

THE EFFECTIVENESS OF APPLICATION OF ELECTRONIC-BASED NURSING DOCUMENTATION IN IMPROVING HEALTH SERVICES : LITERATURE REVIEW

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ABSTRACT

Introduction: Documentation is a nursing record as evidence reporting in the interest of health workers providing health services. The development of nursing care standards with electronic nursing documentation that is in line with technological developments can reduce errors in performing intervention actions on patients. This research aims to improve the quality of documentation to make it easier for nurses to provide health services.

Method: The design of this research is a literature review. The article search was conducted on 10-22 February by accessing five electronic databases (Scopus, Science Direct, Pubmed, Ebscohost and ProQuest). The method used to summarize the journal is CASP (Critical Appraisal Skill Program) tools. The strategy in searching for articles using PICO is, Population: The sample in this study is a number of nurses in the room with varying numbers. Intervention: electronic-based nursing documentation, Comparison: manual nursing documentation. Outcomes: A total of 13 articles were analyzed according to inclusion and exclusion criteria focusing on nursing documentation.

Results: Studies related to electronic documentation show that there is electronic documentation and manual documentation. The use of electronic documentation can improve documentation filling, increase time effectiveness and improve quality nursing service.

Conclusion: Electronic-based nursing documentation is easy to apply efficiently by nurses in the documentation system so that there is an increase in recording or documentation compared to a written system considering the nurse's workload high and time constraint.

Keywords: electronic documentation; health services; nurse

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INTRODUCTION

The rapid development of the era of globalization affects many aspects of life. Therefore, it is natural that the industrial revolution will also have an impact on the health sector. There are many opinions that the health sector will greatly benefit from this transformation. The extent to which this transformation will have a positive impact depends

on how to manage the opportunities and risks that will arise in the future (Tjandrawinata, 2016). Nursing services, which are an integral part of health services, provide services based on nursing knowledge and tips aimed at individuals, families, groups, or communities, both healthy and sick. Every nurse has the obligation to provide nursing care services according to their authority and

competence (Ministry of Health of the Republic of Indonesia, 2014). Nursing documentation is an integral part of nursing care. All information about the client is written here so that it can provide nursing care according to the client's needs. Through documentation the nurse can decide on the appropriate action for the client. The accuracy of client data in the nursing process in the modern era is currently a demand from various aspects for nurses. Paan et al, (2010) in Sulastri and Sari (2018). Nursing documentation is also able to demonstrate the commitment of nurses to provide safe, effective and ethical care by demonstrating accountability for professional practice. Documentation results are evidence that nurses have applied nursing care to clients, knowledge, skills and nurse decision making based on professional considerations in accordance with established nursing service standards (Olfah, 2016).

The problem encountered in hospitals that still use manual documentation is that the writing is often unreadable so that important information in the documentation must be written repeatedly and costs more, in contrast to hospitals that implement electronic documentation, nurses are greatly helped by electronic documentation, nurses feel more relevant in providing information, and the resulting report will be read automatically. In several developed countries, electronic nursing documentation systems have been recognized as a nursing documentation tool that streamlines work and improves the quality of nursing documentation (Murphy, 2010). Electronic nursing documentation is a digital management system in health care settings that has the potential to streamline operations and positively change workflows for efficient use of time in patient care (Baumann, Baker, & Elshaug, 2018). Thus, making it easier for nurses to report on the nursing process which includes assessment, diagnosis, intervention, implementation and evaluation through an electronic record system (Wang, Yu, & Hailey, 2015). According to research conducted by McCarthy et al. (2019),

The application of electronic nursing documentation in hospitals can save time, reduce the rate of documentation errors, falls and infections. In addition, in a review comparing time spent on documentation tasks by hospital staff (doctors, nurses and interns) before and after implementation of Health Electronic Record (HER), it was reported that initial staff adjustment to EHR appeared to

increase documentation time but after intervention staff became less frequent. more control over the system, and can improve workflow (Baumann et al., 2018). The quality of nursing documentation in electronic systems is also significantly better than paper-based documentation (Akhu-Zaheya, Al-Maaitah, & Bany Hani, 2018). although there has been a lot of research on electronic nursing documentation. However, research evaluating the application of electronic nursing documentation to the quality of nursing documentation is still limited (Adereti & Olaogun, 2019). Further research is needed to evaluate the benefits of implementing electronic nursing documentation (De Groot, De Veer, Paans, & Francke, 2020). Therefore, we conducted a literature review to summarize, evaluate, and describe the application of electronic-based nursing documentation in improving the quality of nursing documentation, and can be useful for readers, especially for nursing science.

METHOD

The design of this research is a literature review. Collecting data by reading, reviewing and analyzing from previous research from various sources such as journals and reference books related to the topic, namely electronic-based nursing documentation. 13 articles in the study were identified and included that focus on electronic nursing documentation. Stages of the search strategy through several processes to obtain relevant articles about the comparison of the quality of electronic-based nursing documentation with paper-based nursing documentation. During the search process, the authors used several keywords, such as; "Nursing documentation," "electronic nursing documentation," and "nursing management information system.

The stages of selecting a study are by searching for literature from the remotelib.ui.ac.id database which is connected to various scientific publication sites such as Scopus, Ebsco, Willey Online, Scince Direct, PROQUEST, Annual Reviews and lib.ui. In addition, the authors also searched from the Scholar's page. The articles in this literature review use different research methods, a total of 6 studies using cross sectional and cross sectional quantitative research methods totaling 3 articles, descriptive cross sectional design mix method qualitative and quantitative totaling 1 article, institution based cross sectional amounting to 2 articles. The retrospective method was 3 articles, quantitative design with retrospective was 1 article,

retrospective descriptive comparative was 1 article. Articles with convergent parallel mixed methods design, experience based co design, observational and quasi experiment methods are 1 article each. Articles with a 2-stage research process and the research method used is collaborative action research with 1 article. The research samples in the articles in this literature review are nurses, medical records, and booklets. Articles that used a sample of nurses were 5 articles, a total of 2 articles used booklets, a total of 4 articles used medical records as samples, a total of 2 articles used nurses, medical records, and booklets. Nurses were used as a sample of 59-220 nurses, a sample of 270-406 booklets, a sample of 90-240 medical records, a sample of paper and electronic documentation a total of 434.

RESULTS

The results of the identification of articles in this literature review are 250 articles consisting of Scopus 93 articles, Science Direct 60 articles, Proques 57 articles and Google Scholar 40 articles. The original article on nursing documentation was 174 articles, 160 articles were issued because there were the same articles in the database, did not discuss the quality of documentation and published more than the last 5 years. The articles selected and accepted in this literature review were 13 articles

that met the inclusion and exclusion criteria. The articles selection mechanism is shown in Figure 1

Literature review collects the results and conclusions of 13 studies on documentation quality to identify the factors that influence the quality of nursing documentation. The first research states that several factors that improve the quality of nursing documentation are employee participation, leader accountability, nurse compliance with documentation standards, improving leadership models, always monitoring and controlling. The second study found that the standard nursing language education program had a significant effect on the quality of nursing documentation using standard nursing language. The third study found that the factors that influence the poor quality of patient care are lack of support, less than optimal consideration, poor communication between nurses and doctors.

The fourth study found that the quality of the nursing process was increased by using electronic nursing documentation. The fifth study states that science can improve service quality, nursing plans, improve coordination, and participation of health workers and patients in the care process. The sixth study states that there are many factors that cause nurses not to carry out the nursing process properly including, level of education, knowledge of nurses,

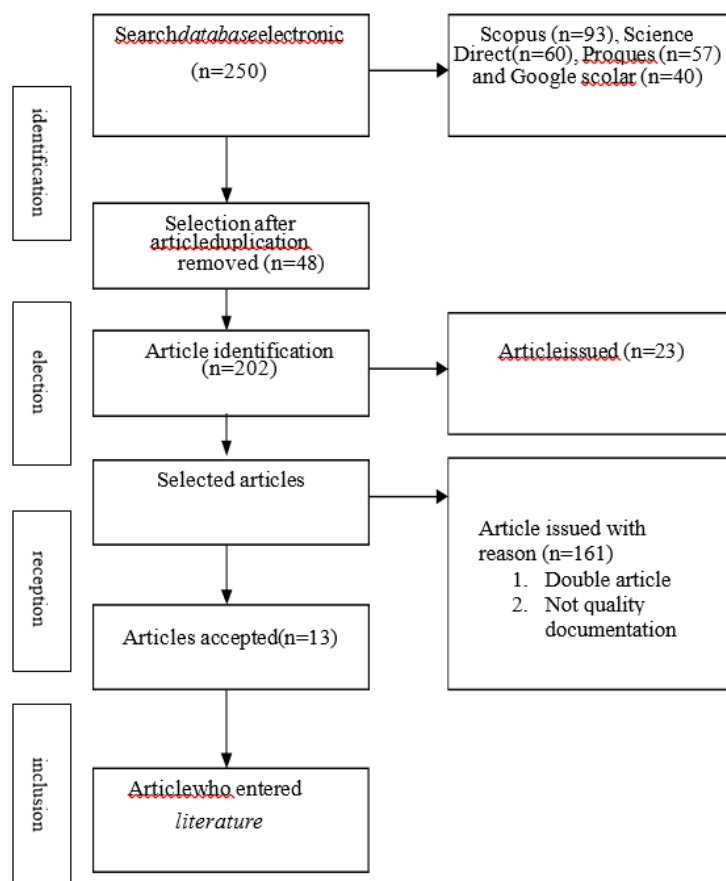


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The seventh study stated that the nursing process that was not good in implementing nursing was the knowledge of nurses and training on the nursing process on an ongoing basis to nurses. The eighth study concluded that the factors that greatly affect the quality of nursing services are organizational factors, factors related to patients, knowledge and abilities of nurses. Factors that influence the lack of quality nursing actions are the absence of a service system organization, role conflicts, medication errors, patients re-entering

with almost the same problems, dissatisfied with the care that has been received and increased mortality. The ninth study states that the factors that influence nursing actions are the lack of facilities which are organizational factors, patient economy, and level of knowledge. Factors that influence the lack of quality nursing actions are the absence of a service system organization, role conflicts, medication errors, patients re-entering with almost the same problems, dissatisfied with the care that has been received and increased mortality. The tenth study concluded that every nursing activity must produce nursing documentation through critical thinking. If nursing documentation is not accurate and clear, interpersonal communication and nursing evaluation are not optimal, nursing activities and nursing documentation must be directly and continuously controlled, and evaluated by the nursing manager.

Quality nursing activities can increase patient satisfaction, patient safety and effective payments. and level of knowledge. Factors that influence the lack of quality nursing actions are the absence of a service system organization, role conflicts, medication errors, patients re-entering with almost the same problems, dissatisfied with the care that has been received and increased mortality. The tenth study concluded that every nursing activity must produce nursing documentation through critical thinking. If nursing documentation is not accurate and clear, interpersonal communication and nursing evaluation are not optimal, nursing activities and nursing documentation must be directly and continuously controlled, and evaluated by the nursing manager. Quality nursing activities can increase patient satisfaction, patient safety and effective payments. and level of knowledge. Factors that influence the lack of quality nursing actions are the absence of a service system organization, role conflicts, medication errors, patients re-entering with almost the same problems, dissatisfied with the care that has been received and increased mortality.

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The tenth study stated that the factors that influence nursing documentation are the ratio of nurses to patients, training on nursing process standards, knowledge and soft skills of nurses. The results of the study stated that the 206 nurses who were given a questionnaire were only 34.7% of the nurses who did the nursing documentation well. The eleventh study obtained significant results on the quality of hospital nursing documentation before and after accreditation conducted by JCI (Joint Commission International) (20). The instrument used is the Brazilian version of QDIO (Quality of Nursing Diagnoses, Interventions and Outcomes – Brazilian version (Q-DIO- Brazilian version)) with the results of improving the quality of nursing documentation after accreditation.

The twelfth study found that electronic documentation was better than paper documentation on process and structure, paper documentation was better than electronic documentation on quality and quantity of documentation. The lack of quality of electronic

documentation and paper documentation is influenced by the lack of knowledge and ability of nurses about the nursing process and its application. The quality of nursing documentation should be focused on increasing knowledge, ability to carry out the nursing process, improving the work environment and workload of nurses and increasing nursing capacity to improve the quality of nursing services and patient conditions.

DISCUSSION

This study reviewed 13 original articles related to the effectiveness of electronic-based nursing documentation. Electronic-based nursing documentation is a nursing system that is combined with a hospital computer system for nursing staff. With this computerized system, nurses can access laboratories, radiology, physiotherapy, and other disciplines such as nutritionists, occupational therapists, (olfah, 2016). Electronic documentation is a computer-based recording system that records nursing notes containing information on all nurse visits. in the form of brief summary notes of patient needs and nursing interventions. Based on the author's review, the quality of electronic-based nursing documentation is better in terms of efficiency and effectiveness, electronic-based nursing documentation is more integrated in terms of quality and quantity structures. (Akhu Zaeya 2018).

Documentation is needed to identify nursing interventions that have been given to patients and to determine the patient's progress during hospitalization. Documentation is also an indicator of nursing actions and the quality of nursing services in hospitals, nursing documentation provides a thorough explanation of the patient's condition, nursing actions that have been carried out and the patient's response to these nursing actions. Nursing documentation is also used as an effective means of interpersonal communication between nurses and other health professionals to provide health services, evaluate patient progress and outcomes, and provide protection to patients. High quality documentation can improve effective communication between health professionals at the beginning and the highest levels of health care facilities. Documentation must be kept in accordance with the time specified and must be concise and clear, against the law.

The advantages of electronic nursing documentation have a good influence on the quality of documentation compared to paper documentation so that there is an increase in the

quality of nursing care plan documentation after using electronic nursing documentation but the initial adjustment to electronic documentation actually makes it difficult for nurses to do documentation, most nurses are hesitant to use computer systems electronic documentation in assisting in efficient patient care, it is necessary to have the habit of being able to make electronic nursing documentation a good method to improve documentation (Adereti & Olaogun, 2018). The benefits of electronic documentation are: Standardization of clinical data reporting is standard, easy and quick to know, Quality improves the quality of clinical information and at the same time increases time, nurses provide nursing care. Accessibility, legibility, easy to read and get clinical information from patients in one location. This documentation reports the actual condition of the patient so as to speed up the health team in making the right decisions in providing patient care and setting priorities and deciding the appropriate treatment according to the intervention. Furthermore, the collected data is stored in the database as written evidence of the patient's progress. The Nursing Practice Committee recommends consistency in evidence-based care procedures, consisting of patient data and strategic plan data, within and ultimately across care situations.

The limitation of this literature is that not all articles directly discuss the effectiveness of electronic-based nursing documentation. The collected articles discuss the application of electronic nursing documentation. This literature review consists of conclusions from the results of the articles that have been identified, the research methods used in all articles are not the same, another limitation of this literature review is that the library sources still use literature published in the last 5 years.

CONCLUSION

Based on the results of the literature study, it can be concluded that the application of electronic nursing documentation can improve the quality of nursing documentation. Electronic-based nursing documentation can reduce the risk of intervention

errors and medical errors so that nursing documentation is proven to provide accurate patient data, making it easier for nurses to carry out nursing care.

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