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# Effectiveness of peer teaching on physical assessment among student nurses in selected nursing college, Mangalore

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## Abstract

**Introduction:** Nurses are different from other health care providers in their approach to patient care, training, and scope of practice. Peer teaching is an effective teaching method for nursing students as a method of conventional classroom lectures. The present study aimed to assess the effectiveness of peer teaching on physical assessment among student nurses in a selected nursing college located in Mangalore. **Methodology:** An evaluative approach with the experimental post-test only design was used. 44 first-year student nurses were selected by simple random sampling and were divided into an experimental group (22) and a control group (22) by the lottery method. As an intervention, peer group demonstration was conducted to the experimental group. Post test was conducted on both groups on the effectiveness of peer teaching by skill checklist. **Results:** The study revealed that 45.45% of the participants were excellent, and 54.55% were good in terms of skill after adopting peer teaching. The 't' test ( $t_{43} = 8.26, p < .05$ ) revealed that peer teaching was highly effective in developing skill among student nurses. **Conclusion:** The findings of the study concluded that peer teaching is an effective teaching method among student nurses.

**Keywords:** Effectiveness, Peer teaching, Student Nurse, Demonstration, Physical Assessment

## Introduction

Nursing is a profession within the health care sector that focuses on the care of individuals, families, and communities by training and practice to attain, maintain or recover optimal health and quality of health care. (Dunphy, Winland-Brown, Porter, & Thomas, 2019).

Peer teaching is direct interaction between the students to promote active learning and is an effective teaching method. It helps build communication skills, critical thinking, and self-confidence among student nurses. Research indicates that peer learning activities has enhanced learning outcomes such as team building spirit, supportive relationships, psychological well-

being, social competence, communication skill, self-esteem, and boost higher achievement and productivity. (Hancock, Naber, Cross & Tonia, 2016).

Physical assessment is the systematic collection of objective information through inspection, palpation, percussion, and auscultation. Nurses examine the signs of disease through physical assessment and differentiate normal from abnormal findings. In peer leadership, the peer gets an opportunity for developing the teaching and leadership skills. In the long run, successful peer leadership programs have the potential to benefit individuals outside of the mentorship relationships such as peer leaders as future peers and co-workers become the nurse educator of the future (Rosenau, Lisella, Clancy, & Nowell, 2015).

The research findings revealed that the peer teaching approach was evident in improving clinical practice, and the student nurses experienced less anxiety. It was also observed that student nurses performed clinical skills with a more communicative and interactive

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approach with other peers through honest feedback (Gharibsabaq, Farouk, & Ismail, 2016).

Peer teaching benefits nursing students because it motivates and develops the student accountability for self-learning. The students also learn to respect for co-students and to seek help when needed. It is also a tool that helps in acquiring more knowledge about the topic learned. Cooperative learning results in high satisfaction among the students (Ramasubramaniam, Angeline, & Andersoon, 2017).

**Objectives of the study**

The objective of the study was to find the effectiveness of peer teaching on physical assessment among student nurses by using a skill checklist and to associate the post test scores with selected demographic variables.

**Methodology**

*Research design, setting, and sample for the study*

The present study adopted an experimental post-test only design. The study was conducted in a selected nursing college and a school of nursing in Mangalore. Nursing students from first-year BSc Nursing and General Nursing & Midwifery were the chosen populations. The estimated sample size was 44, and it was calculated with a confidence level of 95%, with a margin of error 5%. Participants were selected randomly and divided equally in the experiment and control group through the lottery method.

*Tool for data collection*

The tool used for this study was a skill checklist constructed by the researchers. The tool consisted of two parts. Part I was the demographic proforma, and part II was the skill checklist. The five-point skill checklist for physical assessment demonstration was scored as very good (5), good (4), average (3), poor (2), and very poor (1). The skill checklist consisted of preparation of articles, assessment of general appearance, mental status, posture, skin, face, eyes, ears, nose, mouth and throat, neck, chest, breast, abdomen, extremities, back, genitals and rectum, reflexes and balance and coordination. The maximum score was 610. The skill was grouped into excellent, good, average, and poor categories as per the score obtained.

The experts validated the tool, and modifications were made in the tool as per the suggestions of experts and

the guide. Pretesting of the tool showed that the tool was appropriate, and by split half method the reliability coefficient of the tool obtained was 0.913.

**Method of data collection**

Data was collected personally by the investigators with due permissions from the concerned authorities, and informed consent was obtained from the participants in a consent form. Institutional ethics committee approval was obtained.

Fourth-year BSc nursing students were the ones who adopted peer teaching as physical assessment on the first-year nursing students were the experimental group. Demonstration was used as peer teaching. The experiment group was divided into five groups, and head to foot assessment was demonstrated in four sessions in a demonstration lab and in clinical setting. PowerPoint presentation was used to describe abnormal findings. Individual return demonstration from participants was included to check participants' understanding. Post test was conducted after seven days using skill checklist by individual return demonstration from participants both in the experiment and control group in a demonstration lab. Collected data was analysed through descriptive and inferential statistics.

**Results**

Majority 54.54% of the participants were in the age group of 18 years, and all were female student nurses, and 68.18% were students of BSc nursing, and 31.81% were students of the GNM course in the experiment group.

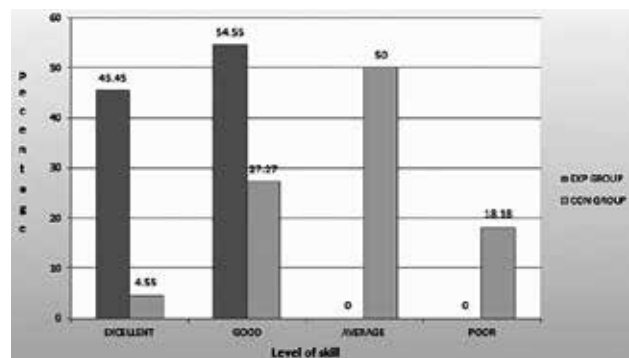


Figure 1: Bar Diagram showing the distribution of subjects according to their level of knowledge during post test

Concerning their previous knowledge of physical assessment, it was observed that 100% of them had

Table 1:

*Mean, Mean %, t value of peer teaching among student nurses*

	Mean	SD	Mean %	t value	df	P value
Experiment group	27	7.97	77.14	8.26	43	.00001
Control group	19.05	6.07	54.43			

previous knowledge in the experiment and control group.

Figure 1 shows the comparison of post test scores of peer teaching among student nurses. It is observed that the level of skill was excellent for 45.45% of the participants, and 54.54% of them had good skill in the experiment group. Whereas in the control group majority, 50% had average skill, and 18.18% had poor skill. Only 27.27% had good skill, and very few subjects, 4.54% were excellent.

Table 1 depicts the effectiveness of peer teaching in terms of descriptive and inferential statistics. The mean and SD ( $27 \pm 7.97$ ) and mean percentage (77.14%) score of skill in the experiment group is higher than the mean and SD ( $19.05 \pm 6.07$ ) and mean percentage (54.43%) score of the control group.

Inferential statistics were used to find the effectiveness of peer teaching. The calculated t value ( $t_{43}$ ) 8.26 was higher than the p value .001 It revealed that peer teaching is highly effective among student nurses. A null hypothesis was stated to test the significance; there will not be any significant difference between the experiment group and the control group in terms of gain in skill.

Chi square test was used to find an association between the post test scores with demographic variable and found that there was significant ( $\chi^2 = 5.22$ ,  $p < .05$ ) association with the course of study. Hence, alternative hypothesis was accepted only for the course of the study, and it is inferred that there was a significant association between the post test scores and the course of the study.

## Discussion

This study was conducted with the objective of evaluating the peer teaching on physical assessment among student nurses in a selected nursing college. An evaluative approach with post-test only design was adopted to conduct the study. The findings concerning

the effectiveness of the peer teaching program were statistically analysed for significance at .05 level of significance.

The demographic characteristics of the sample of this study, when compared with samples of other similar studies dealing with peer teaching, were found to agree with most of such studies. Student nurses in the present study had improved skill levels after the peer teaching program. The increased mean scores of the present study were 27, and S.D was 7.97, the 't' value was significant ( $t = 8.26$ ). The findings are similar to the study carried out in Egypt that showed a statistically significant difference in the performance grades between the students in the study and in the control groups ( $p < .001$ ). Overall, almost all students in the study group (98.2%) have an excellent grade, compared to only 3.6% of those in the control group ( $p < .001$ ) (El-Sayed, Metwally & Abeen, 2013).

## Conclusion

Peer teaching is an effective teaching method and has been used in nursing to support clinical practice. The present study evaluated the effectiveness of peer teaching on physical assessment among nursing students. The results showed that the experiment group students were obtained excellent skill in physical assessment than the control group. As this study used a small sample size, a generalization of findings is limited. The study results add to the literature that peer teaching helps to improve student nurse's practical skill and can be used as teaching methods in nursing.

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