



## THE EFFECTIVENESS OF LEARNING BY LECTURE AND ROLE PLAYING METHODS ON NURSES' PRACTICE OF PATIENT SAFETY STANDARDS

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### ABSTRACT

An effort to build a culture of patient safety in hospitals requires commitment that is influenced by nurses' knowledge, attitude and behavior. This study aimed to determine the effect of learning by the lecture and role-playing methods on nurses' knowledge, attitude, and behavior in applying patient safety standards. The study is a quasi-experimental study using two groups with a pre-test and post-test design and a sample of 24 nurses with total sampling. Data were collected using questionnaires and observation sheets and analyzed using univariate and bivariate analysis. The results showed no significant difference in the values of nurses' knowledge, attitude, and behavior in applying patient safety standards in the control group before and after intervention with a *p* value of 0.056, 0.663, and 0.927 respectively. On the other hand, the results showed significant differences in the values of nurses' knowledge, attitude, and behavior in applying patient safety standards in the intervention group before and after intervention with a *p* value of 0.001, 0.021, and 0.002 respectively.

Keywords: lecture and role-playing methods; nurse attitude; nurse behavior; nurse knowledge; patient safety

### INTRODUCTION

Patient safety is the latest issue in health services, especially in hospitals, which arises due to the increasing rate of undesirable events. The World Health Organization (WHO) has stated in 2004 through the World Alliance for Patient Safety program that patient safety is a fundamental principle of patient care and a critical component of quality management (WHO, 2004). The theme "Safe Staffing Saves Lives" has been agreed upon globally to support patient safety and nursing human resources (International Council of Nurses, 2009; "WHO Collaborating Center for Patient Safety's nine life-saving Patient Safety Solutions," 2007; World Alliance For Patient Safety Drafting Group et al., 2009).

It can be said that undesirable events are a form of failure in providing services based on the patient-safety orientation. Studies previously conducted in several countries indicate that undesirable events are relatively high, even nowadays. The audits conducted in hospitals in several countries, such as the United States, Australia, Denmark, New Zealand, Canada and France from 1975 to 2002 found an average percentage of undesirable events of 38.2%. The results of a research conducted in a teaching hospital in Ottawa, Canada involving 399 patients showed a 6% occurrence of undesirable events, a 71% occurrence of undesirable events that could be prevented, a 25% occurrence of undesirable events that could not be prevented, and a 62% occurrence of extended treatment periods. As for Indonesia, the Patient Safety Incident Reports revealed that of 145 incidents 47.6% were near-injury events, 46.2% were undesirable events, and 6.2% were made up of other events (Forster, Rose, Van Walraven, & Stiell, 2007).

The application of patient safety culture is very complex and depends on many contributing factors. Based on the AHRQ's analysis (2003), of 2,966 undesirable events the majority (55%)

occurred due to orientation/training problems (Cahyono, 2008). Learning is one of many ways to increase knowledge and to improve individual and system performance (Henriksen & Dayton, 2006). In addition, providing adequate support in the form of professional training and knowledge development is one of the efforts to create a positive work environment for nurses so that safety care can be provided (Gage, 2006; International Council of Nurses, 2009). The results of other studies also indicate that there is a significant difference in nurses' understanding of patient safety before and after training (Ersin, Koruk, & Yilmaz, 2016).

Knowledge can improve affective, motoric, and cognitive abilities so that nurses' productivity can be increased and better results will be obtained (Marquis & Huston, 2013). Behavior learning is not merely about acquiring knowledge, but also includes changes in attitude and skills (Wina, 2013). The lecture method is a teaching method used to convey information or descriptions of a subject matter and problems verbally (Ezdha, Anggreini, & Fitri, 2018), while the role-playing method is intended as a way of mastering learning material by developing students' imagination and appreciation by acting out the role (Wina, 2013). Therefore, by doing both of these methods students will acquire more knowledge, as it is not only obtained by listening but also by seeing or observing.

Based on a search of literature, it was found that there were still a small number of researches that had been conducted that investigated the influence of a combination of learning by lecture and learning by role-playing on the application of patient safety standards. Therefore, it was important to conduct this research. This study aimed to determine the effect of learning using the combined methods of lecture and role-playing on nurses' knowledge, attitude and behavior in applying patient safety standards. The study is a quasi-experimental study using two groups with a pre-test and post-test design

## **METHOD**

The data collection and delivery of interventions were divided into three meeting sessions held from the fourth week of September to the third week of October 2016. This research was conducted on 24 nurses working in the emergency unit and inpatient rooms of one of the regional general hospitals in Bali. The sample was determined based on the total sampling technique. The study participants were divided into intervention and control groups with 12 participants in each group. The intervention group received interventions in the form of learning by the Lecture and Role Playing methods, while the control group did not receive any intervention. At the end of the study, the control group was given a booklet on patient safety which had also been given to the intervention group earlier. The study participants were selected based on the following inclusion criteria: (1) not on leave (annual, marriage, maternity, or sick leave) when the entire research process was carried out, (2) not in any term of study or following education/training programs that would require them to be absent from their duties at the hospital, and (3) willing to be a respondent as evidenced by a written statement of willingness to be a respondent. Participants who did not follow the intervention according to the research procedure were excluded from the study.

The intervention carried out in this study was in the form of learning by the lecture and role-playing methods. The intervention was carried out for three days. On the first day, the respondents were given a lecture on basic concepts and patient safety goals for 60 minutes, followed by a question-and-answer session for 30 minutes. On the second day, the lecture continued with a presentation of learning material on patient safety incidents and how to report patient safety incidents for 60 minutes, followed by a 30-minute question-and-answer session. Lecture material in PPT and video file formats as well as support booklets on patient

safety were distributed to each lecture participant. On the third day, the participants attending the lecture were given a case and asked to do a role play on the case. The role play was conducted according to the standard operating procedures for each patient safety goal.

Data were collected using questionnaires and observation sheets for nurses' behavior in applying the patient safety standards in hospitals. The questionnaires and observation sheets were developed by the researchers using the WHO guidelines for patient safety (WHO, 2004). The validity and reliability of the questionnaires were tested before use involving 30 executive nurses. The result of the Pearson product-moment correlation test obtained from the questionnaire showed a range of  $r = 0.3674-0.8845$ , and the Cronbach's alpha value of the questionnaire was  $\alpha = 0.986$ . This value indicates that the questionnaire used is valid and reliable. Univariate analysis was performed to describe the distribution and the mean value of each variable. For bivariate analysis, the independent  $t$  test and dependent  $t$  test were used to analyze mean differences between the groups. The confidence interval used is 95% ( $\alpha = 0.05$ ). This study has obtained ethical approval from the Research Ethics Commission of the Faculty of Medicine, Udayana University/Sanglah Central General Hospital Denpasar with Letter of Ethical Approval No. 1709/UN.14.2/R&D/2016. Informed consents were obtained from each respondent before data collection.

## RESULTS

Table 1.

Respondents' Distribution based on Age and Length of Work in the Control and Intervention Groups

Variable	Mean	Min-Max	SD
Control Group ( $n = 12$ )			
Age (in years)	25.92	24-28	1.08
Length of work (in months)	19	12-36	9.52
Intervention Group ( $n = 12$ )			
Age (in years)	25.25	24-28	1.05
Length of work (in months)	20	12-36	9.34

Table 2.

Respondents' Distribution based on Gender, Marital Status, and Employment Status in the Control and Intervention Groups

Variable	$f$	%	
Control Group ( $n = 12$ )			
Gender	Female	9	75
	Male	3	25
Marital Status	Married	2	16.7
	Single	10	83.3
Employment Status	Permanent	3	25
	Contract	9	75
Intervention Group ( $n = 12$ )			
Gender	Female	8	66.7
	Male	4	33.3
Marital Status	Married	3	25
	Single	9	75
Employment Status	Permanent	3	25
	Contract	9	75

Table 3.  
The Mean Values of Respondents' Knowledge, Attitude, and Behavior Before and After Intervention between the Control Group (n=12) dan Intervention Group (n=12)

Variable	Control Group				p	Intervention Group				p
	Before the Intervention		After the Intervention			Before the Intervention		After the Intervention		
	M	SD	M	SD		M	SD	M	SD	
Knowledge	11.58	1.24	10.92	1.24	0.120*	11.33	1.07	22.67	1.43	< 0.001*
Attitude	84.08	3.20	83.50	2.46	0.152*	72.42	3.98	120.17	2.85	< 0.001*
Behavior	54.58	1.31	54.75	1.71	0.658*	54.50	1.56	57.75	2.13	< 0.001*

\*dependent t test (α = .05)

The mean age of the nurses in the control group was 25.92 years with the youngest being 24 years and the oldest 28 years. The mean length of work of the nurses in the control group was 19 months with the shortest and the longest length of work being 12 months and 36 months respectively. The mean age of the nurses in the intervention group was 25.25 years with the youngest being 24 years and the oldest being 28 years. The mean length of work of the nurses in the intervention group was 20 months with the shortest being 12 months and the longest being 36 months (Table 1).

The data on the demographic characteristics of the nurses in the control group show that most of them were female (75%), single (83.3%), and contract employees (75%). Similar results were obtained from the data on the demographic characteristics of the nurses in the intervention group, who were mostly female (66.7%), single (75%), and contract employees (75%) (Table 2).

The mean value of the nurses' knowledge about patient safety standards in the control group before intervention was 11.58 with a standard deviation of 1.24, while the intervention group obtained a mean value of 11.33 with a standard deviation of 1.07. After intervention, the mean value of the nurses' knowledge in the control group was 10.92 with a standard deviation of 1.24, while that in the intervention group was 22.67 with a standard deviation of 1.43 (Table 3). As for the nurses' attitude towards patient safety standards, the mean value in the control group before intervention was 84.08 with a standard deviation of 3.20, while the mean value in the intervention group was 72.42 with a standard deviation of 3.98. After intervention, the mean value of the nurses' attitude in the control group was 83.50 with a standard deviation of 2.46, while that in the intervention group was 120.17 with a standard deviation of 2.85 (Table 3).

As for the last one, which is the nurses' behavior in applying patient safety standards, before intervention the control group obtained a mean value of 54.58 with a standard deviation of 1.31, and after intervention it obtained a mean value of 54.75 with a standard deviation of 1.71. As for the intervention group, before intervention the mean value of the nurses' behavior in applying patient safety standards was 54.50 with a standard deviation of 1.56, and after intervention the mean value became 57.75 with a standard deviation of 2.13 (Table 3).

These results showed that there was no significant difference in the values of the nurses' knowledge, attitude, and behavior about patient safety standards in the control group before and after the intervention (p > 0.05). On the contrary, the results of the statistical analysis showed that there were significant differences in the values of the nurses' knowledge, attitude,

and behavior about patient safety standards in the intervention group before and after the intervention ( $p < 0.001$ ).

## DISCUSSION

The results of the study showed that there were significant differences in the values of the nurses' knowledge, attitude, and behavior about patient safety standards in the intervention group before and after they received learning using the combined methods of lecture and role-playing ( $p < 0.001$ ), whereas the control group, which did not receive learning using the combined methods, showed no significant difference in the values of the nurses' knowledge, attitude, and behavior about patient safety standards ( $p > 0.005$ ). Therefore, it can be concluded that learning by combined methods is better than learning using only one method, in this case to improve nurses' knowledge, attitude, and behavior about patient safety standards.

A number of studies that focus on improving patient safety standards have been conducted. One research showed that there was an increase in the value of nurses' knowledge about the application of patient safety standards before and after training using the lecture method (Ezdha et al., 2018). Another research showed that there was a significant difference in the application of patient safety standards before and after training using the role-playing method (Dewi, 2012). There were significant differences in the number of errors in giving injection drugs after the nurses were given patient safety training (Fatimah & Rosa, 2016). The percentage of errors in the administration of injection drugs decreased significantly after the nurses were given patient safety training (Fatimah & Rosa, 2016). There was also a study that found a significant increase in the knowledge and attitude of the nursing students regarding prevention of infections after they took an educational program in which the simulation or role-playing method was employed (Al-Hussami & Darawad, 2013).

There are several methods based on the learning techniques and principles that can be used in human resource development, one of which is off-the-job training (Marquis & Huston, 2013). Off-the-job training consists of learning with the lecture method, case studies, simulations, laboratory practices, role playing and modeling behaviors. Patrick (1991) suggested that learning strategies using a combination of the lecture method and demonstrations were able to make learners absorb more information compared to learning using only passive training methods. Based on the learning pyramid theory, information that can be received by participants using the passive training method is 5%, while the demonstration method increases participants' understanding by 30%. It was based on this theory that the researchers conducted this research with combined learning methods in mind (Annett & Sparrow, 2007; Blume, Kevin Ford, Surface, & Olenick, 2019).

Nurses and other health professionals are increasingly using the simulation or role-playing method as learning strategies at all levels requiring practical skills in hospital settings. The provision of learning interventions using a combination of lectures, video screenings, and small group discussions accompanied by role playing afterwards significantly increase the participants' knowledge, attitude and adherence to standard precautions (Xiong, Zhang, Wang, Wu, & Hall, 2017). The simulation learning method is an effective solution for nurses and other health care workers to help them achieve clinical competence (Hayden, Smiley, & Gross, 2014; Miller, 2014). The simulation method gives trainees realistic clinical scenarios so as to provide a better understanding of a case faced by nurses in the practice area (Norman, 2012).

The results of these previous studies show that the role-playing method has several advantages for nurses and other health professionals, namely increasing their knowledge and critical thinking, increasing their communication knowledge and skills (Kim, Ko, & Lee, 2013), improving the quality of nursing care (Kinsman et al., 2012; McCaughey & Traynor, 2010), increasing self-confidence and satisfaction (Agha, Alhamrani, & Khan, 2015; Mould, White, & Gallagher, 2011; Omer, 2016; Raman et al., 2011), and improving their abilities in clinical decision making (Powell-Laney, Keen, & Hall, 2012). Nurses are required to have a high level of confidence in conducting appropriate assessments, providing interventions and participating as members of effective health teams (Hart, Spiva, & Mareno, 2014). Based on these results, it can be said that increasing nurses' knowledge, attitude, and behavior by using combined learning methods provides better results than using a single method.

## CONCLUSION

The results showed that there were no significant differences in the values of the nurses' knowledge, attitude, and behavior about patient safety standards in the control group before and after intervention. On the contrary, there were significant differences in the values of the nurses' knowledge, attitude, and behavior about patient safety standards in the intervention group before and after the nurses received learning using combined methods.

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