ARE DOCTORS EFFECTIVE MEDICAL TEACHERS? RESULTS OF A CROSS-SECTIONAL STUDY AT ARMED FORCES MEDICAL COLLEGE, PUNE

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ABSTRACT

Medical education remains the onerous responsibility of the senior medical fraternity. Not being formally trained calls for periodic introspection to be more effective teachers. This study, involving the fourth year medical students revealed a great need for self-reflection to improve the Style of teaching, ensuring greater involvement of the students and teaching what is appropriate to the stage of study. Aggressive behaviour was inimical to good learning. A better student teacher communication and the ability to run the session are important indicators of good teaching. A continued self-evaluation by teachers will improve student learning and medical education.

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KEYWORDS: Medical education; Medical teaching; Medical teaching methods; Medical students.

Introduction

Good and effective medical teaching is a pre-requisite for improving medical education. In order to achieve this, and, despite barriers of limited time and lack of formal training in teaching methods, medical teachers want to do a good job in the classroom. However, without appropriate feedback or self-reflection, medical teachers have no systematic way to obtain a feedback both in terms of what the students learnt and in how well they understand the information conveyed [1].

With this in mind this study was conducted to assess the final year students' satisfaction of teaching methods in a medical college and to formulate inputs for improvement in medical teaching technology. The specific objective covered by this study related to method of communication, students perception of teachers attitude to the subject and teachers attitude towards the students and subject; and the impact of teaching in terms of clarity, style and use of teaching aids.

Material and Methods

The sample comprised of 78 final year medical students who were present on the day of study during June/July 98. The particular day of the study was randomly selected after serially listing the available classes during the next week's training schedule. All those present on the day of interview were included, those absent were excluded most being habitual absentees. The study was designed to ensure 100% response by a direct structured interview schedule with well defined answers as satisfied or not satisfied.

The schedule was pre-tested 2 weeks prior on a pilot sample of 10 students and needful changes were effected beforehand. This thereby reduced non-response. Anonymity was maintained to extract correct replies. Students were asked to express their views as an overall impression and not particularly for any teacher or group of teachers. The period of recall was specified as one year. The unit of analysis was the communicated students' statement. Each question relating to a particular facet of teaching was explained in detail to the students in the classroom. Subsequently, they were asked to raise hands if they were "satisfied" as regards the particular facet of teaching so explained. A count of the hands raised gave the proportion with the attribute. Similarly, the various facets of teaching were taken up one by one. All data were recorded on a dichotomous scale of "satisfied" or "not satisfied".

Results

Students' satisfaction as regards methods of teaching

59 (75.6%) of the students were satisfied with the lectures as the major mode of teaching and 41 (52.6%) with the clinical interactives. All the students expressed inadequacy of the existing programme of non-clinical interactives such as tutorials, seminars and practicals (Table 1). The differences in the satisfaction levels regarding the various types of teaching were statistically significant (Table 1).

TABLE 1
Method of teaching and students' response

Method of teaching	Satisfied (n=78)	(95% CI)
Lectures	59 (75.6%)	(66 to 85%)
Non clinical interactive	2 (2.5%)	(0% to 6%)
Clinical interactive	41 (52.6%)	(41.5% to 63.7%)

Statistical analysis for difference between proportions (1 and 2 : $p < 0.05$; 2 and 3 : $p < 0.05$; 1 and 3 : $p < 0.05$)

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Students satisfaction as regards technique of teaching

The detailed results are tabulated in Table 2. A high level of satisfaction among students was observed as regards teachers' attitude to the subject (81.8% students satisfied) and as regards relevance of the coverage in context of examinations, 61.5% were satisfied.

TABLE 2

Teaching technique and students' response

Facts of teaching and level of students satisfaction

1. High level satisfaction*

- (a) Teachers attitude to the subject
- (b) Design and preparation of classes in context of relevance to examination

2. Fair level of satisfaction*

- (a) Behaviour of teachers towards patients
- (b) Design and preparation of classes in context of clarity of objectives
- (c) Design and preparation of classes in context of actual doctoring
- (d) Pace of teaching and audibility

3. Low level of satisfaction*

- (a) Teacher's attitude to teaching
- (b) Teacher's behaviour to persons other than patients
- (c) Appropriateness of design and preparation of classes in relation to students level
- (d) Linkage of the topic to others
- (e) Style of teaching, involving the students, and correct use of training aids/ provision of handouts

*Levels of satisfaction were categorized as : High level : > 60% students expressed satisfaction, Fair level : 45% to 59% students satisfied, Low level : < 45% students satisfied

A fair level of satisfaction (45% to 59% students satisfied) was observed as regards behaviour of teacher towards patients, clarity of objectives, relevance to actual doctoring and pace/audibility of teaching. The more interesting findings related to facets wherein less than 45% of the students were satisfied. These included teachers' attitude to teaching as such, appropriateness of design and preparation in relation to students level, behaviour to persons other than patients (eg. attendants, relatives, and the students themselves), linkage of topic to other disciplines, use of training aids, provision of handouts, and involvement of students in the teaching process. The differences in the proportions were found to be statistically significant ($p < 0.5$) (Table 2).

Discussion

Lectures occupy a popular and accepted mode of teaching in medical education [1]. In the present study 75.6% students expressed satisfaction in general about the quality and need of lectures. Clinical interactive was next with 52.6% indicating satisfaction. Non-clinical interactives such as tutorials, seminars and practicals were greatly felt wanting by all the students (Table 1). This is strong evidence that students want to be actively involved in the learning process, despite anecdotal assertions that they prefer to be "spoon fed" [2]. A similar observation was also made by Metcalfe in his study [2]. This calls for encouraging students to take more responsibility for their own learning [3]. Students should be actively engaged in the learning process and should be encouraged to address their identified learning needs by working with clinical

TABLE 3

Teachers self evaluation check list (lectures)

1. Defining the objectives

- (a) Did I spell out, clearly, the specific objectives, at the beginning of the session?
- (b) Did I explain to the students how these objectives related to :
 - (i) Actual doctoring
 - (ii) Examination

2. Linkage

- (a) How many times did I link the lesson with :
 - (i) My previous lectures
 - (ii) My forthcoming lectures
- (b) Did I link the subject with :
 - (i) Other subjects of my own department
 - (ii) Same subject covered by other departments
- (c) Did I link the subject with the examination?

3. Involvement

- (a) Approximately, what percentage of the students did I know by name.
- (b) After completing the lecture did I know a few more students by name, than I had known earlier?
- (c) How many questions did I ask during the entire lecture?

4. Preparation and conduct

- (a) How many hours did I spend on planning and organising the topic?
- (b) Did I have a prior look, at the transparencies/charts/other aids, from a suitable distance? Was I satisfied?
- (c) Did I spend 50% of the teaching time, explaining with chalk and board?
- (d) Did I indicate the main points with the help of charts/transparencies
- (e) Did I ask the back benchers some questions relating to the previous main point (pace and audibility)?
- (f) How much time did I spend standing behind the dias
- (g) How much time did I spend simply "reading out" from notes?
- 5. Behaviour : How do I grade my behaviour (firm though pleasant /firm but unpleasant/harsh/sarcastic/soft pedalling/uncaring) as regards students who :
 - (a) came late
 - (b) Did not answer any question
 - (c) Created undesirable situations
- 6. Summing up
 - (a) Did I summarise the topic, using a proper training aid?
 - (b) Did I give opportunity to students to ask questions? Were there any questions?
 - (c) Did I give them some important tips for the examination?
 - (d) Did I give the students some home assignment?
 - (f) Did I give the students a "handout" of my lecture notes?

problems so as to develop an insight into practice based clinical teaching [4]. The teachers should teach the medical students to critically appraise information from a variety of sources and evaluate its applicability to patient care [5]. Special study modules (SSMs) should be considered for introducing innovations and originality in areas felt wanting [6]. This finding strengthens the well known concept that all that is taught is not learnt unless practised.

The findings presented in Table 2 have opened up certain interesting avenues for discussion and further exploration.

The observation that a high percentage of students felt that the teachers' attitude to subject was satisfactory, but at the same time a very large majority were not satisfied as regards teachers attitude to teaching

indicates that the students desire that their teachers have more concern as regards communication of ideas and skills. Teachers may be very learned and highly qualified in their respective subject (Which the students duly acknowledge) but, at the same time, may not be able to generate the satisfaction among students as far as finally conveying the ideas and skills is concerned.

Another issue which needs to be addressed is the design of objectives and use of teaching aids. Only 45% to 60% of the students were satisfied as regards design and preparation of classes in context of clarity of objectives; the satisfaction level was quite low as regards proper use of training aids/provision of handouts. Since this area is considered vital for effective teaching, further information was obtained from a sub-sample. In general, it seems that the students would be much satisfied if a particular teaching session is started by spelling out the objectives, and relating these objectives to the examination, as well as to actual doctoring. The most favoured teaching aid was expressed as explaining with "chalk and board", with other training aids (mainly transparencies) being used for indicating the main points. Students expressed a desire to be asked questions in the classroom, and that the teachers relate their discussion to various other lectures/subjects with the use of suitable examples.

Students seem to deeply appreciate if their teachers know them by name and adopt a firm and correct attitude, but are averse to rude/sarcastic behaviour. Suitably summarizing the topic at the end of the session and provision of "lecture notes" or "hand outs", particularly from examination point of view is likely to further increase the satisfaction level.

Surprisingly, the students were very expressive about the attitude to teaching and behaviour. They are averse to humiliation as was also reported in the study by Metcalfe [2]. Unsatisfactory interpersonal behaviour distresses them and they are just as upset by being talked down to as they are by being expected to know things from the postgraduate level [2]. The observed behaviour to patients and behaviour to others also remains a major cause of concern (Table 2).

To the best of our knowledge, there are no other published studies in our country, in the settings of medical colleges, in this field. The present study has highlighted certain areas in teaching, where dissatisfaction of students is very prominent and needs to be specifically addressed. These aspects include teachers' attitude to teaching and behaviour towards students, appropriateness and linkage of the contents, involve-

ment of students, adoption of an impressive style and use of training aids and provision of handouts. We also recommend further studies covering a wider range of information and a larger sample covering students in different semesters of a medical college.

In conclusion, it is observed that the students were very expressive in their perception for effecting an improvement in the delivery and presentation of the lessons, appropriateness to the students' stage and were averse to aggressive behaviour, which is strongly inimical to good learning [2]. They hope for better communication with the teachers and wanted more active involvement in the learning process. In a nutshell the students place high value on the ability to "run the session" [2]. The curriculum, teaching methods and the examination system should be re-directed to help students learn more effectively, rather than act as barriers to progress [7]. The findings strongly support the need for self-evaluation of teaching, self assessment by teachers and proper training [8].

Against the above backdrop and findings of the present study, a teachers self evaluation check list has been developed, as presented in Table 3.

We suggest that the same may be tried out by interested teachers and tested regarding its suitability. Subsequently, a scoring system may be developed for a more objective self assessment. However, we do desire to clarify that the purpose of this check list is to assist the teacher in his own self evaluation and NOT to assess the effectiveness of any teacher by external agencies.

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