ASSESSING PROFESSIONALISM IN UNDERGRADUATE MEDICAL STUDENTS USING A TEACHING MODULE

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ABSTRACT:

Background: The MCI regulations for Graduate Medical Education state that at the end of MBBS program, a medical student should demonstrate professionalism. However, the medical curriculum does not focus on delivery and assessment of professionalism. Hence a study was conducted by introducing a teaching module on professionalism to medical students. **Objectives:** At the end of the three months of implementing the teaching module, a medical student should be able to: discuss issues related to professionalism, demonstrate the attributes of professionalism and assess attributes of professionalism in self and peers. **Materials and methods:** Interactive student lectures and role plays introducing various aspects of professionalism, followed by students' brainstorming sessions were conducted for 2nd MBBS students (n=50).Self, peer and faculty assessment of professionalism demonstrated by students was obtained by using validated scale anchors. Knowledge of professionalism was tested by written examinations (MCQs: Pre-test/post-test). The teaching module was evaluated by student and faculty perception questionnaires. **Results:** Self, peer and faculty assessment scores of professionalism showed preferred ratings of 4 on a scale of 1-7. ANOVA analysis for comparing scores of self assessment with peer and faculty assessment indicated no significant difference in ratings (p value > 0.05) by the three methods. Pre-test /Post-test evaluation compared with paired student t-test showed higher post-test scores (p=<0.0001). Perception questionnaires indicated both students and faculty were satisfied with the teaching module. **Conclusion:** Implementing such a teaching module improves knowledge of professional behaviour in medical students. Professionalism can be assessed in medical students by self and peer assessment.

Key words: Scale anchors, self assessment, peer assessment, faculty assessment, role play, brainstorming sessions.

INTRODUCTION:

The Medical Council of India Regulations on Graduate Medical Education, 2012 states that the medical student should have obtained, at the time of graduation from the M.B.B.S. program, a set of competencies which includes the following attributes of professionalism: (1). Be an effective communicator and a lifelong learner (2). Be able to perform an objective self-assessment and (3). be able to demonstrate and practice selflessness, integrity, responsibility, accountability and respect.(1)

However, the medical curriculum generally does not focus on delivery and assessment of professionalism. The biggest challenge in

medical education currently is hence, how to teach and assess professionalism.(2-4) A need has been felt to incorporate it into training of medical students and hence the study was conducted by introducing professionalism in the medical students in their first clinical year (2nd MBBS students).

AIM:

The overall aim of the study was to teach and assess professionalism in undergraduate medical students by using a teaching module.

OBJECTIVES:

At the end of the three months of implementing the teaching module, a medical student should be able to: discuss issues related to professionalism, demonstrate the attributes of professionalism and assess attributes of professionalism in self and peers.

MATERIALS AND METHODS:

A longitudinal study was conducted after obtaining clearance from the Institutional Ethical Committee with resources being the faculty members (n=10) from the department of microbiology, in our institution and 2nd year MBBS students (n=50).

The study was conducted during professional development program class's on4^{th}saturday of every month for 3 months and during microbiology tutorials, once a week for 3 months.

METHOD:

▪ One session of interactive lecture presentation (Figure 4) and two sessions of role play (Figure 5) introducing various aspects of professionalism were conducted followed by students' brainstorming sessions (Figure 6), attended by students and faculty involved in the study.

▪ 50 2nd year MBBS students who gave consent for participating in the study were divided into groups of 5 students in each of the 10 microbiology tutorial groups made for the study in alphabetical order.

▪ The students were asked to rate themselves and their peers with the help of validated scale anchors[6]totalling to 1+4 = 5 ratings for each student. The microbiology faculty in charge of a tutorial group was asked to rate the students under his/her care using similar scale anchors.

▪ The self, peer and faculty assessment of professionalism was what was exhibited by students over the period of study, during microbiology tutorial classes and professional development program classes.

▪ ANOVA analysis for comparing the scores of self assessment with peer assessment and faculty assessment of results obtained with the help of scale anchors was made.

▪ Group feedback to students was provided by faculty following longitudinal observation of the students in various settings over the period of study.

▪ Assessment of theoretical knowledge of professionalism was by written examinations (MCQs) and comparison of the marks obtained before and after the delivery of the teaching module was done using paired student t-test.

▪ Evaluation of the study was done by student and faculty perception questionnaires.

RESULTS:

A frequency distribution of self, peer and faculty assessment of professionalism indicated most of the ratings obtained with the help of scale anchors, converged towards the preferred rating of 4, ranging from 3.1-5 (Figure 1).

ANOVA analysis comparing the scores of self assessment with peer assessment and faculty assessment showed no significant difference in ratings by the three methods (Table 1).

Pre-test/post-test evaluation administered at the beginning and at the end of the study period to assess the progress of students indicated that 23 students scored in the 7-10 marks range in the post- test evaluation while only 6 students had scores in the 7-10 marks range in the pre-test (Table 2).

The student and faculty perception questionnaires indicated that the students and faculty rated as good (rating of 4), all the components of the teaching module, along a 5-point scale ranging from poor, fair, acceptable, good to excellent. Amongst the open ended positive comments received from students, most of the students preferred brainstorming sessions (Figure 2). The scope for improvement suggested was to involve all students (the entire batch of students unlike the selected students for this study) in the program (16%), and use of videos in the sessions (20%). Most of the faculty opined that scale anchors were useful to assess professionalism (Figure 3). 60% faculty felt that the implementation of the teaching module for professionalism should be a long term process and not for a short period of time.

DISCUSSION:

Professionalism is becoming one of the key drivers in residency programs globally. Hence, the need to incorporate it in the medical curriculum is being stressed. This requires teaching-learning methods and assessment tools specific to professionalism to be an integral part of medical education. It is germane that the first two years of medicine provide the foundational instruction of professionalism which should progress in subsequent years and culminate in residency programs. **(5)**

The construct of professionalism has been defined as 'student behaviours characterized across nine domains of professionalism. (6)

1. Honesty and Integrity
2. Accountability
3. Responsibility
4. Respectfulness
5. Compassion and Empathy
6. Self policing
7. Communication
8. Confidentiality
9. Self-directed learning'

In this study, 2nd year medical students (in their first clinical year) were exposed to a teaching module which created awareness of these domains of professionalism and provided opportunities for the students to actively participate in discussions on the advantages and limitations of professionalism in medicine. The students were encouraged to adopt it in their routine work and were assessed on the same domains of professionalism exhibited by them during their regular class hours, with the help of scale anchors.

Pre-test/post-test scores showed a significant increase in the number of students who obtained higher marks in the post-test evaluation indicating that the students' knowledge of professionalism had improved following implementation of the teaching module.

It has been observed that a single rating of a student's professional behaviour is not sufficiently reliable. However, using multiple raters for each student provides a reliable estimate of a student's demonstration of professional behaviours. **(6, 7)** Hence, in this study, peer and faculty assessment were preferred, in addition to self assessment.

The results obtained following administration of validated scale anchors, used for self, peer and faculty assessment to assess the qualities of each domain of professionalism in this study showed that the students exhibited optimum professional behaviour (3.1-5 rating) following the use of the teaching module indicating that the module was effective (Figure 1).

Comparison of scores obtained by self, peer and faculty assessment indicated that there was no significant difference in the ratings by the three methods suggesting that students do have an insight of their own professional behaviour and are capable of appraising their own as well as their peers' professional behaviour.

Results obtained from students' and faculty perception questionnaires indicate that the teaching module was effective in delivery and assessment of professionalism.

CONCLUSION:

It is imperative that professionalism be inculcated in medical students from the very beginning to set higher standards for the medical profession which will not only help the professional but will provide rich dividends to society at large.

The results of the study are encouraging and indicate that professionalism is a set of qualities which can be taught, assessed and monitored over a period of time. Self and peer assessment can be used as a training tool to help students to evaluate their own and their peers' professional behaviour. Further studies are however warranted in various institutions by several faculties to observe if the results can be replicated and are sustainable.

ACKNOWLEDGMENTS:

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Table 1.ANOVA analysis comparing the scores of self assessment with peer assessment and faculty assessment.

		Significance
Peer Assessment	Between Groups	0.326
	Within Groups	
	Total	
Faculty Assessment	Between Groups	0.772
	Within Groups	
	Total	

*p value>0.05

Table 2. Comparison of Pre-test and Post-test scores (scores rated out of 10marks)

Score Range	Pre-test Score	Mean Pre-test Score	Post-test Score	Mean Post-test Score	p value
I (0-2)	12	3.92	1	6.28	<0.0001*
II (3-6)	32		26		
III (7-10)	6		23		

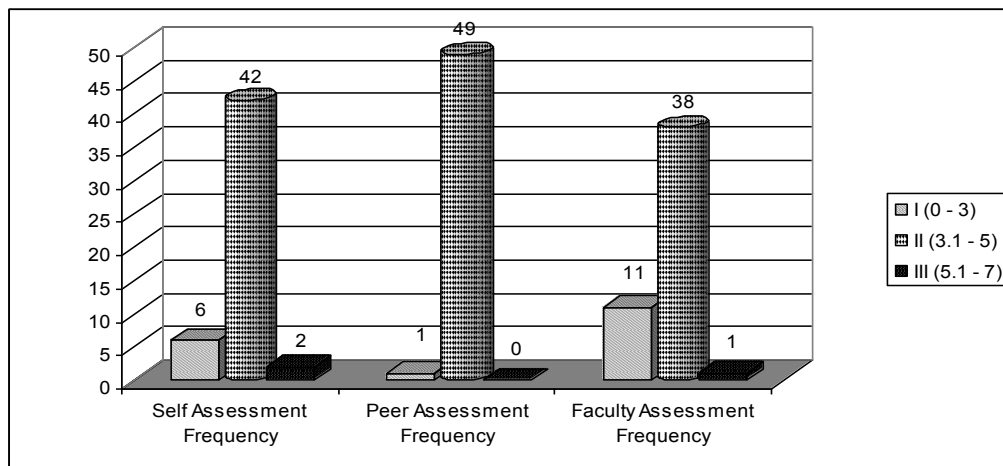*p value was derived by applying paired student t-test

Figure 1. Frequency distribution of self, peer and faculty assessment of professionalism with scores ranging from 0-7 (grouped as 3 sets of scores: 0-3, 3.1-5, 5.1-7). Y-Axis indicates the number of students.
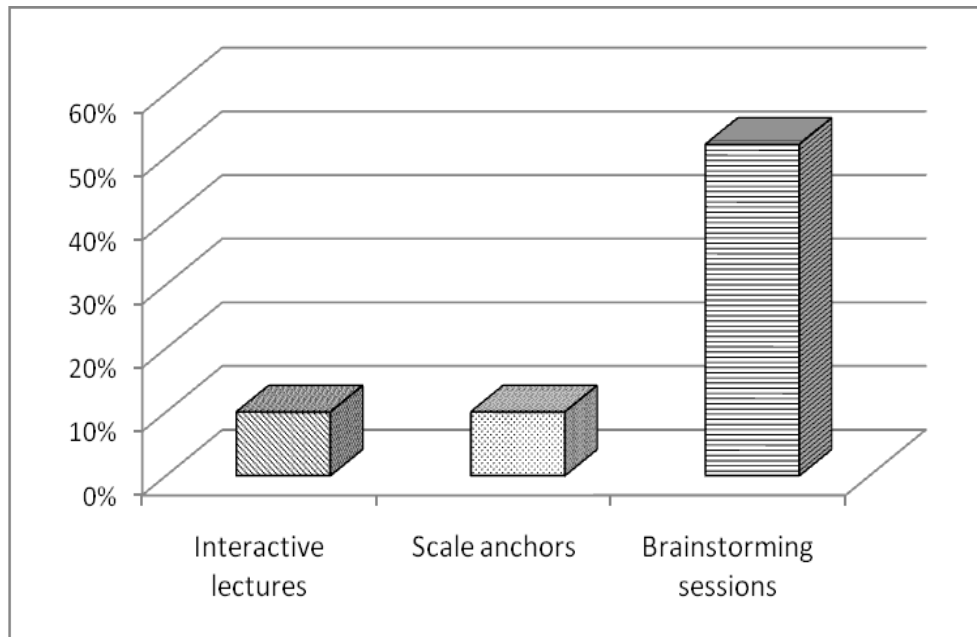
Figure 2. Student perception of preference in the teaching module
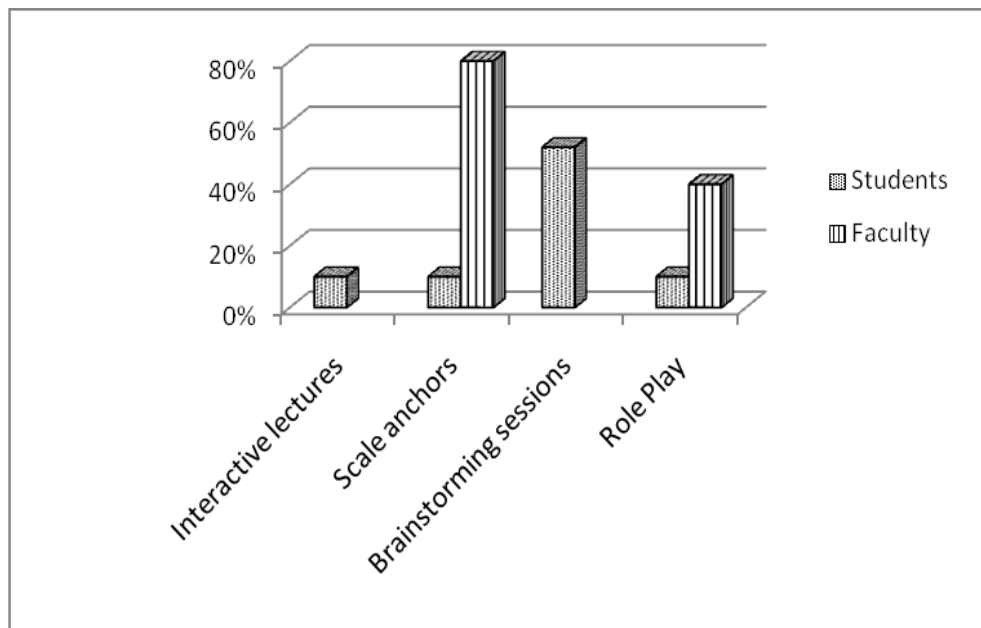

Figure 3. Comparison of student and faculty perception of preference in the teaching module

Figure 4. An interactive lecture presentation on professionalism.

Figure 5. Role Play by students introducing various aspects of professionalism.

Figure 6. Brainstorming session by students discussing issues related to professionalism.