Teaching Medical Ethics and Professionalism to Undergraduate Medical Students in an Innovative Way

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ABSTRACT

BACKGROUND

Medical education curriculum in India focuses on the clinical skills of the medical students as cornerstone, but patient and patient party dealings and to work as a member of health care provider team, one requires communication skills, interpersonal skills, management skills, professionalism and ethics. Teaching learning methods (TLM) for imparting module of professionalism and ethics have to be innovative and nonconventional also. In the present study, we tend to assess the effectiveness of exposure to realistic clinical scenarios in pathology department, in teaching medical ethics and professionalism, to undergraduate medical students.

METHODS

This is an experimental, interventional study that included 200 students. All have attended "just-in-time" lectures on attitude, communication, professionalism and ethics (AETCOM) delivered by faculties. After the 15 days of lecture session, all the students were assessed about their skill of AETCOM by conducting objective structured practical examination (OSPE). In the next phase exposure to realistic clinical scenarios in the Departmental laboratory of Pathology, under the guidance of faculties was also arranged. After the exposure session to real life scenario, all the students were assessed about their skill of AETCOM again by conducting OSPE and their performance was compared with the previous OSPE score. Feedback from the exposed students was also taken in prescribed proforma of 7-point Likert scale.

RESULTS

Mean pre exposure OSPE score was 18.66 and mean post exposure OSPE score was 27.22. The result shows that the difference was significant ($P < 0.001$). 38.5 % students were extremely satisfied with the experience of exposure to real life situation in pathology lab and 50 % students were very satisfied with the experience of exposure. In the present study, mean learning gain is 77 %.

CONCLUSIONS

Professionalism and ethics should neither be introduced in isolation from other medical graduation course contents nor be assessed so. It should be coherently assimilated with the current curriculum.

KEYWORDS

Communication Skills, Interpersonal Skills, Professionalism, Ethics, Teaching Learning Methods (TLM)

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BACKGROUND

The undergraduate medical education programme sets its goal to create an "Indian Medical Graduate" (IMG) having necessary knowledge, skills, attitudes, ethical values and responsiveness, so that he or she may function appropriately, suitably and effectively as a physician of first contact of the community and also being globally relevant.[1] To achieve this goal, the domains of attitude, communication and ethics need to be taught directly and explicitly throughout the undergraduate curriculum.[1] Students of present time are much advanced technically but are not up to the mark in moral responsibilities. Students take selfie with cadavers and post with different captions on social media[1]. Many of these students enter the medical school with or without any background knowledge of ethics, morality and human values. Even moral story telling by parents and grandparents is very scarce in today's digital world.[1] So, our theory lectures should mix science with a flavour of humanity, rather than cause-effect and clinic-pathological description only. Institute of Medicine in its report on "education in healthcare profession" also identified that clinicians and other healthcare professionals are poor in soft skills training.[2] According to Joint Commission International, medical errors are the fifth most common cause of deaths in US.[2,3] Another report by Joint Commission International reveals that 80 % of the serious medical errors are due to communication failure.[3] Various studies all across the world indicate that patients have different psycho-social needs and tailoring the communication to the patients requirements is essential.[4,5] Communicating the key points during each step of the patient's treatment is now considered to be an essential criterion for good medical practice and improves the job satisfaction of doctors.[6,7] The teaching and assessment of clinical communication is the central component of undergraduate medical education in the United Kingdom.[8,9,10,11,12] Training in patient-physician communication is also nowadays objectively evaluated as a core competency in various accreditation settings, including the Comprehensive Osteopathic Medical Licensing Examination–USA, The United States Medical Licensing Examination and The American Board of Medical Specialties" certification.[13,14] Incidentally, medical education curriculum in India is tubular in approach, as it focuses on the clinical skills of the medical students mainly, whereas to deal with patients and to work as a team, in real life situation, one requires a different set of skills–communication skills, interpersonal skills and management skills, usually referred to as non-technical skills or soft skills. The course curriculum of premier institutes in India or the medical colleges do not explicitly incorporate communication skills training as a part of the medical education or assessment criterion.[15] Medical graduates need to be prepared for various communication skills such as conducting patient interview, information sharing with the patient, documentation, practicing informed decision making, handing over protocols, updating the family of critically ill patients, breaking bad news, practicing empathy, gratitude towards patient for allowing to practice, positive attitude towards patient and their family, respecting patient's right to be treated with respect and care, valuing patient's time, examining the patient with respect and care, respecting patient's right to privacy, responding to patient's emotions appropriately, understanding patient's perspective and demonstrating sensitivity to patient's preferences and concerns and many more. Professionalism remains vague for many because it bridges two seemingly unconnected quantities the evidence-based rational science that we learn and the emotional, psychosocial beings we touch. It is clear from the available literature that the mark of these unprofessional and unethical conducts shows up even as a medical student and that is where our intervention should start.[16] In a case-control study, Papadakis et al. concluded that problematic behaviour in medical school is associated with subsequent disciplinary action by a state medical board.[17] In another retrospective cohort study, Papadakis et al. concluded that poor performance on behavioural and cognitive measures during residency is associated with greater risk for state licensing board actions against practicing physicians at every point on a performance continuum.[18] Ethics is the study of morality and medical ethics focuses primarily on issues arising out of the practice of medicine.[19] Ethical principles such as respect for people, informed consent, and confidentiality are basic to the physician–patient relationship.[19] It is generally believed that professionalism and ethics are in born properties. The medical student is generally taught with the "right" treatment for the patient and not the "good" treatment. Where we add patient's values and preferences also into action, is called the "good" treatment.[20,21,22,23] Teaching learning (TL) tools for imparting module of professionalism and ethics have to be innovative and nonconventional as imparting merely theoretical knowledge is not going to fill the gap between expectations and current actual scenario. It is not possible for an individual to imbibe soft skills such as attitude, empathy, and ethics by polishing the rote memory. It will be appropriate to have interactive lectures and large-group discussion initially during the preclinical phase so as to have a sound knowledge base and have more clarity about the concepts, expectations, and gaps. Subsequently, in the para clinical phase, the focus can be shifted towards small-group discussion with practical demonstration and role playing. In this light of knowledge of existing literature, the present study of "Teaching medical ethics and professionalism to undergraduate medical students in an innovative way" is conducted. We wanted to assess the effectiveness of exposure to realistic clinical scenarios in pathology department, in teaching medical ethics and professionalism, to undergraduate medical students.

Objectives

1. To inculcate the values of medical ethics and professionalism in medical students through traditional teaching learning methods.
2. To give exposure to real life clinical scenarios in pathology laboratory and to measure the values of medical ethics and professionalism of the undergraduate students by objective structured practical examinations (OSPE).

3. To compare the OSPE scores among the exposed (to real life clinical scenarios) and unexposed group.

METHODS

This is an experimental, interventional study that was carried out for 200 undergraduate medical students (4th semester students), (the seat capacity of the medical college) by the faculties of pathology department and other medical education unit (MEU) members for a period of six months at Pathology laboratory, Department of Pathology, of one State run medical college by random sampling method. All the students were divided into two groups by asking them to collect closed chits having "Gr A" or "Gr B" written over it as a lottery. The group distribution was for convenience of study time only.

Inclusion Criteria

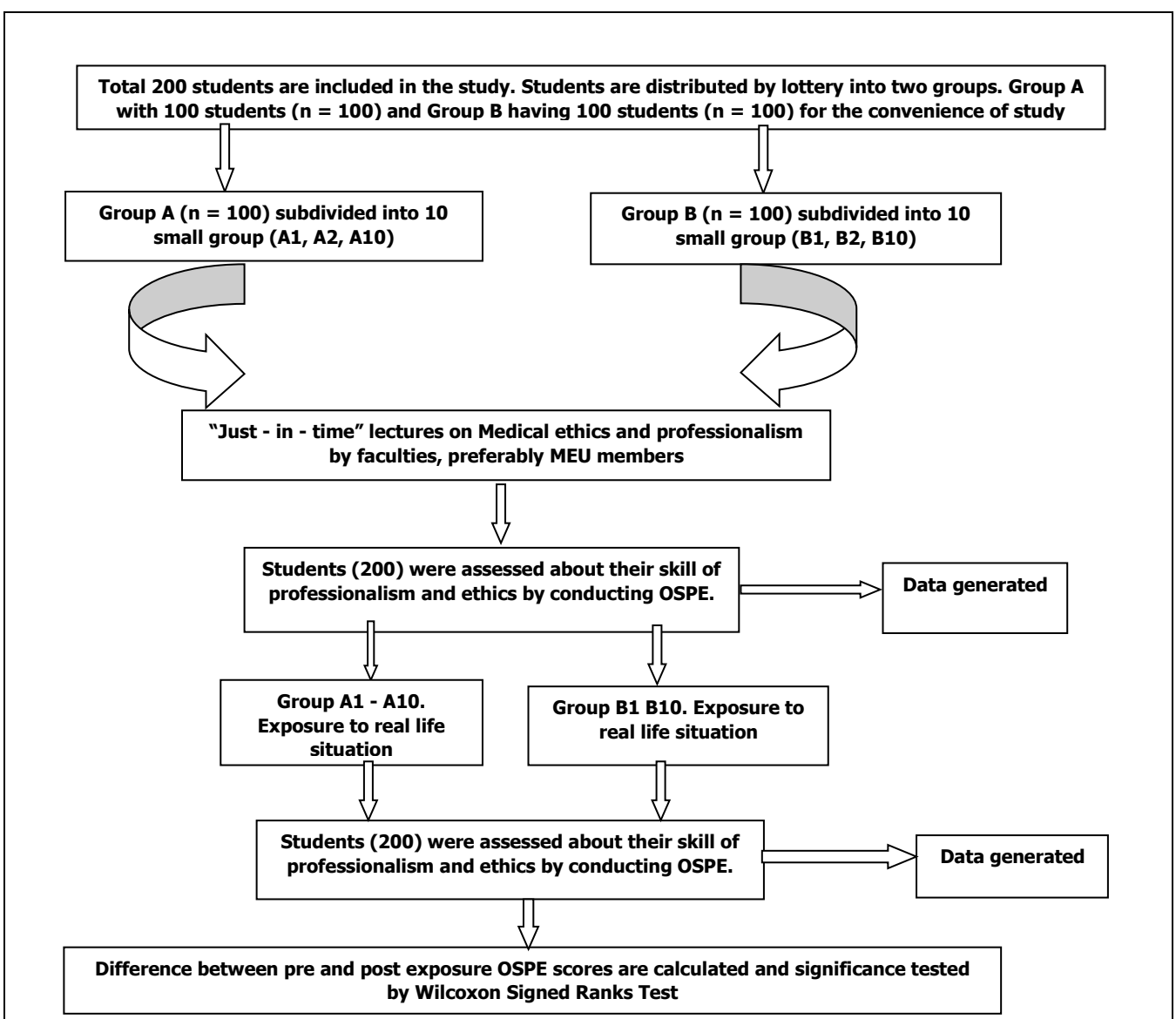
- For students: All the students of 4th semester are included.
- For faculties: Motivated faculties of the Department of Pathology and other MEU Members.

Data Collection Methods

1. Documents of student mark sheet (i.e., OSPE score).
2. Feedback questionnaire for the exposed group.
3. Data Management tools by Gantt chart.

Statistical Analysis

Categorical variables were expressed as number and percentage. Scores were expressed as mean, median and standard deviation and compared over time using Wilcoxon Signed Ranks Test since the data does not follow normal distribution as checked using Kolmogorov-Smirnov and Shapiro-Wilk test. The statistical software SPSS version 20 was used for the analysis. An alpha level of 5 % has been taken, i.e., if any P-value is less than 0.05 it has been considered as significant.



Flow Chart - Showing the Study Procedure

Instrument Development Design and Piloting

Plan of Work

In the study, students were distributed by lottery into two groups. Group A with 100 students (N = 100) and Group B having 100 students (N = 100) for the convenience of study time. Both the groups had attended "just-in-time" lectures[24,25] on medical ethics and professionalism delivered by faculties, preferably MEU members. Lectures were of 60 minutes duration, two in every 7 days, i.e. total four lecture session in 15 days. After the 15 days of lecture session, all the students were assessed about their skill of professionalism and ethics by conducting objective structured practical examination (OSPE). OSPE was utilized to assess the values of medical ethics and professionalism, and the questionnaire was prevalidated.[26,27,28] For Group A, exposure to realistic clinical scenarios in the Departmental of laboratory of Pathology,[29] under the guidance of faculties was also arranged. Exposure to patient / parties in laboratory was 2 days per week and for one-hour period per exposure. Total period of real-life exposure would be of one-month duration. Group A was further divided into small groups i.e., A1 to A10, each subgroup having 10 students. One faculty guided each subgroup and gave hands on training to them about medical ethics and professionalism and communication. Similar exposure was given to group B students (subgroup B1 to B10) for same duration by the same faculties for one-month duration. After the exposure session to real life scenario, all the students were again assessed about their skill of AETCOM by conducting objective structured practical examination and their performance was compared with the previous OSPE score. Feedback from the exposed students were also taken in prescribed proforma of 7-point Likert scale for standardization purpose of the study procedure, one sensitization meeting of the motivated faculties and involved MEU members was arranged before starting the study. In the meeting, faculties were briefed regarding what is to be taught to exposed students in pathology laboratory keeping in view the real scenarios as follows:

1. Giving respect to human samples and biopsy specimen during sample receiving.
2. Giving respect to patient / party during specimen receiving or report delivery.
3. Checking of patient identity and matching it in sample tag and requisition form.
4. Checking of patient identity during report delivery.
5. Explanation of report to patient / party as far as practicable to pacify their anxiety.
6. In case of any delay, pacifying the patient / party, explain the cause of delay and reassuring the patient / party.
7. To work as a member of health care team-interaction and communication with other team members.

OSPE was conducted in five stations to assess five competencies related to medical ethics and professionalism. The total number of questions in OSPE were twenty-five and each question was given a maximum of two and a minimum of zero score. The total score for OSPE was fifty.

RESULTS

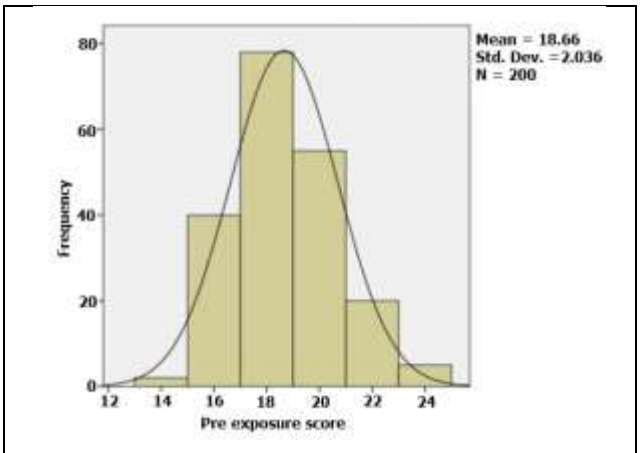


Figure 1. Pre-Exposure Score

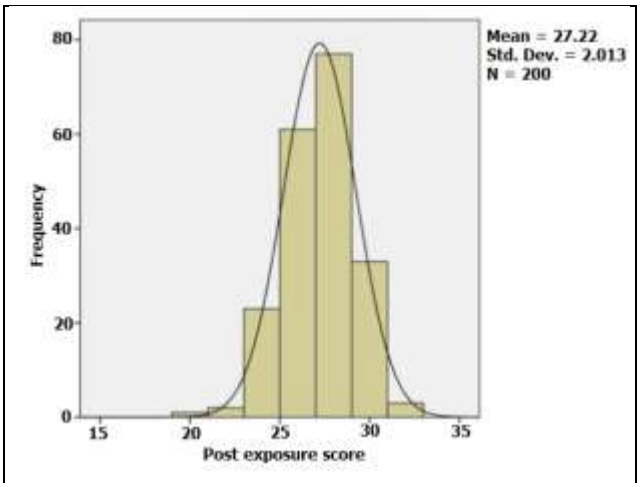


Figure 2. Post Exposure Score

	Kolmogorov-Smirnov			Shapiro-Wilk		
	Statistic	Df	P-Value	Statistic	Df	P-Value
Pre exam score	0.227	200	< 0.001	0.905	200	< 0.001
Post exam score	0.216	200	< 0.001	0.911	200	< 0.001

Table 1. Test of Normality

	Pre-Exam Score	Post Exam Score	P Value	Significance
Mean	18.66	27.22		
Median	18.00	28.00	< 0.001	Significant
Std. deviation	2.04	2.01		

Table 2. Comparison between Pre- and Post-Exposure Score

Test used: Wilcoxon Signed Ranks Test

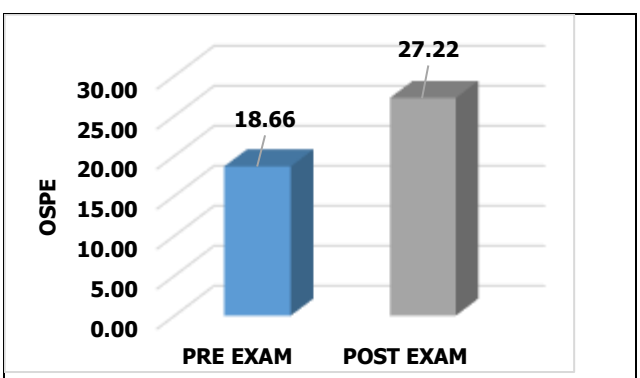


Figure 3. Difference between Pre- and Post-Exposure Score

Mean pre-exposure OSPE score was 18.66 with median being 18.00 and standard deviation 2.04. Mean post exposure OSPE score was 27.22 with median being 28.00 and standard deviation 2.01. Wilcoxon signed ranks test was used to test the difference between mean pre and post exposure OSPE score. The result shows that the difference is significant (P < 0.001). The Likert scale is a rating scale that's often used when surveying our students regarding their experiences with our teaching. Unlike binary "yes or no" questions, the Likert scale gives you deeper insight into what your students are thinking and how they feel.

Satisfaction	Frequency	Percent
Neither satisfied nor dissatisfied	2	1.0
Slightly satisfied	1	.5
Moderately satisfied	20	10.0
Very satisfied	100	50.0
Extremely satisfied	77	38.5
Total	**200**	**100.0**

Table 3. Response of the Students in 7 Point Likert Scale with Respect to Their Exposure to Real Life Situation for Having Lessons of Ethics, Professionalism and Communication

As per Table 3, 38.5 % (77 out of 200) students were extremely satisfied with the experience of exposure to real life situation in pathology lab and 50 % (100 out of 200) students were very satisfied with the experience of exposure. A learning gain score was also calculated for each individual student. When the students scored higher on their post-test than they did on their pre - test (which is the common case), we have used the formula given below to determine their individual gain score. Once we have figured every student's gain score, we must calculate the average gain scores for the class.

Formula for positive gain (i.e., when an individual student scores higher on their post-test than on their pre-test): (post-assessment – pre-assessment) (100 % pre-assessment where pre-assessment is the percent correct on pre-unit assessment and post-assessment is the percent correct on the post unit assessment. In the present study, mean learning gain was 77 % with median being 80 % and standard deviation was 16 %.

Learning Gain Scores		
Mean	Median	Std. Deviation
77 %	80 %	16 %

Table 4. Learning Gain in the Study

OSPE score of the students before and after exposure to real life experience in the pathology lab was compared and standard statistical analysis was applied as follows (Table 2, Figure 1 and Figure 2): Mean pre-exposure OSPE score was 18.66 with median being 18.00 and standard deviation 2.04. Mean post exposure OSPE score was 27.22 with median being 28.00 and standard deviation 2.01.

Wilcoxon signed ranks test was used to test the difference between mean pre and post exposure OSPE score. The result shows that the difference was significant (P < 0.001). As per the table (Table 3), 38.5 % (77 out of 200) students were extremely satisfied with the experience of exposure to real life situation in pathology lab and 50 % (100 out of 200) students were very satisfied with the experience of exposure. Learning gain score for each individual student was also calculated. In the present study, mean learning gain was 77 % with median being 80 % and standard deviation was 16 % (Table 4).

DISCUSSION

Previously professionalism and ethics were taught passively to the students as "the hidden curriculum." In hidden curriculum, students learn by watching their teachers, but it leaves a lot to change.[21] The hidden curriculum as evident from daily happening has failed to impart these virtues into our medical graduates. The reason may be a phenomenon of universal mutation in human values, but when it manifests in this noble profession, it becomes very obvious. In this fast-paced world, where passive virtues get unrevealed or unnoticed, active teaching of principles of professionalism and the code of ethics are the need of the hour.[22]

This is not to reduce the value of the hidden curriculum but to empower it.[23] There is now worldwide consensus that the elements of medical professionalism need to be enhanced and explicitly taught in medical schools.[30] Medical schools in the United Kingdom (UK) have recently published a model for a core ethics curriculum.[31,32,33] The discipline of professional and personal development (PPD) is not new but may not be seen as such by faculty members. Therein lies the need for leadership and the recognition of the discipline as a distinct entity within the education process. In the long run it could develop a faculty of medical ethics and law with dedicated staff and participating membership from all disciplines of medicine. Its tasks may include promoting, collaborating, and developing the curriculum and resources related to PPD.[33,34] The initial approaches to sensitising faculty and winning over policy makers will enable the charting and implementation of certain strategies. Time and again the clinical students find themselves not being able to disseminate information because of hierarchical system. There may be instances when transference takes place as they involve themselves in the management of patients. Herein lays the importance of employing ethical principles in resolving such problems.[34]

Students need to be able to cope with practices which may be contrary to taught principles. Mentors will play eventful roles under such situations. In our present study, it is obvious that direct teaching of ethics and professionalism in real life situation by the experienced faculties is giving appreciable learning gain. Although the concept and theory of ethics and professionalism can be introduced through, seminars and computer-assisted instruction, it remains incomplete. Small group learning in PBL, the clinical skills, lab and teaching in the clinical ward using case studies and problem-solving exercises could be used to exemplify and extend didactic teaching methods. Formal ethics rounds, involvement in audit meetings, and peer reviews can have crucial influences on attitudes and behaviour. In the present study we have provided an opportunity for the students to learn professionalism and ethics in a real-life scenario in the pathology laboratory and received stimulating and promising result. Monitoring the implementation of explicit teaching of ethics and professionalism will have an impact on the success of the programme. Once the core curriculum has

been set and the phases of intervention are scheduled within the existing curriculum, PPD activities can be monitored by section heads through tools already available. The views of some are that it would be a positive sign once students acknowledge the importance of ethics in their activities.[34] MCI has suggested, hands-on and practical training in dealing with ethical conflicts and dilemmas, communication skills, reaction time, and attitude during crisis starting from the second professional itself.[35] In the present study we have started implementing this in our own innovative manner in the Departmental laboratory of Pathology in our medical college.

CONCLUSIONS

Professionalism and ethics are a construct and should neither be introduced in isolation from other medical graduation course contents nor be assessed so. It should be coherently assimilated with the current curriculum, and the competencies should be developed alongside other competencies and skills required from a medical graduate. Sufficient time is available within the currently adopted curriculum to spare for professionalism and ethics module. From the present study project, it is obvious that medical colleges in India under the guidance of the regulatory body will find it much easier to introduce and implement professionalism and ethics module in declared curriculum, and we will get more professional physicians who are ethically sound.

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