

Article

The effect of community of practice in improving the role of clinical instructor in patient safety implementation by prelicensure nursing students

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Abstract

Introduction: Patient safety problems caused by students leads to different adverse event, hence clinical instructor plays a role in guiding them in the implementation of patient safety programs. Furthermore, the community of practice is considered to improve the role of clinical instructors in patient safety problems. This study is then conducted to measure the impact of community of practice toward the role of clinical instructors in patient safety problems.

Design and methods: This is a pre-experimental design for one group and a pre-post test design without a control group. In addition, the sample includes 36 prelicensure nursing students.

Result: The results showed that the score of clinical instructors' role before and after intervention with community of practice implementation was 58 (34-67) and 79.33 with SD of 10,960, respectively, with a significant increase of 24.27. Also, the statistical analysis depicted that the role had a significant effect after implementation, with a p-value of < 0,000.

Conclusions: Based on the results, the community of practice had a significant impact in increasing the role of clinical instructors in the implementation of patient safety problems by prelicensure nursing students.

Introduction

A nursing student is a prospective nurse that participates in giving nursing care, hence being equipped with patient care capabilities as early as possible is necessary to prevent errors that can lead to patient safety incidents. The students need to implement patient safety in the clinical learning process conducted on patients and they also influence the quality of care and patient safety.^{1,2} This condition results in various negative adverse effects for patients, thereby promoting educational institutions to include patient safety programs in the clinical practice learning process.^{3,4}

The results showed that students who obtain remarkable safety training improved patient safety incidents.⁵

Patient safety competence has not been maximally achieved by prelicensure nursing students.⁶ The achievement of competencies that have not been maximized is one of them influenced by the clinical education model used.⁷ Furthermore, about 44.7% of 889 nursing students in the last year indicated that the knowledge about the patient safety domain was competent, hence more than half or about 55.3% were incompetent.⁸ The students who attended clinical education for a short period have low patient safety competence and limited clinical experience, subsequently they are at risk of making mistakes in giving treatment to patients.^{9,10}

Additionally, almost 60% of 829 students have average knowledge about patient safety in the medium and poor categories.¹¹ The results showed that the nursing students made 113 reports of medication errors made and 40% were not reported due to hiding errors, hampering the learning process.¹² The nursing professional students' achievement of competence in the implementation of the six patient safety goals also reveals that majority are in the moderate or not yet good category.¹³

The factors affecting the student achievement of patient safety competence include the curriculum, number of credits, and learning strategies. Also, nursing education does not discuss patient safety in detail, necessitating the integration of theory and practice into clinical nursing education. The clinical instructor plays an optimal role in achieving competence in the clinical education process.¹⁴⁻¹⁶

Clinical education in nursing is a complex phenomenon that requires an optimal role from the instructors in developing the knowledge, skills, and behavior of nursing students. The clinical instructors' role includes a mentor, facilitator, resource person, evaluator, support provider, and observer. Furthermore, they help students overcome obstacles and difficulties that are potentially confusing, and an effective clinical instructor will achieve the optimal role.¹⁷⁻²⁰

The clinical instructor role determines the achievement of learning competencies, especially those related to patient safety.

Significance for public health

Patient safety is an important element to improve the quality of health services. The implementation of patient safety is a form of competency of the health workers including the clinical instructor and students. Therefore, health care organizations must build systems that ensure a safer patient care process, including the implemented clinical education system, to achieve patient safety. Also, clinical education in hospitals can be improved by increasing the role of clinical instructors, hence they can educate students to prevent patient safety incidents, and this can be achieved through the community of practice. This study aims to describe the effectiveness of community of practice in improving the role of clinical instructors in patient safety implementation by prelicensure nursing students.

Clinical instructors with good knowledge and skills help the students gain knowledge and skills. The instructors contribute to the student's clinical learning activities to achieve learning goals.^{21,22}

Increasing the role of an effective clinical instructor requires a community practice of clinical instructor, which is an approach to situated learning theory. The community of Practice (CoP) is a learning environment where nursing students develop their attitudes toward the nursing profession. Furthermore, it improves knowledge, expertise, skills, and create innovation by providing solutions in a specific area of knowledge or competence. Community of practice streamlines knowledge flow within the organization and promote the development of quality learning human resources ready to respond to circumstances and changes accurately, resulting in a knowledge-based organization. This practice is a systematic and structured strategy to overcome problems related to students' guidance process in patient safety clinical practice and increase the role of clinical instructors.²³⁻²⁵

Design and Methods

This is a quantitative study with a pre-experimental design in one group and a pre-post test design without a control group. Furthermore, data were collected before and after the intervention was carried out in the experimental group. The first observation (pre-test) was conducted to test the changes that occurred after the intervention. A total of 36 prelicensure nursing students were collected using total sampling.

The Reeve's instrument was used to assess the role of clinical instructor taken and modified, consisting of 20 statements. The instrument was used and modified to identify clinical instructor role in the implementation of patient safety. Furthermore, the instrument is valid and reliable with Cronbach's alpha value of 0.943 and a coefficient clinical instructor value above 0.8, indicating reliability.

The data analysis carried out was univariate and bivariate analysis, where the univariate analysis included the characteristics of respondents such as age, gender, and length of professional practice. Furthermore, numerical data is displayed from the results of the calculation of the mean, median, SD, and min-max of age, length of practice for the nurse profession, the role of clinical instructor before and after the implementation of the community of practice with an Interval Coefficient (CI) of 95%. This data is a description of the object of study before proceeding to the bivariate analysis. Meanwhile, bivariate analysis was conducted to differentiate the role of clinical instructors in the implementation of patient safety by prelicensure nursing students before and after the implementation of the community of practice. The Wilcoxon test was used to conduct this analysis due to abnormal data, namely pre-test data.

The study was conducted after being approved by the Research Ethics Committee from Faculty of Nursing in Islam Sultan Agung University. The plan and objectives were informed to the respondents, who were given full rights to agree or refuse to participate by signing an informed consent or a letter of approval.

Research intervention procedure

The implementation procedure includes the preparation, pre-test, implementation, and post-test stages. Furthermore, the study was carried out at the preparation stage by obtaining a permit at the site in a teaching hospital, then selecting a clinical instructor who became a member of the clinical instructor practice community based on the inclusion criteria. The nursing students were used as respondents based on the number of students, the distribution of

practice rooms, and the length of professional practice. Furthermore, a pre-test needs to be conducted to assess the role of clinical instructors. Additionally, before participating in the community of practice, the respondents completed questionnaires A and B containing demographic data and assessment of clinical instructors' roles, respectively.

At the implementation stage, clinical instructors who met the inclusion criteria were selected to explain the aims and objectives of the study. The process of conducting the study and the community of practice model was explained to the selected respondents, who signed the application form for informed consent and to become respondents. Subsequently, the researchers form a community of clinical instructor practice with respondents who have signed informed consent, until all functions of the community are formed.

A pre-test on the role of clinical instructors and patient safety goals to clinical instructors was performed to ensure that the instructors understood the role and goals. The results showed that 90% of the instructors understood the role of clinical instructors and patient safety goals. Meanwhile, instructors who did not understand were given a briefing on the role of clinical instructors and patient safety goals.

The next stage is the formation of a structured and organized community of clinical instructor practice. This organizational structure includes champions, sponsors, resource persons, administrators, and members, and CoP is held periodically with a meeting duration of 90 minutes.

Generally, the community of clinical instructor practice is established until the accommodative, informative, collaborative, and innovative functions are achieved. The result of the community of practice indicated the existence of innovations by clinical instructors to teach students patient safety goals in the implementation of clinical practice, which is documented in the practice community minutes by the administrator.

After the functions of the practice community were established, it was carried out to strengthen the innovation results at the previous meeting, including efforts to teach students about patient safety goals in the implementation of clinical practice. The aim was to show that the instructors are capable of implementing the community of practice and the results that must be followed up. Furthermore, the community of practice was carried out without assistance with the evaluation of the instructor's role in the implementation of patient safety as the topic of discussion, after the implementation of the previous community of practice. This meeting generated ideas, experiences, commitments, methods, strategies, or innovations for clinical instructors to optimize their role in the patient safety implementation by nursing professional students based on the clinical instructor practice room.

A post-test was conducted at the end of the study to assess the role of clinical instructors in the implementation of patient safety after the formation and integration of a community of practice. The test was conducted for each respondent, namely students who followed the pre-test stage. Students distributed questionnaires and assessed questionnaires A and B, as they executed in the pre-test after the community clinical advisory practice was completed.

Results and Discussions

Based on Table 1 the results on gender showed that about 23 students (63.9%) were female and 13 students (36.1%) were male. Based on Table 2 the results on age of students is 23 years (SD: 0.543). Furthermore, at the 95% confidence level, the average age of students is 22.96-23.32 years. However, the average length of a

student's profession is 5 months (SD: 2,966), while at the 95% confidence level, the average length of a student's profession is 6.33-8.34 months.

The role of clinical instructors before obtaining a community of practice was 58 (SD: 9,971). Also, the results of the interval estimation indicated that at the 95% confidence level, the average score of the clinical instructor role before being given to the clinical instructor practice community ranges from 51.68 to 58.43 (Table 3).

The results indicated that the clinical instructors' role was in a moderate category before being involved in the community of practice. Furthermore, a clinical instructor role that is not implemented will be less professional due to several factors. The results showed that this condition was due to an out-of-date skill in performing its role as a clinical instructor. Meanwhile, training increases the need for new knowledge, individual, and system performance.^{26,27}

The role of clinical instructors is the main focus in the implementation of nursing students' practice in the hospital. This role is significant to make the implementation of clinical practice effective. Additionally, there is a relationship between the clinical instructor and nursing students' performance in clinical practice. The clinical instructor develops the knowledge, skills, and behavior of nursing students. Subsequently, students with effective and continuous guidance from a clinical instructor perform better during education compared to others.²⁸⁻³⁰

The clinical instructors' role in the implementation of patient safety by the students after joining the community of practice was in the good category under different conditions. This shows that the community of practice has a significant effect in improving the role of clinical instructors in implementing patient safety. However, a study stated that the improvement of clinical nursing practice is achieved by regular interaction among the community of practice members.³¹

The result of the study (Table 4) showed a significant difference in clinical instructors' role in the implementation of patient safety before and after treatment ($p < 0,001$). Furthermore, the mean score of clinical instructors after involving the community of practice activity was higher than before being treated (MD: 24,27).

The result of this study indicates that the community of practice has a significant impact on clinical instructors' roles. In addition, the clinical instructor's community of practice influences nursing students in developing an attitude toward the profession. The promotion and fostering of a community of practice in healthcare settings are related to the students' experience in achieving professional competencies and clinical skills. Also, the community of practice unifies the boundaries between education and clinical practice nursing students, and college students have the opportunity to form and practice to be professional and increase productivity. The implementation of practice community motivates employee's performance to share knowledge, hence improving employee performance, work-related problems, and increasing organizational performance.³²⁻³⁴

Knowledge management through the community of practice clinical instructors is an innovative effort that requires professional management. The community of practice has several functions including a forum for sharing ideas, knowledge, views, ideas on a problem, a vehicle for finding solutions to problems faced by groups in their field, a means of fostering innovations from community members, and as a forum exchange and interpretation of information. This promotes the improvement of clinical instructors' role when guiding students in the implementation of patient safety.³⁵

The community of practice is the right place to practice within

the organization. Furthermore, the functions consist of accommodating, informative, collaborative, and innovative among fellow clinical instructors. This practice explores the knowledge potential that exists in each member of the organization, hence it builds organizational knowledge.³⁶

According to the study, the clinical instructors' role is enhanced by the practice community by sharing information between clinical instructors based on the problems faced while carrying out their duties and solutions to problems that occur. In addition, various innovations have emerged to address the problem of students implementation of patient safety. The process of knowledge transfer in the informative function by clinical instructors makes an indispensable contribution to the role of clinical mentors. Furthermore, the community of practice turns the clinical instructors' knowledge into a source of intellectual property for an organization.³⁶

The clinical instructor requires preparation to carry out its role optimally in guiding the implementation of patient safety conducted by the students. Also, the clinical instructor provides proper preparation and guidance to students during clinical practice. Furthermore, the nursing student's hospital experiences do not harm or injure patients. The guidance process for the implementation of patient safety to nursing students is integrated into clinical practice when giving nursing care to patients. This is conducted to ensure that the safety aspect is in line with the nursing care, and it does not require a particular time, place, and condition to be implemented. The application of patient safety by the students provides benefits to improve safety culture, service quality, positive image of the hospital, public confidence, and decrease injured patients.

Table 1. Frequency and percentage distribution of students according to gender.

Variable	Frequency (n)	Percentage (%)
Gender		
Male	13	36.1
Female	23	63.9

Table 2. Frequency and percentage distribution of students according to age and length of practice.

Variable	M	Min-Max	95% CI
Age (year)	23	23-26	22.96-23.32
Length of practice (months)	5	5-11	6.33-8.34

Table 3. The mean score of clinical instructor role in the implementation patient safety by prelicensure nursing students.

Clinical instructor role	M	SD	Min-Max	95% Clinical Instructor
Before	58*	9.971	34-67	51.68-58.43
After	79.33	10.960	53-98	75.63-83.04

Table 4. The difference analysis of clinical instructor role pre- and post intervention.

Clinical instructor role	M	SD	MD	p
Before	58	9.971	24.27	0.000*
After	79.33	10.96		

Conclusions

Community of practice in clinical instructors has a significant impact on increasing the role of the instructors in the implementation of patient safety by nursing students in clinical education ($p < 0,000$). According to the study, the implementation of the Community of practice in clinical instructors enhances their roles in applying for patient safety.

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