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Supporting factors of the implementation of clinical pathway approach in nursing care☆

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Abstract
Objective: This study aimed to identify the supporting factors and the nurses' expectation related to the implementation of clinical pathway in nursing care at the hospital.
Methods: A quantitative, cross-sectional, descriptive study was conducted at a medical-surgical unit of a hospital in Jakarta Indonesia. Participants were 100 nurses with minimal one-year work experience, selected using proportional purposive sampling method. Data were collected using a questionnaire and were analyzed descriptively.
Results: The nursing care management factor was found to be of highest performance (90%), while the rest showed inadequate performances (24%, 14%, 39%, and 41%, respectively). Meanwhile, nurses expected to have improved nursing care information system (50%) and reward system (60%) to support the clinical pathway in nursing care.
Conclusions: Most of the supporting factors in the implementation of clinical pathway in nursing care were still suboptimal. Nurses' expectations on this issue indicate that there will be an improvement.

Introduction

Nurses at the hospital are on the front line of the health care service; therefore, nurses have an important role to provide an excellent care.[1] A well-planned nursing care contributes to better patient outcomes. Nurses provide the nursing care starting from the patient's admission to the ward to discharge. The nursing care process includes performing assessment, determining the nursing diagnosis, creating the nursing care plan, and performing the intervention followed by the evaluation.[2] This iterative process involves clinical decision making based on patients' responses to their actual or potential health problems.[3]

Nursing care should meet the standard which can be measured in a recommended timeframe.[4] Clinical pathways serve as the structured, standardized approach of the multidisciplinary health care planning to support the

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care implementation to achieve good patient outcomes.[5] Through the clinical pathway, the quality and timeliness of the nursing care for patients with specific diagnoses can be increased, besides that It can also reduce the neglect and redundant intervention, as well as maximizing the effectiveness and efficiency of the nursing care.[6]

A good quality nursing care requires good managements and well-motivated nurses to carry out the plan. Nurses need a clear and adequate policy to the nursing care management.[7] Apart from the policy and regulation, nurses' performance is also highly determined by their motivation.[8] A study conducted at the critical care unit of a hospital in Indonesia showed that more than half of the nurses (52.6%) had lower levels of motivation and did not adhere to the nursing care standard operating procedures (57.9%).[9]

Skill and competence of the nurses are also the basic requirement of a good quality of nursing care that address the needs of the patients.[10] A former study results indicated that the nurses' performance is significantly influenced by the nurses' competence ($p < 0.001$) and motivation ($p < 0.001$).[11] These two aspects, therefore, need a particular attention from the nursing manager.

Furthermore, nursing care implementation should be supported with relevant equipment. Tools are used to help nurses performing specific tasks or activities.[12] Analysis of the influence of the perception of the nursing management factors on the nurses' work satisfaction levels in a hospital in Semarang, Indonesia, revealed that only 35.1% of the health care equipment is up-to-date, 51.3% of the available health care equipment did not meet the service demand, 48.6% of the consumable items were not available while in need, and, nonetheless, 54.1% health care equipment was in good supply.[13]

Technology such as health care information has demonstrated its benefits to support nurses in providing nursing care. Prior studies found that the information system can improve the effectiveness and efficiency of the health care service.[14] A study on the implementation of the electronic information system in nursing management in Finland suggested that technology functioned as an important element of all work processes in health care service.[15]

Another crucial aspect is related to the reward system for nurses. A fair reward system for nurses' works should be warranted for the heavy work load and high risk of this profession.[16] However, in reality, the monetary reward for Indonesian nurses in particular is still considerably low.[17]

Literatures have indicated that these aspects contributed to the nursing care in general. However, the implementation of the clinical pathway in nursing care in Indonesian hospital settings is still few, therefore, this study aimed to identify the supporting factors of nurses' expectation to the implementation of clinical pathway in nursing care at the hospital.

Method

A quantitative, cross-sectional study was conducted at the medical surgical ward of a central hospital in Jakarta, Indonesia. respondents were recruited using the proportional purposive sampling method, a total of 100 nurses who had worked for more or equal to a year participated in the study. Data were collected during November 2016–January 2017 using instruments which have been tested for its validity and reliability. The obtained data were coded and put into the statistical software for the data analysis. Univariate analysis was performed to identify the frequency and proportion of the supporting factors and nurses' expectation of the clinical pathway implementation. This study has received the ethical clearance from the Ethical Committee of Faculty of Nursing, Universitas Indonesia.

Table 1 The supporting factors of implementation of clinical pathway approach in nursing care ($n = 100$).

Key performance	Characteristic			
	No		Yes	
	Σ	%	Σ	%
Nursing care management	21	21	79	79
Human resources management	14	14	86	86
Rewards management	31	31	69	69
Equipment management	45	45	55	55
Information system	45	45	55	55

Table 2 Nurses' expectation for the implementation of clinical pathway approach in nursing care ($n = 100$).

Key performance	Frequency			
	Low		High	
	Σ	%	Σ	%
Information system in nursing care	62	62	38	38
Reward system in nursing care	61	61	39	39

Results

The participants of this study were mostly female nurses (90%). Nearly half of the participants (49%) had worked for 1–5 years, while a slightly lower percentage (46%) had 6–10 work experience as a nurse. Only five percent were senior nurses with 16–20 years of work experience. Regarding to the educational background, majority of the participants (92%) had diploma degree. Six participants had bachelor of nursing degree and two participants had bachelor degree majoring other subjects. As the nursing staffs, 77% of the participants were associate nurses while 23% of them were team leaders. The supporting factors and nurses' expectation in the nursing care implantation using clinical pathway approach are presented in Tables 1 and 2.

Table 1 illustrates the supporting factors of the implementation of clinical pathway approach in nursing care in terms of the human resource management, nursing care management, reward management, equipment management, and information system. The cutoff point was set at 50. The equipment management and information system management came up as the least improved performance indicators (55%). Clinical pathway can be applied successfully in the nursing care if these key factors support the implementation. Clinical pathway informs the necessities of: (1) human resource to carry out the particular tasks,

(2) the materials to provide the care service, (3) the identified intervention, aiming at effective and efficient nursing care service.[18]

Nurses in this study had lower levels of expectation towards the usage of clinical pathway approach (Table 2). Clinical pathway is also known as the care pathway of the standardized care process. Nurses perform assessment, monitoring, intervention, and evaluation, along with support for the patients to achieve the desirable health outcomes.[5] Nurses have the right to obtain a fair reward for their professional work.[19] On the other hand, nurses are expected to advance their skills including skills in technology to provide a more efficient nursing care. However, technological advances should lay on the holistic and humanist principle of nursing care.[20]

Discussion

The characteristics of the participants in this study were dominated by female associate nurses with diploma degree and had 1–5 years of work experience. Nurses in this period of nursing career are the direct providers of nursing care and need continuing professional education. In providing nursing care, nurses need motivation, direction, control, and evaluation from the nursing managers to deliver good quality nursing care.

The supporting factors of the nursing care implementation

The study findings showed that the supporting factors of the clinical pathway implementation in nursing care are good. Nursing care comprises the interactions between the nurse and the client, as well as the environment, to fulfil the needs of the client and to improve the client's ability and independence in taking care of him/herself.[21] Nursing care can be conducted using the nursing process approach guided by the nursing standard and ethics in the scope of nurses' responsibility.[22] The nursing care approach needs effective management to improve the quality of care.

The results of this present study also showed that the supporting factor of the clinical pathway implementation related to the human resource management is yet suboptimal. Nurses working at the hospital work in shifts to provide 24 h-nursing care for the patients.[23] Another prior study mentioned that nurses play a crucial role to deliver the nursing care for the patients. Staff nurses should be managed in the management framework which encompasses organizing, directing, controlling, actuating, development, compensation or reward system, integration, retention, discipline, and suspension.[22] Through optimal nursing management, it is expected that the patients can receive optimal nursing care and health care service and have reduced the length of stay at the hospital.

The reward system as a supporting factor of the implementation of clinical pathway approach in nursing care was also shown to be inadequate in this study. Reward and autonomy were pinpointed as the most important contributors of the nurses' work satisfaction, according to a prior study.[24] Work satisfaction is of high importance to drive nurses' enthusiasm, creativity, and motivation to work.[25] Good work satisfaction will improve the performance of nurses and will eventually impact the nursing care, leading to patient satisfaction. Nurses' work satisfaction can also be influenced by the availability of the equipment in the ward.[26]

The equipment management was also shown to be less optimal as the supporting factor for the usage of clinical pathway in this study. Another study suggested that equipment supports the implementation of nursing care to maintain patient safety.[27] Nurses should keep up with the new equipment with advanced technology for more efficient and effective, including cost-effective, nursing care.[28]

Regarding to the information system, this study results indicated that this supporting factor need to be improved for a better implementation of clinical pathway. Information system can assist nurses to obtain and manage the information related to the number and condition of the patients, the number of staffs, the occupied rooms, turn-over time, the total cost of patient care, and financial compensation or remuneration of the nurses.[29] Health information system is the clinical documentation tool underpinning the development of the independent nursing care plan and pathway for clinical decision making, medication management, patient safety, and effective resource management.[27] Nursing managers has an important role to develop the nursing information system to have an integrated nursing care service and to enhance patient satisfaction and cost-effectiveness of care.

Nurses' expectation

The current study findings showed that the nurses' expectation for the nursing information system and reward system were still not optimal since the results were only around the average. A former study mentioned that nurses have an important role in making integrated health care change with the assumption that all nurse manager create changes in all health care domains.[30] The information system is utilized to determine the outcome and to protect the information database of the institution's activities and equipment.[31] Nurses as the health care professional who provide nursing care with their unique skills and competences, in reality, are not quite appreciated in the society.[10] Therefore, nurses should improve their public image, self-concept and professional identity to increase their roles in the society.

Conclusion

The implementation of clinical pathway in nursing care must be supported by competent human resources, fair reward system, and adequate management of equipment and information system. The findings of the present study lead to the conclusion that the nursing care management as one of the supporting factors of the clinical pathway implementation in nursing care has shown positive results, while the other supporting factors (human resource management, reward management, equipment and information system management) still need more improvement. Nurses' expectation pertinent to nursing care information system and reward system in using the clinical pathway approach in nursing care is also need to be enhanced.

Conflict of interests

The authors declare no conflict of interest.

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