A study on the preference of teaching methods among medical undergraduate students in a tertiary care teaching hospital, India

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Abstract:
BACKGROUND: In medical education, the learning–teaching method is an active process in which both students and teachers have to work mutually to enlighten the knowledge. Currently, in India, there is an increase in the enrollment of students in medical fields and thus medical educators face the challenge of teaching larger classes in a short period. Furthermore, it is observed that there is a lack of consensus about the best teaching and learning methods for medical students. This study aims to assess the preference of teaching methods and identify the reason for absenteeism among medical undergraduate students in a tertiary care teaching hospital.

MATERIALS AND METHODS: A cross-sectional study was conducted among 246 medical undergraduate students in a tertiary care teaching hospital from August 2019 to October 2019. A pretested, validated self-administered questionnaire was used to assess the preference of teaching methods. The data were analyzed using SPSS-IBM software 23.

RESULTS: The majority of the students belonged to 20–21 years of age group. Most of the students preferred practical demonstration (81.3%) as the preferred method of teaching and computer with a liquid crystal display projector as ideal media for teaching (63.8%). Boring/monotonous teaching class was found (73.5%) to be an important cause for absenteeism among medical undergraduate students.

CONCLUSION: The results indicate that the medical student’s preference is changing from passive learning to active learning. We conclude by linking these emerging perceptions with suggestions to help drive excellence in medical education.

Keywords: Absenteeism, active learning, medical education, perceptions and preferences, teaching methods

Introduction

The goal of undergraduate medical education is to produce a physician with adequate knowledge of health and diseases, reasonable medical skills, and a healthy attitude toward patients and their families. In the current scenario, teaching in a medical college is considered as “ever-evolving” process. It is a hurdle in any medical college that a teacher needs to deliver vast medical knowledge in a very short schedule and students need to remember, retain, interpret, and apply practically. In India, various teaching–learning methods are followed in medical education such as didactic lectures, role plays, seminars, case studies, demonstrations through videotapes, problem-based learning, and tutorials to facilitate learning among medical students. In addition, it is observed that to witness the progress in medical education,
more emphasis should be focused on teaching methods along with technological advancement.[5] In addition, absenteeism is an ongoing problem in many higher education university, especially in medical education. Literature has identified many direct and indirect factors influencing absenteeism among medical students. Among them, absenteeism was strongly associated with lack of subject interest, poor relations with demonstrators, poor teaching methods and strategies, unfavorable learning environment, ill-health excessive social mobilization, and easy availability of online learning contents.[4] Despite the advancement of technologies which makes the medical education classes more interactive, interesting, and presentable, low attendance at lectures persists as an issue. It is important to analyze the perception on quality of teaching and learning methodology for the development of analytical approaches for the identified problem areas and the difficulty posed by the students to overcome absenteeism.[8] One of the best approaches to reinforce the medical education at the delivery level is to understand the student perception about teaching and learning methods. Hence, this study was conducted among undergraduate medical students in a tertiary care hospital with the objectives to assess the preferred teaching and learning methods and the factors influencing absenteeism among the undergraduate students and to analyze the student’s perceptions for improving their class attendance and quality of the classes in a tertiary care teaching hospital.

Materials and Methods

Study design
The study was a cross-sectional study conducted among the undergraduate students in a tertiary care teaching hospital.

Study duration
The study was conducted for a period of 3 months from August 2019 to October 2019.

Sample size determination
From the previous literature, the proportion of medical students in Malaysia choosing group discussion as the preferred method of teaching was 27%.[2] Assuming 95% confidence with 5% allowable error, the sample size for a cross-sectional study was calculated by the formula $n = \frac{4pq}{E^2}$, where $p$ is the prevalence, $q$ is $1-p$, and $E$ is allowable error of $P$. The sample size arrived was 246.

Study population and sampling method
The study population comprises undergraduate Bachelor of Medicine, Bachelor of Surgery (MBBS) students from all academic years including interns of a tertiary care teaching hospital. Inclusion criteria included (i) the students who were present in class during the study was conducted and (ii) students who gave written informed consent. A total of 720 students were enumerated at the time of the study and every 3rd student of an academic year batch including interns was enrolled by systemic random sampling method after choosing the first student randomly.

Data collection procedure
Administration permissions were obtained from the Principal and HODs of the respective departments of the student’s prior to data collection. After obtaining written informed consent, a self-administered questionnaire was given to the study participants and the data were collected.

Study instrument
The study instrument was pretested with 10% of total sample size derived among the students of undergraduate dental students and the necessary changes were made. Since the tool was pretested with another group of students from medical profession (dental discipline), no significant psychometric variations were found and no change was required to be made in view of psychometric perspectives. The study tool comprises three sections. Section 1 comprises the profile of the study participants. Section 2 comprises preference of method of teaching and media used for teaching among the students and the cause for preferring it. Section 3 comprises perception of students regarding factors for improving the quality of teaching classes and class attendance.

Statistical analysis
The data were analyzed using Statistical Package for the Social Sciences (IBM) software version 23(IBM Software groups and services, India). The mean and standard deviation was calculated. The quantitative data were expressed in proportions.

Ethical consideration and confidentiality
Institutional ethical committee approval was obtained before starting the study. The confidentiality of the study participants was maintained in all the phases of the study.

Results
In Table 1, 50.8% of the study participants were in 20–21 years of age group. 61.4% were male and 38.6% were female and majority of the students were hostellers (91.5%). Equal participants (21%–27%) were included from all the end semesters.

In Table 2, the majority of the study participants preferred practical demonstration (81.3%) as an ideal teaching method, followed discussion (64.2%), chalk and talk method (58.5%), and lecture classes (35.3%).
The major students preferred practical demonstration because it is easy to understand (69.1%); the medical curriculum is based on practical method (43.9%) and elaboration is clear (45.5%).

The study participants choose Computer with Liquid Crystal Display projectors (63.8%), whiteboards (52.8%) and blackboards (46.7%) were choose by the students as preferred media for teaching. Easy to understand (68.6%) and attractive/interesting were the causes chosen by the students for preferring LCD projector as ideal media for teaching.

In Table 3, it was observed that boring or monotonous class (73.5%), non-attractive classes (57.7%), longer duration of classes (37.8%) and habits like late night sleep pattern among the students was found to be the major cause for less attendance among the study participants. To improve interaction with students (63.8%), student-friendly approach (63.4%) and more practical/discussion class (56.09%) were the suggestion given by students to increase in class attendance. Good knowledge about the topic in teachers (52.08%), good lecture condition (49.18%), clear voice of teacher (48.5%), and classes in small group (46.7%) were suggested by the study participants for improving the quality of the class.

### Discussion

In this study, majority of the participants were male and belonged to 21–24 years of the age group, which was coherent with the results of Joshi et al. Majority of the students preferred practical class demonstration as the preferred method. Similar other studies preferred lecture and problem-based teaching and learning as an ideal method of teaching. The study participants preferred practical demonstration as superior because unlike other methods, it is very easy to understand and the elaboration is clearer and focused; moreover, the medical curriculum is based on practical demonstration. Although the Medical Council of India emphasized lecture method as one of the old-age and the principal methods which conveys the facts with evidence among medical students, it is the one-way communication process that arouses the question of preference nowadays. In the current study, the other method of preferred teaching was group discussion, in which increases the students’ involvement and commitment and promoting active learning and making learning further enjoyable.

Majority of the students preferred LCD projects and white/blackboard with chalk/pen as prime media for teaching.
the country imply that the students are accustomed to blackboard teaching from their school days and also they feel there is better student–teacher orientation and this type of medium provides much time for taking notes during classes for the better understanding of the medical subjects.

In this study, more than half of the students, about (73.57%), had an opinion that the cause of less attendance was having monotonous classes, followed by not attractive/interesting classes (57.72%) and late-night sleep of students (52.43%). In a study conducted in Tripura Medical College, the cause of absenteeism in lecture class was mainly due to preparation for the examination (55.8%). In another study conducted in Bangladesh, the main cause of absenteeism was sickness (17%) and inconvenient class schedule (15%) with only 11% of absenteeism due to lack of interest. There is extensive literature worldwide, which showed a direct association between absenteeism among medical students with lack of subject interest, poor health, sleeplessness, excessive socialization, unfavorable learning environment, and poor teaching strategies and moreover easy access to online lecture contents has its own role in increased absenteeism among the medical students.

**Conclusion**

From the study, it was highlighted that most of the medical students preferred the conventional mode of teaching like practical demonstration and with the use of blackboards. It clearly indicates that the medical student’s preference is changing from passive learning to active learning. Moreover, the medical education is facing a paradigm shift where it is becoming more student centric than teaching centric. Hence, it is a responsibility of a medical teacher or institute or university to meet the perception and preference of individual medical students in teaching and learning methods to strengthen medical education.

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**Conflicts of interest**

There are no conflicts of interest.

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