

## COMPARATIVE STUDY ON PROFESSIONALISM OF FOURTHCOMING MEDICAL DOCTORS BETWEEN TWO PRIVATE MEDICAL COLLEGES IN SAVAR, BANGLADESH

ABDUS SALAM<sup>1</sup>, MAINUL HAQUE<sup>2\*</sup>, ASADUL MAZID HELALI<sup>3</sup>, MD. ZAKIRUL ISLAM<sup>4</sup>, MASUDA MOHSENA<sup>5</sup>, ZAIDA RAHMAN<sup>6</sup>, FARIDA YESMIN<sup>3</sup>, NOR IZA A RAHMAN<sup>2</sup>, AHMED G. ALATTARAQCHI<sup>2</sup>, RABEYA YOUSUF<sup>7</sup>

<sup>1</sup>Department of Medical Education, Universiti Kebangsaan Malaysia (UKM) Medical Center, Kuala Lumpur, Malaysia, <sup>2</sup>Faculty of Medicine and Health Sciences, Universiti Sultan Zainal Abidin, Terengganu, Malaysia, <sup>3</sup>Department of Pharmacology & Therapeutics, Gonoshashthaya Samajvittik Medical College, Dhaka, Bangladesh, <sup>4</sup>Department of Pharmacology & Therapeutics, Eastern Medical College, Comilla, Bangladesh, <sup>5</sup>Department of Community Medicine, Ibrahim Medical College, Shahbag, Dhaka 1000, Bangladesh, <sup>6</sup>Department of Pharmacology & Therapeutics, Enam Medical College & Hospital, Savar, Dhaka, Bangladesh, <sup>7</sup>Blood Bank Unit, Department of Pathology, UKM Medical Center, Kuala Lumpur, Malaysia.

\*Email: runurono@gmail.com

Received: 19 Jun 2013, Revised and Accepted: 12 Jul 2013

### ABSTRACT

Objectives: Medical professionalism forms the basis of the relations between doctors and society. Researchers believe professionalism is extremely important in medicine to alleviate human errors. Professionalism is not inborn social characteristics. Intellectuals believe to safeguarding and upholding medical professionalism it is compulsory to include in medical curriculum. This study is aimed to compare the professionalism of future medical professionals between two private medical colleges in Bangladesh. Methods: The study was conducted at Gonoshashthaya Samajvittik Medical College (GSSVMC) and Enam Medical Colleges (EMC) in Bangladesh. It was a cross-sectional study carried out on 445 medical students of Year-III (127), Year-IV (205) and Year-V (113) MBBS students of session 2012-2013 selected conveniently from GSSVMC and EMC. Two hundred students were from GSSVMC and 245 were from EMC. Data was collected using a validated instrument which contained core professionalism characteristics measured by 5-points Likert scale giving a maximum score of 220 with few open-ended questions. Results: Response rate of this study was 76%; 48% respondents were male and 52% were female. Mean professionalism scores for Year-III, IV and V were 173, 175 and 189 and for male and female were 179 and 178 respectively. No significant differences observed between gender ( $p=0.679$ ). Significant differences were observed between study-year ( $p<0.001$ ) and also between total scores ( $p<0.001$ ) 172 for GSSVMC and 183 for EMC. However, 43% students were not precise about professionalism. Conclusions: Educators should focus to increase awareness on core professionalism attributes.

**Keywords:** Professionalism, Medical-student, NGO, Private, Bangladesh.

### INTRODUCTION

"The term 'professionalism' is a construct of attribution, meaning it consists of various traits, characteristics, behaviours and qualities that are attributed to those that others hold in high esteem, especially colleagues in the same profession" [1]. In brief, professionalism acts as a shield, under which different facets of a profession gather [2]. The common people of any country expect and believe not only physicians; other professionals also should have highest degree of professionalism. They understand doctors must possess the qualities of "good behaviour, high values and positive attitudes related to clinician, workmanship and citizenship" [3]. A number of scientific groups in this regard feel "Good doctoring" needs very high standard of educational qualifications and later extensive by hand training for technical expertise lead to a person to a professional [4-6]. Professionalism is the core issue of any professional education especially for medicine. Again for medical doctor professionalism is a concern till he retires [7]. Hence, it is the responsibility of the medical teachers to safeguard professional criteria among the medical students as they are the future doctors [8]. Moreover it is an exclusive opening for medical school to develop a strong foundation of professionalism among medical students as they are young, energetic and exposed to odds of life [9]. Researchers believe that collaboration between teachers globally is urgently needed to ensure such critical issue among our students [8]. Scholars think "Professional education is above all a shaping of the person" [10]. Health care and medical care in the new millennium has been changed abruptly which lead to different relations between doctors and society. Actually in new factors such as "cost management by insurers" has changed the age old system of medical doctors' for training and practice. Hence, doctors are not losing their liberty and independence as they are bound and detected by the insuring company thus they do not own "personal responsibility" and promote deprofessionalism [11]. Free market concept in health care thus eroded "public trust in medicine" and "traditional values and behaviour" [12, 13, 14]. These changes in the health sector create a need for curricular reform in medical schools of modern world [15, 16, 17]. Researcher within curriculum medical student and resident should be

taught and trained in such a way that they will be able to face and cope up with any unprofessional situation such as "adverse patient care and malpractice lawsuits" [18].

Medical professionalism is considered as an extremely multidimensional concern [19]. Medical professionalism has been described by a group of scientists as a "set of values, attitudes, and behaviours that results in serving the interests of society before one's own" [20] or as "doing the right thing" [21]. Researcher believes professionals must possess the quality to lead the society [22]. Therefore, physicians must demonstrate "core humanistic values, including honesty and integrity, caring and compassion, altruism and empathy, respect for others, and trustworthiness" [19]. Current curriculum of Bangladesh [23] has no formal programme for the development of professionalism in students; intern or medical doctors. The objective of this research is to establish and associate the conceptual understanding of professionalism with importance on the core professionalism issues among the medical students of Bangladesh aimed at professional development programme that can be integrated in the curriculum.

### MATERIALS AND METHODS

This was a cross-sectional study conducted on medical students of GSSVMC, a philosophically motivated NGO controlled typically community oriented medical college and a private entrepreneur based medical college EMC in Bangladesh.

Gonoshashthaya Kendra (GK) means People's Health Centre is a Public Charitable Trust established in 1972 to work with the people of different geographical areas, caste, religions and ethnic origin. It has started with a 480-bed field hospital for freedom fighters and refugees during the war of liberation of Bangladesh in 1971. To expand the scope of work, GK was registered with NGO Bureau in 1981. GK is one of the pioneering NGOs in Bangladesh is well known all over the world. The GK's role since 1972 in the development of women and reducing gender inequality has had far-reaching effect. Moreover, by bringing into effect a system of health insurance,

protection of women's right, preservation of folk culture and art, and by playing a leading role in the formulation of Bangladesh National Drug Policy, Health Policy. Accordingly, GK was honoured with many awards, such as - The Independence Day Award in 1978, Magsaysay Award in 1985 and Right Livelihood Award from Swedish Parliament in 1992. GK's continued support to education, the concept of Gono Bishwabidyalay (People's University) was originated and established in 1994 in accordance with Bangladeshi law. This University accredited by the required authorities of Peoples Republic of Bangladesh. The main programmes run Gono Bishwabidyalay are MBBS and BDS. The programmes are approved by the University Grand Commission and Bangladesh Medical and Dental Council (BMDC).

EMC was initially established as Enam Clinic in the year 1989 with a bed capacity only 6 later it was transformed to a medical college in 2003 fulfilling the guidelines and criteria set up by the Ministry of Health and Family Welfare, BMDC and University of Dhaka. It is now a 625 bedded tertiary level teaching hospital situated at Parbotinagar, Savar, Dhaka, Bangladesh. The admission capacity of this medical college is 110 per session. The college has been affiliated with University of Dhaka and also recognized by BMDC. The training of EMC is also recognized by Bangladesh College of Physicians and Surgeons (BCPS). EMC is also in the recognition list of World Health Organisation (WHO). On 24 April 2013, an eight-story commercial building, Rana Plaza, collapsed in Savar, a sub-district in the Greater Dhaka Area, the capital of Bangladesh. In this building there were a number garments industries. The search for the dead ended on 13 May 2013 with the death toll of 1,127. Approximately 2,500 injured people were rescued from the building alive. It is considered to be the deadliest garment-factory accident in history, as well as the deadliest accidental structural failure in modern human history. EMC is situated less than approximately 0.5 kilometers to Rana Plaza. EMC has contributed immensely at free of charges for this industry disaster. Initial all emergency treatment was given EMC and EMC-students also worked in hospital and in rescue work.

The study population was all of Year-III, Year-IV and Year-V (591) medical students of academic session 2012/2013 at GSSVMC and EMC. The sample size consisted of 445 students. Among the sample, 200 and 245 were from GSSVMC and EMC respectively. GSSVC is under Gono Bishwabidyalay (University) and EMC is under University of Dhaka, both are situated at Savar, Dhaka. Medical

education in Bangladesh, whether it is public or private, no matter but under strict supervision of Ministry of Health and Family Welfare, Government of Bangladesh and BMDC. Convenient sampling technique was used to select the sample. The period of study was from beginning of December 2012 to end of January 2013. Data was collected using a mixed validated instrument [24, 25] which contained nine core professionalism qualities such as honesty, accountability, confidentiality, respectfulness, responsibility, compassion, communication, maturity, and self-directed learning. There were a range of statements under each professionalism qualities which was measured by 5-point Likert scale giving a maximum score of 220. Mean of all nine characteristics' scores represented the professionalism of respondents as a whole. The instrument also contained four open-ended questions exploring about respondents' opinion on what professionalism meant to them, how professionalism should be taught, how they learnt professionalism and how professionalism should be assessed. The data was then compiled and analysed utilizing SPSS version-21 using independent T test and One-Way ANOVA test.

## RESULTS

Among 591 total study populations 445 were responded giving a response rate of over 75%. Two hundred participants were from GSSVMC and 245 were from EMC. Of these 445 participants 127 (29%) were from Year-III; 205 (46%) were from Year-IV; and 113 (25%) were from Year-V. Males were 215 (48%) and females were 230 (52%). Mean (SD) professionalism score of male respondents was 178.51 (15.69) and female was 177.90 (15.70). Mean (SD) professionalism score of Year-III respondents was 173.39 (13.25), Year-IV was 175.30 (13.99), and Year-V was 188.84 (16.28). There has no significant (Table 2) difference between gender ( $p=0.679$ ) but significant (Table 1) differences were in study year ( $p<0.001$ ) in the total scores of core elements of professionalism with independent T test and one way ANOVA.

Students of GSSVMC and EMC were having mean professionalism score (SD) 172.37 (11.43) and 182.95 (17.04) respectively (Table 3) which is significantly different ( $p<0.001$ ).

Table 4 shows comparison between genders within the institute and revealed no significant differences between GSSVMC ( $p=0.290$ ) and EMC ( $p=0.078$ ).

**Table 1: Comparison of mean value of core professionalism characteristics among Year-III, IV & V students (n=445).**

Professionalism Characteristics	Year	Mean Value (SD)	p value
Honesty	Year III	22.80 (2.286)	<0.001*
	Year IV	23.75 (2.884)	
	Year V <sup>^</sup>	25.94 (2.312)	
Accountability	Year III	19.29 (2.479)	<0.001*
	Year IV	19.07 (2.772)	
	Year V <sup>^</sup>	21.78 (2.963)	
Confidentiality	Year III	16.01 (2.593)	<0.001*
	Year IV	16.17 (2.649)	
	Year V <sup>^</sup>	17.36 (2.220)	
Respectful	Year III	24.68 (2.516)	0.664
	Year IV	24.78 (3.165)	
	Year V <sup>^</sup>	25.02 (3.162)	
Responsibility	Year III	23.91 (2.750)	<0.001*
	Year IV	23.30 (2.961)	
	Year V <sup>^</sup>	26.22 (3.079)	
Compassion	Year III	16.31 (2.061)	<0.001*
	Year IV	16.55 (1.710)	
	Year V <sup>^</sup>	17.32 (2.089)	
Communication	Year III	18.47 (3.124)	<0.001*
	Year IV	19.04 (2.777)	
	Year V <sup>^</sup>	21.05 (3.105)	
Maturity	Year III	23.43 (2.750)	<0.001*
	Year IV	24.21 (2.870)	
	Year V <sup>^</sup>	25.15 (3.478)	
Self-directed learning	Year III	8.50 (1.201)	<0.001*
	Year IV	8.43 (1.213)	
	Year V <sup>^</sup>	9.00 (1.188)	
Total scores	Year III	173.39 (13.25)	<0.001*
	Year IV	175.30 (13.99)	
	Year V <sup>^</sup>	188.84 (16.28)	

One Way ANOVA (<sup>^</sup>=Reference value, \*=post-hoc tests are significant)

**Table 2: Comparison of mean value of core professionalism characteristics between males and female students (n=445).**

Professionalism Characteristics	Mean Value (SD)		p value
	Male (215)	Female (230)	
Honesty	24.35 (2.784)	23.73 (2.860)	0.020
Accountability	19.82 (2.895)	19.82 (3.040)	0.996
Confidentiality	16.45 (2.557)	16.40 (2.615)	0.849
Respectful	24.61 (2.824)	25.00 (3.131)	0.173
Responsibility	24.13 (3.351)	24.29 (2.983)	0.592
Compassion	16.80 (1.850)	16.56 (2.035)	0.196
Communication	19.50 (3.167)	19.28 (3.083)	0.459
Maturity	24.26 (3.089)	24.20 (3.045)	0.835
Self-directed learning	8.58 (1.272)	8.61 (1.180)	0.814
Total scores	178.51 (15.69)	177.90 (15.70)	0.679

Independent sample t-test

**Table 3: Comparison of mean value of core professionalism characteristics between GSSVMC and EMC students (n=445).**

Professionalism Characteristics	Mean Value (SD)		p value
	GSSVMC (n=200)	EMC (n=245)	
Honesty	23.79 (2.759)	24.23 (2.891)	0.105
Accountability	18.90 (2.679)	20.58 (2.983)	<0.001*
Confidentiality	16.30 (2.246)	16.53 (2.831)	0.350
Respectful	24.40 (2.874)	25.14 (3.046)	0.009
Responsibility	22.99 (2.942)	25.21 (2.987)	<0.001*
Compassion	16.24 (1.742)	17.04 (2.037)	<0.001*
Communication	18.21 (2.709)	20.36 (3.109)	<0.001*
Maturity	23.22 (2.986)	25.06 (2.875)	<0.001*
Self-directed learning	8.33 (1.224)	8.81 (1.183)	<0.001*
Total scores	172.37 (11.43)	182.95 (17.04)	<0.001*

Independent sample t-test (\*=significant)

**Table 4: Comparison of mean value of core professionalism characteristics between Males and Females in GSSVMC and EMC (n=445).**

Medical College	Gender	Total Scores for Professionalism Characteristics Mean Value (SD)	p-value
GSSVMC	Male (n=76)	173.46 (11.34)	0.290
	Female (n=124)	171.69 (11.47)	
EMC	Male (n=139)	181.27 (17.04)	0.078
	Female (n=106)	185.15 (16.88)	

**Independent sample t-test**

Table 5 revealed the comparison of mean professionalism score of Year-III, Year-IV, and Year-V students in terms of its core qualities among the respondents of different medical colleges. There were no

significant (p=0.675) differences of total value regarding characteristics of professionalism between Year-III GSSVMC and EMC but significant differences were observed with Year-IV (p<0.001) and Year-V (p<0.001) students between the two medical colleges.

**Table 5: Comparison of mean value of core professionalism characteristics among Year-III, IV & V students of GSSVMC and EMC (n=445).**

Year	Name of College (Number of Students)	Total Scores for Professionalism Characteristics Mean Value (SD)	p-value
III	GSSVMC (n=46)	174.04 (12.96)	0.675
	EMC (n=81)	173.01 (13.47)	
IV	GSSVMC (n=104)	169.28 (11.48)	<0.001*
	EMC (n=101)	181.50 (13.68)	
V	GSSVMC (n=50)	177.24 (7.20)	<0.001*
	EMC (n=63)	198.05 (15.60)	

Independent sample t-test (\*=significant)

There was no significant difference between GSSVMC and EMC of Year-III males and females. But significant differences were observed between Year-IV males (p=0.001) and females (p<0.001) of GSSVMC and EMC. Similarly significant differences observed with Year-V males (p<0.001) and females (p<0.001) between two colleges (Table 6).

Among male students of Year-III, IV and V of GSSVMC there was no significant (p=0.461) differences but among female students significant difference (p<0.001) was observed (Table 7). In EMC both males (p<0.001) and females (p<0.001) have significant differences observed when compared between Year of study (Table 7).

Thirty seven percent students of both GSSVMC and EMC were possessing positive attitude towards professionalism. Rest 63% either did not answer the question "What do you mean by Professionalism?" or they did not understand the issue (Table 8). Twenty seven percent students viewed professionalism should be taught through role model, 25% viewed through experience, 11% through education and the rest were not very precise about the question (Table 8). Regarding "How do you learn professionalism?" 17%, 16% and 11% respondents opted education, experience and role model respectively while the rest 56% were not precise how they learnt professionalism (Table 8).

**Table 6: Comparison of mean value of core professionalism characteristics among male and female students of Year-III, IV & V of GSSVMC and EMC**

Year	Gender	Name of College (Number of Students )	Total Scores for Professionalism Characteristics Mean Value (SD)	p-value
III	Male	GSSVMC (n=16)	175.50 (13.93)	0.201
	Female	EMC (n=46)	170.35 (13.65)	
IV	Male	GSSVMC (n=30)	173.27 (12.59)	12.583
	Female	EMC (n=35)	176.51 (0.30)	
V	Male	GSSVMC (n=40)	171.93 (11.86)	0.001*
	Female	EMC (n=58)	180.29 (11.99)	
V	Male	GSSVMC (n=64)	167.63 (11.01)	<0.001*
	Female	EMC (n=43)	183.14 (15.68)	
V	Male	GSSVMC (n=20)	174.90 (7.42)	<0.001*
	Female	EMC (n=35)	197.26 (16.26)	
V	Male	GSSVMC (n=30)	178.80 (6.73)	<0.001*
	Female	EMC (n=28)	199.04 (14.96)	

Independent sample t-test (\*=significant)

**Table 7: Comparison of mean value of core professionalism characteristics between Male and Female students of GSSVMC and EMC**

Medical College	Gender	Year	Total Scores for Professionalism Characteristics Mean Value (SD)	p-value
GSSVMC	Male (n=76)	III	175.50 (13.93)	0.461
		IV	171.93 (11.86)	
		V	174.90 (7.42)	
	Female (n=124)	III	173.27 (12.59)	
		IV	167.63 (11.01)	
EMC	Male (n=139)	V	178.80 (6.73)	<0.001*
		III	170.35 (13.65)	
		IV	180.29 (11.99)	
	Female (n=106)	V	197.26 (16.26)	
		III	176.51 (12.59)	
		V	183.14 (15.68)	
		V	199.04 (14.96)	

One Way ANOVA (\*=post-hoc tests are significant)

**Table 8: Respondents' opinion through open ended questions on researching what professionalism is meant to them, how it should be taught, how they learnt professionalism and how it should be assessed**

What do you mean by Professionalism?	n (%)	How Professionalisms should be Taught?	n (%)	How do you learn professionalism?	n (%)	How professionalism should be addressed?	n (%)
Opinion	n (%)	Opinion	n (%)	Opinion	n (%)	Opinion	n (%)
Positive approach to profession	163(37)	Experience	111 (25)	Experience	72 (16)	Formal Exam	174 (39)
Others	90 (20)	Education	51 (11)	Education	74 (17)	Feedback	50 (11)
Not Responded	192(43)	Role Model	118 (27)	Role Model	50 (11)	Others	29 (07)
		Others	29 (07)	Others	43 (10)	Not Responded	192 (43)
		Not Responded	136 (31)	Not Responded	206 (46)		
Total	445(100)	Total	445 (100)	Total	445 (100)	Total	445 (100)

Present study's last open ended question was on "How professionalism should be assessed?". Among our respondent (Table 8) 39% opined formal examination and 11% felt feedback; rest 50% were not clear about the issue.

## DISCUSSION

Medical doctors share a common professional standard and responsibility throughout the world although there are enormous differences in culture and healthcare backgrounds [15]. However, globally researchers, medical-educators, and all concerns' became highly apprehend about medical professionalism because of much changes in healthcare in last few decades [26-29]. The core values of professionalism have been evolved through the commonality of disease and healing process. Disease process and healing share equal pain and joy whether a community is white, brown, or black [15]. Clinical teaching is the most important part of medical education but good number of scholars concluded that professionalism is totally abandoned in many occasion. Thus medical students are not properly trained for actual patient care involvements and enthusiasms [30-32]. Although some effort were made for the conceptualized about professionalism but medical-students are not properly prepared to participate in the complex clinical settings [33, 34]. Many parts of the modern world healthcare have been much commercialised which is terrifying to damage professionalism of medical doctors [35]. A number of researchers suggested to combat

new corporate age in healthcare professionalism should be incorporated with more emphasis in the medical curriculum [36-39]. A group of medical educators believe professional development programme should be started at medical school as early as possible and should be continued throughout the course [40-43].

The present comparative study was conducted over medical students of a NGO controlled medical college and a private medical college of Year-III, IV and V of Bangladesh. The number of female students is little higher than male students, although in both the colleges coeducation system is existed. This finding is similar with other studies done in Malaysia and Bangladesh [24, 25, 44, 45]. The study respondents were from two different medical colleges with complete different study and administrative environment and obviously with different socioeconomic and traditional upbringing. Nevertheless, there was no significant difference (p=0.679) between gender in total scores of core qualities of professionalism such as honesty, accountability, respectful, responsibility, compassion, communication, maturity, self-directed learning which corresponds with similar studies [24, 25, 44, 45]. Male score (178.51) was little higher (Table 2)

than females (177.90). This finding corresponds with the study done in Southeast Asia [25] but do not correspond with other similar work done in Southeast Asia and South Asia [24, 44, 45]. There were significant ( $p<0.001$ ) differences (Table 1) between Year-III (173.39), Year-IV (175.30) and Year-V (188.84). Hence, do not correspond with the studies of Malaysia and Bangladesh [24, 25, 44, 45]. Again when compared GSSVMC (172.37) and EMC (182.95) participants, all regardless of gender there was significant ( $p<0.001$ ) differences (Table 3). Hence, EMC total mean scores of professionalism characteristics were significantly higher than that of GSSVMC. EMC administration and medical-students have recently proved their humanistic attitude through their work for disaster of Rana Plaza collapse. These two findings of Table 2 and 3 correspond with the study done in West Virginia University School of Medicine and with Bangladeshi study [45-46]. US study claims the core values of professionalism vary widely with gender, study-year and socio-cultural background [46]. There were no significant differences (Table 4) between gender of GSSVMC ( $p=0.290$ ) and EMC ( $p=0.078$ ). Again no significant ( $p=0.675$ ) differences between Year-III of GSSVMC (174.74) and EMC (173.01) but significant with Year-IV ( $p<0.001$ ) and Year-V ( $p<0.001$ ) students (Table 5). Last two findings is quite similar with one study done at Bangladesh [45, 46] but dissimilar with few other studies [24, 25, 44]. A number of studies reported as medical students get older their scores for core elements declines [47-48] but our study shows (Table 2) highest score with Year-V 188.84, and second highest (175.30) is Year-IV and lowest is Year-III (173.39). Thus our findings show higher values in core elements of professionalism with significant differences ( $p<0.001$ ). It is possible that with maturity Bangladeshi medical-students understand better regarding core elements of professionalism. Again there was no significant differences between Year-III male ( $p=0.201$ ) and female ( $p=12.583$ ) among GSSVMC and EMC. But significant differences (Table 6) observed with Year-IV male ( $p=0.001$ ) and female ( $p<0.001$ ) and also with Year-V male ( $p<0.001$ ) and female ( $p<0.001$ ). This finding corresponds with studies of Bangladesh and USA [45, 46]. GSSVMC female ( $p<0.001$ ) students among Year-III, IV, V shows (Table 7) significant difference and similarly in EMC both male ( $p<0.001$ ) and female students ( $p<0.001$ ) possess significant difference in their total scores of professionalism characteristics but males ( $p=0.201$ ) of GSSVMC shows no significant differences. This finding of current study also corresponds with the two studies of south Asia and North America [45, 46].

Less than half of our respondents of both GSSVMC and EMC were positive attitude towards professionalism and 63% either did not answer or they did not understand what professionalism is meant to them (Table 8). This finding is similar with earlier study [45], but dissimilar with the other studies [19, 24, 25, 44]. This issue can be interpreted as Bangladeshi medical students are either quite lazy to respond open ended questions or there is a possibility that they are meager in expressing their words, or they are quite shy to express their inner feelings to the teachers. Our study population regarding "How professionalism should be taught?" viewed only 27% for role model (Table 8). Regarding "How do you learn professionalism?" our study respondents select only 11% role model (Table 8). Current study findings are contrary to many studies as those researchers believe academic faculty members plays as best role model for learning professionalism [25, 36, 40, 43, 47, 49-55]. Our respondents may be were not much aware how role model plays great influence in society for learning. Regarding role model present study has some similarity with some Malaysian work [24, 25, 44] but quite dissimilar with another study conducted in Bangladesh [45]. Present study's last open ended question was on "How professionalism should be assessed?". The findings were (Table 8) quite similar with other studies [24, 25, 44] but dissimilar with one earlier study in Bangladesh [45].

Throughout a doctor's career s/he prescribes drugs in numerous times. But irrational drug prescribing is a global unprofessional behaviour [56, 57]. According to the World Health Organizations' report almost 50% of the medicines are globally used irrationally [58]. Moreover, Bangladeshi medicine market is flooded with very high number of formulations as like of neighboring country India [59]. Increase number of formulation and me to drug actually promotes poly-pharmacy, irrational prescribing and also promotes adverse drug reaction all over the world [60, 61, 62]. Researchers

suggested for such unprofessional behaviour there should be new policy to stop unnecessary drug prescribing to safeguard the mankind [63]. Educational interventions are suggested to rectify such unprofessional behaviours of doctors [64]. Society expects physicians should deliver responsibilities with a very high standard. Patients and their relatives cannot accept any unprofessional behaviour from medical doctors including irrational prescribing. A good number of researchers in this regard recommend the fulfillment of the physician's responsibilities to their patients, to the society, and to the profession, formal teaching of professionalism must be included in the course outline of each and every medical school [39, 65-68]. Thus "Accreditation Council for Graduate Medical Education" recommended incorporation of professionalism in undergraduate medical curriculum [69, 70].

This is a cross sectional study, thus it has its own limitations and just provides a snapshot of Bangladeshi medical students' view about professionalism.

## CONCLUSIONS

At many occasions this study has similar findings with other studies. Some differences were observed in core professionalism characteristics. Especially total mean scores of EMC students were significantly higher ( $p<0.001$ ) than GSSVMC. About 50% of medical students did not respond properly to the open-ended questions. Our study populations probably were not aware of medical professionalism. The country should start state-sponsored well designed prospective research on professionalism in public medical colleges. Therefore, professionalism could be incorporate in undergraduate and postgraduate medical course curriculum of Bangladesh. Henceforth, the country will have better and rational prescriber for the common marginalised people of Bangladesh and rest of the world.

## DISCLAIMER

Authors are extremely grateful to those medical students of GSSVMC and EMC who took the trouble to participate in the study. There was no conflict of interest and no funding obtained.

## REFERENCES

1. Rowley BD, Baldwin DC Jr, Bay RC, Karpman RR. Professionalism and professional values in orthopaedics. *Clin Orthop Relat Res* 2000; 378: 90-6. doi: <http://dx.doi.org/10.1097/00003086-200009000-00015> (Accessed on 05/06/2013)
2. Wilensky HL. The Professionalization of Everyone? *Amer J Sociol* 1964; 70 (2): 137-58 doi: <http://dx.doi.org/10.1086/223790> (Accessed on 05/06/2013)
3. Chandratilake M, McAleer S, Gibson J, Roff S. Medical professionalism: what does the public think? *Clin Med* 2010; 10 (4): 364-9. doi: <http://dx.doi.org/10.7861/clinmedicine.10-4-364> (Accessed on 05/06/2013)
4. Cruess SR, Johnston S, Cruess RL. "Profession": A working definition for Medical Educators. *Teach Learn Med* 2004; 16 (1): 74-6. doi: [http://dx.doi.org/10.1207/s15328015tlm1601\\_15](http://dx.doi.org/10.1207/s15328015tlm1601_15) (Accessed on 05/06/2013)
5. Freidson E. *Professionalism: The Third Logic*. Chicago IL: University of Chicago Press; 2001.
6. Stern DT, Frohna AZ, Gruppen LD. The prediction of professional behaviour. *Med Educ* 2005; 39 (1): 75-82. doi: <http://dx.doi.org/10.1111/j.1365-2929.2004.02035.x> (Accessed on 05/06/2013)
7. Masella RS. Renewing Professionalism in Dental Education: Overcoming the Market Environment. *J Dent Educ* 2007; 71 (2): 205-16. PMID: 17314381 (Accessed on 05/06/2013)
8. Passi V, Doug M, Peile E, Thistlethwaite J, Johnson N. Developing medical professionalism in future doctors: a systematic review. *Int J Med Educ* 2010; 1: 19-29. doi: <http://dx.doi.org/10.5116/ijme.4bda.ca2a> (Accessed on 05/06/2013)
9. Francis CK. Professionalism and the medical student. *Ann Intern Med* 2004; 141 (9): 735-6. doi: <http://dx.doi.org/10.7326/0003-4819-141-9-200411020-00020> (Accessed on 05/06/2013)
10. Sullivan WM. *Work and integrity: the crisis and promise of professionalism in America*. 2nd ed. San Francisco: Jossey-Bass; 2005.

11. Bhugra D, Gupta S. Medical professionalism in psychiatry. *Adv Psychiat Treat* 2010; 16 (1): 10-13. doi: <http://dx.doi.org/10.1192/apt.bp.108.005892> (Accessed on 05/06/2013)
12. Woolf AD. How to achieve and enhance professionalism in rheumatology. *Best Pract Res Clin Rheumatol* 2009; 23 (2): 127-44. doi: <http://dx.doi.org/10.1016/j.berh.2009.03.002>. (Accessed on 05/06/2013)
13. Working party of the Royal College of Physicians. Doctors in society. Medical professionalism in a changing world. *Clin Med* 2005; 5 (6, Suppl 1): S5-40. (Accessed on 05/06/2013)
14. Chiu CH, Lu HY, Arrigo LG, Wei CJ, Tsai D. A Professionalism Survey of Medical Students in Taiwan. *J Exp Clin Med* 2010; 2 (1): 35-42. doi: [http://dx.doi.org/10.1016/S1878-3317\(10\)60006-X](http://dx.doi.org/10.1016/S1878-3317(10)60006-X) (Accessed on 05/06/2013)
15. Arnold L, Stern DT. What is medical professionalism? In: Stern DT. *Measuring Medical Professionalism*. New York: Oxford University Press; 2006.
16. Sullivan WM. Medicine under threat: professionalism and professional identity. *Can Med Assoc J* 2000; 162 (5): 673-5.
17. Cruess SR, Cruess RL. Professionalism: a contract between medicine and society. *Can Med Assoc J* 2000; 162 (5): 668-9.
18. Deptula P, Chun MB. A Literature Review of Professionalism in Surgical Education: Suggested Components for Development of a Curriculum. *J Surg Educ* 2013; 70 (3): 408-22. doi: <http://dx.doi.org/10.1016/j.jsurg.2012.11.007> (Accessed on 05/06/2013)
19. Swick HM. Toward a normative definition of medical professionalism. *Acad Med* 2000; 75 (6): 612-6. doi: <http://dx.doi.org/10.1097/00001888-200006000-00010> (Accessed on 11/04/2013)
20. Barry D, Cyran E, Anderson RJ. Common issues in medical professionalism: room to grow. *Am J Med* 2000; 108 (2): 136-42. doi: [http://dx.doi.org/10.1016/S0002-9343\(99\)00405-2](http://dx.doi.org/10.1016/S0002-9343(99)00405-2) (Accessed on 05/06/2013)
21. DeRosa GP. Professionalism and virtues. *Clin Orthop Relat Res* 2006; 449: 28-33. doi: <http://dx.doi.org/10.1097/01.blo.0000224025.03658.a2> (Accessed on 05/06/2013)
22. Sullivan WM. *Work and Integrity: The Crisis and Promise of Professionalism in America*. New York: Harper Collins; 1995.
23. Centre for Medical Education. *Curriculum for Under-graduate Medical Education in Bangladesh 2002*. Mohakhali, Dhaka 1212, Bangladesh.
24. Salam A, Song CO, Mazlan NF, Hassin H, Lee LS, Abdullah MH. Professionalism of Future Medical Professionals in Universiti Kebangsaan Malaysia (UKM) Medical Centre. *Int Med J* 2012a; 19 (3): 224-8.
25. Salam A, Song CO, Mazlan NF, Hassin H, Lee LS, Abdullah MH. A pilot study on professionalism of future medical professionals in Universiti Kebangsaan Malaysia (UKM) Medical Centre. *Procedia - Social and Behavioral Sciences* 2012b; 60: 534-40. <http://dx.doi.org/10.1016/j.sbspro.2012.09.419> (Accessed on 02/02/2013)
26. Calman K. The profession of medicine. *BMJ* 1994; 309 (6962): 1140-3. doi: <http://dx.doi.org/10.1136/bmj.309.6962.1140> (Accessed on 05/06/2013)
27. Cruess SR, Cruess RL. Professionalism must be taught. *BMJ* 1997; 315 (7123): 1674-7. doi: <http://dx.doi.org/10.1136/bmj.315.7123.1674> (Accessed on 05/06/2013)
28. Irvine D. The performance of doctors: the new professionalism. *Lancet* 1999; 353 (9159): 1174-7. doi: [http://dx.doi.org/10.1016/S0140-6736\(99\)91160-1](http://dx.doi.org/10.1016/S0140-6736(99)91160-1) (Accessed on 05/06/2013)
29. Medical Professionalism Project. Medical Professionalism in the new millennium: a physician's charter. *Lancet* 2002; 359 (9305): 520-2. doi: [http://dx.doi.org/10.1016/S0140-6736\(02\)07684-5](http://dx.doi.org/10.1016/S0140-6736(02)07684-5) (Accessed on 05/06/2013)
30. Coulehan J. Viewpoint: Today's professionalism: engaging the mind but not the heart. *Acad Med* 2005; 80 (10): 892-8. doi: <http://dx.doi.org/10.1097/00001888-200510000-00004> (Accessed on 05/06/2013)
31. Whitcomb ME. Medical professionalism: can it be taught? *Acad Med* 2005; 80 (10): 883-4. doi: <http://dx.doi.org/10.1097/00001888-200510000-00001> (Accessed on 05/06/2013)
32. Huddle TS, Accreditation Council for Graduate Medical Education (ACGME). Viewpoint: teaching professionalism: is medical morality a competency? *Acad Med* 2005; 80 (10): 885-91. doi: <http://dx.doi.org/10.1097/00001888-200510000-00002> (Accessed on 05/06/2013)
33. Ginsburg S, Kachan N, Lingard L. Before the white coat: perceptions of professional lapses in the pre-clerkships. *Med Educ* 2005; 39 (1): 12-9. doi: <http://dx.doi.org/10.1111/j.1365-2929.2004.02028.x> (Accessed on 05/06/2013)
34. Wear D, Kuczewski MG. The professionalism movement: can we pause? *Am J Bioeth* 2004; 4 (2): 1-10. doi: <http://dx.doi.org/10.1162/152651604323097600> (Accessed on 05/06/2013)
35. Sullivan WM. What is the left of Professionalism after managed care? *Hastings Center Rep* 1999; 29 (2): 7-13. doi: <http://dx.doi.org/10.2307/3528344> (Accessed on 05/06/2013)
36. Reynolds PP. Reaffirming Professionalism through the Education Community. *Ann Intern Med* 1994; 120 (7): 609-14. doi: <http://dx.doi.org/10.7326/0003-4819-120-7-199404010-00013> (Accessed on 05/06/2013)
37. Hensel WA, Dickey NW. Teaching professionalism: passing the torch. *Acad Med* 1998; 73 (8): 865-70. doi: <http://dx.doi.org/10.1097/00001888-199808000-00011> (Accessed on 05/06/2013)
38. Relman AS. Education to defend professional values in the new corporate age. *Acad Med* 1998; 73 (12): 1229-33. doi: <http://dx.doi.org/10.1097/00001888-199812000-00010> (Accessed on 05/06/2013)
39. Swick HM, Szenas P, Danoff D, Whitcomb ME. Teaching Professionalism in Undergraduate Medical Education. *JAMA* 1999; 282 (9): 830-2. doi: <http://dx.doi.org/10.1001/jama.282.9.830> (Accessed on 29/05/2013)
40. Kenny NP, Mann KV, MacLeod H. Role modelling in physicians' professional formation: reconsidering an essential but untapped educational strategy. *Acad Med* 2003; 78 (12): 1203-10. doi: <http://dx.doi.org/10.1097/00001888-200312000-00002> (Accessed on 05/06/2013)
41. Gordon J. Fostering students' personal and professional development in medicine: a new framework for PPD. *Med Educ* 2003; 37 (4): 341-9. doi: <http://dx.doi.org/10.1046/j.1365-2923.2003.01470.x> (Accessed on 30/05/2013)
42. Veloski JJ, Fields SK, Boex JR, Blank LL. Measuring professionalism: a review of studies with instruments reported in the literature between 1982 and 2002. *Acad Med* 2005; 80 (4): 366-70. doi: <http://dx.doi.org/10.1097/00001888-200504000-00014> (Accessed on 05/06/2013)
43. Goldie J, Dowie A, Cotton P, Morrison J. Teaching professionalism in the early years of a medical curriculum: a qualitative study. *Med Educ* 2007; 41 (6): 610-7. doi: <http://dx.doi.org/10.1111/j.1365-2923.2007.02772.x> (Accessed on 30/05/2013)
44. Salam A, Yousuf R, Islam MZ, Yesmin F, Helali AM, Alattraqchi AG, Rao USM and Haque M. Professionalism of future medical professionals in Universiti Sultan Zainal Abidin, Malaysia. *Bangladesh J Pharmacol* 2013a; 8 (2): 124-30. doi: <http://dx.doi.org/10.3329/bjpv.v8i2.14158> (Accessed on 05/06/2013)
45. Salam A, Islam MZ, Helali AM, Yousuf R, Yesmin F, Alattraqchi AG, Rao USM and Haque M. Comparative Study of Professionalism of Future Medical Professionals among Three Private Medical Colleges of Bangladesh. *Asian J Pharm Clin Res* 2013b; 6(3): 170-9.
46. Nath C, Schmidt R, Gunel E. Perceptions of professionalism vary most with educational rank and age. *J Dent Educ* 2006; 70 (8): 825-34. PMID: 16896085 (Accessed on 05/06/2013)
47. Brown D, Ferrill MJ, Lloyd L. The taxonomy of professionalism: reframing the academic pursuit of professional development. *Am J Pharm Educ* 2009; 73 (4): Article 68. doi: <http://dx.doi.org/10.5688/aj730468> (Accessed on 05/06/2013)
48. Duke LJ, Kennedy WK, McDuffie CH, Miller MS, Sheffield MC, Chisholm MA. Student attitudes, values and beliefs regarding professionalism. *Am J Pharm Educ* 2005; 69 (5): Article 104. doi: <http://dx.doi.org/10.5688/aj6905104> (Accessed on 10/04/2013)
49. Hultman CS, Connolly A, Halvorson EG, Rowland P, Meyers MO, Mayer DC, et al. Get on your boots: preparing fourth-year medical

- students for a career in surgery, using a focused curriculum to teach the competency of professionalism. *J Surg Res* 2012; 177 (2): 217-23. doi: <http://dx.doi.org/10.1016/j.jss.2012.06.019> (Accessed on 05/04/2013)
50. Cruess RL, Cruess SR, Steinert Y. Teaching Medical Professionalism. Print Publication Press; 2008.
  51. Wright SM, Kern DE, Kolodner K, Howard DM, Brancati FL. Attributes of excellent attending-physician role models. *N Engl J Med* 1998; 339 (27): 1986-93. doi: <http://dx.doi.org/10.1056/NEJM199812313392706> (Accessed on 01/02/2013)
  52. Paice E, Heard S, Moss F. How important are role models in making good doctors? *BMJ* 2002; 325 (7366): 707-10. doi: <http://dx.doi.org/10.1136/bmj.325.7366.707> (Accessed on 01/02/2013)
  53. Yazigi A, Nasr M, Sleilaty G, Nemr E. Clinical teachers as role models: perceptions of interns and residents in a Lebanese medical school. *Med Educ* 2006; 40 (7): 654-61. doi: <http://dx.doi.org/10.1111/j.1365-2929.2006.02502.x> (Accessed on 01/02/2013)
  54. Salam A, Rabeya Y, Harlina HS, Mohammad N. Professionalism in medical education: A review. *Eubios J Asian Int Bioeth* 2010; 20: 250-1.
  55. Côté L, Leclère H. How clinical teachers perceive the doctor-patient relationship and themselves as role models. *Acad Med* 2000; 75 (11): 1117-24. doi: <http://dx.doi.org/10.1097/00001888-200011000-00020> (Accessed on 05/06/2013)
  56. Hogerzeil HV. Promoting rational prescribing: an international perspective. *Br J Clin Pharmacol* 1995; 39 (1): 1-6. doi: <http://dx.doi.org/10.1111/j.1365-2125.1995.tb04402.x> (Accessed on 05/06/2013)
  57. Schwartz RK, Soumerai SB, Avorn J. Physician motivations for nonscientific drug prescribing. *Soc Sci Med* 1989; 28 (6): 577-82. doi: [http://dx.doi.org/10.1016/0277-9536\(89\)90252-9](http://dx.doi.org/10.1016/0277-9536(89)90252-9) (Accessed on 05/06/2013)
  58. Media Centre. Promoting rational use of medicines saves lives and money, WHO experts say. 29 March 2004, Geneva. Available from: URL: <http://www.who.int/mediacentre/news/notes/2004/np9/en/> (Accessed on 05/06/2013)
  59. Patel V, Vaidya R, Naik D, Borker P. Irrational Drug Use in India: A Prescription Survey from Goa. *J Postgrad Med*. 2005; 51 (1): 9-12. PMID: 15793331 (Accessed on 05/06/2013)
  60. Isenalumhe AE, Oviawe O. Polypharmacy: its cost burden and barrier to medical care in a drug-oriented health care system. *Int J Health Serv* 1988; 18 (2): 335-42. doi: <http://dx.doi.org/10.2190/W0VC-V1BW-WU54-CPQ5> (Accessed on 05/06/2013)
  61. Anderson DN. A comparison of in-patient and out-patient prescribing. *Br J Psychiatry* 1989; 154: 644-9. doi: <http://dx.doi.org/10.1192/bjp.154.5.644> (Accessed on 05/06/2013)
  62. Raut A, Pawar A, Pankaj M, Srivastava P, Mishra A. Clinical pattern and severity of cutaneous adverse drug reactions. *Int J Pharm Pharm Sci* 2013; 5 (2, suppl 2): 612-6. <http://www.ijppsjournal.com/Vol5Suppl2/6802.pdf> (Accessed on 05/06/2013)
  63. Zaidi S, Nishtar NA. Rational prescription & use: a snapshot of the evidence from Pakistan and emerging concerns. *Int J Pharm Pharm Sci* 2013; 5 (1, suppl 1): 131-5. <http://www.ijppsjournal.com/Vol5Suppl1/6277.pdf> (Accessed on 05/06/2013)
  64. Ito H, Koyama A, Higuchi T. Polypharmacy and excessive dosing: psychiatrists' perceptions of antipsychotic drug prescription. *Br J Psychiatry* 2005; 187: 243-7. doi: <http://dx.doi.org/10.1192/bjp.187.3.243> (Accessed on 05/06/2013)
  65. Hilton SR, Slotnick HB. Proto-professionalism: how professionalism occurs across the continuum of medical education. *Med Educ* 2005; 39 (1): 58-65. doi: <http://dx.doi.org/10.1111/j.1365-2929.2004.02033.x> (Accessed on 01/03/2013)
  66. Irvine D. *The Doctor's Tale*. Oxford: Radcliffe Medical Press; 2003.
  67. Cruess RL, Cruess SR. Teaching medicine as a profession in the service of healing. *Acad Med* 1997; 72 (11): 941-52. doi: <http://dx.doi.org/10.1097/00001888-199711000-00009> (Accessed on 07/04/2013)
  68. Mueller PS. Incorporating professionalism into medical education: the Mayo Clinic experience. *Keio J Med* 2009; 58 (3): 133-43. doi: <http://dx.doi.org/10.2302/kjm.58.133> (Accessed on 05/06/2013)
  69. Leach DC. Professionalism: the formation of physicians. *Am J Bioeth* 2004; 4 (2): 11-2. doi: <http://dx.doi.org/10.1162/152651604323097619> (Accessed on 05/06/2013)
  70. Batalden P, Leach D, Swing S, Dreyfus H, Dreyfus S. General competencies and accreditation in graduate medical education. *Health Aff*. 2002; 21 (5): 103-11. doi: <http://dx.doi.org/10.1377/hlthaff.21.5.103> (Accessed on 05/06/2013)