The validity and reliability in this study were determined using data validity criteria based on four criteria according to Moleong, 2019, namely Credibility Testing, Transferability Testing, Dependability Testing, and Confirmability Testing.

The ethical aspect of this study was to obtain permission by submitting an ethical protocol to the relevant institution, namely the Bali Institute of Health Technology, in order to obtain an ethical clearance letter before starting data collection. In addition, the use of informed consent forms was an important step to ensure that participants understood the objectives, benefits, and risks of the study and gave their voluntary consent by signing the form. The researchers also guaranteed the confidentiality and anonymity of the participants' identities by not including their real names and only using codes during the research process and reporting of results.

RESULTS

The results of the thematic analysis revealed three main themes, namely suboptimal human resource development, challenges and obstacles faced by nurses in nursing documentation, and suboptimal implementation of the digitalization information system.

Human Resource Development Not Yet Optimal

Human resource development in the context of nursing documentation at community health centers is still not optimal, as indicated by nurses' lack of knowledge about SDKI, SLKI, and SIKI standards. Many nurses only have a basic understanding of these standards without in-depth knowledge, due to a lack of formal training and effective socialization during their education and at work. In addition, nurses are also not yet skilled in applying these standards, especially in the stages of data analysis, problem identification, nursing diagnosis, and the preparation and supervision of nursing interventions. This lack of skills has an impact on the quality of the documentation produced, so that the documentation process is not carried out completely and systematically. Furthermore, the supervision and assessment of the documentation process is also less than optimal, so that it is unable to support the continuous improvement of nurses' competencies.

Challenges and Obstacles Faced by Nurses in Nursing Documentation

The challenges and obstacles faced by nurses in the nursing documentation process include internal constraints originating from the nurses themselves. One of the main obstacles is low motivation and a lack of understanding of applicable documentation standards, caused by insufficient training and socialization, resulting in many nurses feeling confused about implementing procedures and ensuring data accuracy. In addition, nurses' behavior in documenting is not yet optimal, often limited by a lack of skills and experience in compiling complete and systematic documents. On the other hand, the additional tasks assigned to nurses are also a serious obstacle. Many nurses have to play dual roles as delegates of doctors' treatment and as health program coordinators, which increases their workload and time commitments. This situation causes documentation to be neglected or rushed, which affects the quality of data and the continuity of nursing services.

Implementation of Digitalization Information Systems Not Yet Optimal

The implementation of digitalization information systems in nursing documentation, particularly the use of electronic medical records (EMR), is still not optimal. One of the main problems is the incomplete documentation features of SDKI, SLKI, and SIKI in the EMR system used. Many nurses report that the data available in EMRs is still limited and does not cover all aspects of documentation in accordance with standards. This is due to the lack of regular feature updates and improvements to the application's capabilities to fully and efficiently meet nursing standards. As a result, in many cases, the recording process is done manually and is not fully integrated, resulting in data that is less accurate and less comprehensive. This condition hinders efforts to automate and innovate nursing data management, so that the effectiveness of digital documentation is not maximized and has an impact on improving the quality of services and developing nursing standards in these health facilities. Based on the above description, it can be summarized in the table below.

Table 1. Results of Thematic Analysis

No	Theme	Sub themes	Code	Quote
1	Human resource development is not optimal	1. Lack of knowledge about SDKI, SLKI and SIKI	a. Theoretical understanding of SDKI, SLKI, SIKI is not optimal	*"As for understanding, I don't really understand it yet, just a glimpse (laughing)." (Nurse P2)* *"Until now, I didn't understand about these standards, because they weren't taught during college, because I graduated in 2013, those standards didn't exist (looks confused)." (Nurse P3)*
			b. Practical understanding of SDKI, SLKI, SIKI is not optimal	*"We still can't implement it." (Nurse P2)* *"For documentation, the community health center doesn't use the SDKI standards yet; they're still using the old ones. I don't understand how to use them." (Nurse P5)*
			c. There is no socialization and training on SDKI, SLKI, SIKI	*"Regarding this latest standard, it is clear that there is no training. I myself, up to this very second, have never known about the format of the new nursing care standards." (Nurse P9)* *"There has never been any outreach from the health department regarding these standards." (Person in Charge of Cluster P16)*
		2. Lack of skills in documentation of SDKI, SLKI, SIKI	a. Lack of skills in data analysis process	*" There is no data analysis column in the format because we just fill it in by ticking the boxes." (Nurse P4)* *"Because it's been a long time since I forgot (laughing) because all this time I only wrote in RM, there was no data analysis process" (Nurse P9)*
			b. Lack of skill in identifying problems	*"So far, because we're not in a hospital, we're only in a community health center. We hope to address the most prominent issues and address them. We'll ignore the risks and potential issues first. We'll prioritize the actual issues first." (Nurse P1)* *"I also don't really understand about problem identification because so far, what is it? We just fill it in on the RM, what do we do with the nursing process, you know?" (Nurse P9)*
			c. Lack of skill in formulating nursing diagnoses in SDKI	*"That's why there aren't many options for diagnoses in the RME. In the end, we often just use comfort disorders, which aren't comprehensive. Not all clients have nursing diagnoses filled out; sometimes they are, sometimes they aren't, and sometimes they forget (laughs)." (Nurse P2)* *"Because the Health Department has created a standard form, we just have to tick boxes, and it's actually quite convenient. However, given the progress of modern technology, we can't understand the latest references. Without a formal form, we wouldn't understand because not all diagnoses are included in the format, and at the community health center, we mostly only see family diagnoses. Only a portion of individual diagnoses are included in the format." (Nurse P1)* *"The standard is still the old one, NANDA. The SDKI still doesn't know (laughs). Even in the RME, the diagnosis is incomplete; it just states the problem, not fully described." (Nurse P5)*
			d. Lack of skill in determining SLKI nursing outcomes	*"So far, we've been using a handwritten format from the department, but it doesn't adhere to the SLKI standard. The RME doesn't have one because it's incomplete, only up to the nursing diagnosis." (Nurse P6)*

					"We use the form we have. There's a form from the department, so we just write on it. Maybe the format we're using still refers to the old standard (looks confused). The RME doesn't have one, it only goes as far as the diagnosis." (Nurse P8)
				e. Lack of skill in developing SIKI nursing interventions	*"In RME there are no nursing interventions, there are only subjective and objective, then medical diagnoses and then nursing diagnoses" (Nurse P1)* *"If the intervention uses an existing format, it already has content, so we just check the boxes according to the client's diagnosis. The interventions are also combined into one. Sometimes we have difficulty determining interventions based on the client's assessment data because not all interventions are included in that format." (Nurse P4)* *"The department or program manager hasn't explained the intervention standards used on the form, so I don't know what those standards are." (nurse P7)*
		3.	Supervision and assessment of documentation is less than optimal	a. Monitoring and evaluation of documentation is less than optimal	*"So far, monitoring and evaluation has been carried out by the health service to only assess the quantity of nursing care, without assessing the quality of documentation using the new standards" (Nurse P1)* *"So, the community health center itself has not yet conducted monitoring and evaluation regarding the documentation of nursing care." (Head of Community Health Center P10)* *"Yes, from the PKP service every year... then internally it is in accordance with the quality standards, so there is no monitoring for nursing documentation" (Head of P11 Health Center)* *"Intensive monitoring has not been carried out" (Head of Administration P14)*
				b. There are no documentation assessment indicators	*"The program coordinators at the health department are not nurses, but doctors. Ultimately, they only look at the quantity/ number of nursing care instructions collected, so there's no assessment of the quality of documentation. The important thing is that the number is met and accompanied by evidence of home visits." (Nurse P1)* *"The relationship with the evaluation assessor must be clear, who is assessing and what indicators are being assessed as part of the evaluation... it must be clear, well, we can't make it ourselves, automatically the one who makes it is PPNI, maybe like that, right?" (Head of Administration P12)*
2	Challenges and obstacles for nurses in documentation Nursing Department	1.	Internal constraints of nurses	a. Nurses' motivation in documenting-SDKI, SLKI, SIKI are still low	*"Most nurses at the Community Health Center (Puskesmas), especially in Mojopanggung, are D3 graduates with varying graduation years. The SDKI, SLKI, and SIKI standards were published in 2016, so we're completely unaware of them. Some may have only skimmed through them because there are students practicing at the Puskesmas. But we don't know the full scope of the standards." (Nurse P1)* *"So, it's not just about being told to read, because if you read, you're lazy and it's impossible to read, so you have to practice so you understand." (Nurse P2)*

					"The obstacle is perhaps a lack of updating our knowledge, because most of us graduated in previous years." (Nurse P4) *"I graduated in 1997 a long time ago, so my nursing knowledge is still old, so I still don't understand the new standards." (Nurse P5)* *"So, when they enter the agency system, when they enter the job, sometimes their knowledge is ignored, especially among the nurses whose motivation is lacking." (Head of Administration P14)*
			b.	Nurses' behavior in documentation is not optimal	*"We only fill in the medical diagnosis according to ICD.10 because the medical diagnosis must be filled in to proceed to the next stage in the RME, but if the nursing diagnosis is not filled in, it's okay, we can still proceed to the next stage" (Nurse P1)* *"We usually rarely fill in nursing diagnoses in the RME because there are so many clients." (nurse P4)* *"If the RME doesn't know the diagnosis, then don't pass it through, don't fill it in." (Nurse P7)* *"To be honest, it's almost never done because it's just filling in the client's RM" (Nurse P9)*
		2. Additional duties related to delegation and program coordinator	a.	Accepting delegated authority regarding treatment	*"Because we also have to administer treatment, and the number of doctors is limited, we end up delegating our assignments to treating clients. Therefore, we need more time to document the nursing care, which ultimately leads to us not meeting the deadlines because clients will inevitably wait too long. So, we don't do our job of documenting the nursing care. Instead, we have to treat clients." (Nurse P1)* *"There are so many clients, they don't have time to fill out their RMEs because they're also providing medical services. This is because there are limited nurses. If there were three doctors and a nurse specifically responsible for documentation, everything would be done." (Nurse P2)* *"Nurses on duty in the service also double as treatment providers, especially in cluster 3." (Head of P10 Health Center)*
			b.	Acting as program coordinator and other duties	*"Because we, as nurses, also handle programs. So, we have a lot of responsibilities, both in the field and as district nurses. Because we have so much to do, the documentation is still incomplete and lacking. Each nurse handles at least two programs, so their duties are indeed multifaceted."* *(Nurse P5)* *"Nurses don't just do their job as nurses, so some are in charge of the program, so the term double job ultimately makes the time to do this minimal so that it is not optimal for doing this documentation"* *(Person in Charge of Cluster P15)*
3	The implementation of the digital information system is not yet optimal	Implementation of documentationSDKI, SLKI, SIKI assessment on RME is less than optimal	a.	There are no updates to the documentation features yet. SDKI, SLKI, SIKI at RME	*"The downside of using RME is that it's not as comprehensive as the manual method, such as the lack of intervention," said nurse P8.* *"From what I've seen in medical records, services at the community health center are available, but they're still limited. They should all be RME," (Head of Community Health Center P11)*

		"Perhaps the RME is still incomplete, even filling it up to the diagnostic stage." (Person in Charge of Cluster P15) *"While medical records have been implemented, intervention and evaluation have not yet been completed. Therefore, nursing care at RME is incomplete." (Head of Administration P12)* *"What's recorded in the RME starts with nursing assessment and diagnosis. There's no planning, implementation, or evaluation yet." (Head of Administration P14)*
	b. Not yet implemented SDKI, SLKI, SIKI on RME	*"We don't have any updates regarding the latest diagnostic information. The RME is limited, and the app itself doesn't meet standards." (Nurse P8)* *"Overall, RME nursing care is still not up to standard." (Person in Charge of Cluster P16)*
	c. Internet network problems	*"Sometimes the network is slow, so we end up just filling in the medical diagnosis according to ICD.10" (Nurse P1)* *"The problem that often occurs at RME is internet disruption. If it's slow or the power goes out, we make medical records manually." (Nurse P6)* *"There are frequent power outages, so RME can't be fully utilized. When there are outages, we use manual procedures, from the counter to the service center." (Head of Administration, P14)*

DISCUSSION

Human Resource Development Not Yet Optimal

The development of human resources (HR) for nurses in the implementation of nursing documentation using SDKI, SLKI, and SIKI at the Mojopanggung Community Health Center, Singotrunan Community Health Center, and Kelir Community Health Center in Banyuwangi Regency is still not optimal. This is evident from the level of knowledge and skills of nurses in the practice of nursing documentation, as well as the implementation of supervision and assessment of nursing documentation, which are not yet optimal. Other research results indicate that most nurses lack understanding of the standards for nursing care documentation.[11] In line with research conducted at the Majauleng Community Health Center, it was found that most nurses do not understand SDKI, SLKI, and SIKI because they are not aware of the existence of these three standards.[19]

Nurses' knowledge determines their actions in providing services to patients, so that nurses whose actions are based on knowledge will provide better and higher quality services compared to nurses who perform their actions without knowledge.[20] A lack of understanding of the correct documentation standards and procedures can affect data quality and service continuity. Therefore, training and socialization of nursing documentation are necessary. The purpose of the training is to improve nurses' knowledge and skills in performing nursing documentation in accordance with the Indonesian Nursing Standards.[21] In addition, supervision and assessment of nursing documentation are very important in maintaining the quality of nursing care.[22] Supervision aims to provide technical assistance and guidance to nurses and staff so that they can improve the quality of their performance in carrying out the nursing care service process.[23] These factors indicate challenges in improving nurses' competence and understanding of nursing documentation standards, as well as supervision and assessment of documentation, which can affect the improvement of service quality and the accuracy of nursing documentation.

Challenges and Obstacles Faced by Nurses in Nursing Documentation

Nurses face various challenges and obstacles in implementing nursing documentation at the Mojopanggung Community Health Center, Singotrunan Community Health Center, and Kelir Community Health Center in Banyuwangi Regency.These obstacles include internal constraints faced by nurses, namely low motivation among nurses in documenting SDKI, SLKI, and SIKI. This is in line with other studies that mention the low coverage of nursing documentation at the Rimbo Bujang Community Health Center due to a lack of motivation among nurses in performing nursing documentation.[24] According to other research, motivation can significantly influence nursing documentation because high motivation encourages nurses to record information completely, accurately, and in a timely manner.[25] Nurses' behavior in nursing documentation is not yet optimal, which includes nurses' attitudes toward behavior and nurses' perceptions of perceived behavioral control. The results

of this study are supported by other research which mentions that there are nurses who believe that serving clients is more important than documenting nursing care, resulting in the neglect of nursing documentation.[9] Nurses' behavior in documenting nursing care can be identified through the Theory of Planned Behavior (TPB).[10]

The theory explains that human behavior is influenced by three factors, namely individual attitudes toward the behavior in question, subjective norms, and perceived behavioral control.[26] The results of this study, when linked to the behavioral theory, indicate a lack of attitude toward behavior, thereby reducing nurses' intention or intent to document according to standards. Another factor influencing behavior is a lack of perceived behavioral control. In this case, nurses perceive that they are unable to document nursing care in accordance with SDKI, SLKI, and SIKI, which can hinder their intention or intent to implement documentation behavior.

Meanwhile, the challenges faced by nurses include additional tasks related to the delegation of treatment tasks and nurses doubling as program coordinators and other tasks. The results of other research mentions that nurses' workload is one of the factors that affects the completeness of nursing documentation.[27] Many nurses face high workloads, so they sometimes feel rushed or forget to complete their documentation. The other research also mentions the workload of nurses that overlaps with other tasks.[7] In this case, nurses at community health centers who provide services to clients are also responsible for managing existing programs at the community health centers.

The delegation of authority carried out by nurses is regulated in the Nursing Law Number 38 of 2014, Article 29 paragraph 1 letter e concerning Nursing, which states that in carrying out nursing practices, nurses serve as task implementers based on the delegation of authority.[28] Article 32 of the Nursing Law stipulates that delegated authority to perform medical procedures is granted by medical personnel to nurses, accompanied by the transfer of responsibility. Delegated authority can only be granted to professional nurses or trained vocational nurses who have the necessary competencies. Delegation in such circumstances must be outlined in standard operating procedures (SOPs) at health facilities. Furthermore, a delegation letter must be issued and signed by the delegating physician and the nurse receiving the delegation.[29]

The Implementation of Digital Information Systems is Not Yet Optimal

In this case, the implementation of electronic medical records at the Mojopanggung Community Health Center, Singotrunan Community Health Center, and Kelir Community Health Center in Banyuwangi Regency was only implemented in 2024. Regarding nursing documentation using SDKI, SLKI, and SIKI in EMR, the results were less than optimal because the implementation of these standards in EMR has not been fully integrated and implemented, so nursing documentation has not been carried out in accordance with applicable standards. The results of interviews in this study indicate that the main obstacle lies in the lack of feature updates in the EMR system used, so that the data content related to nursing documentation is still limited and does not meet the standards in accordance with SDKI, SKLI, and SIKI. Internet network problems are one of the main obstacles in the implementation of electronic medical records (EMR) at Puskesmas. Network disruptions such as unstable connections or sudden outages prevent the optimal and smooth recording and filling in of nursing data.

Based on Ministry of Health Regulation No. 24 of 2022, all public health services are required to adopt an Electronic Medical Record (EMR) system. An Electronic Medical Record is a medical record created using an electronic system intended for the administration of medical records containing patient identity data, examinations, treatments, procedures, and other services that have been provided to patients.[30] Based on the above explanation, it can be concluded that the implementation of a digital information system for nursing documentation at the Mojopanggung, Singotrunan, and Kelir Community Health Centers is still not optimal. This is due to the lack of updates to the SDKI, SLKI, and SIKI documentation features in the RME, the incomplete and ineffective integration of these standards, and internet connectivity issues in the implementation of documentation in the RME. Other research results also mention that the obstacle to the suboptimal implementation of RME at the Jabung Community Health Center is unstable internet connection.[31] In addition, inadequate hardware such as computers and servers often cause errors, freezes, or crashes during use, which slows down service and data management processes. Limited application features and dependence on a hybrid system due to feature limitations also mean that not all data can be managed fully digitally, so manual processes are still necessary.

Strengths and limitations of the study

This study provides an overview of the complex phenomenon related to nursing documentation at the Mojopanggung, Singotrunan, and Kelir Community Health Centers in Banyuwangi Regency through a multi-perspective approach involving various parties, namely the heads of the community health centers, the heads of administration, cluster managers, and practicing nurses. This study is able to present a comprehensive picture of the challenges and obstacles faced in the documentation process. In addition, this study also identifies in depth the motivations, behaviors of nurses, and additional tasks of nurses related to delegation and doubling as program coordinators that can affect the quality of nursing documentation.

In addition to these advantages, researchers are also aware of the potential for bias in the data collection process. Researchers are part of the staff at the Mojopanggung Community Health Center, so confirmation bias cannot be completely avoided. Confirmation bias can cause writers to confirm their assumptions without objectively considering other conflicting data or evidence. Confirmation bias can be avoided by bracketing in data collection, which aims to help researchers separate prejudices, assumptions, or personal views that may influence the data collection and interpretation process. In this study, the researcher attempted to separate the concepts and initial assessments regarding nursing documentation during the data collection process so that the interviews did not appear to be directed and the data obtained truly reflected the experiences and perspectives of the participants without any bias from the researcher.

CONCLUSIONS

This study shows that the implementation of nursing documentation standards such as SDKI, SLKI, and SIKI in Community Health Centers in Banyuwangi Regency is still not optimal. The main obstacles encountered include a lack of knowledge and skills among nurses, low motivation, and internal barriers related to workload and lack of effective supervision. In addition, the use of digital information systems in nursing documentation is also not yet optimal, which affects the quality and consistency of documentation. To improve the quality of nursing documentation, it is necessary to improve competence through continuous training, increased supervision, and effective integration of digital systems. Thus, it is hoped that the quality of nursing services can be significantly improved and support the sustainability and safety of patients.

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CONFLICT OF INTEREST

The authors declare no conflicts of interest.

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