



PEER ASSISTED LEARNING AS A MODALITY TO DEMONSTRATE CLINICAL EXAMINATION AMONG PHASE I MBBS STUDENTS - A COMPARATIVE STUDY

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Abstract

Background: With the advent of CBME, the need of the hour in medical education is to find innovative small group teachings to benefit the students. For Phase I MBBS students, there is a gap in the performance of clinical examination in Physiology. Peer assisted learning (PAL) has been described as "the development of knowledge and skill through active help and support among status equals or matched companions". Little is known about the effects of PAL on the learning outcome of Phase I MBBS students regarding clinical examination

Aim : To compare the effect of Peer assisted learning and the conventional practical demonstration by faculty in understanding clinical examination among Phase 1 MBBS students.

Methods : A comparative study was done on 88 Phase I MBBS students. Of these, forty four (44) students were attended PAL and other forty four (44) students were attended small group faculty demonstration (control). A post test (OSCE) was conducted for the two groups. Mean OSCE score was put into the analysis and compared across two groups using unpaired t test.

Result: The mean OSCE score was found to be 9.118 ± 0.8622 for PAL group and 8.206 ± 1.1356 for control group. The p value among both groups was < 0.001 which is highly statistically significant.

Conclusion :

Peer assisted learning is an effective modality to understand clinical examination in Phase I MBBS students.

Key words : Peer assisted learning (PAL), clinical examination, Perception

I. INTRODUCTION

Medical students are at any time overburdened with high academic load. For phase I MBBS students in Physiology, there is a gap in the performance of clinical examination. The new competency-based curriculum for undergraduate medical education by the National Medical Council emphasizes small group teaching. But limited faculty resources could be a major limitation in addressing the augmented demand of small group teaching.

PAL is the development of new knowledge and skills through active learning support from peers¹. In recent times PAL has gained increasing attention across many different health care disciplines and educational sectors. It is difficult to understand the content of a topic completely for all the students in the limited time schedule. Those students who can't understand the contents fully can consult with their friends to clarify them and it will be really helpful also. PAL has many purported benefits including preparing students as educators, improving communication skills and reducing faculty teaching burden².

While PAL has long occurred informally in medical education, in the past few years, there has been increasing international interest in formally organized PAL, with many benefits for both the students and institutions³. PAL can assist the institution to meet external expectations for medical graduates to achieve competency and experience in both teaching and assessment, and may help to instil a life-long culture of teaching. PAL can also address specific gaps within the curriculum, providing additional student support in preparation for assessments³.

In a study, Joshua et al opined that tutees found the peer tutoring program to be enjoyable and useful. Also the program provided a motivating and resourceful environment for tutees to revise the curriculum content and learn from experienced peers.

In a study by Henning et al, it was found that students experienced mutual benefits whether they are on the giving or receiving end of PAL interactions⁴.

Another recent article on the effective use of peer teaching for medical students demonstrated that students' response to peer teaching was positive and they learned equally well⁵. Other studies also shown that medical students appreciate PAL as an acceptable teaching learning method^{6,7}.

A national survey of peer education revealed that college students who were working in a peer health education program noticed improvements in their knowledge on health, wellness and safety issues, in their teaching and public speaking skills, in their research and organizational abilities and in their individual self-confidence, self-efficacy and self understanding.⁸

Although medical faculty have a pivotal role in clinical teaching, PAL may provide a unique perspective and approach and is a rapidly expanding area in medical educational research⁹.

But only little known about the effects of PAL on the learning outcome of phase I MBBS students regarding clinical examination. So we are focusing on that aspect to establish why and how PAL has to be implemented.

II. OBJECTIVES

- 1) To compare the effect of Peer assisted learning and the conventional practical demonstration by faculty in understanding clinical examination among Phase 1 MBBS students.
- 2) To assess the perception of the students to PAL and conventional practical demonstration by faculty in clinical examination

III. MATERIALS AND METHODS

This study was a comparative analytical study conducted in the Department of Physiology at Amrita School of Medicine, Kochi. The study population included Phase I undergraduate medical students. The sample size was 88.

Out of the 100 Phase 1 MBBS students, 8 of them who were willing and have shown good performance in the recent practical test and skills in class seminars were recruited as Peer tutors and had given special training by the faculties about the competencies to be taught. The competencies covered were PY 5.12 and PY 6.9 ie, Recording of blood pressure and Clinical examination of respiratory system. They were taught the basics of structuring a lesson plan and were allowed practicing their skills. 88 students from the same batch were willing to participate in the study. After taking informed written consent they were divided into two groups- PAL group and the faculty group of 44 each by lottery method. They were further subdivided into 4 batches of 11 each randomly as PAL1, 2, 3, 4 groups and Faculty 1, 2, 3, 4 groups. Then four days of practical demonstration sessions were conducted. In the first two days practical demonstration for blood pressure was conducted for 1 and 2 PAL and faculty groups followed by an OSCE test on the next two days for the four

groups by different senior faculties using a common validated OSCE check list. In the PAL module, peer tutors taught 5 to 6 students per session and faculty module, one faculty for the 11 students. In the same manner, on the next week demonstration on respiratory system examination was conducted for two days for the next two groups followed by another OSCE test for them on next two days. The scores were compared with the same session given by regular faculty. OSCE scores obtained by the two methods were tabulated and mean scores calculated.

We used a researcher-made questionnaire consisting of 10 questions designed with a Likert scale (-2 = strongly disagree, -1 = disagree, 0 = neutral, 1 = agree, and 2 = strongly agree) to assess the participant's learning experience, perception towards the activity, and the level of satisfaction with the activity.

IV. STATISTICAL ANALYSIS

Analysis was done using IBM SPSS 20 software. To test the statistical significant mean changes in the OSCE scores between groups, Unpaired t test was used for parametric data. P value < 0.05 represent statistically significant. Responses to each question in the likert scale were analysed separately for the two groups.

V. RESULTS

In this comparative study, a total of eighty eight (n= 88) students were involved. Of these, forty four (44) students were attended PAL and other forty four (44) students were attended small group faculty demonstration (Control).

The mean OSCE score was found to be 9.118 ± 0.8622 for PAL group and 8.206 ± 1.1356 for control group. The p value among both groups was < 0.001 which is highly statistically significant.

Table 1. OSCE score among PAL group and control group (mean $\pm$ SD)

Variables	PAL group n = 44	Controls n = 44	P value
OSCE score	9.118 ± 0.8622	8.206 ± 1.1356	< 0.001

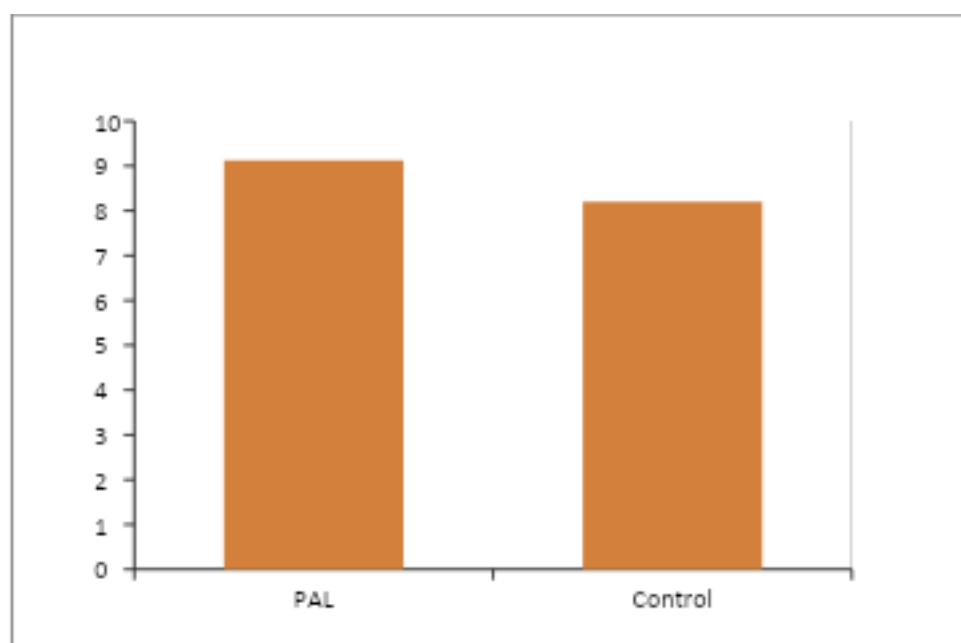
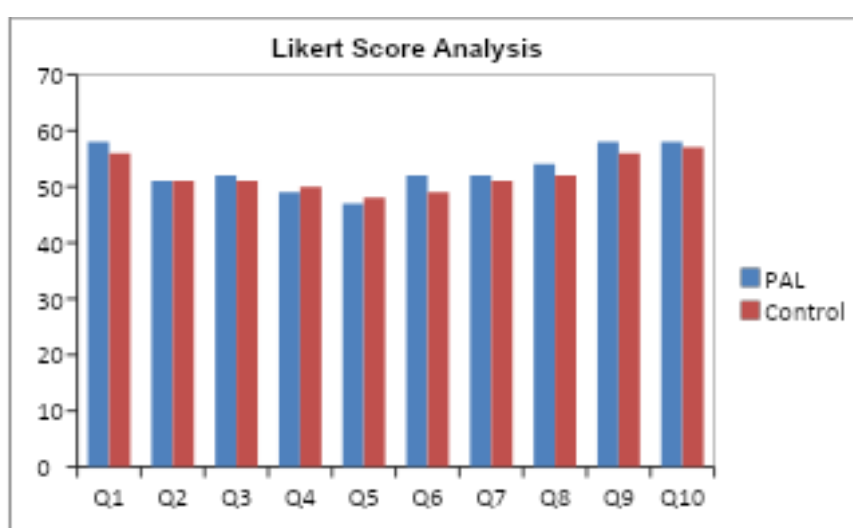


Figure 1. Comparison of OSCE scores between groups

Table 2. Feedback questionnaire & total scores

Question no:	Variables	PAL	Control
Q1	The session was interesting	58	56
Q2	The procedure was well appreciated	52	52
Q3	Understanding and following the topic was better	53	52
Q4	Continuity in the learning maintained	50	51
Q5	Doubts were clarified	49	50
Q6	Helps to retain in memory	52	50
Q7	Helps to boost performance	52	51
Q8	This method helps reproducibility	53	51
Q9	Can be adopt for teaching other clinical examination	58	56
Q10	Overall this method was effective and beneficial to me	57	56

**Figure 2. Likert feedback score of individual questions by students of both groups**

VI. DISCUSSION

This study examined and compared the effects of two teaching-learning methods: PAL module and teaching by regular faculty members (faculty module) on clinical examination among phase I MBBS students.

Student learners are often more engaged in active learning and at ease to ask questions and clarify understanding with fellow students, while student teachers may deepen their understanding and improved retention in a topic they prepared for and delivered. Furthermore, an understanding of the learning process and the ability to teach is an important skill for competent resident physicians to possess, for teaching junior learners and for teaching patients about their conditions.¹⁰

PAL inherently encourages students to take responsibility for their own learning and develop critical lifelong learning skills. From the educator's standpoint, faculty time is a limited resource that can be the rate-limiting step in providing interactive learning experiences for medical students.

Majority of the participants in our study agreed that PAL is an effective teaching-learning method, which promotes in-depth learning and also can be adopt for teaching other clinical examination too. In a study conducted in the Netherlands, the majority of the students agreed that peer teachers performed well in their teaching roles and can serve as effective teachers.¹¹

Students are more comfortable with peers and more likely to share their difficulties and doubts. PAL has the benefits of increasing teaching skills.

Ten Cate O et al. evolved twelve definite reasons to consider the introduction of peer teaching as a categorical element in medical curriculum and concluded that it is beneficial for student-teachers and learners, as well as organizations.¹²

There are also likely benefits for the peer tutors including the improvement of teaching skills and cementing one's own knowledge. PAL provides a relaxed environment for students to study and learn skills including leadership, presentation, and communication, all of which are considering as the roles of a physician in modern medicine.

VII. CONCLUSION

Peer assisted learning is an effective modality than conventional practical demonstration by faculty to understand clinical examination in Phase I MBBS students. Overall perception of students are also comparable for peer assisted learning.

VIII. REFERENCES

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