

Research Article

How does the new developed curriculum affect the perception of medical graduates at King Abdulaziz University about professionalism?

Basem S. Eldeek^{1,2}, Naif A. Alghamdi³, Sarah S. Alghamdi⁴, Logain G. Alghanemi⁵,
Wael H. Almaghthawi⁵, Lana Al Shawwa¹, Nasra Ayoub^{1,2*}

¹Medical Education Department, Faculty of Medicine, King Abdulaziz University, Jeddah; ²Faculty of Medicine, Mansoura University, Egypt; ³Internal Medicine Department Demonstrator, ⁴Pathology Department Demonstrator, ⁵Medical Intern, Faculty of Medicine, King Abdulaziz University, Jeddah, Saudi Arabia

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*Correspondence:

Dr. Nasra Ayoub,

E-mail: nasraayoub@gmail.com

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ABSTRACT

Background: In 2007 Faculty of Medicine (FOM), King Abdulaziz University (KAU) reoriented the medical curriculum and integrated professionalism. This study was conducted to assess the perception of professionalism attitudes by medical graduates who graduated from the new curriculum that incorporated the professionalism module and compare it to those who did not.

Methods: This cross sectional study was conducted at the teaching hospital of the FOM, KAU using a modified version of the well-constructed questionnaire designed to assess the student's attitudes toward professionalism was distributed to all interns in the academic year of 2013-2014. Statistical analysis was carried out using Statistical Package of Social Science (SPSS) version 16.

Results: Higher mean scores with significant differences in all aspects of professionalism were observed in interns graduated from the new curriculum when compared to those of the old one and was previously reported by Eldeek et al., (2012). The importance of adhering to high ethical and moral behavior and the need of humanity in the efficacy of the medical practice were the most significant attributes with effect size of 0.64 and 0.58 respectively. Studying in the clinical years represented the first helpful source of the participant to develop their perception about professionalism.

Conclusion: The new developed curriculum at the FOM succeeded to improve the graduate perception about professionalism.

Keywords: Medical curriculum-perception-interns-King Abdulaziz University-professionalism

INTRODUCTION

Medical students' professional development is an essential aim of any medical school.¹ Because medical professionalism concept carries so many connotations and implied meanings, most of the debate and discussion in the literature has been centered on arriving at a definition of medical professionalism.² Epstein and Hundert suggested that professionalism is "the habitual and judicious use of communication, knowledge,

technical skills, clinical reasoning, emotions, values, and reflection in daily practice for the benefit of the individuals and communities being served".³ This definition was critiqued for being abstract by Wear and Kuczewski.⁴ However, what was agreed upon by most of the literature is that medical professionalism does aspire altruism, duty, excellence, accountability, honour and integrity, and respect for others.¹

Nowadays, there is an emerging body of evidence linking professional intrinsic motivation and ethical basis to the effective delivery of health care.⁵ Moreover, professionalism has been linked with better patient satisfaction and lofty clinical outcomes.⁵ In fact, Wofford *et al.*, reported that most of the patient's complaints are about doctors' behaviour, not their lack of knowledge.⁶ These findings emphasized the need to ensure competence in professional behaviours and communication skills. Therefore, embedding professionalism in medical curricula has been of an enormous interest in medical education.⁷

Promoting professionalism needs expectations, experiences and evaluation.⁵ Assessment of professionalism conceptualization can serve in guiding the development of relevant and effective curricular improvements.⁸ Currently, there are many attempts to develop meaningful methods to measure professionalism.⁹ It is indeed a challenging task and some described this notion as 'measuring the immeasurable'.¹⁰ In the contrary, other researchers concluded that assessing professionalism is as important as the assessment of history taking and clinical examination. The proposed means of assessment come in many forms, including self or peer evaluation, written examinations, clinical simulations and assessment by supervising clinicians. Unfortunately, each of these, in isolation, has strengths and intrinsic flaws.¹¹

In 1999 KAU Faculty of Medicine (FOM) undertook a major reform of its 6-year undergraduate program curriculum. It established a task force to work on developing a strategic plan to implement a new undergraduate integrated system based curriculum that emphasizes active and self-directed learning. In 2007 KAU-FOM reoriented the medical curriculum from a teacher-centered model of teaching to a student-centered model of learning. Didactic lectures and structured classroom time were decreased.¹² When it came to professionalism, KAU realized its importance to be represented in the curriculum thus related objectives were introduced in phase 1 (the preclinical years: year 2 and 3) and phase 2 (clinical years: 4, 5, 6th years). This introduction was in alignment with introducing the early clinical experience and communication skills module, and the medical ethics module. The former is introduced in the third year and is the first practical exposure to medical professional behaviours. Last but not least, medical ethics module is presented to fourth year student in interactive problem solving scenarios and case discussion sessions. This module gives the students the ability to acquire the required professional skills and attitudes in different medical settings. Therefore, this study was conducted to assess the perception of professionalism attitudes by medical graduates who graduated from the new curriculum that incorporated the professionalism module and compare it to those who did not. This should shed light on the effectiveness of the added professionalism module and suggest ways to improve it. This will also help other medical schools that

are looking into incorporating professionalism and did not achieve this yet.

METHODS

This cross sectional study was conducted at King Abdulaziz University Hospital (KAUH), the teaching hospital of the FOM, KA), Jeddah, Saudi Arabia, in the academic year of 2013-2014. Our sample was 128 graduates in total. We used a modified version of the well-constructed questionnaire designed by Blue *et al.*⁸

The original Questioner designed by Blue *et al.* included 21 items reflecting the student's attitudes toward professionalism.⁸ There are many professionalism attributes, which was discussed in the literatures. We used Swick's definition for professionalism because it is a normative definition that accounts for a physician's actions individually and collectively and is based on behaviour.⁸ Five out of nine of Swick's attributes of professionalism were subjected to face validity testing for being reasonable expectations of medical student behaviour.⁸ These attributes included subordinating self-interest, ethical and moral values, humanistic values, accountability and self-reflection. In addition to the original 21 items, another 12 items were added to this study to collect demographic data and to evaluate the different sources of education and professionalism. To improve the content validity, the pre-final form of the survey tool was evaluated by five senior members from clinical departments. To improve the face validity of the survey tool, a pilot study was conducted among 23 interns. Modification, rephrasing and eliminating of some items were done in the light of the results of the pilot study. The final version of the questioner was distributed manually to 128 graduates and they were asked to rate each item on a Likert scale of five points from 'strongly agree' to 'strongly disagree'.

Statistical analysis was carried out using Statistical Package of Social Science (SPSS) version 16 (SPSS Inc., Chicago, Illinois, USA). Some of the data was found to be nonparametric using the Kolmogorov–Smirnov test. The Mann–Whitney U-test was used to compare the rate of response of male and female interns and the significance value was considered at P less than 0.05. The data was expressed as mean and standard deviation (SD). The percentage of the mean of each item was calculated by dividing the mean by the maximum score of the Likert scale. The mean of each item for all interns was arranged in a descending order to determine the items with the highest and the lowest rank. The factorial structure of the questionnaire used was done in the previous study.¹²

Effect size was calculated according to Cohen to measure the pre-/post-program differences in means in term of standard deviation units.¹³ The effect size was considered 'small' if it fall between (0.20 - 0.50), 'medium' between (0.50 - 0.80) and it was considered 'large' at 0.80 or higher. At p value less than 0.05, it was considered significant.

RESULTS

It was observed that the highest and lowest ranked attributes of professionalism were similar in before and after the implementation of the new curriculum. Adhering to high ethical and moral behaviour was the first and most important attribute of professionalism in medical practice which accounted for 67.9% of the maximum score for both male and female interns. This was followed by the need of humanity in the efficacy of the medical practice which accounted for 73.9% of the maximum score. Finally, the importance of adhering to high ethical and moral standards all the time not just working with patient with a mean level of 4.48 ± 0.63 and accounting for 54.9% of the maximum score was reported in this study. It was interesting to find that the participants considered other set of behaviour as the least important among the professional ones. Those included second guessing where a 55.4% of interns

believed that a physician should almost never doubt or second guess their decision. Another behaviour that came next was related to patients needs in small rural towns where 31% of the interns believed that in small rural towns the patients' need must be secondary to the long term financial future of the health care system. Finally, 48.8% of participants believed that reporting clinical errors of a fellow physician only undermines the public confidence in the medical profession.

The results also showed higher mean scores with significant differences in all aspects of professionalism when compared to those previously reported by Eldeek *et al.*¹² The need of humanity in the efficacy of the medical practice showed the highest difference in mean scores. Furthermore, the statement that considered adhering to high ethical and moral behaviour the most important attribute of professionalism was considered second (Table 1).

Table 1: Effect of implementation of new curriculum on professional behavior of medical graduate.

Behavior	Before new curriculum Mean±SD (*)	After new curriculum Mean±SD (*)	P value	Cohen'd	Effect size
Ranked highest					
Adhering to high ethical and moral behavior is the first and the most important attribute of professionalism in medical practice	3.59±0.75 (89.7)	4.66±0.49 (67.9)	P<.001	1.66	0.64
To be affective physician one must first be humanistic	3.54±0.89 (88.7)	4.66±0.63 (73.9)	P<0.001	1.45	0.58
As a student it's important to adhere to high ethical and moral standards all the time not just working with patient	3.64±1.02 (91)	4.48±0.63 (54.9)	P<0.001	0.99	0.44
Ranked lowest					
A physician should almost never doubt or second guess their decision	1.47±1 (36.7)	1.12±0.77 (55.4)	P<0.001	0.39	0.19
In small rural towns the patient need must be secondary to the long term financial future of the health care system	1.28±1.01 (32)	1.12±0.92 (31)	P<0.001	0.16	0.08
Reporting the clinical errors of a fellow physician only undermines the public confidence in the medical profession	1.41±1.21 (35.5)	1.41±0.92 (48.8)	P<0.001	0.009	0.004

* % of mean from the maximum)

Significance is considered at P<0.05

Effect size was calculated to measure the before/after-new curriculum implementation differences in means in term of standard deviation units. The statements that showed large effect size and significant differences when

compared to Eldeek *et al.*,¹² were the importance of adhering to high ethical and moral behaviour and the need of humanity in the efficacy of the medical practice with effect size of 0.64 and 0.58 respectively (Table 1).

In addition this study investigated the effect of integrating professionalism in both the preclinical and clinical years on medical graduate’s ideas regarding the sources considered helpful in developing their opinions in professionalism. The participants reported first “studying in the clinical years”, then “working with consultants and specialist and senior interns at the hospital”, and third working with hospital staff as helpful sources in developing their perception about professionalism with

mean scores 4.14±.84, 4.08±0.95 and 4.01±.97, respectively (Table 2). All the sources showed statistical differences and higher means when compared to those reported by Eldeek *et al.*¹² “Studying during clinical years” was considered helpful in establishing opinions of professionalism and showed the highest difference. “Courses as a helpful source of professionalism” came second while “studying during basic years” was reported third (Table 2).

Table 2: Effect of implementation of new curriculum on medical graduate perception of towards the source of professionalism.

Sources	Before the new curriculum Mean±SD (*)	After the new curriculum Mean ± SD (*)	P value	Cohen’s d	Effect size
studying during the clinical years helped me establish my opinion about professionalism	3±.97(75)	4.14±.84	P<0.001	1.25	0.53
working with consultants and specialist and senior residents at the hospital helped me to develop my opinion about professionalism	3.14+.82(78.3)	4.08 ±.95	P<0.001	1.059	0.46
working with hospital staff helped me develop my opinions about professionalism	3.1±.82(77.5)	4.01±.97	P<0.001	1.03	0.45
I developed my opinion about professionalism from teaching staff from clinical years	2.9±.94(72.5)	3.89±.997	P<0.001	1.03	.46
I developed my opinion about professionalism after working with colleagues	2.92±1.12(73)	3.87±.91	P<0.001	.90	.41
Special courses helped me develop my opinion about professionalism	2.71±1.12(54.2)	3.79±.99	P<0.001	0.97	0.43
teaching staff in basic years helped me develop my opinion about professionalism	1.84±1.25(46)	2.56±1.07	P<0.001	0.61	0.29
I developed my opinion about professionalism during basic years	1.27±1.1(31.7)	2.3 ±1.02	P<0.001	0.97	0.43

* % of mean from the maximum)

Significance is considered at P<0.05

The results also showed significant positive correlation between the grade point average (GPA) and the importance of subordinating the physician’s needs to the needs of the patient, willingness to sacrifice the physician’s happiness to the needs of the patient and the paramount of showing respect to colleagues and staff. On the other hand, considering reporting clinical errors of a fellow as undermining the public confidence in a physician showed negative correlation with the GPA (Table 3).

Table 3: Correlation coefficient between some professional behaviour and GPA.

The professional behavior	r	p
The practice of medicine requires that the physician subordinates his or her personal needs to the needs of the patient.	0.246	0.001

Reporting the clinical errors of a fellow physician only undermines the public confidence in the medical profession	-0.191	0.010
Your willingness to sacrifice your own personal happiness to the needs of the patient is paramount to the practice of medicine	0.281	0.001
Showing respect for your colleagues and staff is as important as showing respects for your patients.	0.208	0.005

DISCUSSION

Recently there is growing body of evidence indicating that professionalism produces tangible measurable results and could be the reason for a shift in attitude. Now it is clearly known that professionalism results in better patient satisfaction and outcomes, is associated with better clinical proficiency in interns, and predicts the incidence of

misconduct and malpractice litigation in future clinical practice.^{5,15} The frequency of medical errors in the Kingdom of Saudi Arabia was reported to be on the rise.¹⁴ There are a limited number of studies in the literature regarding professionalism among new medical graduates in kingdom of Saudi Arabia and this study is considered one of the first and few quantitative studies that conducted in one of the largest teaching hospital in Saudi Arabia. This study was conducted to assess the attitudes of students who graduated from the new developed curriculum that incorporated the professionalism module and compare it to those who graduated from the traditional curriculum. The need for such a study was significant in the light of some recent studies at the University of Dammam, Saudi Arabia, a qualitative study conducted by Adkoli.¹⁵ This study revealed that medical students admitted are deficient in information on the acquisition of professional values. According to the study, professionalism was neither taught nor assessed.¹⁴ The previous study conducted by *Eldeek et al.*, to assess the level of professionalism of interns graduated from the old curriculum at King Abdulaziz University Hospital.¹² Their study revealed that interns' perception of all aspects of professionalism had a low mean score. These findings were attributed to the lacking of any specific courses targeting the medical ethics and professional behaviours. This was remedied on the development of the new integrated curriculum that included a medical ethics course.¹²

Most of the graduates believed that adhering to high ethical and moral behaviour was the first and the most important attribute of professionalism in medical practice interns also believed in the need of humanity value for the medical practice to be effective. It is interesting to note that even though the highest ranked attributes were similar in both before and after implantation of the new curriculum higher mean scores with significant differences in all aspects of professionalism when compared to the previous study. This can be clearly attributed to the effect of incorporating the professionalism module into the new integrated. Other attribute could be the effect of social media in the recent years and the ability of students to observe and share media clips that show unprofessional behaviours. It would be interesting to study the effect of social media on improving the students' professional and ethical values.

Looking at reporting malpractice and medical errors, this study found that interns at KAUH showed an increased positive attitude when compared to the study conducted by *Eldeek et al.*,¹² and surprisingly in contrast to the result of *Des Roches et al.*,¹⁶ and *Al Safi*.¹⁷ The latter studies found that interns tend to ignore reporting a fellow physician because of the fear of repercussions and the beliefs of lack of obligation. The increased positive attitude might be attributed to the added professionalism part. One might also argue that the differences between the results of this part of the study and the studies of both *Des Roches*¹⁶ and *Alsafi*¹⁷ might be attributed to the religious beliefs of the interns but this cannot explain the

increased positive attitude that was found when compared to *Eldeek et al.*¹² An interesting finding of this study is that it showed that the ideas of medical graduates from KAUH about professionalism are formed from studying in the clinical years, then working with consultants and specialist and senior interns at the hospital, and third working with hospital staff. In contrast to the previous study¹² which revealed that sources of professionalism came from the clinical setting, both by input from seniors and by that from peers. The fact that the newly graduates values were obtained from formal teaching was one of main objective of the new integrated curriculum, which can be controlled, assessed and evaluated according to the needs rather than being influenced by hospital doctors and staff which might serves as hidden curriculum that is somewhat subjective and can be difficult to assess and evaluated. This does mean that the collateral learning obtained through interacting with faculty members, peers and hospital staff should be marginalized. On the contrary this requires that the faculty of Medicine at KAU improve the professionalism and ethical values of its members. There is a great need of faculty development programs that foster a culture of professionalism of KAU members. In the study of *Eldeek et al.*,¹² the preclinical years were found to have a low influence of teaching professionalism. This study revealed that there is an increased influence of the preclinical years as a source of professionalism even though it is still ranked the lowest among the other sources. This might be attributed to the ethical parts embedded in the problem based learning which is a mode of teaching in the preclinical new curriculum. This study showed significant positive correlation between the GPA and the importance of subordinating the physician's needs to the needs of the patient, willingness to sacrifice the physician's happiness to the needs of the patient and the paramount of showing respect to colleagues and staff. On the other hand, considering reporting clinical errors of a fellow as undermining the public confidence in a physician showed negative correlation with the GPA. This strong positive relation might suggest that there is significant association between academic excellence and professionalism, which should be explored more in future, studies.

Limitation of the study: This cross sectional study did not evaluate the students' perception of professionalism at medical school entry, which might be performed in a future longitudinal study in order to have a solid base for comparison. Additional tools, for example qualitative focus group discussions and the knowledge test score will be used in future studies.

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