

Original Research Article

Comparison of seminar and lecture as teaching method and student perception on the seminar and lecture in medical education

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ABSTRACT

Background: The current teaching methodology in medical education is mostly lecture. Many studies have mentioned that lectures alone are ineffective in bringing up student interaction and skills. Published literature reports that students are willing to accept innovative and interactive teaching methodologies. A study was conducted to compare the seminar vs. lectures in medical teaching and to describe perception of medical students about seminar and lecture.

Methods: For comparison between seminar and lecture 88 participants from third MBBS students were randomly assigned for the Seminar and lecture methods including cross over technique by splitting the topic of leprosy into two parts. We conducted pre and post-tests after each session for both groups with the same questionnaire with total score of 36 for 36 questions. For opinion study we used a simple closed ended questionnaire on perception of on the two teaching methods. Data was analysed using SPSS software for computation of mean differences in the score and chi square proportions appropriately.

Results: Least significant difference post hoc test indicates difference in the teaching methods. Mean score difference between pre and post-tests in both methods demonstrate that seminar is effective teaching method ($p < 0.05$). Seminar evoked interest, provided more opportunities interact. In both methodologies schematic arrangement of the topic and improvement in communication skills was similar.

Conclusions: Seminar was effective than didactic lecture interest and active participation as well as improves the ability to understand. To impart effective learning a combination of different teaching methods have to be used.

Keywords: Seminar, Teaching methods, Lecture

INTRODUCTION

Every medical student is bound to practice medicine independently using their knowledge and skills acquired during medical education. Knowledge and skills are to be imparted in efficient manner through acceptable methodologies. Students need to be taught in innovative methods to make them understand and apply their scientific knowledge into practice. As medical science

updating is inevitable one and the ever-growing technology necessitates the dynamism in the medical science teaching. The current teaching methodology in medical education is mostly lectures. According to many studies lectures alone are ineffective in bringing up student interaction and skills. A study by Misal et al found that students are willing to accept innovative and interactive teaching methodologies.¹ In one of the studies conducted by Palpapillil et al it was observed that

seminars indeed help in self-learning.² Interactive bilateral communications were found more useful by more than 50% students in study by Chavada et al.³ The meta-analysis by Huo et al observed that seminar is an effective method for improving knowledge, skill, active learning, etc., however did not found much difference in the understanding of fundamental concepts.⁴ In the month of August 2018 current comparative study was conducted of seminar and lectures as to find which is more effective.

Objectives

Objectives of current study were; to determine the effectiveness of seminar vs. lectures in imparting better knowledge among medical students and to describe the perception of medical students about seminar and lecture as teaching method.

METHODS

Current study was conducted at department of dermatology in Government Vellore medical college in

the month of August 2018. In this comparison study 88 third year MBBS students participated. Participants were divided into two groups A and B. Topic of leprosy was selected for current study purpose. The contents were divided into two parts, part I and part II. Part I included subtopics like overview of leprosy, its transmission, clinical presentations etc. Part II included treatment and complications and the programme aspects. For batch A part I topic was covered by lectures and for batch B the same part was covered by self-learning activity-seminar. We did a cross over for the remaining part II component of the leprosy topic. Group A was allotted seminar and lecture was the method for Group B (Figure 1). Pre and post-tests were conducted after each session for both the groups. Further for the opinion study feedback was obtained from the participants by using a simple closed ended questionnaire. The questionnaires included perception on the interest evoked, opportunities to actively participate, preferred method of teaching etc. The results were tabulated and analysed using SPSS software.

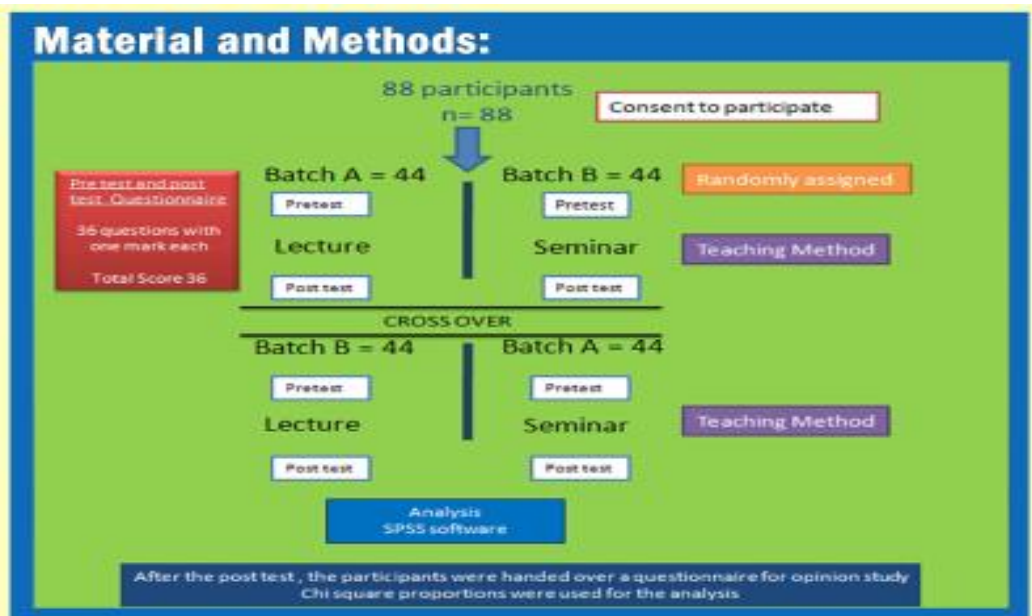


Figure 1: Methodology of the study of comparison of Seminar and Lecture, GVMC, Vellore, Tamil Nadu, India, 2019.

RESULTS

Mean of the absolute difference in scores between the pre test and the post test were computed for both the methodologies. LSD post hoc test indicates difference in the two teaching methods (p=0.001) (Table 1). The mean score difference which was significant demonstrate that the seminar type of teaching is the effective method. The difference between seminar pre and post results was significant (p=0.001). Similarly for the lecture also pre and post test results were also significant. The lecture and the seminar post tests were compared which also showed a significant difference (Table 1).

Chi square analysis of data on the opinion study indicates that the around equal number of students perceived that both the lectures and seminars were similar in structured and interactive nature i.e. around 68% and 70% respectively (Figure 2). Varied results for different features were observed. Students perceived that seminar evoked more interest (60%) than lecture. Seminar also improved communication skills (65%). Opportunities to interact were observed in both the methods (66%). More students opined that the concept understanding was better with lectures (61%) but the difference was not statistically significant. Seminar significantly evoked interest in the topic (60%) than the lectures (Figure 2).

Table 1: Pre and post test results on the study of comparison of seminar and lecture, GVMC, Vellore, Tamil Nadu.

Group A	Group B	Mean difference	Std error	P value	95% Confidence interval	
					Lower bound	Upper bound
Seminar pre	Lecture pre	1.04545	0.66427	0.116	-0.2610	2.3519
Seminar post	Seminar pre	8.12500	0.66427	0.000	6.8185	9.4315
Lecture post	Lecture pre	10.60227	0.66427	0.000	-11.9088	-9.2958

DISCUSSION

Technology has greatly influenced the medical science. It is very pertinent that the student friendly teaching methods are incorporated in medical education. Smart classrooms, Interactive learning, feedback methodology are fast picking up in professional education.

Current study results showed that the student interaction was more in interactive seminar methodology. The same findings were observed in the meta-analysis by Huo et al where student interaction was notable observed.⁴ Though many institutions have adopted latest techniques, the changes in teaching methodologies have not been formalized to the required level. Many studies have also observed the need for change in medical curriculum teaching methods.⁵

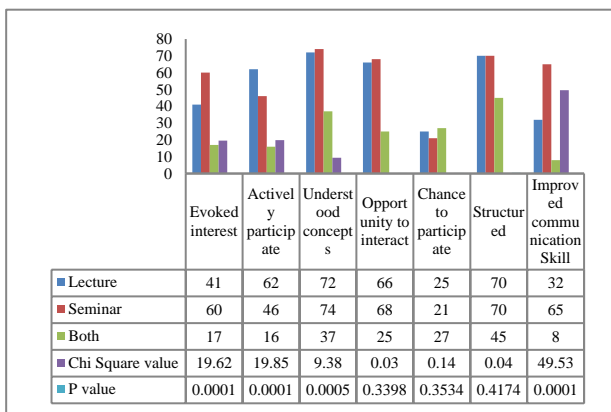


Figure 2: Perception on seminar and lecture by students of Government Vellore medical college, Tamil Nadu.

Similar results have been observed in a study conducted by Mahajan et al in which mean post-test scores obtained from the students were significantly higher than the pre-test scores during interactive learning process.⁶ A positive attitude and perception was observed among students in a case study conducted by Kotwal et al while piloting a innovative approach in teaching which is similar to our study findings.⁷ Kar et al in a study observed innovative teaching method should be in addition to conventional teaching methods.⁸ In current study also the students felt seminar did not differ from didactic lecture in developing communication skills. The necessity for student friendly methods is recommended by many studies.⁹ The main findings in current study were requirement of innovative

method, acceptance and student participation in learning. Practical exams and OSCE type exams have been in vogue but the students are used to it only as a requirement for passing the exam. Competency based medical education is the current curriculum prescribed by the medical council of India. Medical teachers are also being trained as a mandate of MCI and they undergo basic and revised basic course and curriculum implementation support programme for considering the teacher as medical faculty.

Limitations

Limitation of current study was that all the students did not get the chance to present in the seminar.

CONCLUSION

Seminar was found to be more effective than didactic lecture since it seemed to evoke interest and active participation as well as to improve the ability to understand and retain the concepts may increase. Students will become more involved in the self-learning process. The students will have the opportunity to improve their communication skills. To have effective learning for the students a combination of different teaching methods may be have to be used.

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Ethical approval: The study was approved by the institutional ethics committee

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