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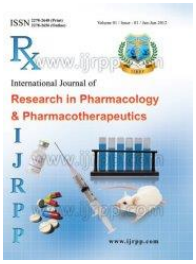

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Questionnaire feedback from second year medical students regarding current teaching methodologies and their opinion for perspective changes

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ABSTRACT

Introduction

There are various teaching aids available. Each of these aids have their own pros and cons. The preference of teaching aid varies from teacher to teacher and also student to student. MBBS curriculum also varies to certain extent across universities. This study was done to take student's opinion about which teaching methodology is favored by them and what changes they would prefer to have.

Materials and Methods

This was a questionnaire based cross-sectional study done on II year medical students of Viswabharathi medical college. The questionnaire consisted of 10 questions having five options arranged according to 5 point Likert scale. Results were expressed as percentage of participated population that selected an option for a given question.

Results

99 students had participated in our study. 63.63% students favored chalk and board over powerpoint. 52.52% preferred to have seminars and integrated teaching on regular basis. 50.50% preferred to have animal experiments, while 77.78% desired to have mannequins and simulations. 69.69% believed that regular quiz programs would help them in learning in an enjoyable manner. 64.65% expressed that duration of theory class should be 45 minutes. 61.62% desired the college to work for 6 hours per day. 43.43% opined that having 126-150 students in a class is optimal, while 23.23% opined having only 50-75 students in a theory class is sufficient.

Conclusion

This study has exposed the preference of young generation and it tells us that certain changes need to be addressed so as to make education enjoyable for the students.

Keywords: Teaching, feedback, curriculum, questionnaire, academics, MBBS

INTRODUCTION

Medical education comprises of 15 core subjects [1, 2]. Each subject is taught by a specific concerned department which is comprised of various teaching faculties [3]. With so many teachers to teach a batch of students, it is natural that students will get exposed to variety of teaching methodologies [3]. The students may prefer a particular set of teaching methods over others.

Generally, the senior faculty members prefer using chalk and board. While the junior faculty may prefer power point presentation. And there are many members who use a combination of both [4]. Apart from these two aids, transparencies were commonly used nearly a decade back which has now become extinct. Before the era of power point, when computers were not so common and especially medical faculty were not much oriented towards computers, charts and models were used as teaching aids. Each of these teaching aids have their pros and cons. The preference of teaching aid varies from teacher to teacher and also student to student [4, 5]. Because of the changing preference, the usage of aids have also changed. With changing technology and understanding, it is advisable to take feedback from students to see which teaching aid is better preferred by them.

In India, each state has its own university which prescribes and regulates MBBS curriculum for their respective colleges. In some states, certain colleges have been given deemed status where they prescribe their own MBBS syllabus [1, 6]. Due to this, wide variation in teaching patterns is observed all over the country. In such scenario, it will be a wise idea to take periodic feedback from students and teachers which will help on redesigning the curriculum and teaching methodologies.

Students' opinion forms the backbone of evaluation of medical education. This would help in making medical education more enjoyable for students. The current study was done to take students opinion regarding current teaching methods and certain changes we thought might be required.

MATERIALS AND METHODS

This study was a questionnaire based cross sectional study. Participants were II year medical students of Viswabharathi medical college, Kurnool, Andhra Pradesh, India. Prior permission from institutional ethics committee was obtained before initiating the study.

The questionnaire consisted of 10 questions about different teaching modalities used in the college. Students' opinion was asked about the current curriculum – PowerPoint vs chalk and board, interactive sessions vs didactic lectures; conducting seminars and CME's; inclusion of animal experiments, mannequins or computer simulated learning; duration of classes, number of pupils per class, etc [4, 5, 7]. Each question had five options arranged according to 5 point Likert scale [8, 9]. Some questions (e.g.: inclusion of animal experiments) had options arranged as strongly agree – strongly disagree. While few questions (e.g.: no. of pupils per class) had range of numbers, students were told to select the appropriate number according to the question. At the end of questionnaire the students were also asked to write about their suggestions to improve academic activities and were also asked any particular points they like or dislike in their teachers.

The students were explained about the purpose of study and written consent was obtained prior to administering questionnaire. Participants were told not to write their identification details on questionnaire. Students not willing to participate and incomplete responses were excluded from the study.

Statistical analysis

The number of responses for each option of every question were counted. This data was entered into MS excel spreadsheet. These numbers were converted to percentage so as to know how many percent of the participated population selected a particular option of a given question.

RESULTS

100 students participated in our study. Of the 100 questionnaires, one was rejected for being incomplete. There was a wide variation of preferences to choices among students. Of the 10 questions, four questions received at least 50% response for one option. Three questions received 35 – 40% response for one option while three questions did not receive a common consensus.

63.64% students agreed and 14.14% students strongly agreed for using mannequins / computer

based simulation techniques for teaching. [GRAPH 1] 49.49% students agreed and 20.20% students strongly agreed that conduction of quiz programs on regular basis improves academic performance. Opinion was asked for how long should be the duration of each theory class, options were given as 30, 45, 60, 90 and 120 minutes. 64.65% students preferred 45 minute class, 18.18% preferred 60 minute class, and 16.16% preferred 30 minute class while no one selected 90 and 120 minutes option. [GRAPH 2] Students' opinion was asked regarding how long should be the working hours of a college for the students and options were given as 6, 7, 8, 9 and 10 hours. 61.62% students preferred 6 hours, while 23.23% preferred 7 hours, 14.14% preferred 8 hours, 1.01% preferred 9 hours and nobody selected 10 hours. [GRAPH 3]

Whether chalk and board teaching is better than power point presentations? To this question, 38.38% students agreed and 25.25% strongly agreed. [GRAPH 5] Whether UG seminars / Integrated Teachings / CME's should be a part of regular teaching curriculum? To this 40.40% students agreed and 12.12% strongly agreed. [GRAPH 5] Regarding keeping animal experiments as part of regular curriculum, 40.40% students agreed and 10.10% students strongly agreed.

Opinion was asked about how many students should be there in class during theory lecture for proper individual attention? Options were given as 50 – 75, 76 – 100, 101 – 125, 126 – 150 and 150+. To this question, 43.43% marked 126 – 150, 23.23% marked 50 – 75, 13.13% marked 76 – 100, 10.10% students marked 101 – 125 and 10.10% students marked 150+.

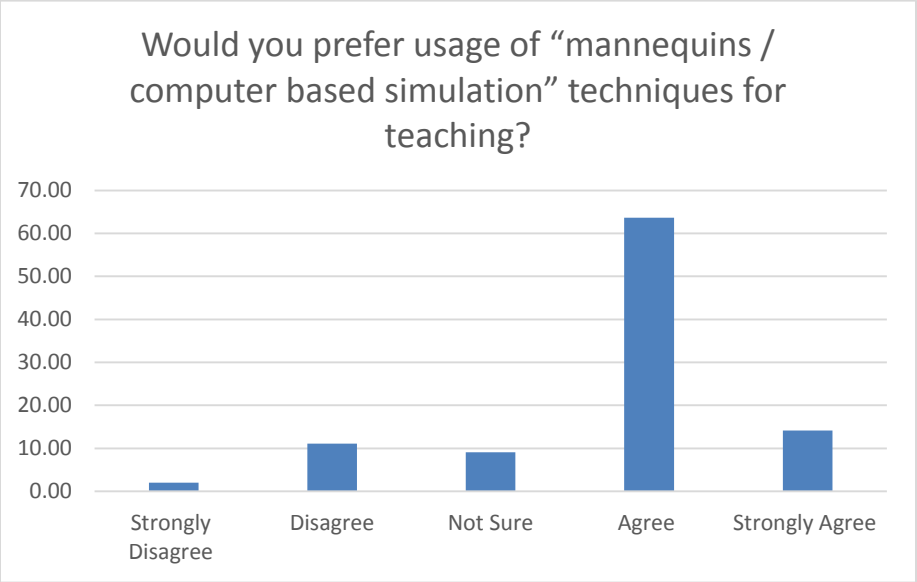
Students expressed mixed opinion about whether no. of didactic lectures should be decreased and no. of interactive sessions should be increased. 43.43% collectively disagreed or strongly disagreed, 29.29% collectively agreed or strongly agreed while 27.27% were not sure.

Mixed opinion was also seen about how long should be the duration of clinical postings daily. Options were given as 2, 2.5, 3, 3.5 and 4 hours. To this, 40.40% marked 3 hours and 38.38% marked 2 hours. While 16.16%, 4.04% and 1.01% students marked 2.5, 3.5 and 4 hours respectively.

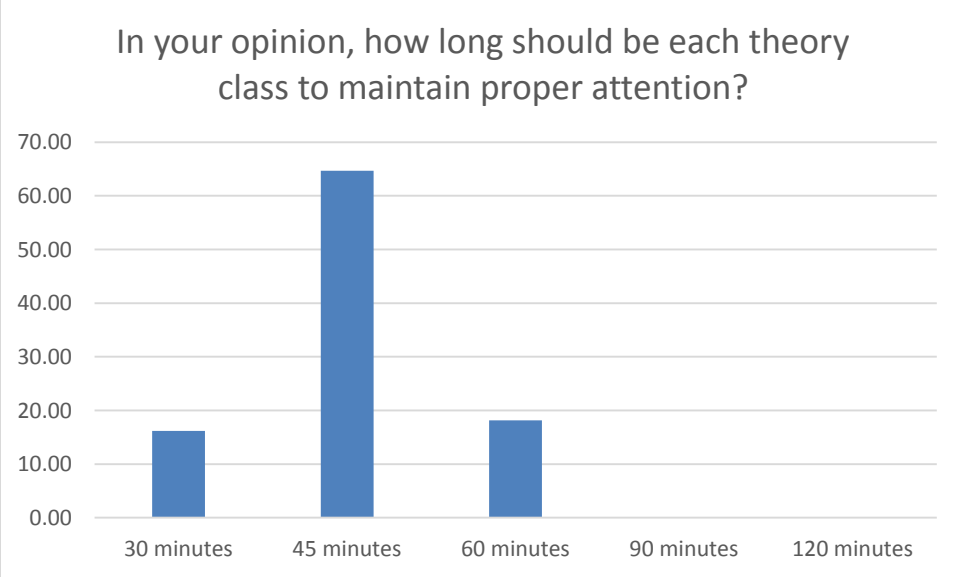
At the end of questionnaire, we asked the students about what attributes do they like to have in their teachers. Some space was given for them to write, and we received the following answers:

- Friendly attitude towards students. Teachers should not always be serious.
- Explaining a topic using clinical examples creates more interest in the subject.
- Asking questions during a lecture so as to enhance interaction.
- Teachers should not be dependent on powerpoint.
- Then we asked them for any suggestions they have. They came up with the following:
- Summarizing the topic after finishing the class.
- Inclusion of experiments in practicals.
- Having less syllabus per class so as to elaborate the topic in detail.
- Clean wash rooms.

GRAPH 1



GRAPH 2



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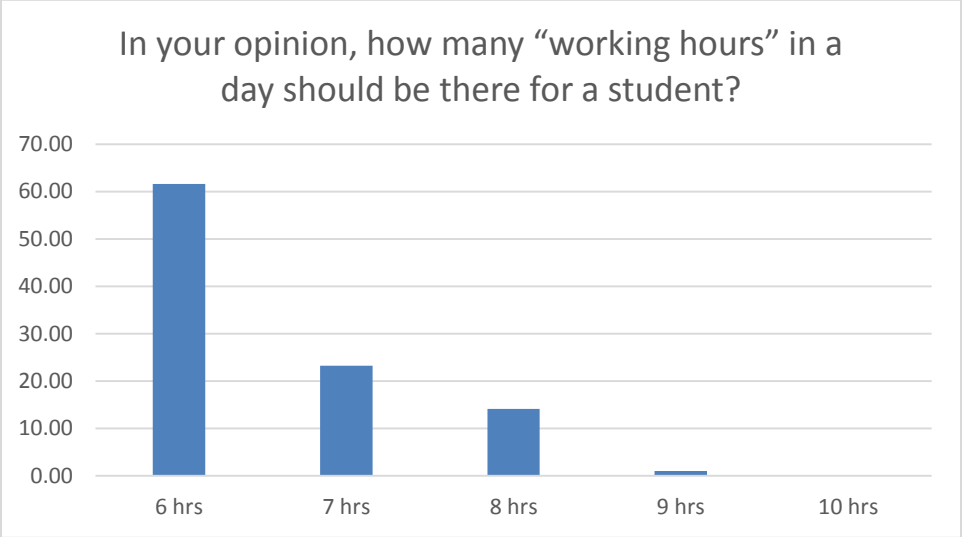

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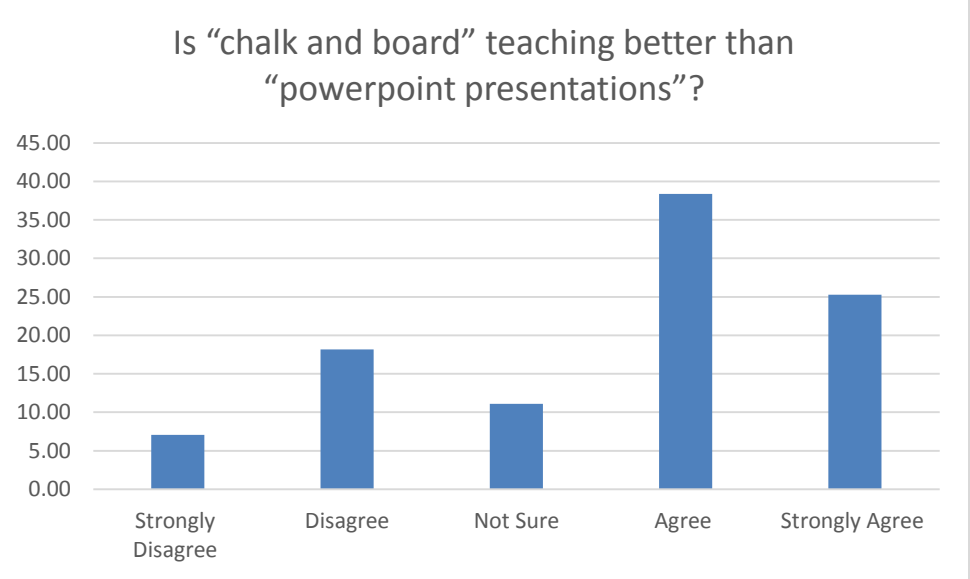
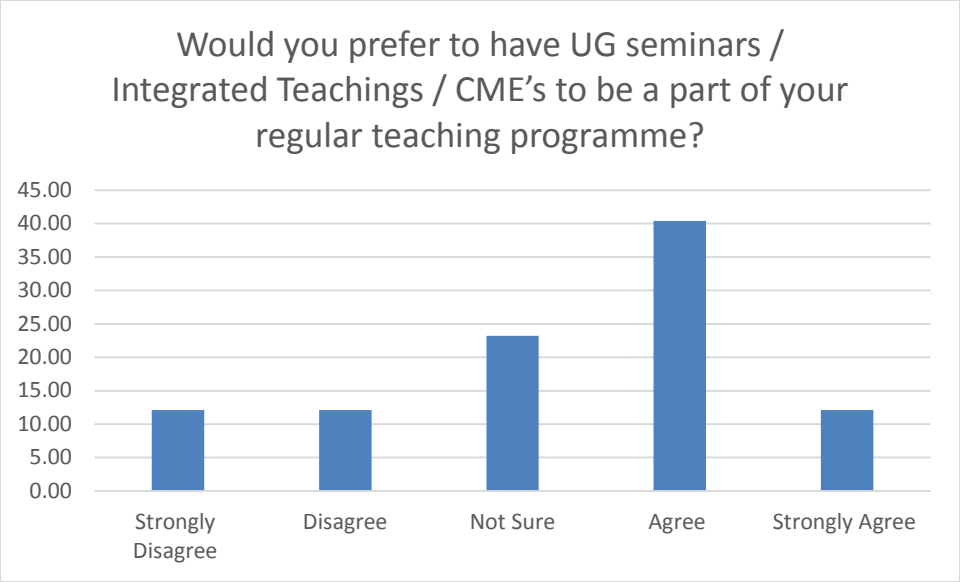


GRAPH 5



DISCUSSION

This study was done to present the students' opinion and also to point out the necessities of improvement in various aspects. It is also to be able to outline the need and scope for innovation in certain aspects. For majority students, interest in a particular subject arises because of the teaching and learning methodologies. It lies upon the responsibility of the individual departments to enhance their teaching methodologies so as to attract more attention of students.

Justification of a teaching method mostly depends on true opinion of the students.(10) However, it is not easy to ensure genuineness of student's opinion. Even though most participant have given consistent responses, few have given responses far away from the general consensus. This could be attributed to either lack of interest, unpreparedness or may be because they desired drastic changes in curriculum.

More than 60% of participants agreed that chalk and board presentation is better than PowerPoint presentation. The reason they have written in the feedback was that most of the teachers tend to just read out the slides without proper explanation. This result is consistent with previous studies where students have answered better after chalkboard class compared to PowerPoint class [5, 11, 12]. This point directs introspection for all teachers who tend to get heavily dependent on PowerPoint. While PowerPoint does have its advantages like students can note points easily compared to chalkboard, bigger screen is suitable for large audience compared to smaller blackboard, visuals can be better shown in PowerPoint and teacher can save time required for writing and teacher can save time required for writing (4,13), it must be kept in mind that PowerPoint usage should be restricted to those visuals which cannot be drawn on board and every slide must be explained for a considerable duration.

Students' opinion regarding didactic lectures vs interactive sessions was biased. 27% were not sure and 29% disagreed but still the preference had swayed towards interactive sessions as more than 40% students preferred interactive sessions. This explains that interactive sessions are more useful in learning the subject as it also provides an instant assessment of the student. The reasons for not favoring interactive sessions could be attributed to paranoia of students towards public assessment and partly towards lack of interest in studies. The results of our study are consistent with previous studies [14, 15].

In continuation with our above question we also asked them whether UG seminars, CME's and integrated teaching should be a part of their regular curriculum. To this, more than 50% students agreed

to have such sessions. This shows the interest of the students to speak on stage for seminar. Preference for CME's and integrated teaching shows that students are longing for a major change in their regular monotonous curriculum. Our findings are similar to study done by Topo et. Al [16].

Animal experiments have been largely banned in India [17] as a result many colleges have shifted to computer based simulation, mannequins and recorded videos [18, 19]. This has converted the previous practical sessions to more of theoretical classes. To get student's opinion in this matter, we asked them if they would like to have animal experiments in regular curriculum. Around 50% students were interested to have animal experiments while other half of the participants were either unsure or preferred not to have animal experiments. The interest in animal experiments can be attributed to the need of practical learning wherein a student can see action of a drug with their own eyes just as how they see some signs in a patient. This also points to the need of some practical activity during practical classes. On the other hand those students who preferred not to have animals were either scared to handle animals or found them disgusting. This was written by the students in the opinion space in questionnaires. In this context we further asked whether they preferred to have computer based simulations and mannequins. More than 75% students agreed to this. It can be observed here that takers for animal experiments were less compared to simulation and mannequins since the phobia/aversion associated with animal handling does not occur with computers and mannequins.

Nearly 70% students agreed that having quiz programs as a part of regular curriculum will improve their academic performance. This shows us that students are more interested in interactive sessions which will also boost their competitive spirit. Giving away prizes for quiz winners instills interest in studies as the smaller rewards (quiz prizes) may motivate them to achieve bigger reward (qualifying final exam). Surveys done by departments of anatomy, community medicine in India as well as abroad have proved that majority students have a likelihood towards quizzes and has improved their performance as well as developed interest in subject [20-22].

Currently MCI prescribes clinical postings for 3 hours daily from 2nd year MBBS onwards. This is followed by all universities across the nation [1, 2, 6]. We often come across students being irregular to clinical postings. There could be various reasons for it. We thought of asking if reducing or increasing the duration of clinical postings would have any impact on them. Nearly 40% students preferred to have the traditional 3 hour postings but almost the equal fraction of students (~38%) preferred to have 2 hour postings. Here we have a divided opinion where conclusion cannot be drawn presently. This question needs to be asked in more participants to gather a conclusive outcome. We could not find any study done previously where such question was asked.

Attention span of students is limited [23]. It's not uncommon to see restless students in a class. Current guidelines prescribe 1 hour didactic lectures for MBBS and they need to attend around 4 didactic lectures in a day [1, 2, 6]. We asked students opinion about duration of a didactic lecture and around 65% students voted for 45 minute class. This shows that classes of smaller duration would have more attentiveness of students. Studies done in other subjects in India and abroad have also proved that smaller lectures are more effective [24-26].

Attention span and concentration ability is also influenced by number of pupils in class. Large strength may cause distractions to students as the less interested student may disturb an interested student. On the other hand, having large strength also provides a sense of competition and interaction among students. Large strength also ensures uniformity in teaching as dividing in smaller batches requires repetition by the faculty member leading to gradual decrease in interest. Otherwise, a senior faculty may be allotted to a particular batch and a junior faculty may be allotted to another batch. This may lead to exposure of different teaching methodologies for different batches. Points covered by one faculty member may get overlooked by another faculty member.(24) We asked our students as to how much strength would they prefer to have in a didactic lecture? Nearly 43% students preferred to have a strength of 126-150. This shows that students preferred larger strength in didactic lectures since interaction is minimal but at the same time majority students did also support group discussions. Hence it may be said that didactic lectures and interactive sessions both are required. Smaller groups are suited for interactive sessions while didactic lectures should have larger strength. A certain fraction of students

(~23%) preferred to have a smaller strength of 50-75 even for didactic lectures. This question needs to be surveyed in more populations to have a conclusive evidence.

Lastly, we asked about number of working hours per day for students. This includes clinical postings, theory lectures and practical sessions. More than 60% students selected option of 6 hours daily. This opinion goes against the current regulations which require a college to function for 8 hours daily [1, 2, 6]. Since a student also needs to time for physical activity and self-study, this point may be considered by authorities to shorten their daily timetable if similar response is collected from other populations.

It can be noted from the students' suggestions that

- Students see their teachers, not only as teachers but also as friends or elder siblings. Having a better student-teacher rapport will also help in building a student's interest in subject so as to get better performance.
- Usage of clinical examples for explaining a topic must be promoted. Having case discussions in para clinical departments will help in better integration and application of subject.
- All students may not support the idea of workshops and tutorials but asking few questions during lectures will convert a monotonous didactic lecture to an interactive session.
- Practical sessions should have some kind of experiments/procedures where students have to perform something and not just listen to instructions given by teacher or watch a pre-programmed animation.
- Finally a point unrelated to academics but absolutely essential for every human: when a student is required to stay in campus daily for 8 hours, it is understandable that washroom and drinking water facility must be provided in the best hygienic way possible. Lack of these basic facilities may lead to decrease in their attendance and therefore interest in education.

CONCLUSION

This study has highlighted certain lacunae in medical education which are desires by the students and those must be addressed by the concerned authorities at the earliest. While certain new changes in curriculum have been welcomed by students so they must be adhered to. Performing this study among various batches of various colleges will give us a better representation of students' opinion.

CONFLICTS OF INTEREST

None declared

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