MEDICAL EDUCATION (ORIGINAL ARTICLES)

REFINING ELEMENTS OF MEDICAL PROFESSIONALISM IN THE UNDERGRADUATE MEDICAL STUDENTS

Khadija Qamar, Syed Azhar ul Hassan Shah*, Muhammad Asif Aziz**

Army Medical College, Rawalpindi, National University of Medical Sciences (NUMS) Rawalpindi Pakistan, *DME Hospital

**Armed Forces Institute of Cardiology Rawalpindi Pakistan,

ABSTRACT

Objective: To assess the perception of professionalism in the students of Army Medical College.

Study Design: A survey based descriptive study.

Material and Methods: In the first phase of the study, experts were selected from various fields in medicine through email and their opinion was sought about the most important key elements of professionalism. On the basis of response, in the second phase, weighting of the elements were selected and re-forwarded to the experts for their confirmation. In the third phase, a survey of 1st year and final year was conducted amongst the students about their knowledge, perception and importance of selected element.

Results: The first version of the professionalism assessment scale (PAS) consisted of 35 items. The experts also suggested 10 additional elements of professionalism other than proposed by the researchers. Based on their percentages, 33 out of the 45 items were excluded, so the second version of the PAS contained 12 items. When the mean scores of the different elements were compared among the responses of first year and the final year students, three elements i.e. integrity, teamwork and ethics were found to be significant.

Conclusion: Professionalism assessment scale (PAS) can be used for the assessment of perception of professionalism among undergraduate medical students.

Keywords: Ethics, Professionalism, Students.

INTRODUCTION

Medical professionalism is a complex terminology which includes behaviors and attitudes, in addition to the knowledge and skills[1]. Although, last two competencies have been given considerable attention while catering for increased demands of doctors, inculcating correct attitudes and behaviors, has largely been neglected. Important reasons of this oversight appear to be the ambiguity about the definition, contents and methods of assessment of medical professionalism, in medical education. This fact is evident in the curriculum of MBBS by Pakistan Medical & Dental Counsel.

In the light of widespread perception that the practice of medicine is not in line with the best traditions of medicine and identifying deficiency in training of doctors in medical schools, renewed attention was given to medical professionalism, during second half of last century[2]. ABIM (American Board of Internal Medicine) initiated 'Project Professionalism' which evaluated humanistic characteristics in practice of medicine and included values like altruism, accountability, duty, excellence, honor, integrity and respect for others in the term professionalism[3].

Although the concept of medical professionalism is intrinsically intertwined with the values of society in which the medical doctors practice, however, it appears to have been highlighted by western societies. It is, probably, due to this perception that, although medical professionalism has been accepted by most medical colleges in Pakistan as an essential competence which the fresh doctors need to be trained in, the concept is still

Correspondence: Dr Khadija Qamar, Professor of Anatomy Dept, Army Medical College, Rawalpindi, Pakistan
Email: colkhadijaqamar@gmail.com
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considered alien which has to be adopted to satisfy the required global standards and the regulatory bodies. Hence the ambiguity persists about its place in curriculum, contents, methods of instructions and assessment and weightage to be given to this competency in the final outcome[4]. The study was planned to determine the knowledge and perception of medical students about medical professionalism, the importance they attach to its various elements in practice of medicine in Pakistani culture. Attitudes and perceptions on professionalism are developed in a dynamic process of solicitation as described in the literature[5]. Medical students have diverse range of attitudes on professionalism which further change overtime and are learnt through apprenticeship in different cultures and environments.

Table-1 Delphi survey–1st round.

S. No	Elements	Rating Percentage				
		1	2	3	4	5
1.	Honesty	84.2	15.7	0	0	0
2.	Reliability	73.6	21.0	5.2	0	0
3.	Respect for others	31.5	47.3	5.2	5.2	0
4.	Compassion / Empathy for patients	52.6	42.1	5.2	0	0
5.	Self-awareness (knowledge of personal strengths & weakness)	57.8	21.0	15.7	5.2	0
6.	Self-improvement (in knowledge & behavior)	57.8	21.0	15.7	0	0
7.	Communication Skills (with patients & colleague)	52.6	42.1	5.2	0	0
8.	Altruism (priority given to patients' need over personal needs)	36.8	31.5	26.3	5.2	0
9.	Appearance	5.26	57.8	21.0	5.2	0
10.	Demeanor	21.0	63.1	10.5	10.5	0
11.	Competence	78.9	15.7	5.2	0	0
12.	Ethics	68.4	26.3	5.2	0	0
13.	Maintaining composure	36.8	36.8	26.3	0	0
14.	Phone etiquette	15.7	36.8	42.1	5.2	0
15.	Written communication	31.5	36.8	31.5	0	0
16.	Organizational skills	52.6	36.8	5.2	5.2	0
17.	Behavior and Attitude	73.6	26.3	0	0	0
18.	Integrity	89.4	15.7	0	0	0
19.	Confidentiality	57.8	36.8	5.2	0	0
20.	Knowledge and Skills	84.2	15.7	0	0	0
21.	Licensure / Certification	21.0	42.1	31.5	5.2	0
22.	Governance by peers	21.0	31.5	36.8	10.5	0
23.	Social Prestige	10.5	26.3	36.8	21.0	5.2
24.	Vital service to society	26.3	42.1	15.7	10.5	0
25.	Autonomy	21.0	52.6	15.7	5.2	0
26.	Innovative	21.0	52.6	21.0	5.2	0
27.	Accepting constructive critique	36.8	42.1	15.7	0	0
28.	Valuing new experiences	36.8	42.1	21.0	0	0
29.	Team work (Interdisciplinary collaboration)	63.1	36.8	0	0	0
30.	Dutiful / punctuality	52.6	26.3	15.7	5.2	0
31.	Taking responsibility	84.2	10.5	5.2	0	0
32.	Accountable	68.4	21.0	10.5	0	0
33.	Reflective	26.3	63.1	5.7	5.2	0
34.	Emotional stability (EI)	36.8	47.3	10.5	5.2	0
35.	Religious minded	5.2	26.3	10.5	26.3	31.5

MATERIAL AND METHODS

This survey based descriptive study was conducted at Army Medical College from March to June 2015. In the first phase, we carried out Delphi survey. The expert pool for the Delphi survey were selected through probable sampling technique consisted of 22

experts, mainly teachers of basic sciences, clinical faculty, dental faculty and physicians posted as the administrators. These teachers were involved in raising the status of teaching from within the occupation, define professionalism in terms of their qualifications. The goal to involve these teachers was after their full preparation and certification in accordance with professional standards. Both, the expert group and the students, were thoroughly briefed about the purpose of study and were assured of the confidentiality of their name and data. A written informed consent was taken from the student participants.

A 2-round Delphi survey was conducted to validate and establish the consensus on a final professionalism assessment scale (PAS). All the rounds of Delphi were presented through online survey method. Total 35 elements of the professionalism scale were part of the PAS in its first formulation. The scale was formulated; according to the established criteria. These elements were selected on the basis of definitions of professionalism from the literature. In the first round of Delphi, the experts were requested to prioritize each element on a 5-point Likert scale according to its importance for professionalism, in their

Table-2 -Percentage after 2nd round of delphi survey.

S.No	Elements	Rating Percentage				
		1	2	3	4	5
1.	Honesty	90	10	0	0	0
2.	Reliability	85	10	5	0	0
3.	Respect for others	45	55	0	0	0
4.	Compassion / Empathy for patients	45	40	5	0	0
5.	Self-awareness (knowledge of personal strengths & weakness)	70	15	15	0	0
6.	Self-improvement (in knowledge & behavior)	65	20	15	0	0
7.	Communication Skills (with patients & colleague)	60	40	0	0	0
8.	Altruism (priority given to patients' need over personal needs)	40	35	20	5	0
9.	Appearance	0	65	30	5	0
10.	Demeanor	25	65	5	5	0
11.	Competence	85	10	5	0	0
12.	Ethics	75	20	5	0	0
13.	Maintaining composure	35	40	25	0	0
14.	Phone etiquette	15	35	45	5	0
15.	Written communication	30	40	30	0	0
16.	Organizational skills	50	45	0	5	0
17.	Behavior and Attitude	80	20	0	0	0
18.	Integrity	95	5	0	0	0
19.	Confidentiality	65	35	5	0	0
20.	Knowledge and Skills	85	15	0	0	0
21.	Licensure / Certification	20	45	30	5	0
22.	Governance by peers	15	30	40	15	0
23.	Social Prestige (19)	10.5	47.3	31.5	10.5	0
24.	Vital service to society	35	40	20	5	0
25.	Autonomy	20	50	25	5	0
26.	Innovative	20	55	20	5	0
27.	Accepting constructive critique	35	50	15	0	0
28.	Valuing new experiences	35	50	15	0	0
29.	Team work (Interdisciplinary collaboration)	70	30	0	0	0
30.	Dutiful / punctuality	45	35	15	5	0
31.	Taking responsibility	75	25	0	0	0
32.	Accountable	70	30	10.5	0	0
33.	Reflective	25	65	5	5	0
34.	Emotional stability (EI)	35	50	15	0	0
35.	Religious minded	5	25	15	20	35
Additional elements suggested by respondents						
36.	Discipline (14)	50	35.7	14.2	0	0
37.	Dedication (14)	71.4	28.5	0	0	0
38.	Motivation (14)	71.4	28.5	0	0	0
39.	Well-read other than own subjects (15)	6.6	53.3	33.3	6.6	0
40.	Positive personality (15)	0	0	46.6	46.6	6.6
41.	Initiative (14)	0	0	42.8	42.8	14.2
42.	Infrastructure for research (15)	0	0	26.6	53.3	20
43.	Morality (15)	60	26.6	6.6	6.6	0
44.	Training/transfer of knowledge (15)	60	33.3	6.6	0	0
45.	Willing worker (14)	71.4	28.5	0	0	0

view. The experts were also invited to suggest additional elements of professionalism other than proposed by the researchers. The researchers decided that an item should reach 70% or higher agreement to be included in the second and final version of the PAS. A complete summary of the prioritized response from all panelists in the form of proportions, along with the additional elements identified by some participants were formulated for the second round of Delphi. The key definitions of medical professionalism in use as the clear specification of the curriculum are highly dependent on this method used to support the development of professionalism at our institute in a local setup.

In the second round of Delphi, experts were requested to re-visit their response to the first round in the light of the summary and see if they would like to re-adjust their priorities. They were also requested to go through the additional elements identified by some panelists, and prioritize these according to their importance in professionalism, in their view.A brief explanation of some terminologies used in our first survey, as requested by some experts, was given. The cross-sectional observational study was carried out at the Army Medical College in Rawalpindi with the students of first year and final year through convenience purpose sampling including both the genders and all the categories. Questionnaire was distributed to the whole class of 200 students of each first &final year MBBS. It contained twelve elements of attitudes and behaviors, which are considered highly desirable in doctors, in our culture. They were communicated that the elements have been selected by involving the experts. Students were requested to prioritize each element according to its importance for professionalism, in their opinion on a 5-point Likert scale. A total of 79 students from final year and 137 students of first year returned the duly filled questionnaires. Reliability of the instrument was determined through internal consistency by applying Cronbach's Alpha test. The alpha value was 0.924.

Data Analysis

Data had been analyzed using statistical software SPSS version 21. Mean and standard deviation were used to describe quantitative variables. Frequencies and percentages were calculated for variables like responses of items. Mean Score comparison was made using Mann-Whitney U test. A *p* value <0.05 considered to be significant.

RESULTS

The first version of the PAS consisted of 35 items. In the first Delphi round, 22 (100%) experts provided answers. The experts also suggested 10 additional elements of professionalism other than proposed by the researchers. In the second Delphi round, 22 (100%) experts provided answers. Based on their percentages, 33 out of the 45 items were excluded, so the second version of the PAS

Table-3: Comparison of mean score between 1st year and final year medical students.

S.No	Elements	First year Mean±SD (n=136)	Final year Mean±SD (n=79)	*p*-values
1.	Honest	1.55 ± 0.995	1.29 ± 0.754	0.028
2.	Reliable	1.51 ± 0.861	1.38 ± 0.773	0.195
3.	Self-aware (knowledge of personal strengths & weakness)	1.63 ± 1.011	1.52 ± 0.798	0.943
4.	Having Integrity	1.76 ± 0.942	1.34 ± 0.783	<0.001
5.	Knowledgeable and Skillful	1.48 ± 0.911	1.51 ± 0.860	0.462
6.	Team worker (Interdisciplinary collaboration)	1.79 ± 0.952	1.51 ± 0.890	0.008
7.	Taking responsibility	1.55 ± 0.944	1.47 ± 0.998	0.269
8.	Accountable	1.71 ± 1.012	1.52 ± 0.959	0.084
9.	Dedicated	1.55 ± 0.957	1.47 ± 0.903	0.501
10.	Motivated	1.55 ± 0.920	1.46 ± 0.844	0.415
11.	Ethical	1.76 ± 1.071	1.33 ± 0.780	0.001
12.	Willing worker	1.65 ± 0.929	1.44 ± 0.843	0.058

contained 12 items. Elements like honesty, reliability, competence, self-awareness, ethics, behavior and attitude, teamwork, taking responsibility, integrity, accountable, dedication, motivation and willing worker were perceived to be of the maximum standing. Elements like appearance, governance by peers, social prestige and religious mindedness obtained lowest ratingby the experts (table-2).

The final sample consisted of 215 students from all first and final year of study (53.7% response rate). There were 95 (44.1%) female students and 120 (55.8%) male students in the sample. The researchers decided that an item should reach 70% or higher agreement to be included in the second and final version of the PAS. The comparison of the mean scores between 1st year and final year medical students highlighted few elements with p value to be highly significant (table-3).

DISCUSSION

The Delphi technique is a widely used and accepted method for gathering data from participants within their domain of expertise[6]. The iteration characteristics of the Delphi process provide the opportunities for investigators and subjects to improve the accuracy of the results[7]. The 12 elements identified were of sufficient breadth and depth to integrate the many values and attributes that are part of medical professionalism[8]. No single tool can include all characters and activities of medical professionalism, as this is a complex construct and can also be observed contrarily by different people[9]. It will be useful for the curriculum developers to identify the deficiencies of the awareness of the important elements of the professionalism.

First year MBBS students marked highest on the honest, reliable self-awareness, knowledge, taking responsibility, accountable, dedicated, willing worker and motivation elements of the professionalism. This is not in line with the work of Al-Erakyet al[10] and Tsai et al[11] On the other hand, the lowest scored items came from the domain of teamwork and willing worker. Undergraduate students might not be fully aware of the need for professional development as this is usually a feature of life long learning[12]. At the undergraduate level, the first year students may not yet be fully aware of their responsibilities as doctors. These elements innate in any discussion of the evaluation of professional development, they also affect the involvements of individual medical students, and they influence our education system.When given their inexperience in dealing with certain or compelling situations, many felt distanced from any sense of professional identity[13].

On the other hand students of the final year MBBS showed good response and all the elements of the validated questionnaire were rated very high. The least rated element was self-awareness which is knowledge of personal strength and weaknesses. Honesty and reliability are part of the fundamental features of professional doctors. Both the classes contended that a good doctor should have basic medical knowledge and relevant professional skills. Participants also recognized the importance of continually developing clinical knowledge and being motivated is important to help improve standards[14]. When the mean scores of the different elements were compared among the first year and the final year student's only three elements like integrity, teamwork and ethics were found to be significant. The researchers had already decided that an item should reach 70% or higher agreement to be given due weightage. A complete summary of the prioritized response from all panelists in the form of percentages, along with the additional elements identified by some participants were formulated for the second round of Delphi. The most apparent differences between students' accounts at the beginning and end of their medical school education were the variability of the structure and contexts and positive values attributed to professional practices during their training period. This reflects the ignorance of the first year students regarding the importance and weightage of these three elements which were rated lowest, the observed differences between two classes of students cannot be directly attributed to their professional education at Army Medical College.

CONCLUSION

Explicit calculations and perceptions of the professionalism of the medical student with the help of PAS scale is effective way to identify the set objectives for professional behavior in a local setting.

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CONFLICT OF INTEREST

The authors declare that they have no conflict of interest.

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