



Improvement of Nurses' Knowledge of Primary Nursing Role in Professional Service Using Simulation Method



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Abstract

This study aims to improve the application of professional care services in nursing using the simulation method. A quasi-experimental design was applied to the 68 first-line managers working in seven headroom in a psychiatric hospital in Indonesia. The participants were selected through non-probability sampling for one month. The instrument used was the level of knowledge about the primary nursing role; it includes 20 items in 4 domains. The intervention in this study was a simulation of the role of a professional nurse by a trainer which was followed by each group of participants. Descriptive statistics and the Wilcoxon test were used to analyze the data. The mean level of participants' knowledge scores increased from 32,65 to 72, 06. Moreover, there was a statistically significant between before and after the intervention of participants' knowledge ($Z = -6.980, p < 0.001$). There was an improvement in the level of knowledge of first-line manager who was trained in professional services. Therefore, it is recommended that the necessary measures be taken to improve nursing professionalism through the simulation training method.

Keywords

health service;
education;
knowledge;
nursing care;
primary nursing;
simulation;

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1 Introduction

Professionalism can be considered the core of clinical practice and the most critical and complex part of the nursing care plan (DeWit & Williams, 2013). Therefore, primary nursing practice, including clinical nursing conferences and nursing case rounds as part of the management care function, is a basic necessity and a global priority to improve care quality (Huber and Joseph, 2021). Joseph & Huber (2015) considered a factor for joint professionalism in nursing care is good planning and evaluating that part of patient care management. It is argued that improving the quality of the delivery nursing system can impact the length of stay in hospitalized (Church, 2016); (Karaca & Durna, 2019) concluded that quality nursing care could improve patient satisfaction. Coster et al. (2018), believe the professional nursing care method leads to more attention paid to the client and the nursing action effective, where these services apply the management function of patient-centred care (DeWit & Williams, 2013; Coster et al., 2018). The primary nurse is a crucial link in the communication network within the multidisciplinary team (Masters, 2018). Many researchers found that one of the challenges of institutionalizing professional nursing services in clinical practice is the complexity, of nurse knowledge, communication, and skill needs, (Setiawati et al., 2021; Desi, 2020; Muchlis et al., 2022) which has caused professional nursing care to be reduced to patients' satisfaction. Yadav, Lim, Hashim, and Saad (Yadav et al., 2011) consider that nursing communication can apply in clinical conferences and case round, which is a kind of dialogue that leads to professional services.

The clinical nursing conference is an early stage before nursing handover; the nursing case round is a controlling method in patient care management; (Fukada, 2018; Sudrajat & Rizki, 2021) These activities apply the organizational management function. (Huber, 2017) Clinical Nursing conference activities are performed with the nurse leader organising the team, announcing the results of the patient acuity system and reminding necessary standards of nursing care; (Weiss et al., 2019) Then, the nursing case round begins by presenting patient data and nursing actions. (Yadav et al., 2011; Huber, 2017) ; this is part of strategic planning in patient care management. (Alligood & Tomey, 2018) Molin et al., (2018) consider professional service part of primary nursing care responsibility, including leading clinical conferences and case rounds. (Weliya & Supratman, 2018) Lobo (2019), suggested that managers must conduct training to improve professional services to produce performance in primary nurses. Godsey et al. (Lobo, 2019) Concluded that factors contributing to nursing's inconsistent image included lack of leadership development and lack of professionalism. From this perspective, the perception of primary nursing managers as at the forefront of nursing care needs to improve (Jones et al., 2015; Kruijver et al., 2000; Suryasa et al., 2022). This study investigates the primary nurse perception after intervention through role-play simulation training for the clinical nursing conference and nursing case round to improve professionalism services.

2 Materials and Methods

This quasi-experimental before and after the study was conducted in February 2022. The study participants are low nursing managers in seven wards working in a psychiatric hospital in Central Java, Indonesia. The sampling method used was purposive where the participants are taken at least 10% of the team leader who is a representative from each ward and a first-line manager. The particular set of participants' characteristics comprised experience as a leader, a minimum of a Bachelor's degree in nursing, and at least two years of clinical experience. We obtained an Ethical clearance from the ethics committee at Moewardi General Hospital of Surakarta, Indonesia. All participants signed informed consent, and 71 heads of nurses and team leaders were involved in the study. During the training, 3 participants dropped out of the process, and finally, 68 participants were used in this study.

Concepts and procedures of the Clinical Nursing Conference (CNC), and Nursing Case Round (NCR), are designed by researchers synthesizing various ideas from nursing management, including Huber (2022) and

Weiss et al., (2019) We designed the concept based on the situation that is generally performed in the ward of a psychiatric hospital (patient acuity, patient diagnoses, nurses' characters, and nursing care standards); we developed a scenario for the intervention process of simulation. The researcher evaluated the simulation process using the SBAR tool modification technique. The guidelines is used for communicate among team leader and nursing staff during the conference.

Senior nurses who had experienced work longer performed as primary nursing (leader) and other junior nurse as associate nurses. Nurses were required to complete scenarios gathered in a group engaged in simulation and then they share roles. We provided instruction on communication techniques regarding the simulator's clinical nursing conference and nursing case round procedure. We directed the participants to communicate during CNC and NCR according to the SBAR technique in the face-to-face role-play between the team leader (primary nurse) and associate nurses in the simulation (Sellick et al., 2003; Goode & Rowe, 2001).

The instrument used for data collection included a two-part questionnaire consisting of a demographic data questionnaire and the perception of primary nursing job (PPNJ) description regarding professional service. The typical participant's questionnaire comprised age, gender, marital status, background education, and length of work. The PPNJ questionnaire is used to measure Nurses' Perception of the Primary Nursing Role, which consists of questions about the acuity system of people with mental health conditions, clinical conferences in planning nursing care and nursing case round. The questionnaire designed by the researcher was developed and synthesized from a nursing management book by Huber & Joseph (2021); Motacki & Burke (2016), that comprised 20 items scored on a 4-point Likert scale ranging from 0 to 3 in the four components of nursing leadership (5 items; 0-15 points), nursing acuity system (4 items; 0-12 points), clinical nursing conference (5 items; 0-15 points), and nursing case round (6 items; 0-18 points). The total score range of this questionnaire is 0-60 points. Categorization scores using a descriptive quartile two related sample test with a score of 25th percentiles of insufficient knowledge, 50th percentiles of medium knowledge and 75th percentiles of high expertise. The validity and reliability of this questionnaire have been analyzed using Cronbach's Alpha (α) SPSS Statistics and show 0.803, indicating high internal consistency for the scale in this sample. The data collected were analyzed using descriptive indicators and the nonparametric tests of the Wilcoxon test in SPSS software at a significant level of 0.05.

Ethical considerations

This research was approved by the Health Research Ethics Committee, Moewardi hospital of Surakarta, Indonesia (approval No: 1.097-99/XII/HREC/2021). We applied the principles of research ethics, transparency, and honesty in all the stages of the study. Ethical considerations include protecting the rights of research participants, the confidentiality of participants' information, the participants' informed consent, enhancing research validity, and maintaining scientific integrity.

3 Results and Discussions

3.1 Result

The present study was conducted on 68 first-line managers with a minimum age between 31 and 40 years old of 10.3%, a maximum age between 5 and 55 of 51 years old of 11.8%, and a mean age between 41-50 years old of 77.9%; There were 44.1% female and 55.9% man. The low nursing manager had a minimum length of work between 11 and 20 years of 30.8%, and the average length of work between 11 and 30 years of 69.2%. Based on the findings, the mean (SD) level of knowledge in low nursing managers was 32.65 before and 72.06 after the intervention [Table 1].

Table 1
Characteristics of respondent

Characteristics	Group	Frequency	Percentage (%)
Age	31-40	7	10.3
	41-50	53	77.9
	51-60	8	11.8
	Total	68	100
Gender	Male	30	55.9
	Female	38	44.1
	Total	68	100
Length of work	11-20	21	29.4
	21-30	47	60.3
	Total	68	100
Mean of the level of knowledge	Before intervention	32.65	100
	After intervention	72.06	100

Based on the Wilcoxon tests results, there was a statistically significant difference between the level of knowledge after intervention ($Z = -6.980$, $p < 0.001$), There were 64 respondents who had a positive rank with a mean average were 32.5, There is a similarity score between the pretest and posttest, which is a total of 4 respondents [Table 2].

Table 2
Level of Respondents 'Knowledge Before and After Intervention

		N	Mean Rank
Level of respondents 'knowledge pre and post Intervention	Negative rank	0	00
	Positive rank	64	32.5
	Tiles	4	0
	Total	68	
	Z	-6,980	
	Asymp. Sig. (two-tailed)	.001	

3.2 Discussion

The present study aimed to assess the level of knowledge of first-line managers for professional services. This study found that most respondents are males, more than 50%; most nurses are primarily female. This finding is likely due to the number of nurses in mental hospitals; male nurses are needed to anticipate acute conditions for psychiatric patients. It is argued that women generally dominate nurses related to caring and touch care; On the other hand, suggestions for nursing practice attract and keep more male nurses in the nursing profession (Cheng et al., 2018; Neighbarger, 2020; Amir et al., 2021)

The main objective of this study was to assess the level of knowledge about the implementation of professional service within four dimensions (i.e., clinical nursing conference, nursing case round, and mental health acuity system) among the low nursing manager in a mental hospital. The findings indicate that in baseline assessment majority of the participants' knowledge to low and medium levels indicating that although participants who had a discourse about professional service still need to increase their knowledge and skills. Gysin et al. (2019), found that there were limited knowledge and skills for advanced practice nurses; The present study's finding is consistent with the result of these studies. Among them, we can identify that communication, strategy and skill during the clinical nursing conference and nursing case rounds indicate a significant need for knowledge of professional service applications. Besides, these participants also had various perceptions about the components of professional health services (Tobacco, 2008; Cho et al., 2008). Similar to the present study, Regan et al. (2016), on professional nursing practice explained that 45% of them have different perceptions in professional practice, especially regarding anticollaboration; In this teamwork, there are usually communication and skills applied. It is argued by Arnold & Boggs (2019) that Professional

nurses in providing excellent service require high communication and skills related to their roles in their jobs. A clinical nursing conference is one of the duties of professional nurses. In contrast, a study by [Ljungbeck et al. \(2021\)](#), concluded that the professional nurse practitioner performance includes research and nursing theories, collaboration, leadership, and organization.

Another objective of this study was to investigate whether simulation strategy has any effect on improving knowledge about the implementation of professional services (i.e., clinical nursing conferences, nursing case round, and mental health acuity system) among low nursing managers in a mental health hospital. A study by [Bliss & Aitken \(2018\)](#), concluded that the simulation method in skills training for nurse practitioners enhanced knowledge and skills in identifying patient conditions. To find the results from the objective of simulation strategy impact are shown in Table 2. The results indicated that the NLMs' knowledge of professional service implementation was higher in the post-test as compared to the pre-test after intervention receiving two skills comprised of simulation and role play. Similar to a study by [Gordon et al. \(2018\)](#), there was reported an improvement in handover skills that part of the professional services on post-graduate health professionals based on simulation and role-play. [Cant et al. \(2020\)](#), concluded that simulation-based education improves nurses' knowledge and skills.

Limitation

The study had a limitation; a simulation was applied for several days. This adequacy is due to the training program carried out in the education and training room of the mental hospital during low nursing manager work hours.

4 Conclusion

The primary nursing simulation training program effectively improved three qualities of nursing low manager knowledge and skills, including clinical nursing conferences, nursing care round and patient acuity system. Therefore, it is suggested that future research be applied in a ward with a 1-month to 2-month follow-up.

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