

Role of behavioral sciences in development of professionalism among MBBS students

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ABSTRACT

Background: Professionalism is a global quality expected in medical students' along with clinical skills. Behavioral sciences have been included in 3rd year MBBS curriculum since 2014 at FJMU. The purpose of this change is to enhance Professionalism formally in addition to other areas of the subject. This study aims to determine effectiveness of studying behavioral sciences as a subject in enhancing elements of Professionalism.

Subjects and methods: The mixed-methods study was used and a sample of 240 3rd year medical students was taken by convenient sampling. In the first (quantitative) phase of the study, Penn State College of Medicine Professionalism Questionnaire (PSCOM-PQ) was administered before and after studying behavioral sciences as a subject, to collect pre and post statistical results about students' attitudes towards professionalism. The results were analyzed by paired sample t-test. In the second (qualitative) phase, Focus Group Discussion (FGD) was conducted to reveal the reasons for professionalism development and role of Behavioral Sciences in its development. 8 students were selected by purposeful homogeneous sampling technique. FGD session was audio-taped and transcribed, finally thematic analysis was done.

Results: The results showed highly significant increase (p -value= 0.00, $t = -74.39$, mean= -72, SD= 14.99) in the scores of Professionalism after studying behavioral sciences as a subject. The broad themes identified by FGD were "Professionalism Related Skills Learned through Behavioral Sciences" and "Modes of Information Transfers' Role in Professionalism Understanding". The professional skills conceptualized by the students included emotional stability, empathy, psychoeducation, confidentiality, competency and sense of responsibility. The participants felt that professionalism develops by the means of lectures, workshops, role plays, modeling and formal assessment sessions.

Conclusion: Study of behavioral science has significant effect in the development of professionalism among MBBS students and is well received by third year MBBS students.

Keywords:

Professionalism, Behavioral sciences; Pre-clinical MBBS students

INTRODUCTION

Professionalism is a global quality expected in medical students' along with biomedical knowledge and clinical skills in order to generate all-round, proficient graduates. Professionalism refers to a group of values, attitudes, behaviors and relationships that perform as the groundwork of the health profession's contract with society.¹ Professional attitude is affected by students' thoughtfulness, sense of responsibility and higher mental function i.e. reasoning and judgement.¹

Professionalism includes ability to transmit knowledge, diagnosis and treatment options to the patient in understandable language so that better doctor patient relationship can develop. It also includes confidentiality, continuity, trust honesty and

compassion.² In the University of California, San Francisco School of Medicine introduced an evaluation system to consider students' professional behavior longitudinally through their clinical rotations.³ The goals of this system are to help the students found to have behaved unprofessionally. To demonstrate the priority placed by the school on the attainment of professional behavior and to give the school strength to deal with issues of professionalism. There are three themes within professionalism i.e. interpersonal professionalism, public professionalism and intrapersonal professionalism, so professionalism is considered mandatory for development of profession.³

Professionalism is highly important in health professions' education, and an essential competency in undergraduate and postgraduate health professionals and their educational curricula.⁴ Most of the literature on professionalism is from medical schools in the Western world but professionalism values are different for all societies; and every society needs to develop professionalism values according to their local needs.⁵

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Students consider role modeling as an important modality for learning professionalism, during their preclinical years.⁶ Professionalism is formally taught in Behavioral sciences which students apply during patients interaction in Psychiatry ward, role models and role plays on different clinical scenarios with the faculty and due to integrated curriculum utilize these skills in surgery and medicine rotations. Small group discussions and lectures helped students to realize the professional behaviors which are formally a component of behavioral sciences curriculum.⁶

The Behavioral Science is a challenge to the traditional medicine model.⁷ The discipline emerged in the United States during the 1960's as a combination of psychology, sociology, and anthropology. It focused on to document, research, and eventually understands human behavior. The behavioral science states that health is a bio psychosocial state with multiple components and to understand it various professional skills are required.⁷

Behavioral sciences was introduced as a subject in 3rd year MBBS curriculum since 2014 at FJMU. The purpose of this change is to enhance professionalism formally in addition to other areas of the subject. The impacts of this addition on professionalism have not been studied yet. There is a dearth of literature on the role of teaching behavioral sciences in MBBS curriculum. This study was planned to determine the effectiveness of behavioral sciences in professionalism development and to explore the perceptions of students in this context.

PARTICIPANTS AND METHODS

This mixed method study was conducted at Fatima Jinnah Medical University, a female Medical College, from November 2018 to November 2019 with the approval of Ethical Review Committee. The study used paired sample t-test (quantitative phase) and thematic analysis (qualitative phase) to evaluate the role of behavioral sciences in the development of professionalism among medical students. It was divided into two phases; the first (quantitative) phase of the study was based on pre-post experimental design, to determine effectiveness of behavioral sciences as a subject in enhancing elements of Professionalism. A sample of 240, 3rd year medical students, who were going to study behavioral sciences as a subject, was taken by using convenient sampling technique. A written informed consent was taken from the selected participants, and they were administered Penn State College of Medicine Professionalism Questionnaire

(PSCOM-PQ) to collect pre assessment scores i.e. before studying formal behavioral sciences, about **students' attitudes towards professionalism.**⁸ The scale is consisted of 6 subscales; altruism, accountability, excellence, duty and service, honor and integrity, and respect for others.⁹ After the completion of 3rd year, post assessment was done in first week of 4th year (same cohort) by re-administrating PSCOM-PQ on the selected 240 students, to determine the effects of studying behavioral sciences. All the collected information was stored in SPSS version 21.

In the second (*qualitative*) phase, Focus Group Discussion (FGD) was made to reveal the reasons for professionalism development and role of Behavioral Sciences in its development. Among the sample of 240 participants, 8 students were selected for FGD by purposeful homogeneous sampling technique. It consisted on the equal number of participants from different demographics i.e. FSC/A-levels, rural/urban background and day scholars/hostellers. Stimulus material was sent to all participants before FGD to have information in hand and to reduce any confusion regarding questions; the material was comprised of brief description of 6 elements of professionalism mentioned in PSCOM-PQ, so that they had the information at hand during the discussion. The setting for the FGD was in a room and it was conducted by the 1st investigator who is well known to the participants and the moderator was a trained clinical psychologist who recorded field notes. Moderator was un-known to the participants so that they could express themselves without any hesitation and this is to balance the FGD. Participants were provided opportunity to give their views on the role of behavioral sciences in their professional skills development. They were permitted time to offer any explanation and prompt by the investigator was given when it required. Probing questions were used by investigator in order to explain the views and the concepts in depth, as needed. Primarily FGD was based on 4 main questions including, what is professionalism? Do you think is there any important role of behavioral sciences in the development of professionalism, if yes so how it helped you? Before studying behavioral sciences how did you evaluate your professional skills? And after studying behavioral sciences what is the change you feel in your professional skills? The discussion was carried out under specific aliases (i.e. A, B, C) to hide the identification of participants. The two hours FGD session was audio-taped, and the audio-tapes were transcribed to ensure accurate reporting of the

information. All transcribed notes were then returned to the participant to get informant feedback in order to improve accuracy, validity, and credibility of research findings. Notes were also read by the investigator several times for verification by matching transcribed interviews with FGD questions and with the main research question. Thematic analysis was used to identify the themes that sufficiently reflect their textual data. Thematic analysis is a widely used method for identifying, analyze and report patterns within data. After transcribing, notes were paraphrased which captures the qualitative richness of the participants understanding. After that transcripts were read, and codes were identified and labeled in segments independently. Codes were connected from each data set and themes and sub-themes were identified through two independent researchers. Common themes were clustered into categories. Next, themes and sub-themes were discussed between researchers in order to keep as close as possible to participants understanding and to eliminate repetition of ideas. The transcripts were re-read and checked to clarify emerging sub themes and super ordinate themes so that the tiles of the categories reflected the totality of that experience.

RESULTS

The mean age of participants was 22.18 years, 37.9% participants were day scholars whereas 62.1% were hostellers, 67.5% were from urban background while 32.5% belonged to rural area, and students with A-levels degree were 22.9% where 77.1% students had FSC educational background. To test that what are the differences in the level of professionalism before and after studying behavioral sciences, paired sample t-test was conducted to compare the means of professionalism. The results showed that there was significant difference (p -value= 0.00, t = -74.39, mean= -72, SD= 14.99) in the scores of Professionalism after the inclusion of behavioral sciences as a subject. Student's evaluation about their professional skills increased after studying behavioral sciences. The scores of pre-assessment of professionalism were: mean= 72.58, SD= 8.39, however the score of post-assessment showed: mean= 144.58, SD= 12.74

The results of second (qualitative) phase of the study, generated by FGD were coded into two broad themes with regards to "Role of Behavioral Sciences in the Development of Professionalism"

1. Professionalism related skills learned through behavioral sciences, including, emotional stability,

Table 1. Frequencies of themes and trends

Trends	Frequency
Professional skills learned by behavioral sciences	
Emotional stability	32
Empathy	24
Psychoeducation	19
Confidentiality	22
Competency	18
Sense of responsibility	12
Modes of Information transfer	
Lectures	19
Role plays	28
Workshops	17
Modeling	24
Formal assessment sessions	21

empathy, psychoeducation, confidentiality, competency and sense of responsibility .

2. Modes of information transfers' role in professionalism understanding, including lectures, workshops, role plays, modeling and formal assessment sessions . These themes are presented in figure 1 and figure 2 to make it more clear for understanding, however their frequencies are mentioned in table 1.

Below are the examples of responses that were categorized into each of these themes to further explain and simplify the themes.

Theme 1: Professionalism Related Skills Learned through Behavioral Sciences (Table 1)

The first theme identified in this study was professionalism related skills learned through behavioral sciences. It includes the followings:

- i. Emotional Stability: The most repeated trend was recorded emotional stability which means a person's ability to remain stable and balanced while facing every stressful situation and not to show the extremes of emotions. Below are few responses representing emotional stability:

"I learned from studying behavioral science that how to control your emotion of negativity and manage stress."

"I used to be very short tempered and was easily burned out when find anything wrong but now I feel myself as emotionally stable and now I can control my emotions in a good way."

"Being a doctor you have to face intense situations every day and if you cannot control yourself how you would give treatment to your patients, it was my fear that how I will do this but I am much confident now to face such situations."

- ii. Empathy: The participants responded that empathy is the basic skill that we learned by behavioral sciences. Understanding with the feelings of others helps to relate with people of all type. Examples are given here:

“I was among such people who stigmatize psychiatry patients but I learnt that they are patients suffering from a great distress and now I can relate to them.”

“Every patient and his family, that come to hospital are very anxious and sometimes behaves abruptly. We should understand their condition and instead of arguing with them, we should make them feel relax by showing our support.”

iii. Psychoeducation: Psychoeducation means providing information regarding illness to the patients and their families. It is a skill to disclose diagnosis and counselling to better understand and cope with illness. This concept was expressed by the participants as shown by the response below:

“I saw that doctors come and suddenly expose the illness and do not guide properly how to cope with it and how to start treatment. We learned in course that what is the proper way to disclose the illness and to support families by educating them regarding disease.”

“We observed the assessments here and learned that how to educate a patient and his family to cope with the illness. As doctors, it is part of our professionalism to provide details to families and patients”

iv. Confidentiality: Privacy of patients is the basic professional ethic. This concept was expressed by the participants as shown by the response below:

“Behavioral sciences helped me a lot that how to maintain confidentiality with patient.”

“I came to know by studying behavioral sciences that confidentiality is the right of a patient which should not be violated.”

v. Competency: Competency in medical profession is essential to perform the job effectively. To fulfill the patients' needs in the society, competencies are required. Following are the examples:

“The basic ethics in behavioral sciences teach us that we should not use a treatment techniques for which we are not trained enough. A doctor should be very competent in his treatment techniques because he deals with lives.”

“I learned the sensitivity of our profession that we should update our knowledge with the passage of time, our MBBS degree is not enough to be a good doctor.”

vi. Sense of Responsibility: Understanding sensitivity of the medical profession and bearing responsibilities was reported core skill of professionalism which they learned in behavioral sciences subjects. Examples are given below:

“I believe that it is duty to be concerned and responsible towards my patients.”

“Our ethics teach us that the wellbeing of the patients should be our first priority than anything else.”

Theme 2: Modes of Information Transfers' Role in Professionalism Understanding (Tabel)

The second theme identified in our data was modes of information transfers' role in professionalism understanding. It includes the followings:

i. Lectures: A way to develop professionalism in behavioral sciences course was “lectures” as evident by following verbatim:

“The lectures of our teachers taught us the true standards of professionalism.”

ii. Role Plays: Role playing activities in the class was the most commonly reported mode of information transfer in behavioral sciences course, as mentioned in the following example:

“My major learning was through role plays when I adapted the role of a patient, I could really relate to them.”

iii. Workshops: Workshops on various topics by professionals under this course was source of learning professionalism. Example responses are as follows:

“Through workshops on ethical issues I learned that what to do in a certain critical situation.”

“Rather than everyday classes, we learnt professionalism through workshops gave by experts.”

iv. Modeling: Another concept noted under this subtheme was modeling of faculty which was reported by the respondents as follows:

“I have developed all these skills by observing and modeling of our teachers in behavioral sciences.”

“I made one of faculty members as my role model and I learnt that how to deal with patients.”

v. Formal Assessment Sessions:

The assessment sessions with patients was found the major subtheme as evident by following verbatim *“Assessment with teachers helped me to build my confidence.”*

“Assessment sessions were most interesting for me to learn professionalism.”

DISCUSSION

In this study, role of behavioral sciences in the development of professionalism was evaluated among pre-clinical medical students and results revealed that there is significant increase in the level of professionalism after the inclusion of behavioral sciences (p-value=0.00) It was an initiative that elaborated the effectiveness of behavioral sciences in professional growth which has not been studied before.



Figure 1. Professional skills learned by behavioral sciences

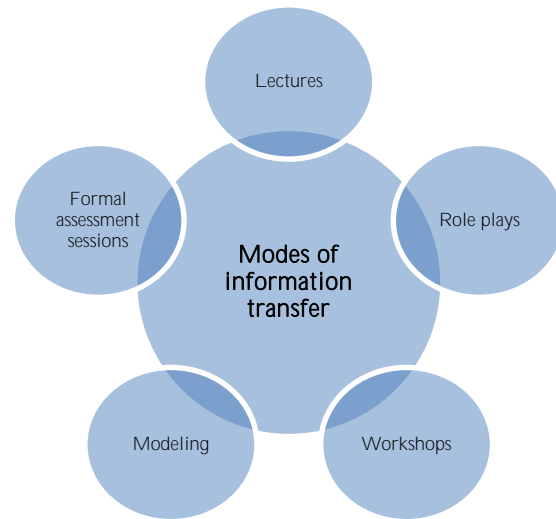


Figure 2. Modes of information transfer

However previous researches in this regard, found the level of professionalism in graduating medical students was below optimum level.^{10, 11} The teaching practice was not fulfilling the purpose of teaching professionalism and only serves as buffer to declining of professionalism.¹⁰ By focusing on teaching methods, the current study explored that inclusion of behavioral sciences in teaching practices can upward the level of professionalism. There is another study which explains the importance of curriculum in professionalism development. Authors proposed that an integrated model of learning, based on medical as well as other bodies like philosophy, sociology, psychology and literature where compassion, communication, and social responsibility are addressed, illuminated, practiced, and learned can uplift the level of professionalism among medical students.¹¹ This study supports the results of our study; as behavioral sciences is a well-defined combination of all these domains and was also found effective for professionalism development of students.

The thematic analysis on FGD found two main themes, and the first theme was “professionalism related skills learned through behavioral sciences”. It includes six subthemes i.e. emotional stability, empathy, psycho-education, confidentiality, competency and sense of responsibility. These findings explain the process, that teaching behavioral sciences develop these major skills in students which then, help them to meet the standards of professionalism. As emotional stability is found one of the main component for developing professional skills, the literature also suggested that positively driven

motivation with emotional stability increases the work efficiency of professionals.¹² Similarly the concept of empathy that is learned through behavioral sciences is one of the key factors in professional climate, it is described as a cognitive attribute and if the level of empathy declined, it lessens the overall level of professionals.^{13,14} The training of psychoeducation is main part of the course of behavioral sciences and it is also evident in literature as a bridge of communicating between patients and the health professionals. Psychoeducation is a primary professional/leadership skill and a treatment model itself which significantly improves perceptions of the therapeutic setting among staff, patients and caregivers.¹⁵ Confidentiality is the focused concept in behavioral sciences and it is found a core principle of medical professionalism.¹⁶ Patients need to know that information they share with their physician will be kept in confidence except where its disclosure is necessary for medical care or when they have given permission to share it with others. It is a professional responsibility of doctors which needs to be fulfilled.¹⁷ Uniformly the competency of a medical professional directly affects his or her attitude towards professionalism.¹⁸ Competency, consists of the coherent integration of multiple stores of information applicable to the management of a clearly defined task with a clearly measurable outcome.¹⁹ The concept of professionalism contributes to deeper updated understanding of professional competence and the professional competence then further promotes the professional skills.²⁰ Another component found in FGD

was sense of responsibility. When bad things happen, professionals are often held personally accountable for complex situations, professional responsibility and professionalism advances the prescriptions towards understanding and responding effectively to the multifaceted challenges encountered today by professionals working in dynamic complexity.²¹

The second main theme found by thematic analysis of FGD was “modes of information transfers’ role in professionalism understanding”. The subthemes revealed that lectures, workshops, role plays, modeling and formal assessment sessions in the course of behavioral sciences played a role of mode of information transfer for students to learn professionalism. The researches in this domain also confirmed that modeling in undergraduate medical education, plays a vital role in learning professionalism,²² students in preclinical years consider role modeling as an important modality for learning professionalism and lectures help them to realize their professional behaviors.⁶ In researches on teaching methodologies and professional development, it was established and recommended that workshops, role play activities and demonstrating assessment transport more-effective professional development experiences.²³⁻²⁵

This study included sample of only female students from one institution, however attitudes and perceptions of male and female students about professionalism may vary in different institutions because of the differences in curriculum, ethics and educational environment. So it is suggested to study professionalism on large scale in future, moreover it is recommended to add behavioral sciences in curriculum from 1st year of MBBS so that professionalism can become automated behavior gradually

CONCLUSION

Study of Behavioral sciences in the MBBS curriculum is effective in the development of professionalism among students. Through lectures, workshops, role plays, modeling and formal assessment sessions, behavioral sciences buildup the skills of emotional stability, empathy, psychoeducation, confidentiality, competency and sense of responsibility among students and these skills help the students to learn the global concept of professionalism.

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