KNOWLEDGE OF MEDICAL PROFESSIONALISM AMONG THE UNDERGRADUATE STUDENTS OF ARMY MEDICAL COLLEGE, RAWALPINDI

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ABSTRACT

Objective: To determine the knowledge about medical professionalism of pre clinical and clinical MBBS and BDS students.

Study Design: Cross sectional study.

Place and Duration of Study: This study was conducted at Army Medical College. The duration from its approval by the Ethics Review Board to the writing of the manuscript was of 6 months, from May 2019 to Sep 2019.

Methodology: Second and final year MBBS and BDS students were asked to complete a questionnaire. It was designed to assess the participants' knowledge of professionalism. Mean scores were compared in each course between the two years and between the same years but different courses. SPSS-23 was used for statistical analysis.

Results: The number of participants of this study was 454. The total mean score was 12.94 ± 2.01 the mean scores of females and males were not significantly different. The final year MBBS mean score was 13.18 ± 1.49 while the second year MBBS mean score was 12.85 ± 1.99 they were not significantly different. While the final year BDS the mean score of 13.95 ± 1.91 was significantly higher than the second year BDS score of 11.18 ± 2.96. Second year MBBS had a significantly higher score than second year BDS, the result was opposite in final year with regards to the course.

Conclusion: The statistically insignificant difference between the scores of second year and final year MBBS was because of medical professionalism not being formally taught.

Keywords: Ethics, Medical education, Medical professionalism, Morals of medicine, Qualities of a doctor.

INTRODUCTION

Professionalism is a guiding code for physicians, established both by profession and the people it serves. Its content is dynamic and evolves with changing social expectations and needs, although the basic core values have been established from Hippocrates' time[1,2]. Among which are: physicians must be selfless, always putting their patients' needs first, they must be devoted to lifelong learning, they must be responsible for the quality of care that they and their colleagues deliver, and they must promote the welfare of not only their own patients but also the community[3]. But perhaps the most complete overall description of medical professionalism related to objectives, virtues, and conduct is the Charter on Medical Professionalism[4].

Many international organizations have published various definitions all with shared themes. The Royal College of Physicians and Surgeons of Canada Can MEDS framework[5] states that "as professionals, physicians are committed to the health and well-being of individual patients and the society through ethical practice, high personal standards of behaviour, accountability to the profession and society, physician-led regulation, and maintenance of personal health." While the American Board of Medical Specialties (ABMS) defines medical professionalism as follows: medical professionalism involves group members declaring to each other and the public the principles they promise to follow in their work and what the public and individual patients should expect from medical professionals. However there is an unfortunate lack of knowledge regarding this

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matter in individuals associated with the field of medicine[6].

There is a little controversy about such definitions. What is more variable is an individual physician's interpretation, understanding, and application of these principles.

In a twenty years old study a survey was conducted gauging the extent of teaching professionalism in the US medical schools. Eighty nine point seven percent schools reported that they offer some formal instruction related to professionalism; but only 55.2% schools had devised clear methods for assessing professional behaviours[7]. This is an obvious inadequacy.

Many medical schools worldwide have now begun to recognize the need for medical professionalism to be included in the curriculum. Yet medical educators haven't always been systematic, disciplined and thorough in teaching these tenets to the next generation of doctors[3]. There is still no standard framework or guideline according to which it is taught and many methods utilized to teach professionalism are not uniform from college to college. Some educators believe that discussion groups (e.g. the "challenging case"), role play involving replication of stressful and difficult scenarios (e.g. giving "sad distressing or unexpected news" to a patient) are adequate methods to teach the subject[8] while still others support the idea of team-based learning[9]. In short methods when rarely taught excessively vary and are not sufficiently regulated resulting in doctors with different outlooks and approaches to situations they meet. There is a lack of standardization.

A few medical colleges in Pakistan have introduced behavioral sciences, bioethics and communication skills as a longitudinal theme in their program of study and also offer a social science experience through electives. However, professionalism as a formal subject with a definite curricular content is lacking in medical schools and training programs in the universities of Pakistan[10].

The primary purpose of this study was to assess the knowledge of medical professionalism in the students of pre-clinical and clinical years at Army Medical College Rawalpindi. It will indicate whether improvements are required in the teaching methodology.

METHODOLOGY

The setting of this cross sectional study was at Army Medical College during the year 2019 from May to September after obtaining approval from the institutional ethics review committee. A validated questionnaire to assess the knowledge of medical professionalism was used from a similar study carried out at Shahid Beheshti University of Medical Sciences and affiliated hospitals of Iran. The mean score of the validity of this questionnaire was 0.0899[11] with the questionnaire shown below in table-I. Age and gender were also added to the questionnaire.

The questionnaire was distributed by the authors of this study among all the students of second year and final year MBBS and BDS, a total of 500 students. The questionnaire was distributed in hardcopy format within the respective lecture halls to ensure maximum response. The sampling technique was convenience consecutive sampling. WHO sample size calculator estimated a sample size of 500 with a confidence level of 95%, margin of error of 3.35%, population proportion of 50% at a population size of 1200 (The total student body of Army Medical College). Only those students enrolled in the MBBS and BDS courses were included and those that could not understand English were excluded. All questionnaires were filled after taking consent and all information gathered was kept confidential and used for research only purposes.

Each questionnaire had 20 statements that were either true or false. Each questionnaire was scored out of 20, each correct answer being given one mark and incorrect ones being given zero. There was no negative marking and invalid questionnaires were moved. Those which were left blank were considered invalid. Data was entered on SPSS version 23. The mean score of each of the

following groups were calculated and compared with each other. Student t-test was applied using SPSS-23 to find out the significance of the results, with a *p*-value of ≤0.05 taken as significant.

RESULTS

Out of a total of 500 questionnaires distributed 454 were returned. Out of the 454 participants of this study 190 (41.85%) of the students were from second year MBBS, 180 (39.65%) were from final year MBBS 40 (8.81%) were from second year BDS 44 (9.69%) were from final year BDS as shown in fig-1.

Two hundred and eleven (46.8%) of the participants were male and 240 (53.2%) were female. 370 (81.5%) of participants were from MBBS while 84 (18.5%) of participants were from BDS. The mean age was 21.11 ± 1.58 as shown in table-II.

The overall mean score of the participants was 12.94 ± 2.0 indicating a high variance in the data. The mean scores of each individual group are shown in table-III. Fig-2 shows the frequency distribution of scores.

Final year MBBS had a higher mean score than second year MBBS but these means were not significantly different. For final year BDS the mean score was again higher than the second

Table-I: Questionnaire.

S. No.	Questions	True	False	Don't Know
1.	Professionalism is exclusive to the medical profession.			
2.	Professionalism means to be an expert in the profession (being an expert means having knowledge and skills).			
3.	Professionalism refers to methods of performance in medicine.			
4.	Professionals do not seek money.			
5.	Being professional requires academic education and specialized training.			
6.	Being active in a profession requires a professional organization.			
7.	Professionals shape the ethical principles of their job themselves.			
8.	The ethical principles and professional codes are developed by an organization outside of their guild and profession.			
9.	In professionalism actions are more important than consequences (The action should be right no matter what the consequence)			
10.	A professional is one who is exclusively involved in one profession full time.			
11.	A central element in professional activities is to serve the people and provide them with services.			
12.	A professional is always accountable for his actions under no matter what circumstances.			
13.	Codes of ethics are essential for organizing a profession.			
14.	A central element in professionalism is the ability of an individual to differentiate between what is right and what is wrong.			
15.	The doctor-patient relationship is a central element in professionalism.			
16.	Professionalism focuses on physician's personalities.			
17.	Excellence is one of the most important obligations of a professional. (Professional excellence is to be involved in continuous education and to update ones knowledge in both theory and practice).			
18.	The morality and intention of a person matter more than the actions carried out by that person.			
19	Only doctors are considered professionals.			
20.	Professionalism is an issue that was proposed in medicine 20 years ago.			

year BDS however here the results were signi–ficantly different.

The mean score of second year MBBS was significantly higher than the mean score of second year BDS. Reverse to this with regards to the course, final year BDS had a significantly higher mean score than final year MBBS.

Table-II: Demographics.

Variables		Frequency, n (%)
Gender	Male	211 (46.8)
	Female	240 (53.2)
Course	MBBS	370 (81.5)
	BDS	84 (18.5)
Year of study	MBBS 2nd Year	190 (41.9)
	MBBS Final Year	180 (39.6)
	BDS 2nd Year	40 (8.8)
	BDS Final Year	44 (9.7)
Age in Years (Mean ± SD)		21.11 (1.58)
Score (Mean ± SD)		12.94 (2.01)

Table-III: Mean score of demographic details groups.

Variables		Score (Mean ± SD)	95% Confidence Interval	*p*-value
Gender	Male	12.88 ± 1.91	12.62 - 13.13	0.490
	Female	13.01 ± 2.09	12.76 - 13.27	
Year of Study	2nd Year MBBS	12.85 ± 1.99	12.55 - 13.11	0.071
	Final Year MBBS	13.18 ± 1.49	12.99 - 13.42	
	2nd Year BDS	11.18 ± 2.96	10.32 - 12.06	<0.001
	Final Year BDS	13.95 ± 1.91	13.35 - 14.47	
Course	2nd Year MBBS	12.85 ± 1.99	12.57 - 13.14	0.001
	2nd Year BDS	11.18 ± 2.96	10.23 - 12.06	
	Final Year MBBS	13.18 ± 1.49	12.98 - 13.40	0.004
	Final Year BDS	13.95 ± 1.91	13.37 - 14.50	

**Confidence Interval and p-values were calculated by SPSS version 23 when data was entered*

DISCUSSION

Professionalism can be defined as a set of attitudes, ideals, behaviors and relationships that act as the basis of the health profession's bond with society. It is a crucial ability to be instilled in medical students apart from biomedical knowledge and clinical skills[12].

Numerous studies have shown that vital aspects of professionalism seem to not be fully developed in medical students and need to be targeted for teaching and evaluation in order to develop professionally competent doctors.

There was a similar outcome in a study carried out in a medical college in Malaysia to assess the knowledge of medical professionalism Haque, Mainul, *et al*. concludedthat there was no significant difference between scores of pre-clinical and clinical year students. The difference in the scores of male and female students was insignificantly different in 8/9 components[13]. In our study conducted at Army Medical College the mean scores of final year MBBS course (clinical) was also insignificantly different to the second year MBBS score (pre-clinical). Females had a higher mean score than males but these too were also not significantly different.

An interesting point to note was that comparison of the mean scores between the different courses within the same year yielded no conclusion and in fact the results nullified each other displaying that the course of study whether MBBS or BDS has no relation to the amount of knowledge of medical professionalism.

The insignificant difference between the genders and the years is hence because of any lack of formal teaching of this subject.

Moreover it is not only scored assessment that has highlighted lack of knowledge regarding this topic but research involving focus group discussions. In the discussion carried out at the College of Medicine, under the University of Dammam in Saudi Arabia when asked about the attributes of professionalism, important omis-

sions were reflection, mindfulness, excellence, and undertaking to carry out learning throughout ones career. The students believed inadequate knowledge was mostly due to the lack of any formal curriculum and especially due to the lack

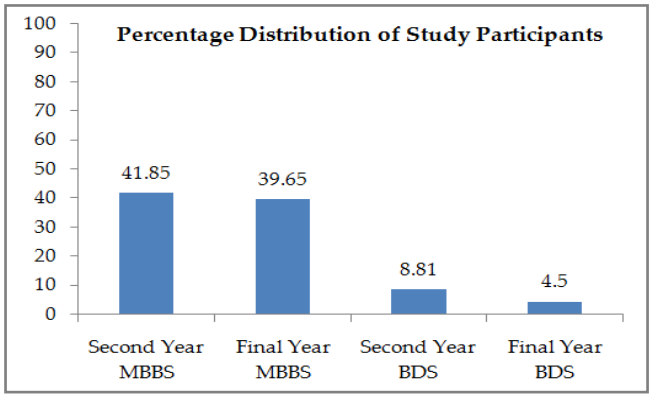

Figure-1: Distribution of study participants.

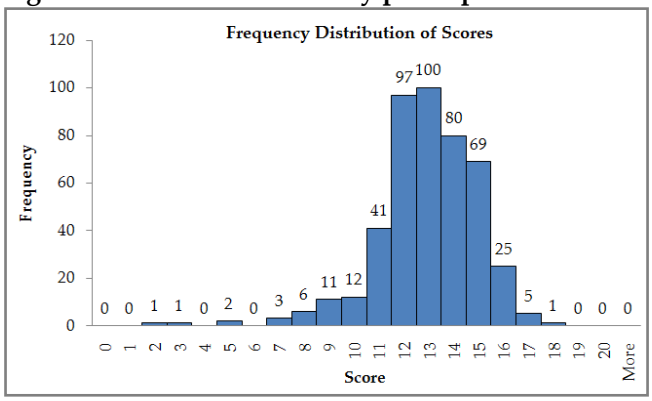

Figure-2: Frequency distribution of score of the participants.

of clinical experience which is needed to develop professionalism[14].

An interesting study to note was one conducted at Aga Khan University Karachi which determined the levels of professionalism in undergraduate medical students from years 1, 3 and 5. A questionnaire was distributed among a total of 204 participants were interviewed. There was again no significant difference in the mean scores of male and female participants. The scores for level of professionalism was 8.00 ± 3.39 for freshmen, 6.85 ± 3.41 for Year 3 students and 8.40 ± 3.34 for Year 5 students.

Aga Khan's curriculum offers compulsory lecturesin conversational skills and professional behavior to all its undergraduate students. This study showed that introducing a formal curriculum prevented a drop in knowledge regarding medical professionalism, which has been previously attributed to repeated exposure and subsequent desensitization[15]. Whereas our study showed no drop or fall just an insignificant difference between second year and final year MBBS showing the students completed their under graduation with the same knowledge of professionalism with which they entered. But regardless of whether knowledge of professionalism drops or remains the same without teaching, both instances still emphasize the importance of teaching the subject throughout the five year tenure at medical college.

This is further emphasized by the fact that another study was carried out in which professionalism was assessed in the final year medical students of six Sudanese medical colleges. Data were collected using a validated self-administrated questionnaire after being distributed among 675 students. In the section testing the knowledge about medical professionalism on average 81.99% of the questions were marked correctly[16]. The final year MBBS and BDS medical students in our study got on average respectively 65.9% and 69.75% of the questions correct. Thus Sudanese medical students displayed sufficient knowledge about professionalism.

Knowledge of professionalism in our medical students appear to be well below the adequate level and the difference is seen because our there is no formal teaching of the subject.

The process of professionalism attainment takes time and is affected by many factors among which the education process is considered to be the crucial one[17] But the way forward is that professionalism should be taught explicitly in formal curriculum as well as implicitly (thought, deliberation and role-modeling are held as the most effective strategies for teaching professionalism). Moreover faculty development will also be required for running an effective educational program in professionalism[18].

LIMITATIONS OF STUDY

This study was conducted among the medical students of a single medical college of Pakistan. These results cannot be applied to all the medical colleges operating in the territory. The physicians working in Army Medical College's affiliated hospitals were not included. It must be considered that some principles of medical professionalism can varyfrom region to region and can depend on local customs and culture.

RECOMMENDATIONS

From the results obtained it is clear that the curriculum should be promptly revised with medical professionalism being taught as a core topic from year one in safe and structured environments. A curriculum should be developed and the subject should be taught, demonstrated and tested using a variety of methods so that the basic traits of professionalism become deeply instilled in students.

But it should also be kept in mind that an individual to a certain extent must already believe in and follow the values that form the very basis of professionalism. Such individuals can be identified during the interview stage of the admissions process.

By taking these measures it will be ensured that future medical graduates will have a heightened sense of responsibility with the welfare of patients put first.

CONFLICT OF INTEREST

This study has no conflict of interest to be declared by any author.

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