

Perception and preferences of teaching and learning methods among second year medical students: a cross sectional survey in a rural tertiary care teaching hospital

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ABSTRACT

Background: Imparting a large amount of knowledge within a limited time period in a way it is retained, remembered and effectively interpreted by a medical student is considered to be a challenge which has resulted in crucial changes in the medical educational field, with a shift from didactic teacher centered and subject based teaching to the use of interactive, problem based, student centered learning. Learning styles and approaches of each medical undergraduate vary considerably and their learning needs also differ individually. The objective of the study was to assess the perception of 2nd year medical students towards teaching and learning methods, to know their preferences among 3 commonly used audio visual teaching methods chalk and board (CB), power point teaching (PPT) and over-head projector (OHP), to explore the most influencing qualities of a teacher perceived by these medical undergraduates.

Methods: A cross-sectional descriptive questionnaire-based study was conducted among 2nd year medical students of AIMS, B. G. Nagar, Karnataka, India. A pre-designed, pre-tested self-administered questionnaire was used to collect data.

Results: Total respondents were 184. Among them 116 were females (63.04%) and 68 were males (36.95%). All were within the age group of 19-21 years. Chalk and board (64%) was the most preferred teaching method. 76.63% students felt that chalk board facilitates interaction between students and teacher, 69.56% perceived that diagrams can be easily copied, 67.39% opined that clinical problems can be solved better. However to demonstrate the clinical conditions (70.65%) and covering more subject per lecture (59.23%) students preferred ppt teaching. The preferred learning method in our study was small group discussion (29%) followed by tutorials (27%), self-study (23%) and lectures (16%). Approachability (54.89%) of a teacher towards students, good teaching skills (50.54%) and knowledge towards the subject (45.65%) are the most influencing qualities of a teacher perceived by these medical undergraduates.

Conclusions: Chalk and board teaching remains the best preferred teaching aid which can be supplemented with PPT and OHP to improve medical teaching. Small group discussion is the most preferred learning method when compared with tutorial, student's seminar and lectures indicating that students are more interested in active teaching and learning methods.

Keywords: Teaching and learning methods, Perceptions, Preferences, Medical students

INTRODUCTION

Learning styles are different and unique ways used by individuals as they prepare to learn and recall information.¹ Educational researchers postulate that each individual has a unique learning style.² Learning processes vary from person to person due to differences in cognitive processing.³ Learning style has been defined as the characteristic cognitive, affective, social and physiological behaviours that serve as relatively stable indicators of how learners perceive, interact with and respond to the learning environment.⁴ Medical students experience a different learning environment in their educational setting than non-medical students while acquiring a huge amount of knowledge in medical college. Each student typically adapts his/her learning preferences to their learning environment.⁵ Imparting a large amount of knowledge within a limited time period in a way it is retained, remembered and effectively interpreted by a medical student is considered to be a challenge which has resulted in crucial changes in the medical educational field, with a shift from didactic teacher centered and subject based teaching to the use of interactive, problem based, student centered learning. Most medical school curricula have adopted new methods of teaching and learning to varying degrees.⁶

Didactic lectures, role playing, case studies and demonstrations through videotapes, problem based learning (PBL) and several others are the different teaching methods employed at the undergraduate level to appeal to students with different learning styles. But whether and how these things are appealing to the students need to be known. In medical education, planning a lesson which makes the student to gain maximum knowledge within a short span of time is also a challenge.⁷ It is very important for any medical teacher to meet the educational need of the students regarding the knowledge, attitude and the skill. It is also necessary here to note that the medical students represent a different population which differs from general population in age, place, ethnicity, level of preparedness, learning styles and preferences.⁸

Traditional didactic lecture is more passive and less effective as a teaching tool compared with active learning methods like problem-based learning. But, a well-organized lecture can be one of the most effective ways to integrate and present information from multiple sources on difficult topics. So, assistance is needed to enhance the quality of lecture in the form of audio-visual aid like power point teaching which has now become the most popular package of teaching method.

Henceforth, considering all these diverse views about the teaching methodologies, the present study was done to assess the perceptions and preferences of these teaching and learning methods among 2nd year medical undergraduates. The objective of the study was to assess the perception of 2nd year medical students towards

teaching and learning methods, to know their preferences among 3 commonly used audio visual teaching methods (chalk and board, power point teaching and over-head projector), to explore the most influencing qualities of a teacher perceived by these medical undergraduates.

METHODS

A cross sectional study design was conducted in Adichunchanagiri Institute of Medical Sciences, B. G. Nagar, Karnataka, India. All second year medical students, including 3rd term, 4th term and 5th term students were taken part in the study. Sample size was of 184.

Data collection procedures

A cross-sectional questionnaire based study was conducted in AIMS, B. G. Nagar, India with an aim to assess the perceptions and preferences of teaching and learning methods among medical students studying in 2nd year. The study was conducted after obtaining the permission from the institutional ethical committee.

Objectives and procedure of the study was explained to the participants. The inclusion of the participants was anonymous and voluntary. All participants were included after an informed consent. A feedback questionnaire covering various aspects of teaching and learning methods was distributed among the participants. The information pertaining to the most preferred teaching methods for different parameters, overall preference to which teaching method among the three (CB, PPT, OHP) learning methods preferred by them and qualities of a teacher most influencing them were included in the questionnaire. The investigators were present in case the respondents required assistance. For the purpose of the study, certain medical terms were explained to the participants if they could not understand. The filled questionnaire feedbacks were retrieved from the participants.

Quality control was maintained as per the standard protocol. Confidentiality was maintained.

Statistical analysis

Statistical results were tabulated and calculated in Microsoft excel and the perception of teaching and learning methods were expressed in numbers and percentages.

RESULTS

In our study, total respondents were 184. Among them 116 were female (63.04%) respondents and 68 were male (36.95%) respondents. All were within the age group of 19-21 years.

DISCUSSION

Learning modalities are the sensory channels or pathways through which individuals give, receive and store information.⁹ It is a cognitive process whereby an individual acquires the professional and ethical values, the bio-medical, behavioural and clinical knowledge, reasoning and psychomotor skills necessary for professional competence, which can be demonstrated when learners acquire the ability to express their facts, realization, gained insight and new skills.^{10,11} A variety of factors can influence medical students learning approaches. These factors are age, gender, level of persistence, intelligence, culture and creative thinking and more.¹²

Teaching is an art. By making use of best teaching aid, teacher can teach and make students understand, remember and reproduce well which can improve their academic performance also. A good teaching needs a good communication for exchanging ideas, feelings and information. Various teaching methodologies have been utilized in medical education which includes didactic lectures; power point teaching, practical experiments, clinical teaching and problem based learning methods.

A lecture facilitates large class communication which can arouse interest in students, where they can interrupt with questions but students play a passive role than an active role which hinders their learning.

It is only one way communication. There are techniques by which lectures can be made effective. One of them is using audio-visual aids which should be clear and understandable.¹³ Chalk and board teaching was the most preferred teaching aid (Figure 1) by our students (64%) followed by a combination of chalk and board with PPT (19%).

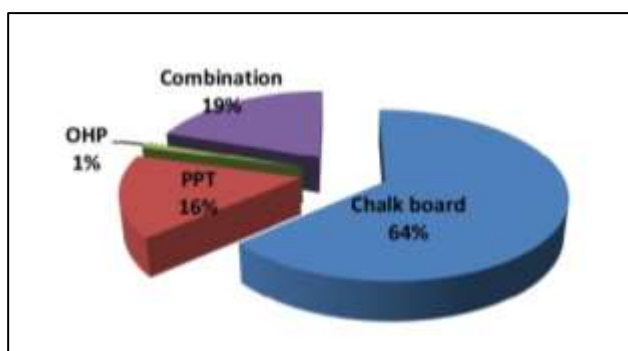


Figure 1: Preferred teaching aid.

In our study, 76.63% students preferred chalk board as it facilitated interaction between students and teacher, 69.56% perceived that diagrams can be easily copied, 67.39% opined that clinical problems can be solved better (Figure 2).

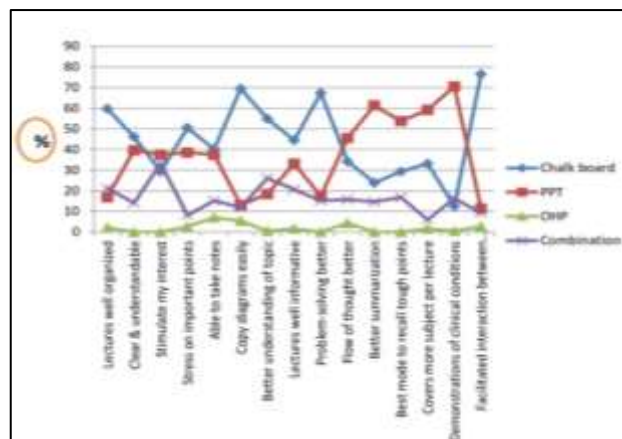


Figure 2: Students preference for teaching aids to various parameters.

However to demonstrate the clinical conditions (70.65%) and covering more subject per lecture (59.23%) our students preferred PPT teaching. The overall preference of PPT teaching was only 16% in our study. The reasons to dislike PPT are that the power failure can interrupt lectures and also takes longer time to set up the projection. Here the students are passive observers rather than active participants. Our study can be compared with the study of Banerjee I et al where in 60% of medical students preferred chalk and board and 20% preferred to LCD slides.¹⁴ Novella ELB et al, another study showed that the traditional chalk and board was superior teaching method.¹⁵ The chalk and board method was preferred as students felt that it increases their co-ordination with teacher, they'll get time to note down the points and also to understand the content which is to be taught which do not happen in power point presentations. 19% of students preferred a combination of teaching aids where in earlier studies done by Bennal AS et al scored 54.9%.¹⁶ OHP was the least preferred teaching aid for all parameters in our study. The reasons for liking blackboard are that it encourages students to follow the pace of the teacher which has natural breaks and pauses and more importantly power failure will not interrupt the lecture.

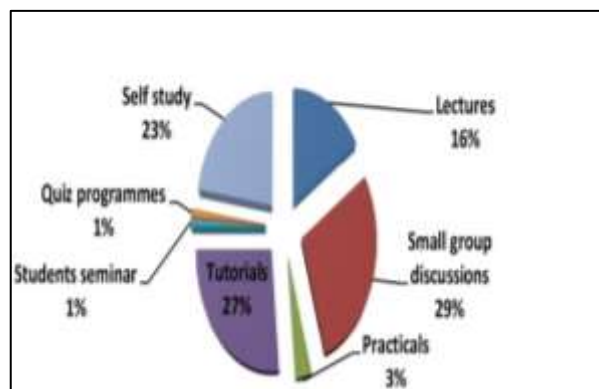


Figure 3: Preferred learning method.

The preferred learning method (Figure 3) in our study was small group discussion (29%) followed by tutorials (27%), self-study (23%) and lectures (16%). The study can be compared with the study of Suzanne M. et al where in most students favoured small group discussion as their learning method.¹⁷



Figure 4: Qualities of a teacher influencing students.

Like other studies, our study found that the students are more influenced by the knowledge (45.65%), teaching skill (50.54%) of the subject and approachability (54.89%) of the teacher with the students.¹⁸ Students also appreciate the punctuality, organization and enthusiasm of the teacher reflecting that they want more of knowledge oriented teaching (Figure 4).

Students were also asked to give their valuable suggestions. Teachers should pay more attention towards students indicating the shift from passive learning to active learning which is student centered, making lectures more interesting and interactive and also to reduce the duration of lectures, to include more of small group programmes and tutorials were some of the suggestions given by the students.

Limitations of our study was that the sample of small group students representing a single private medical institute and that too second year medical students only were the participants which can be biased. A multicentre study with higher sample size will be beneficial in assessing the best teaching aids in medical education.

CONCLUSION

Our study showed that students are more interested in active teaching and learning. Most of the students preferred chalk and board method and small group discussion. Chalk and board can be made more effective by combining it judiciously with other teaching aids. As teachers, we need to consider different visual aids like chalkboard, OHP, PPT etc to make our lectures more informative and effective. Students also explored that approachability of teachers towards students with good teaching skills and knowledge towards the subject are the most important qualities of a teacher influencing them.

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