Usefulness of Electronic Medical Records Technology for Nurse Managers: A Literature Review

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ABSTRACT
Nurse managers play an important role in evaluating medical records through management activities, namely planning, organizing, actuating and controlling (POAC) that are carried out conventionally. Now medical records have evolved into integrative Electronic Medical Records (EMR). Nurse managers play an important role in evaluating medical records through management activities, namely planning, organizing, actuating and controlling (POAC) that are carried out conventionally. Now medical records have evolved into integrative Electronic Medical Records (EMR). This review aims to explore the usefulness of EMS technology for nurse managers. Literature searches use two database sources namely ProQuest and Google Scholar with boolean search "Electronic Medical Records for nurse manager" and filter articles published in the last 5 years (2017-2021). Identified 9 articles worthy of review. The total participants of the entire article were 1539 people consisting of doctors and nurses (implementers and managers). It found that EMR is very useful for nurse managers, can increase productivity, facilitate the documenting of nursing care and improve the quality of care through an integrated system.

Keywords: Electronic Medical Records, Nurse Manager, POAC
BACKGROUND

Medical records are one of the important files in the hospital that contains the patient's chronological, disease history and all actions that have been done in the patient's treatment and treatment process (Depkes RI, 2008). Nurses play a dominant role in completing medical records because the process of documenting nursing ranging from assessment to evaluation is recorded and reported in medical records. During the assessment process to evaluation, nurse managers play an important role in evaluating the medical records of implementing nurses through management activities such as planning, organizing, actuating and controlling (POAC) in line with the principle of continuous service. From this is presented a good medical record so that it reflects quality health services and indirectly reflects the good performance of health workers, especially nurses.

Conventionally, POAC is carried out by nurse managers by evaluating medical records of the results of the assessment of the executing nurses in accordance with the plan of action, the implementation of nursing and the results of nursing care evaluation, the whole process is written specifically in the medical record. In addition, the medical record contains complete information about a person's history of disease, various medical actions that have been done against him, the results of clinical observations, treatment results, until the approval / rejection of an action until the summary of the return accompanied by the name and signature of the patient or health worker contained in the medical record. All of these things remain controlled and evaluated by the nurse manager, to the point of ensuring all nursing actions have been fully recorded.

Inability of conventional medical records in integrating data, cannot provide long-term databases and is not guaranteed data security (Nguyen et al., 2014; Saraswasta & Hariyati, 2018) It becomes a trigger for hospitals to use electronic medical records for the efficiency and effectiveness of health services. This is a challenge for nurse managers to switch from conventional medical records to electronic medical records due to language constraints. Vocabulary standards, inputting information, and knowledge of IT even most officers disagree that electronic medical records are user friendly (De Moor et al., 2015; Saraswasta & Hariyati, 2018; Gizela, 2021).

Based on this, the usefulness of electronic medical records for nurse managers is still questionable. This literature review aims to explore the usefulness of EMS technology for nurse managers in supporting management activities (planning, organizing, actuating and controlling).

METHODS

This study uses a review literature method with a narrative analysis approach in exploring the usefulness of Electronic Medical Records for nurse managers. Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) It is used to show flows at each stage of the review process by mapping the number of records identified, entered, and excluded as well as the reasons for exclusion.

Literature selection

Literature searches apply several inclusion criteria, including: (1) quantitative and qualitative research types and other research relevant to the purpose of study; (2) the target is the nurse manager; (3) published between 2017-2021; (4) articles using English; (5) articles in fulltext form.
Search Strategy
Search articles using databases derived from ProQuest and Google Scholar. Search keywords using boolean "Electronic Medical Records for nurse manager".

Data Collection
Articles that meet the criteria are extracted into synthesis tables containing the following elements: (1) research database sources; (2) The author; (3) the purpose of the research; (4) research methods; (5) the results of the study; (6) conclusions and (7) the interrelationship of articles with the topic of manuscripts.

RESULTS AND DISCUSSIONS
Found 9 articles that are worth synthesizing (table 1), the article filtering process refers to prisma flow diagram (2020) (Page et al., 2021) And identified 132 articles taken for further screening so that 44 articles were found to be considered worthy but we excluded articles linking EMR to patient disease (35 articles).

Characteristics of the study
This review includes 9 articles published from 2017-2021. The total participants of the entire article were synthesized as many as 1539 people and consisted of doctors, nurse managers. The total papers from the studies included were 56 papers and 118 internal RS data. Research types include literature, systematics, integrative review and meta-analysis analysis (Brown et al., 2020; Hamade et al., 2019; Parthasarathy et al., 2018; Wisner et al., 2019; Yehualashet et al., 2021); observational analytics (Jahanbakhsh et al., 2017; Lambooij et al., 2017) and mixed-methods study (Jedwab et al., 2021; Vossebeld et al., 2019). All the studies were conducted in the hospital. The characteristics of the various studies included are presented in table 1.
Identification of studies via databases and registers

Records identified from: Proquest (n=1,778) Google Scholar (n = 1,930)
Records removed before screening: Duplicate records removed (n = 1,280)

Records screened (n = 2,428)
Records excluded** (n = 2,296)

Reports sought for retrieval (n = 132)
Reports not retrieved (n = 88)

Reports assessed for eligibility (n = 44)
Reports excluded EMR dikaitkan dengan penyakit pasien (n=35)

Studies included in review (n = 9)

Picture 1. Filtered articles from the database are outlined in prisma flow diagram (2020)

Table 1. Characteristics of the study

<table>
<thead>
<tr>
<th>Author</th>
<th>Type of study</th>
<th>Participant/paper</th>
<th>Setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jedwab et al (2021)</td>
<td>Mixed method study</td>
<td>Survey of 540 nurses and interviews on 63 nurse managers</td>
<td>Teaching hospitals located in Victoria</td>
</tr>
<tr>
<td>Lambooij et al (2017)</td>
<td>Observasional analitik study</td>
<td>402 doctors and 512 nurses</td>
<td>Dutch academic hospitals di Netherlands</td>
</tr>
<tr>
<td>Yehualashet et al (2021)</td>
<td>Systematic review</td>
<td>9 papers</td>
<td>Hospitals in Ethiopia</td>
</tr>
<tr>
<td>Jahanbakhsh et al</td>
<td>Analitik study</td>
<td>22 nurse managers</td>
<td>Isfana hospital in Austria</td>
</tr>
</tbody>
</table>
Risk of bias

Included studies assess the risk of bias in several ways, namely data extraction. (Hamade et al., 2019; Wisner et al., 2019); ensuring the validity of the instrument (Jahanbakhsh et al., 2017; Vossebeld et al., 2019); set specific criteria (Lambooij et al., 2017); 4 Other studies do not explain how to minimize bias in their research.

The use of Electronic Medical Records technology for nurse managers, All the included studies outline EMR technology and its usefulness to nurses. Table 2 presents a summary of the results.

Table 2. Electronic Medical Records technology for nurse managers

<table>
<thead>
<tr>
<th>Authors</th>
<th>Electronic Medical Records technology and its usefulness for nurse managers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jedwab, R. M., Hutchinson, A. M., Manias, E., Calvo, R. A., Dobroff, N., Glozier, N., &amp; Redley, B. (2021). Nurse Motivation, Engagement and Well-Being before an Electronic Medical Record System Implementation: A Mixed Methods Study.</td>
<td>EMR usage technology, when viewed in terms of benefits, then EMR can increase high job satisfaction from nurse managers who will improve the quality of service and professionalism in health facilities. This will bring positive energy also for patients who are handled by nurses who are more professional and have high work motivation due to the digitization of the medical record system that was proclaimed. With EMR technology, it can reduce the burden of nurses who no longer need to use paper based medical records to report the current status of patients, so it will be easier.</td>
</tr>
<tr>
<td>Lambooij, M. S., Drewes, H. W., &amp; Koster, F. (2017). Use of electronic medical records and quality of Digitization of medical records when viewed from this study, it can be concluded that the use of technology has facilitated the work of health workers, especially nurse managers. Patient data is presented to be more qualified, and communication built and work culture becomes better for nurses. This will certainly increase job</td>
<td></td>
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<tr>
<td>Author(s)</td>
<td>Title</td>
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<td>-----------------------------------------------</td>
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<tr>
<td>Yehualashet, D. E., Seboka, B. T., Tesfa, G. A., Demeke, A. D., &amp; Amede, E. S. (2021)</td>
<td>Barriers to the Adoption of Electronic Medical Record System in Ethiopia: A Systematic Review.</td>
</tr>
<tr>
<td>Jahanbakhsh, M., Karimi, S., Hassanzadeh, A., &amp; Beigi, M. (2017)</td>
<td>Hospital managers’ attitude and commitment toward electronic medical records system in Isfahan hospitals 2014.</td>
</tr>
<tr>
<td>Parthasarathy, R., Steinbach, T., Knight, J., &amp; Knight, L. (2018).</td>
<td>Framework to enhance nurses’ use of EMR.</td>
</tr>
<tr>
<td>Brown, J., Pope, N., Bosco, A. M., Mason, J., &amp; Morgan, A. (2020).</td>
<td>Issues affecting nurses’ capability to use digital technology at work: An integrative review.</td>
</tr>
</tbody>
</table>
Wisner, K., Lyndon, A., & Chesla, C. A. (2019). The electronic health record’s impact on nurses’ cognitive work: An integrative review. EMR has advantages and disadvantages in its use. On the one hand, EMR can facilitate the work of nurses and other clinicians, but on the other hand, it can also cause interprofessional communication constraints in the process of conveying information, especially if there are disruptions in its use. EMR requires health workers who are good at using the technology and must be well-prepared when implemented in the health workplace. This is because the use of EMR involves cognitive work from the user. Nurse managers also in the setting of health facilities must have equipped nurses who work in the room with the ability and skills in using EMR, for success in the process of inputting data to medical records electronically. Nurses are also required to be technologically literate.

Hamade, N., Terry, A., & Malvankar-Mehta, M. (2019). Interventions to improve the use of EMRs in primary health care: a systematic review and meta-analysis. The use of EMR also needs to be considered in primary health care systems for the realization of more professional information and data systems, It continues to grow rapidly in a better direction, and nurse managers as one of the human resources in it must remain focused on the comprehensive, integrative, and responsible utilization and use of EMR. Thus, there will be a professional health care system based on technology and digitalization of information that facilitates the provision of medical services and nursing services to patients as a whole.

Vossebeld, D. M., Puik, E. C. N., Jaspers, J. E. N., & Schuurmans, M. J. (2019). Development process of a mobile electronic medical record for nurses: a single case study. Nurse managers have an important role in the process of implementing EMR technology. Note, that the nurse manager must certainly have knowledge about the usefulness of EMR and how to operate, as well as making other nurses able to understand the EMR system through various trainings that can make other nurses become proficient in using it. The goal is to increase the productivity of nurses in the room, facilitate nurses in the process of documenting professional nursing care and improving the quality of nursing services.

LIMITATIONS OF STUDY
This study reviews previous research that was used as the basis in exploring the usefulness of EMS for nurse managers. The results provide valuable information to improve the performance of nurse managers. However, in the article reviewed there are 2 articles that do not include the setting of the research location and most articles do not mention the type of EMS used in the hospital.

CONCLUSION
Electronic Medical Records technology is very useful for nurse managers in increasing the productivity of nurses in the room, facilitate the process of documenting professional nursing care and facilitate the duty of nurse managers in integrating reports and evaluation of care. Nurses spearhead the implementation of EMR technology in hospitals, the nurse is required to improve their IT skills.
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CONFLICT OF INTEREST

There is no conflict of interest in the preparation and completion of manuscripts.

REFERENCES


