Pitfalls of currently practiced approach for teaching medical students: opinions & options

Mohit Mehndiratta[1], Seema Garg[2], Rajarshi Kar[3], Dinesh Puri[4,*]

[1,2,3]Assistant Professor, [4]Professor and Head, Dept. of Biochemistry,
University College of Medical Sciences, New Delhi 110095

***Corresponding Author:**
E-mail: dineshpuri21@yahoo.co.in

Abstract

Introduction: During a didactic lecture, information is given to the students by the teacher, where students are passive listeners and the teacher is the narrator. Interaction between the students and the teacher, though intended, is not always possible because of several reasons. Other formats for teaching (small group discussions, seminars by students etc.) have been utilized but in a limited way, particularly in India. In many medical institutes, students are expected to attend several lectures and there is no scheduled respite between lectures. This study has been done to understand the shortcomings of the current format and duration of lecture from the point of view of students.

Method: Feedback was obtained from first year MBBS students under anonymity and was analyzed. There were 94 responses on the format of lectures and 98 for duration of lecture. Their responses were analyzed and the percentage of response for each choice was noted.

Results: 57.14% students were of the opinion that didactic lectures must be supplemented with small group discussions and 46.81 % of students feel that the optimum duration of a lecture should be between 30 to 45 minutes.

Discussion: Our study shows that majority of the students are of the opinion that duration of lecture should not be more than 45 minutes and more focus should be on supplementation of didactic lectures with small group discussion. Incorporating the students view point while forming educational policies may improve their performance to great extent.

Key words: Didactic lectures, Educational policy, Educational program planning, Medical students, Performance improvement

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Introduction

The aim of medical education is to produce doctors with adequate knowledge, skills and an effective approach to patients. The three cardinal features of medical training include the development of better thinking, psychomotor skills and affective behaviour in a medical graduate. Numerous methods have been developed to achieve this goal. Some of them include didactic lectures, practical training, clinical case discussions, bedside teaching, small group discussions, and seminars by students. Of all these methods, lectures are cardinal for imparting knowledge to medical undergraduate students[1]. This method requires lesser resources and can address a larger audience[2]. However, this form of imparting knowledge has seen a lot of criticism regarding its effectiveness in the context of achieving educational objectives. Moreover, students see it as a less preferred method of teaching[3].

At most of the medical institutes, the duration of a lecture for undergraduates is of one hour. There are no fixed guidelines on how to utilize this time while teaching. It depends entirely upon the teacher as to what teaching method to employ and for how long to engage the students during that allotted one hour. In addition, there are consecutive lectures on different subjects on any particular day. It depends upon a pre fixed plan in accordance to the semester/year as decided by the concerned governing body. There is no scheduled respite between two consecutive lectures where students can reorient and assimilate what they have learned. Since there is usually no vertical or horizontal integration, the topics covered in two consecutive lectures are usually totally unrelated. All these issues do affect the learning ability of the students.

A major challenge for medical teachers is to recognise factors that will help students perform better during their tenure in medical college and beyond[4]. It is important to include their point of view while designing or modifying the current teaching practices. Addressing their concerns will probably help them learn better and it might help improve their academic achievement[4]. This will probably later on reflect in students' approach towards patients. Thus the aim of our study was to evaluate the students' perception regarding the format and duration of lectures.

Methods

A feedback form (Table I) was designed and ethical clearance was taken for the same from the institutional ethical committee on human research. An anonymous feedback was taken about the format and

duration of lecture from the first year MBBS students on one occasion. Feedback was independent of class, teacher and the subject taught. The students were asked to share their overall experience. They were given the options of choosing between any (or as many, wherever applicable) of the four pre decided choices or to opt for can't say (if they don't know or don't want to answer) or to give their own comment, or not to respond to a question at all. It was analyzed and the percentage of response for each choice was noted. "Percentage of response for each choice" means out of the total responses how many times a particular response was selected (expressed in percentage). The comments given by the students about the duration of lecture were also tabulated.

Results

Out of 115 students there were 94 responses on the format of lectures and 98 for duration of lecture. Rest of them didn't choose any option. A majority of the students (57.14%) are of the opinion the lectures must be supplemented with small group discussions (Table III (a)). One way teaching (didactic lecture) was preferred by 19.39% of the students. 11.22% of the students were of the opinion that lectures should include presentations by the students while 7.14 % thought that the didactic lectures should be replaced with small group discussions.

The maximum number of the students (46.81%) preferred that the duration of a lecture should be about 30 to 45 minutes (Table III (b)). 32.98 % of the students were of the opinion that the duration of a lecture should be between 45 to 60 minutes. 13.83 % believed that it should be less than 30 minutes while only 5.32 % thought that the lecture can last for an hour. Those students who were of the opinion that duration of lecture should be 30-45 minutes commented that they are not able to concentrate for more than 30 to 45 minutes and their retention time is maximum during this period (Table II). Concerns were also raised that lectures of different subjects are held without a break in between which has a negative impact on the ability to concentrate. Few students who were of the opinion that the duration of a lecture should be between 45 to 60 minutes and also suggested that there should be a gap of about 10 minutes between lectures. One of the students who didn't chose any of the given options pertaining to the duration of lecture commented "Lecture duration should be dynamic, depending largely on the relative toughness of a topic. Concepts requiring more should encourage more discussion and increased duration, while tedious topic requiring more rote memory should be taught for a shorter time period"

Table I: Feedback Form

Please don't write your name or roll no on this sheet of paper. Your feedback will be kept confidential. You have to choose (tick) the response that you think is most appropriate. You may choose more than one response. If you don't agree with any response you may mark the choice as can't say. You may also give any other relevant suggestion at the space provided for the same. If you do not wish to answer any of the questions included in the questionnaire, you may skip them and move on to the next question. This feedback will help us improve the currently practiced teaching methods and will make it student oriented.

Question	Response 1	Response 2	Response 3	Response 4	Can't say..	Any other relevant suggestion
1. What should be the format for a lecture?	Supplemented with Small group discussion	Replaced with Small group discussion	One way teaching (didactic lecture)	Presentation by students		
2. What should be the duration of a lecture?	1hour	45min to 1 hr	30 to 45 min	Less than 30 min		

Table II: Comments/ Suggestions given by the students. The comments are in the language used by the students.

Duration of lecture	Suggestions / comments
One hour	**None**
45 minutes to one hour	• There should be a gap of 10 minutes between lectures so that students can refresh. • Because saturation of brain occurs after studying for long interval. • Afternoon classes are very tiring. So can be replaced by tutorial in the afternoon. • May be 45 minutes lecture and 15 minutes testing. • Please explain more in the lecture, not just cover topics. • Duration of lecture should be 50 minutes. 10 minutes gap should be given two lectures to charge or refresh.
30 to 45 minutes	• Brain retention maximum during this duration. • After 30 minutes can't concentrate. • We lose our concentration as lectures of different subjects are without break. • Before the lecture, there should be revision of last class topic. • Because after 45 minutes I totally get saturated. • That is because 45 minutes is the maximum time for till a person can concentrate. • Depends on the particular topic to be covered. Should not be monotonous. • Only one topic should be covered in one lecture. • Duration of lecture should be 40 minutes.
Less than 30 minutes	• We get sleepy above that. • Long lecture causes lack of interaction.
Can't say	None
No response	• Lecture duration should be dynamic, depending largely on the relative toughness of a topic. Concept requiring more should encourage more discussion and length while tedious topic requiring more mugging should be shorter.

Table III (a): Results of the feedback of the students about the format of lecture

Format of a Lecture	Preferred by (number of responses in %)
Supplemented with Small group discussion	57.14
Replaced with Small group discussion	7.14
One way teaching (didactic lecture)	19.39
Presentation by students	11.22
Can't say	5.10

Table III (b): Results of the feedback of the students about the duration of lecture

Duration of lecture	Preferred by (number of responses in %)
60 min	5.32
45 to 60 min	32.98
30 min to 45 min	46.81
< 30 min	13.83
Can't Say	1.06

Discussion

Medical Education in India has various shortcomings at conceptual level, as well as in implementation (misdistribution of resources, static tradition curricula, a poor assessment system etc.)[5]. It is imperative to evaluate the existing inadequacies and plan better strategies. It is also important to ensure their implementation in order to improve the standard of health care. In order to make new strategies more acceptable among medical students, it is essential to understand the limitations of the existing system from their point of view, and to ponder upon and bring about changes as necessary.

In this study we have covered two aspects through feedback from the students. One, what should be the format of a lecture and the other, what should be the duration of a lecture. We have found that only 19.39 % of the students think that didactic lecture should be the preferred mode of teaching. Most of the students didn't prefer this as the sole means of teaching. They emphasised more on small group discussion as a method of teaching. Presently, didactic lectures are a substantial part of the learning experiences of medical students. They are likely to be used on a substantial scale for teaching because they are extremely economical in term of staff time and also student expects to be taught in this fashion[6]. However, in the last decade, with the advent of newer methods of teaching, lectures are considered to be less effective and are not preferred by students as the sole teaching method (as suggested by our data). Disinterest in lectures can result in absenteeism which ultimately results in poor performance in the assessment[7]. Similar to our study, it has been shown earlier that didactic lectures were preferred by the least number of students as they felt these were monotonous & boring, though it was acknowledged to be an effective means for making learning easier.[3]The major disadvantages of didactic lectures are believed to be the passive nature of information transmission and the lack of active involvement by the students. Cognitive theory advocates that it is the active processing of information, and not merely the passive reception of that information, which results in learning[8].

Data obtained by us suggest that we should extensively incorporate small group discussions as a modality of teaching students. This will promote self directed learning. Schonet al[9] has suggested that autonomous or self directed learning is a key element in the development of the reflective medical practitioner. Active learning methods allow students with a greater level of knowledge and better learning skills compared with the students with other forms of learning[8]. It has been reported that students working in groups also have an increase in the attributes of self-directed learning when compared with students in lecture-only course[10]. A commonly studied form of active learning is small group discussion and greater learning has been shown with this format for teaching in various courses[8]. The benefits of small group work includes development of discussion skills and thinking, exploration of attitudes & sharing and reflecting upon experience[11]. It also offers students an opportunity to discuss and refine their understanding of complex issues[12]. Small group discussion has its own limitations. Its more costly (requires a higher teacher-ratio), some teachers find small group discussions difficult and more demanding and feel that it is not a good method for imparting new information (didactic lecture are better)[11].

In our study, most of the students (57.14%) were of the opinion the lectures must be supplemented with small group discussions. Some of them (7.14%) suggested that small group discussions should be the only mode of teaching students. Both small group discussion and didactic lecture have a place in medical education. Institutes, where small group discussions are not adopted adequately, needs to take a clue and must do the same. We will also like to emphasise that lectures have their own merits and can't be write off completely.

Another aspect that we covered with this feedback was about the duration of a lecture. Length of most of the medical lectures is one hour[13]. There are lectures on different subjects, consecutively, on every working day (according to a pre -fixed time table). There is no scheduled gap between the lectures. This subjects the students to a sedentary life style. Most of the time, the contents to be covered in a lecture are delivered to the students, who receive them as passive listeners. It is important to realize that although about 70% of the allotted time may be given to the topic to be covered, equal effort must be put in the preparation of effective means of putting it across (to make it informative, understandable, interesting and enjoyable) [14]. It has also been observed that many teachers carry only slides or power point presentations and too often the sessions are held in total darkness. It might prompt the students to close their eyes and arouse drowsiness. Some of the scenarios that have been described as "deadly sins" and probably puts the students off are "teacher goes on for too long, says too much, presents indigestible data and leaves no time for questions afterwards" and "The monotony of elocution and content, the unimaginative use of visual aids all point to a dismal lack of preparation" [14]. A study has demonstrated that information presented to the students between fifteenth and thirtieth minutes during a lecture was best recalled while that presented during first fifteen minutes was the worst to be recalled[13]. It has earlier been suggested that an effective lecture should have duration of 30 minutes[15]. In our study we found that most students wanted that the duration of lecture should be between 30- 45 minutes. There may be warm up period in the early part of a lecture when teacher and the audience (students) are settling down. Even if the duration of lecture is one hour, the teacher should take a break after

half an hour of teaching, let the students relax for 5 minutes and then continue again. The last quarter of a lecture may be utilized to summarize what has been covered during a lecture. A scheduled gap of about five minutes must be there in between two lectures. These 5 minutes may be inclusive of the one hour scheduled lecture. Otherwise the respite may be in the form of a small quiz or a relevant video. This will engage other cognitive domains of the students. None of the above mentioned methods would be useful if the lecture is not interactive, understandable and enjoyable which can only be achieved by a special effort from the teacher. Lesson learned from our study is that to increase the students' interest in the lecture and to reduce absenteeism, it is important that the format and duration of lectures should be given due consideration. Since teaching is meant to benefit the students, they are important stakeholders in the education system. It seems imperative that students' view should be considered by the regulatory bodies during formulation of time-tables in the medical institutes as well as making policies regarding undergraduate teaching.

Conclusion

Most of the students (57.14%) were of the opinion that didactic lectures must be supplemented with small group discussions. The optimum duration of a lecture should be between 30 to 45 minutes (opinion of 46.81 % of students). Educational policies for improving the quality of medical education must take into account the point of view of the medical students. Improving the performance and attitude of medical students is possible if the concerns of medical students are incorporated during educational program planning.

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