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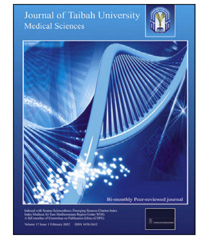

Original Article

Importance of faculty role modelling for teaching professionalism to medical students: Individual versus institutional responsibility

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الملخص

أهداف البحث: تستكشف هذه الدراسة تصورات طلاب السنة النهائية من كلية الطب وأعضاء هيئة التدريس السريريين حول نموذج يحتذى به في تدريس المهنية الطبية.

طرق البحث: في هذه الدراسة البحثية النوعية، استخدمنا نموذج نظرية البنائية الأساسية. وتم إجراء ست مقابلات شبه منظمة مع أعضاء هيئة التدريس من ست تخصصات سريرية وثلاث مناقشات جماعية مركزة مع ٢٢ طالبا في السنة النهائية. لقد طبقنا ترميزا مركّزا وانتقائيا جنبا إلى جنب مع تحليل موضوعي للموضوع لتطوير فئة أساسية. وهذا هو الجزء الأول من دراسة أكبر تتناول تأثير نموذج الدور الإيجابي على تدريس المهنية الطبية.

النتائج: تظهر هذه الدراسة إجماعا على أن نموذج الدور الإيجابي هو أهم استراتيجية لتدريس المهنية الطبية لطلاب الطب. كانت النتيجة المزعجة هي تدهور مستوى نموذج الدور الإيجابي الملهم. تمت الإشارة إلى الافتقار إلى الدعم المؤسسي وضعف الرقابة التنظيمية كعوامل محتملة تسهم في هذا التدهور.

الاستنتاجات: تم العثور على نموذج الدور الإيجابي ليكون أكثر الطرق فاعلية لتعليم المهنية الطبية لطلاب الطب. ومع ذلك، لا يمكن أن تكون فاعلة حقا ما لم تلعب المؤسسات أدوارها المحورية في تعزيز ثقافة المهنية الطبية. يمكن تحقيق ذلك من خلال التعرف على نماذج الأدوار الواعية والصريحة وتسهيلها من قبل كلية الطب. يمكن أن تلعب الرقابة التنظيمية الفاعلة من قبل الجهات المعنية دورا مهما في هذا الصدد.

الكلمات المفتاحية: كلية السريرية؛ طلاب الطب؛ المهنية الطبية؛ نمذجة الدور؛ تعليم

Abstract

Objective: This study explores the perceptions of final year medical students and clinical faculty with regard to role modelling in teaching professionalism.

Methods: In this qualitative research design, we used the Constructivist Grounded Theory model. Six semi-structured interviews with faculty from six clinical specialties and three focus group discussions with 22 final year students were conducted. We applied initial, focused and selective coding along with a thematic analysis of the subject to develop a core category. This is the first part of a larger study that addresses the impact of positive role modelling on teaching professionalism. Findings relevant to negative role modelling are being reported in a subsequent paper.

Results: The results showed consensus that positive role modelling is the most important strategy for teaching professionalism to medical students. A disturbing finding was a perceived deteriorating level of inspirational positive role modelling. A lack of institutional support and weak regulatory control were pointed out as potential factors contributing towards this deterioration.

Conclusion: Positive role modelling was found to be the most effective way to teach professionalism to medical students. However, it cannot be truly effective unless institutions play their role which is pivotal in promoting a culture of professionalism. This can be materialized by recognizing and facilitating conscientious and explicit role modelling by the medical faculty. In addition, an effective regulatory control by the concerned authorities could play an important role.

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Keywords: Clinical faculty; Medical students; Professionalism; Role modelling; Teaching

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Introduction

Medicine is a profession that is granted considerable autonomy and privileges and in return, society expects them to be professionally competent, have integrity, and provide altruistic services.[1] The Royal College of Physicians[2] defined medical professionalism as 'a set of values, behaviours, and relationships that underpin the trust the public has in doctors'. Inculcating professionalism in future generations of healthcare professionals is one of the prime responsibilities of medical educators and traditionally role modelling has been used informally for such purposes.[3] A role model is described as an individual who is held in esteem and emulated by someone who aspires to the role or position that the role model occupies.[4] As a strategy, role modelling not only helps faculty demonstrate their clinical skills and professional attributes to their students but also enables them to model the experts' ways of thinking and reasoning.[5] Birden et al.[6] found role modelling to be one of the most effective key elements to teach professionalism and a growing body of literature worldwide now focuses on doctor role modelling and its importance in the professional development of learners.[7–10]

There is growing concern worldwide as well as in Pakistan that medical professionalism is on the decline, which can have serious implications for patient care.[11–14] Lack of positive role models could also be one of the reasons for deteriorating professionalism amongst health professionals.[13,15,16] Although including professionalism in the taught curriculum and role modelling are among the strategies used for inculcating professionalism in students, the latter remains under-exploited for this purpose.[15,16]

The Pakistan Medical and Dental Council (PM&DC), the regulatory authority now replaced by the Pakistan Medical Commission (PMC) (https://www.pmc.gov.pk), also emphasised that doctors should use instruction and role modelling to instil professional values in students and includes being a 'role model' in its list of attributes expected of a doctor.[17,18] However, there is a lack of evidence regarding how much importance is actually accorded to role modelling by all stakeholders throughout the country.

There is a gap in the literature relating to the impact of faculty role modelling on the teaching of professionalism to medical students in the context of Pakistan. This study explored the perceptions of medical students and clinical faculty members about the importance of faculty role modelling in the development of professionalism in medical students in Pakistan. It also explored faculty members' perceptions regarding whether positive role models can be developed or not.

Materials and Methods

Study design

This was an exploratory study based on Constructivist Grounded Theory (CGT) consisting of a systematic approach to qualitative inquiry that explores social phenomena through the development of theoretical explanations that are grounded in the data.[19] The theoretical perspective underlying this study is social constructionism, that is, knowledge and meaning is socially constructed through interaction between the researcher and research participants and the world around them within a social context.[20] Ontology (study of being) is relativism, implying that there exist multiple realities depending on individuals' experiences and how they interpret these, and the epistemological position (theory of knowledge) is that reality is subjective, depending on how individuals interpret their experiences.[21]

Participants and sampling

Purposeful sampling was used for participant recruitment to select information-rich cases for an in-depth study of the phenomenon.[22] Thus, six consultant faculty members from six clinical specialties, namely paediatrics, surgery, obstetrics and gynaecology (O&G), internal medicine, gastroenterology, and nephrology were recruited for semi-structured interviews. Two were recruited because of their additional qualifications in medical education and special interest in medical professionalism. The varied backgrounds of faculty with a wide range of experience provided rich data and also contributed to diversity. Final year students are divided into different batches for clinical rotation to different departments. Faculty members were extended an invitation to participate by phone while student batches doing rotation in the O&G department were invited before or after their tutorials. For the focus group discussions (FGDs), 22 volunteer students from different batches were assigned to three focus groups. There were eight participants in the first focus group and seven each in the other two groups; there was a mix of males and females, with ages ranging from 22 to 24 years. Recruitment continued iteratively until theoretical saturation, which signifies a thorough understanding of the phenomenon, was achieved with further data collection eliciting no new categories, theoretical insights, or any further properties of the identified core categories.[19]

Data collection and analysis

This study was conducted at a private medical college in Pakistan, and ethical approval was granted by the institution's ethical review committee. Six semi-structured interviews with faculty and three FGDs with students were conducted over a period of five months by the first author who, not being a member of faculty was not in a position of power with the students. A faculty member was present during the FGDs as observer; students were asked to write

down on paper if they were uncomfortable sharing anything in her presence. The participants were given information sheets and written informed consent was taken. The semi-structured interviews lasted between 60 and 85 min while focus group sessions lasted for around 170–180 min. Interviews were kept bilingual, participants were allowed to use both English and native Urdu language to allow freedom of expression. The discussions were audio-recorded and interviews transcribed verbatim. Electronic data was held on a password protected computer and safely stored on an external hard-drive and as a hard copy on paper.

The data were analysed concurrently with data collection with initial, focused, and selective coding, and constant comparison, using the CGT approach.[23] Following preliminary analysis of the initial interviews, dominant themes were returned for discussion in subsequent interviews and FGDs. Initial coding meant breaking down data analytically into codes and categories while during focused coding most significant or frequent codes were chosen to 'sort, synthesise and analyse large amounts of data'.[19] Conceptual memos were written throughout and thematically analysed to organise the data systematically into categories and subcategories (see supplementary file). During selective coding, all categories were unified around central 'core' categories representing the central phenomenon of the study.

As a criterion for quality of a qualitative research, trustworthiness was ensured by the following steps: triangulation of data and participants to establish credibility; maintaining a personal research journal with memo writing to maintain an audit trail for establishing dependability; and regular reflective journaling to achieve reflexivity, which is a common method used to identify, articulate, and consider factors that might influence research.[24]

Results

Though this study addressed both positive and negative role modelling, this article reports the findings relevant to positive role modelling only; those relevant to negative role modelling are being reported in a subsequent paper. Participants were asked to share their perceptions about attributes and potential impacts of role models on students in terms of developing their professionalism along with their experiences of positive and negative role models. Faculty participants' perceptions were explored regarding whether and how can role models be developed (see supplementary file). Role modelling was considered to be the most effective strategy for teaching professionalism, however, participants highlighted certain other factors which can influence the impact of role modelling. Examples of participant quotes for main categories and subcategories are provided. Table 1 shows examples of how codes were assigned to raw data, followed by focused coding and selective coding.

Attributes and impacts of positive role models

The observed traits shared by most of the participants were proper 'patient–doctor interaction'; clinical skills; dedication to students; being considerate of and respectful towards patients, students and colleagues; and 'giving motivational talks'. Some of the traits which many participants adopted after observing role models were punctuality, 'being polite', humility, empathy, ensuring confidentiality, and inspiring trust in patients. However, according to the student participants, the attributes which they valued and appreciated most were 'enthusiasm for job', 'integrity', 'honesty', and 'doing as one says'. Half of the faculty members and the majority of students emphasised that the most important aspect of role modelling was consistency in displaying these traits.

When asked about personal experiences, all faculty members recalled their positive role models with high regard and affection and attributed their positive traits to such teachers. Interestingly, in response to the same question, students exchanged sarcastic giggles and made comments like, 'This (positive role modelling) is not common here'. However, such responses from some were contested by others and after initial momentary cynicism everyone shared several examples of the positive traits displayed by many teachers.

When sharing their feelings for role models, participants made comments like, 'It was a tremendous experience' (S3G1) (C1); 'You feel enthusiastic' (S1G2); 'You become motivated'; 'You want to pursue this career. You want to be like that person' (S3G2). The identifiers used for the quotes

Table 1: Generating Codes from Data.

Raw Data	Initial Codes	Focused Codes	Selective Code
Faculty member: (C1) ' … developing their (students') professionalism (…) beyond certain limits for certain people which is not supported by your administration. (…) (is not possible). So, role modelling is also not easy. I think, faculty clinical … don't get the support'.	Role modelling not supported by administration. 'Clinical faculty don't get support'	Supporting faculty role models	Institution has a pivotal role
Faculty: (C2) 'Support structure (for faculty role models) is important'.	Support structure	-ditto-	-ditto-
Student: 'We have less rules. We need more rules'. … 'Those (rules) are implemented selectively and there is no consistency in checking as well'.	'We need more rules'	Ensuring monitoring and accountability	
	'Rules – implemented selectively'		-ditto-

of consultant faculty members are C1 up to C6. Similarly, the identifiers used for the students are S1G1, S1G2, and so on; therefore, S1G1 stands for Student 1 from Focus group 1.

Positive role modelling – the most effective way to teach professionalism

There was consensus among all the participants that role modelling was the most effective way for final year students to develop professionalism.

> 'I think, that's the only way to (...) perhaps develop professionalism in undergraduate students. I say so, because of the Behavioural Sciences subject that we introduced in University [name] ... the longitudinal effect, when we tried to measure it, we found out that no matter what you teach the students ... but (...) the moment they hit the wall they see what .... their seniors are doing. ... Because, then you try to adopt the norms and (...) the values of the immediate community of practice around you. So, unless and until you have right kind of role models who act what they are actually (...) preaching (...) there is no way that you ... will be able to inculcate professionalism in students' (C2).

Similarly, a student stated that ' ... they (teachers) are the only ones who can tell us'. (S2G3). One student in the first group commented that the importance of role modelling on a scale of 1–10 is 9.99 or 10; all other participants strongly endorsed her comment. One student in the third group emphasised and others agreed that it should be mandatory for faculty to role model all the attributes which *they expect their students to display* in their professional lives.

Other factors impacting role modelling

When asked who else is responsible for developing their professionalism, most students spontaneously replied, 'Wechange to open quotes' ... 'Teachers can only guide us' (S4G1), thus also acknowledging their own responsibility. Interestingly all faculty members and many students also stated that despite positive role modelling, not all students reflect a positive influence for various reasons. Half of the faculty members and one focus group participant also emphasised that being a perfect role model is rare, 'No one can be perfect' and one must 'pick up the good habits of seniors and make [them] your own' (C3). Most participants also stated that parents, schools, media, institutions, wider community of practice (CoP), the PM&DC, society in general, and government also shared the responsibility. Most of these aspects are being addressed in further detail in the other article, while the role of PM&DC and medical institutions in the context of faculty role modelling for teaching professionalism is being reported here.

Regulatory authority can facilitate role modelling

It was strongly highlighted by a faculty member that PM&DC did not effectively play its role as a regulatory authority, which promotes unprofessional behaviour in institutions and in a wider CoP. 'PM&DC doesn't know when your license expires .... Licensing renewal keeps you on your toes ... they (PM&DC) should send notices for renewal' (C3). 'Monitoring ... will help in professional development (of CoP)' (C2). It was stated by a faculty member that it is important to share uniform standards.

Professional institutions have a pivotal role

This emerged as one of the most important themes, highlighting the vital role institutions play in context of faculty role modelling. The following roles and responsibilities of institutions were brought up as major subthemes.

Supporting role models

Half of the faculty members emphasised the need for support from senior institutional management for faculty role models. A faculty member cited an incident about how he did not receive a favourable response when he reported persistent unprofessional behaviour of a student to management. He felt discouraged and upset by this lack of support.

Ensuring monitoring and accountability

Half of the faculty members and all the students believed that having a clear code of conduct was very important for ensuring high standards of professionalism. Some students noted and all the rest agreed that although they were all given rules by the institution, selective implementation and inconsistent monitoring meant that these were not taken seriously and thus few followed the rules. This in turn promoted unprofessional behaviour in the students making them liable to a breach in discipline. They emphasised that monitoring and accountability of students and faculty could help promote a culture of professionalism.

Developing role models

Thirty-three per cent of faculty members who happened to be more senior than others were against having formal programmes for developing role models and considered such initiatives to be artificial. However, the remainder were strong proponents and suggested methods such as workshops, common lectures, and inviting role models to share their experiences to inspire others. The participants with additional qualifications in medical education highlighted that this exposure strongly influenced them and sensitised them to become conscious role models. One participant declared that 'I was role modelling earlier as well, but now I do it more consciously' (C1), while the other highlighted that this 'Awareness allows intrinsic accountability' (C2).

Providing curriculum for teaching professionalism

Students are taught 'Behavioural Sciences' during third year which covers some aspects of professionalism. Though generally it was considered as 'merely a subject' by the majority, most admitted that it had made them more aware of positive and negative professional behaviours. When comparing the impact of role modelling to it being part of the

curriculum for teaching professionalism, role models were unanimously considered to be much more important and impactful. Students made comments like, ‘Observation impacts you more’ (S5G1) and ‘Actions speak louder than words’ (S5G3).

Among faculty, all except two senior members were strong proponents of including it as a separate subject within the taught curriculum. The senior members considered it sufficient to incorporate it informally within routine teaching sessions.

Discussion

This study explored the importance of clinical faculty role modelling for teaching professionalism to final year medical students in the context of Pakistan and whether faculty can be developed into positive role models. It was found that role modelling was considered by faculty and students alike as the most effective way to teach medical professionalism. Faculty members attributed their positive traits to the role models they were exposed to in their student life further highlighting the strong influence of role modelling. A recent study was conducted to determine the effectiveness of formal professionalism training in a medical college in Pakistan using strategies like mentoring, lectures, case-based scenarios, and small group and workplace teaching sessions, however, students considered role modelling to be the most effective method in developing professionalism.[25] The findings of our study are in accordance with most of the current literature where positive role modelling has consistently been identified as one of the most effective key elements for teaching professionalism.[6,7,9,10] This study expands on their findings providing a perspective from countries like Pakistan where the education of health professionals and the healthcare system still face many challenges including resource constraints.

In terms of attributes demonstrated by effective role models, the findings of this study are similar to others from Pakistan and across the globe highlighting three overarching groups of attributes: high standards in both clinical competence and teaching skills, and a set of personal qualities and traits.[7,26] However, the most inspiring traits which distinguished role models from the rest of faculty were *consistency* of behaviour, integrity, sincerity, and enthusiasm for the job. A regional study addressing traits of role models describes professionalism as a fourth category of attributes in addition to those mentioned above, perhaps representing conceptual and contextual variations.[27]

Although most students acknowledged that most of their teachers displayed various combinations of the aforementioned traits, disturbingly, there was a perceived dearth of *inspiring* role models currently as reported by all the participants except one faculty member.

Probing such aspects helped us understand some factors which could enhance or undermine the impact of role models on teaching professionalism to medical students, such as the roles of students and institutions as well as the influences of negative role modelling, community of practice, and wider society. The pivotal role of the institution was one of the most important emergent themes and is being reported here. It was highlighted that lack of institutional support demotivates and discourages faculty, therefore, role models need to be recognized, supported, and facilitated by institutions in order to encourage faculty to adopt role modelling in an institutional framework rather than on an individual ad hoc basis. The above findings endorse the proposition by many authors who also highlighted the importance of institutions, arguing that professionalism should be adopted by institutions with integration of a culture of professionalism involving all stakeholders.[7,15,16,28]

The curriculum for medical institutions consists of three types – formal, informal, and hidden; role models are believed to ‘function in all three’.[16(p.719)] The provision of an effective curriculum for teaching professionalism was stated as another prime responsibility of institutions as students acknowledged that studying the elements of professionalism in Behavioural Sciences made them more sensitised and aware. These findings thus endorse Khan[25] who also found professionalism in the curriculum to have a positive impact in a medical college in Pakistan. Professionalism is now a part of the formal curriculum in many countries around the globe providing a ‘cognitive base’ for its shared understanding.[29(p.16)] PM&DC however, has been slow in embracing the change; the term professionalism was officially included for the first time in its revised curriculum in 2011 when it endorsed the inclusion of professionalism as a subject in the curriculum.[18] This revised curriculum has been criticized for being inadequate in terms of its guidance about teaching and assessment of ethics and professionalism.[30] However, lack of consensus regarding what professionalism means to different institutions, countries, and cultures, and even the challenges it poses for teaching and assessment, remains a global concern.[31,32]

There was a strong emphasis on the need for institutions to have a robust code of conduct and a consistent system of monitoring and accountability for faculty and students, lack of which was believed to promote unprofessional behaviour. The importance of PM&DC to act as a more effective regulatory authority was also highlighted in ensuring uniform standards nationwide. PM&DC has faced criticism over the years due to various reasons including politicization, lack of effective regulatory control over institutions, and its involvement in some controversial steps.[33,34] It is apparently in light of these controversies and in efforts to introduce reforms that government recently dissolved PM&DC and replaced it with PMC.[35]

This study also highlighted the importance of having targeted faculty development programmes (FDPs) for developing role models to acquaint faculty with details of the professional attributes which are desirable and to encourage their conscientious and explicit role modelling. It was acknowledged that it is not realistic to expect all teachers to possess and display a uniform set of professional behaviours consistently, however, at least some basic attributes should be agreed upon, taught, and learned, using methods like workshops and motivational talks by real life role models. Interestingly these suggestions came from junior faculty who

attend frequent FDPs and from those with additional qualifications in medical education which apparently had sensitised them to become more conscious about role models, thus building a case for potential effectiveness of FDPs. Sternszus and Cruess[10] emphasised that making role modelling an explicit process could facilitate the process of learning from role models. The FDPS are known to improve academic performance of faculty which in turn helps enhance knowledge and skills of learners.[36] A need for effective programmes specifically for developing excellence in role modelling has been highlighted by many authors.[7,15,16,37] Over the last few years PM&DC introduced many positive changes including making medical education departments mandatory for institutions and making courses in medical education compulsory for career progression, a step which also has its critics.[34] Vigorous FDPs for enhancing knowledge and imparting clinical and teaching *skills* are now regularly conducted across the country.

As an interesting contrast to the rest of the participants, the more senior faculty members considered FDPs to be mechanical and artificial and unnecessary in formal curriculum even though they were also strong proponents of role modelling. This observation cannot be ignored, and institutions should be careful when designing and implementing such initiatives to avoid the possibility of such perceptions. However, all the participants unanimously acknowledged that the onus is ultimately on individuals to take up and adopt only the good habits of their teachers as no one person is perfect. This aspect has also frequently been highlighted in the literature.[7,16,38]

The findings from this study suggest that social cognitive theory (SCT) provides a strong basis for understanding the impacts of role modelling.[39] This theory is based on the notion that people learn by observing others with the environment, behaviour, and cognition interacting with each other in a reciprocal manner. Thus, students learn by observing their role models while critically reflecting on it, and institutions can facilitate this learning by providing relevant curricular input and an enabling environment for all stakeholders. Due to time constraints, the data collected was insufficient to justify development of a full theory, although GT methodology was used to develop the following assertion:

Faculty role modelling is the most effective strategy for developing professionalism in students if it is used conscientiously and explicitly. However, its optimal dividends cannot be achieved unless supported and recognised by institutions which should provide an enabling environment where professionalism is promoted and positive role modelling is valued, facilitated, and institutionalized while negative role modelling is discouraged. Institutions should be provided with guidance for standardization as well as monitored for compliance at a national level.

As far as the researcher is aware this is the first study which attempted to understand the importance and impact of faculty role modelling in teaching professionalism to undergraduate medical students and developing role models in the context of Pakistan. This study expands on the findings of the existing literature and, in addition to the role of institutions, it highlights the role of the regulatory authority for ensuring dissemination of uniform curriculum and standards as well as effective monitoring and accountability across the country. This study also highlights the positive impact of exposure to medical education. These findings may help sensitise faculty to reflect on consciously adopting role modelling, and policymakers and the regulatory authority to ensure effective regulatory control and also consider taking concrete steps to implement role modelling in institutions across the country. This in turn may have a positive outcome for the students, institutions, and ultimately for patient care. Since the topic is generic, it is hoped that the findings are transferable to other health professional education institutions in Pakistan and beyond.

Limitations of the study

The scope of the study was somewhat broad thus compromising the depth of exploration for individual themes. However, the aim was to obtain a panoramic view of the issue and individual subthemes can be explored in future studies. Even though the sample size was not large due to time constraints, the participants provided insightful accounts. The findings are based on self-reporting and could not be correlated with observed behaviours. The participants were recruited from only one institution, however, repeating similar studies with more institutions and including residents could add further triangulation of participants who are more exposed to clinical faculty role modelling in real life situations with potentially stronger impacts.

Conclusions

The findings of this study suggest that role modelling is considered exceedingly important for inculcating professionalism in medical students by students and faculty alike. This has implications for improved care and patient satisfaction. A formal curriculum for teaching professionalism is also important, however, it can have lasting implications on students' behaviour only when enacted by faculty as role models. A disturbing finding from the study was a relative lack of inspiring role models currently compared to the past. To address this, institutions could play a pivotal role by creating a culture where explicit and conscientious role modelling is facilitated and implemented.

It is now time for PMC, as the successor to PM&DC, to focus on development of role models especially to cultivate professionalism which may help inculcate much needed professional *attitudes*, values, and humanistic qualities in future doctors.

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Conflict of interest

The authors have no conflict of interest to declare.

Ethical approval

Ethical Approval was granted by the Ethical Review Committee of the CMH Lahore Medical College − Lahore Pakistan. Ethical Approval − Reference number 220/ERC/CMHLMC Dated 07-09-2018.

Authors' contributions

AB conceived and designed the study, conducted research and collected, analysed, and interpreted the data and wrote the final draft of the article. IJM supervised all steps of the research and performed a critical review and editing of the final draft. Both authors have critically reviewed and approved the final draft and are responsible for the content and similarity index of the manuscript.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.jtumed.2021.06.009.

References

1. Cruess SR, Johnston S, Cruess RL. Professionalism for medicine: opportunities and obligations. **Med J Aust 2002**; 177(4): 208−211.
2. *Doctors in society: medical professionalism in a changing world; report of a working party December 2005*. London: Royal College of Physicians; 2005. Available from: https://cdn.shopify.com/s/files/1/0924/4392/files/doctors_in_society_reportweb.pdf?15745311214883953343.
3. Paice E, Heard S, Moss F. How important are role models in making good doctors? **BMJ [Internet] 2002**; 325(7366): 707−710.
4. Addis A. Role models and the politics of recognition. **U Pa L Rev 1996**; 144: 1377. 1995.
5. Irby DM. Clinical teaching and the clinical teacher. **Acad Med 1986**; 61(9): 35.
6. Birden H, Glass N, Wilson I, Harrison M, Usherwood T, Nass D. Teaching professionalism in medical education: a best evidence medical education (BEME) systematic review. BEME guide No. 25. **Med Teach 2013**; 35(7): e1252−e1266.
7. Passi V, Johnson S, Peile E, Wright S, Hafferty F, Johnson N. Doctor role modelling in medical education: BEME Guide No. 27. **Med Teach 2013**; 35(9): e1422−e1436.
8. Mirhaghi A, Moonaghi HK, Sharafi S, Zeydi AE. Role Modeling: a Precious Heritage in Medical Education/Učenje po modelu: dragoceno nasleđe u medicinskom obrazovanju. **Acta Fac Med Naissensis 2015**; 32(1): 31−42.
9. Passi V, Johnson N. The impact of positive doctor role modeling. **Med Teach 2016 Nov**; 38(11): 1139−1145.
10. Sternszus R, Cruess SR. Learning from role modelling: making the implicit explicit. **Lancet 2016**; 387(10025): 1257−1258.
11. Byyny RL. Medical professionalism in the modern era. **Pharos 2018**; 81: 2−11.
12. Khan JS, Mukhtar O, Tabasum S. Behavioural Sciences at university of health Sciences: the way forward. **J Ayub Med Coll Abbottabad 2016**; 28(1): 157−160.
13. Neumann M, Edelhäuser F, Tauschel D, Fischer MR, Wirtz M, Woopen C, et al. Empathy decline and its reasons: a systematic review of studies with medical students and residents. **Acad Med 2011**; 86(8): 996.
14. Shukr I, Roff S. Prevalence of lapses in academic integrity in two Pakistani medical colleges. **Med Teach 2015**; 37(5): 470−475.
15. Kenny NP, Mann KV, MacLeod H. Role modeling in physicians' professional formation: reconsidering an essential but untapped educational strategy. **Acad Med 2003**; 78(12): 1203−1210.
16. Cruess SR, Cruess RL, Steinert Y. Role modelling—making the most of a powerful teaching strategy. **BMJ 2008**; 336(7646): 718−721.
17. PMDC. *Code of ethics* [Internet]; 2002 [cited 2019 Oct 23]. Available from:, http://www.pmdc.org.pk/LinkClick.aspx?fileticket=v5WmQYMvhz4%3D&tabid=102&mid=554.
18. PMDC, HEC. *Curriculum of MBBS(revised)* [Internet]; 2011 [cited 2019 Oct 23]. Available from:, https://www.hec.gov.pk/english/services/universities/RevisedCurricula/Documents/2010-2011/MBBS-Draft-2010-11.pdf#search=Curriculum%20MBBS.
19. Charmaz K. *Constructing grounded theory*. 2nd ed. Thousand Oaks, CA: SAGE; 2014. p. 417.
20. Crotty M. *The foundations of social research: meaning and perspective in the research process*. SAGE; 1998. p. 257.
21. Mills J, Bonner A, Francis K. The development of constructivist grounded theory. **Int J Qual Methods 2006**; 5(1): 25−35.
22. Patton MQ. Designing qualitative studies. In: *Qualitative research & evaluation methods*. 3rd ed. Thousand Oaks, CA: Sage; 2002. pp. 209−258.
23. Saldana J. *The coding manual for qualitative researchers*. 3rd ed. Thousand Oaks, CA: SAGE; 2015. p. 369.
24. Lincoln YS, Guba EG. But is it rigorous? Trustworthiness and authenticity in naturalistic evaluation. **N Dir Eval 1986**; 1986(30): 73−84.
25. Khan MNA. The effects of teaching professionalism in a private medical college of Pakistan. **PAFMJ 2018**; 68(5): 1093−1100. Available from: https://www.pafmj.org/index.php/PAFMJ/article/view/2262.
26. Haider SI, Snead DRJ, Bari MF. Medical students' perceptions of clinical teachers as role model. **PloS One 2016**; 11(3). e0150478 [Internet] [cited 2019 Oct 8]. Available from: https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0150478.
27. Bazrafkan L, Hayat AA, Tabei SZ, Amirsalari L. Clinical teachers as positive and negative role models: an explanatory sequential mixed method design. **J Med Ethics Hist Med 2019**; 12.
28. Goldstein EA, Maestas RR, Fryer-Edwards K, Wenrich MD, Oelschlager A-MA, Baernstein A, et al. Professionalism in medical education: an institutional challenge. **Acad Med 2006**; 81(10): 871−876.
29. Cruess RL, Cruess SR. Transforming a medical curriculum to support professional identity formation. In: Byyny RL, Papadakis MA, Paauw DS, Pfiel S, editors. *Medical professionalism best practices: professionalism in the modern era*. Alpha Omega Alpha Honor Medical Society; 2017. pp. 15−31.
30. Shaikh A, Humayun N. Medical ethics in undergraduate medical education in Pakistan: towards a curricular change. In: Clark PA, editor. *Contemporary issues in bioethics*. InTech; 2012. pp. 115−130.
31. DeLoughery EP. Professionalism framings across medical schools. **J Gen Intern Med 2018 May**; 33(5): 610−611.
32. Jha V, Mclean M, Gibbs TJ, Sandars J. Medical professionalism across cultures: a challenge for medicine and medical education. **Med Teach 2015**; 37(1): 74−80. https://doi.org/10.3109/0142159X.2014.920492.
33. Iqbal MP. What ails medical research in Pakistan? Role of institutions. **Pakistan journal of medical sciences 2015 Nov**; 31(6): 1287.

34. Baqai T. *PMDC problems and solution*; 2019 [Online] Retrieved December 29, 2019, from The News, https://www.thenews.com.pk/print/569482-pmdc-problems-and-solution.
35. PMC. *ACT NO. XXXIII OF 2O2O*; September 22, 2020 https://www.pmc.gov.pk/Documents/law/PMC-Act,2020.pdf.
36. Guraya SY, Chen S. The impact and effectiveness of faculty development program in fostering the faculty's knowledge, skills, and professional competence: a systematic review and meta-analysis. **Saudi J Biol Sci 2019 May 1**; 26(4): 688−697.
37. Mohammadi E, Shahsavari H, Mirzazadeh A, Sohrabpour AA, Hejri SM. Improving role modeling in clinical teachers: a narrative literature review. **J Adv Medical Education Professionalism 2020 Jan**; 8(1): 1.
38. Benbassat J. Role modeling in medical education: the importance of a reflective imitation. **Acad Med 2014**; 89(4): 550−554.
39. Bandura A. Social cognitive theory. In: Vasta R, editor. *Annals of child development vol 6 theories of child development*. Greenwich, Connecticut: JAI Press; 1989. pp. 1−60.

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