

To What Extent Are Medical Students Benefiting From Mentoring

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Abstract

Background: Various medical schools have developed Mentoring Programs; however, both the mentees' and mentors' prospects have been considered in few studies.

Objectives: To investigate the perceptions of mentees' and mentors' concerning their experience.

Methods: Mentors and mentees at a medical school were requested to take part in a thorough study having questions on perception difficulties and satisfaction about the mentoring program. It was a cross-sectional study based on a questionnaire.

Results: 67% of students (mentees) benefitted from mentoring. One to one mentoring was preferred by most students (82.5%). Only 68.6% of students had satisfactory contact with their tutors. Mostly academic and other personal problems were discussed during mentoring. Only a small number of students (18%) pronounced to have no hindrances in interacting with mentors, whereas other students blamed commitment by students (6%) / lack of

interest from mentor (15%), and time limitations (24%) as obstacles. It was suggested by the students to give them the ability to select their own mentors and tackle the above constraints. Mentors' contentment and difficulties are deeply related to students' participation in the activity. The mentors believe that changes noticed in students were more related to their life concerns; for some mentors, there is no appreciation or perception of the program. Nonetheless, many mentors acknowledge the significant differences about themselves: as individuals, faculty members, and tutors.

Conclusion: Attendance is essential for both the mentoring relationship and the amplification of the program. Mentors are motivated in curriculum development and teaching due to students' involvement in the activity; thus, a virtuous circle is created, leading to benefit the whole undergraduate medical education system.

Key words: Mentorship; Mentor; Mentee; Medical Students; Curriculum Development

Introduction

A vital tool for a flourishing career in medicine is mentoring. Mentoring has evolved consistently as a practice and concept for facilitating healthcare professionals since the 1970s, introduced formally in medical education during the late 1990s(1) Standing Committee on Postgraduate Medical [and Dental] Education (SCOPME) has defined mentoring as 'A process whereby an experienced, highly regarded, empathetic person (the mentor) guides another (usually younger) individual (the mentee) in the development and reexamination of their ideas, learning, and personal and professional development. The mentor, who often (but not necessarily) works in the same organization or field as the mentee, achieves this by 'listening or talking in confidence to the mentee'.

Training in humanities makes students more humane, including the medical humanities in medical education(2,3). The immediacy and personalized learning, the chief learner relationship, has weakened in medical education. The prospects for eloquent communications have decreased among many students in academic environments as has the disintegration of knowledge. The interactive relationship in medical schools in the present era is characterised by heavy competition among colleagues and the distance between students and teachers(4,5). These consequences have reinvigorated the progress of Mentoring Programs in various medical schools(1,6–9). Compassion, empathy, philanthropy, and sympathy are effective skills that are desirable in medical students and doctors. Due to strain and whims of our higher educational system, all these characteristics are too often underdeveloped(3,10–14). Unrealistic and extreme parental expectations, panic of getting ragged, humiliating teachers, solitude, extensive syllabus with nominal time for relaxation, and the cloud of other issues make first-year medical school problematic for many students(15–19). A sympathetic foundation will facilitate students to deal with stress in a better way; this is the prime objective for promoting the mentoring programs (10–13).

As a friend, helper, and a role model, a mentor can assist, as a more knowledgeable individual, to the professional and individual progression of a fresh medical student by delivering orientation and support(17,18). Mentoring includes a longstanding association between a senior individual (mentor) who directs and encourages a junior one (mentee); in this case, a medical student, during the complete phase of schooling and coaching. The objective of mentoring is to inspire the student to obtain his/her full aptitude by sharing experience and information and providing emotional encouragement and sustenance. It has been found that mentoring escalates the academic achievement of students(20,21). This association benefits mentors as well, by way of increased output, gratification in the job, and self-satisfaction(22–24). Some reports showed mentors' problems in collaborating with students and occasionally reported the mentors' observations of their personal growth(11). However, a publication by Stenfors-Hayes et al. at the Karolinska Institute Teaching Hospital on the Mentoring program investigated from the

mentors' perspective found it was gratifying to be a mentor for most respondents(25). Mentoring developed their relationship with the students fostering an impression on their ethics and practices.

The Mentoring system is in practice in most of the medical colleges around the world. Still, the analysis of how far this mentoring helped the students achieve their targets in Saudi Arabia is not much known. Although it is recognized that a successful career in medicine depends on mentoring, the studies corresponding to mentoring included barely any from Abha, in the Aseer region of Saudi Arabia. Hence, the current study was devised to evaluate students' opinion on the mentoring program and its effect on them.

Materials and Methods

Comprehensive qualitative questionnaires are an imperative tool for creating exhaustive data on issues like education, complex social issues, and behavior by investigating the researchers' viewpoints regarding the meaning of life experiences. Generally, the questionnaires are poorly designed, and include only a few issues. The investigator is required to be exposed to the perceptions and variables that arise instinctively, and provide the questionnaire to the participants for extracting meaning from the data(26–28).

The present study was a cross-sectional study based on a questionnaire conducted at the College of Medicine, King Khalid University, from June 2018 to May 2019. The students studying Bachelor of Medicine, Bachelor of Surgery (MBBS) program were anonymously and voluntarily involved. These students had experienced the mentorship program during their MBBS studying period. The institute had a formal mentoring program for all MBBS undergraduate students (1st semester to 9th semester). A maximum of 20 students were distributed to each teacher. The first week of every month was scheduled for a formal meeting between the mentors and the mentees. Apart from this, the students can meet their mentors whenever needed, which is an informal meeting.

The questionnaire was prepared using survey monkey web site and the link forwarded to all the students by SMS, WhatsApp and email to fill out the questionnaire online and paper copies were also distributed to the students. Adequate time was given to fill it in. The questionnaire consists of the details of demography and questions to evaluate students' perception about the mentoring program and how far they have benefitted from it. Open-ended questions were also included in the questionnaire, like, in which aspects they benefitted and any suggestions/changes they need in the present mentoring program. Ethical authorization from the local ethical committee was obtained before distributing the questionnaire to the students, and the purpose of the questionnaire was clearly explained to them.

The collected data was fed into the Microsoft excel sheet 2010 version. The analysis was done, and the results were expressed in percentages for categorical variables and mean for continuous variables.

Results

The present study included 238 MBBS students; out of these, 162 (68.07%) had responded and filled out the questionnaire. A total of 106 (65.43%) males and 56 (34.57%) females took part in the study. The mean age of the pupils expressed as mean ± SD was 21.64 ± 2.73 years.

Out of 10 mentoring sessions conducted, 33.33% of students had attended all the sessions, whereas, 15.68% have not attended any session. 34.52% attended less than 5 sessions, and 16.47% attended more than 5 sessions. The average number of sessions attended by the students was 5.39 %.

Regarding the type of mentoring (One to one / Group / both) they were exposed to, the majority of them (82.5 %) stated that they were exposed to one to one mentoring, and 12.5% to group mentoring. The remaining students stated that they were exposed to both (Figure 1).

More than half of the students (67%) declared that they benefitted from the mentoring sessions, whereas the remaining students (33%) did not. Among the benefitted students, 68 % stated it as personal, 14.8 % as academic, and 17.2 % as personal and academic.

Most of the students (88.7%) preferred to have mentoring through personal meetings and the remaining preferred through phone (2.3 %), email (1.4 %), and WhatsApp (7.6 %). The contact with mentor was deemed adequate by 88.6% of students, and the rest (11.4%) did not have adequate contact with mentor. 65.8% were proactive during the sessions.

The barriers in communicating with the mentor are specified in Table 1. Some students (22.6%) said that there were no difficulties in collaborating with the mentor for them, and some specified the combination of reasons.

The majority of the students (57.8%) opined that the goal of mentoring was to enhance professionalism and assist students in their personal development. Some students had opted to help in career development, and few opined for the research studies' support.

Regarding the mentors, the results of their personal interview and the questionnaire filled in by them are summarized in Tables 2 and 3. The study's outcome indicates that only 22.73 % of mentors were satisfied with the overall mentoring program. Concerning the number of students allotted to each mentor they were well contented. About 81.82 % of the mentors were disappointed by the response of the students to the mentoring program. Most of the students do not turn up for the meetings, and they needed repeated reminders to attend the meeting. Some of the mentees turned up for the counseling after calling them over the phone during the session.

About 60% of the mentors formed a WhatsApp group, including all their mentees, and frequently chatted over the app. Notice for the counseling sessions was given through this group. Some of the students confirm the notice's receipt and their willingness to attend whereas others just neglected to. About 3-4 announcements had to be made before conducting a successful meeting.

Table 1: Barriers expressed by mentees in communicating with the mentor (Single option only)

Barrier	Number of students: N = 238 (%)
Tried but couldn't meet	18 (7.56)
Time constraints	24 (10.08)
Mentor was disinterested	15 (6.30)
I did not commit to the program	6 (2.52)
Was unaware of the program	67 (28.15)
Mentor allotted not known	66 (27.73)
Combination of the above reasons	24 (10.08)
No barriers	18 (7.56)

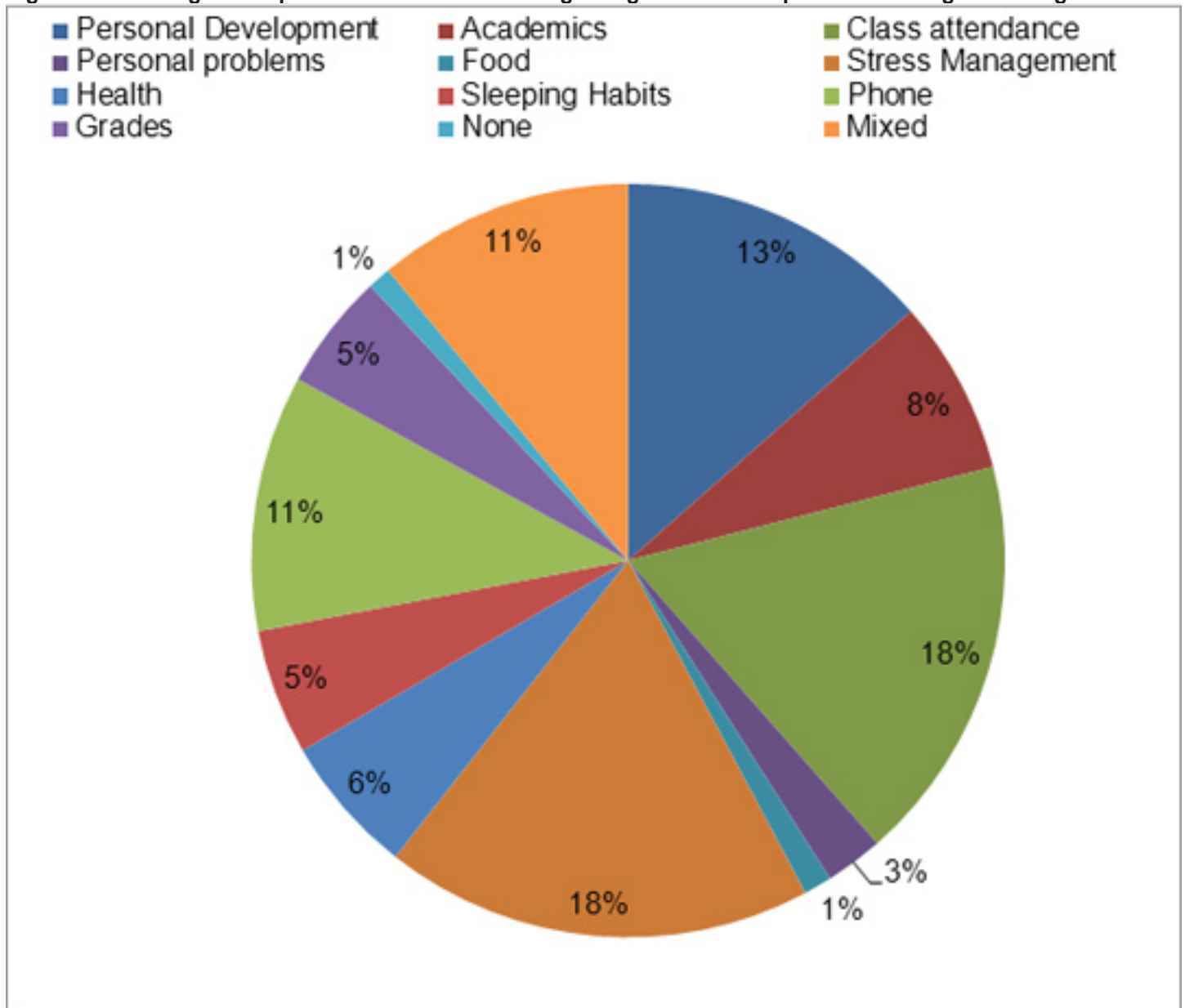
Table 2: Barriers expressed by mentors in communicating with the mentees (Multiple options allowed)

Barrier	Number of teachers: N = 22 (%)
Difficulty in convincing the students to attend the meeting	22 (100)
Time constraints	11 (50)
Most of the Mentees were disinterested	22 (100)
Meetings arranged but none attended	20 (90.9)
Combination of the above reasons	22 (100)
No barriers	0 (0)

Table 3: Showing the opinion of the teachers (N=22) regarding the mentoring program

Sl	Question	Response	Opinion of the mentors (%)
1	Satisfied with the mentoring program	Yes	5 (22.73)
		No	15 (68.18)
2	Adequate students allotted	Yes	20 (90.91)
		No	2 (9.09)
3	Overall response of the students	Good	4 (18.18)
		Bad	18 (81.82)
4	Preferred Type of Mentoring	One-to-one	19 (86.36)
		Group	3 (13.64)
5	Ideal mode of Mentoring (Multiple answers allowed)	Personal Meetings	22 (100.00)
		Email	7 (31.82)
		Phone	12 (54.55)
		WhatsApp	9(40.91)
		Other	0 (0.00)
6	Do you thinkthat mentoring is a good idea	Yes	21 (95.45)
		No	1 (4.55)
7	Should two or more mentors be involved in the same group of menteesto enhance the mentoring program.	Yes	16 (72.73)
		No	6 (27.27)
8	Skills developed in the mentee as a result of the program? (More than one answer)		
	a. Communication skills / listening		9 (40.91)
	b. Reading / preparation for the exam		11 (50.00)
	c. Writing (performance)		8 (36.36)
	d. Improved scores		13 (59.09)
	e. Better class attendance		15 (68.18)
	f. None		10 (45.45)
9	Drawbacks about the program (More than one answer)		
	a. Lack of commitment from both sides		10 (45.45)
	b. Lack of interaction		18 (81.82)
	c. Lack of time		12 (54.55)
	d. Lack of information with the students about the program		20 (90.91)
	e. Unplanned program guidelines		17 (77.27)
	f. Students were unaware about their allotted mentors		22 (100.00)

Figure 1: Showing the response from the students regarding their various problems during mentoring



Discussion

Mentor is a term that originated from the Greek classic story, The Odyssey, in which King Odysseus seeks help from a trustworthy friend named Mentor to guide his son named Telemachus when he was departing for another country to fight a war. Mentoring is derived from the Greek word, which means enduring. Mentoring is a long term association between the mentee and mentor benefitting the mentor, and mentee as well as the society by bringing out the best medical graduate who can take care of the community. It has been shown that mentoring is necessary for career development and the achievement of clinical and research skills.

According to Scott, professional mentoring relationships are for the sake of career counseling and assistance with interpersonal challenges(29). There are five dimensions of mentoring, according to Scott:

- 1) Mentoring relationship involves a more senior mentor and a less experienced mentee.
- 2) Mentoring consists of 3 emotions: emotional support, career assistance, and role modeling.
- 3) Both mentor and mentee will benefit from this process.
- 4) Successful mentorship requires personal interaction and exchange between the two parties.
- 5) A mentor has a more powerful position and broader experience within an organization.

Although mentoring in Medical schools is gaining popularity and is running successfully in western universities, it is still lagging behind in the globe's eastern part. As seen in our study, we had a feeble response to our mentoring sessions. A low number of students attended the mentoring sessions in our institute, which is negligible, though we had informed the students about the mentoring sessions' benefits and outcomes. Hence, we feel that the mentors have increased responsibility in this region to impress the students who attend the mentoring sessions and bring out successful results among the students who regularly attend the mentoring

The mentor should tame the mentee in such a manner that the student who regularly attends the mentoring sessions improves and tops his academic performance, is psychologically sound, socially motivated, performs well in sports, and other academic and extracurricular activities. Additionally, the students who are regularly in contact with the mentor during the mentoring sessions and in one-to-one communication have a good rapport with other classmates and various teachers. Looking into the improvements in the students who are regularly in touch with their mentor and who exhibit excellent performance, will instigate more and more students to take up the mentoring activities.

Further, in our mentoring program, one-to-one mentoring, considered to be more effective in motivating the students in improving their personality, failed to a great degree, most probably due to distance and gap between the students and the teachers. This lacuna is basically due to the pupil feeling shy to approach his / her mentor, perhaps due to their fear of getting scolded by the teacher or losing marks in the exam if their weakness is exposed. In such a case, the mentor should approach his mentees and increase friendly relationships to relieve the students from any type of fear from their mind.

The mentee's opinion regarding the mentoring program was not satisfactory as per the statistics of this questionnaire. This inadequacy in the mentoring program's overall success at our institute can be attributed to the flawed attitude of the mentors, probably due to lack of experience and familiarity dealing with the personal and academic issues faced by the mentees. Hence, the mentors need excessive training and know-how to tame students psychologically and emotionally, and to motivate them to take more and more mentoring sessions. The major constraint expressed by the students (Table 1) was lack of time to approach the teacher, and who for most of the occasions, was not available for discussion with the mentee. A lower rate of achievement of this program in our institute can be attributed to the development of a negative impression about mentoring that neither helps in developing the professionalism nor in supporting students in their personal development. There is an urgent need that the students should be taken out of this dilemma and a clear cut image be exhibited to them and create such an atmosphere in the campus that more and more students are attracted to the mentoring program.

This manuscript presented a closed-ended questionnaire study of 238, MBBS students' perceptions of their experiences with mentors. Furthermore, 22 mentors were also included in the study to provide an opinion of the mentees from the mentors' point of view. The questionnaire was mostly multiple-choice questions and a few open-ended response opportunities. After analysis via Microsoft Excel, we describe responses to the various questions. Most students were mentored as one-on-one as opposed to in groups, and a little more than half of the students benefited from being mentored. In-person mentoring was preferred to telephone or electronic communications. Most students indicated that time constraints were a barrier

to meeting with a mentor while professionalism was the top named goal. This was a single-institution study that most likely has a limited impact on theory or practice for a broad TLM (teaching/learning materials) audience due to the presence of mature mentoring programs in western medical schools. A major lacuna in our study, which we observed, is that the mentoring program in the eastern countries like Saudi Arabia is not on par with those in western medical schools. Mentoring in Saudi Arabia has not been as popular as those in the UK and the US. The mentors are not well trained and mentally prepared to take up the mentoring program. On the other hand, the mentees (medical students) are also unaware of such a program's benefits, and they have not seen their seniors benefit from mentorship.

Thus, there is an urgent need to recruit such persons in these medical schools who are pioneers in mentoring the undergraduate medical students and simultaneously tame and develop a positive impression in the students' minds regarding mentorship. The mentees should be trained by taking personal interviews. These will enhance the mentoring capacity of the mentors. As done in the western countries, the teachers in the medical schools in Saudi Arabia should be trained as was done by Patrícia Lacerda Bellodi(30). In their study, in-depth qualitative interviews were conducted four years after the launch of the program. A quantitative methodology was used to interview all 80 mentors in the Mentoring Program. There were open-ended questions in interviews containing items to explore the perceptions of mentors regarding satisfaction with the mentoring program, complications, and modifications occurring from the program mentors with time. These were conducted with each mentor privately and lasted 30 to 90 minutes. Before performing each interview, the professional and personal data of the mentor (name, age, gender, specialty) was validated to create affinity. Data regarding program mentor's participation such as duration of involvement, the number of sessions organized with students and student presence was also verified. The First question of the interview was, "Are you happy as a mentor? Why?" The next question for the mentors was, "When did you feel like a mentor?" and "What kinds of difficulties have you faced as a mentor?" The next question was asked to estimate the mentors' observation regarding the changes in the mentoring program. The question was, "Have you observed any transformations in yourself, medical school, or the students because of the Mentoring Program?" The data having recorded answers to the questions during the interview was submitted for qualitative analysis. The responses having similar concepts were categorized to form specific research questions (thematic analysis) after a thorough study. The number of respondents can estimate the importance of different categories. The quotes by mentors are used to demonstrate and authenticate the findings.

The report presents that they interviewed 80 mentors, of which 24 were females and 56 males, accurately indicating the overall gender distribution in the medical school faculty. Their age lay between 30 to 60 years. There were different

medical specialties in this group, including surgery and specialties, psychiatry, ophthalmology, gynecology-obstetrics, anesthesiology, internal medicine and subspecialties, orthopedics, forensic medicine, pathology, otorhinolaryngology, pediatrics, and preventive medicine. However, there were six full professors, eighteen associate professors, forty-six teachers with doctoral degrees, and five teachers with Master's degrees regarding academic status. Most of the mentors, i.e., seventy-four out of eighty, had been a part of the program since the establishment in 2001, while six of them had recently joined the group. According to fifty-one mentors, students' attendance remained uneven over time; according to ten mentors, the devotion rate had decreased, while only five mentors had reported an increase in students' participation. Only fifteen mentors had considered students' attendance as stable. Regardless of the reported disparities in attendance, the program was deemed to be outstanding or good by sixty mentors, and seventy-four of them had shown their intention to remain in the program. Such collaboration is a necessity in the eastern countries to enhance the performance of mentoring programs. The host organization should be responsible for planning the mentoring, which supervises, supports, and administers the mentoring program. Planning for mentoring involves shaping the mentoring process, selecting and training mentors, mentee briefing, and creating an environment favorable for mentoring.

The mentoring outcomes and experiences can be enhanced by selecting experienced mentors with a proven performance history in clinical mentoring. The preparation of mentors for their responsibilities and roles enhances the mentoring effects. In nearly 63% of new US medical schools, mentors and 32% of mentoring programs in Germany had obtained formal training. The mentors can access an information pack explaining the mentorship program to participate in seminars and workshops related to mentoring in this mentoring training(31). Oelschlager et al. illustrated monthly faculty training activities containing teaching professionalism and clinical skills, sessions on mentoring, and sharing opinions to keep mentors supported and up-to-date(32).

On the other hand, planning for Mentees involves determining the clear goals of mentoring with mentors and understanding the way and frequency of communication and cooperation that will be provided. Mentee training or briefing is used to enhance the Mentee preparation. Fornari et al. found that 13 of the 14 US medical schools examined the mentees to be trained for mentoring involvement(33). The information packs of mentee training involve participation in thorough foundation courses conducted by the host organization. Preparatory, initiation, and supportive stages in the process of mentoring are part of organized mentoring programs. The structured mentoring programs involve mentor training, skills training, and orientation programs, which help the mentee prepare for their mentoring experiences and increase their sense of connectivity, advocacy, and autonomy. Structured programs define the mentor and mentees' responsibilities and roles and specify the duration, form, and frequency

of the mentoring meetings by establishing a standard of practice and social conduct. Indeed, other most important roles played by the structured mentoring programs are fostering professional identities, encouraging mentoring relationships, nurturing a mentoring culture, role modeling and longitudinal relationships, and increasing mentoring experiences for mentees and mentors by applying a coherent approach to mentoring oversight and interactions.

Undergraduate educational culture in health professions is analyzed by the Dundee Ready Educational Environment Measure (DREEM), a culturally generic and nonspecific instrument(34). DREEM has been considered trustworthy in different situations. Institutes can detect their deficiencies and articulate changes in the curriculum with the help of DREEM. Five domains can be accessed by the DREEM, a questionnaire with 50 elements. These five domains are: (i) students' perceptions for teachers with 11 items and maximum score 44 (ii) academic self-perception of students with 8 items and maximum score 32 (iii) learning perceptions of students with 12 items and maximum score 48 (iv) social self-perception of students with 7 items and maximum score 28 (v) perceptions of students about atmosphere with 12 items and maximum score 48. A 5-point Likert scale from 0-4 is used to rate each item, where 0= strongly disagree, 1= disagree, 2= unsure, 3= agree, and 4= strongly agree. Correction is made for nine negative items, including 4, 8, 9, 17, 25, 35, 39, 48, and 50 items, by reversing the scores. Thus, higher scores show dissimilarity with that item after correction has been made. The true positive points are the items with a mean score of ≥ 3.5 ; problem areas have a mean score of ≤ 2 ; aspects that require to be improved have values in between these two limits. The questionnaire has a maximum global score of 200 which is elucidated as: 151-200= excellent; 101-150 = more positive than negative; 51-100 = many problems; 0-50 = very poor. Such DREEM questionnaires are required to be implemented during the upcoming studies on mentoring in India to enhance its acceptance among the medical schools.

At this platform, let us discuss the difference in mentoring programs between Western countries and Eastern countries, especially in middle-Asia countries like India, Pakistan, Bangladesh, and Saudi Arabia. In western countries, the mentor and the mentee remain like friends, and they are closely associated with one another. This reduces the gap between the teacher and the student. Now that the mentor and the mentee are close together, the mentoring program can run smoothly and successfully. There will be minimum hindrances and problems encountering this issue, so mentoring will be easy and successful. Due to a close association between the two, the mentee can discuss personal, psychological, emotional, and academic issues without any fear or hesitation.

On the other hand, the mentor can also solve his students' problems efficiently by discussing the issue more intimately with the mentee; therefore, the mentoring program is more successful in western countries. Whereas in countries like

Saudi Arabia, there is no such close friendly and open association between the teacher and the student. The reasons for this distance between the two are many; to quote a few, the cultural atmospheres in these countries is such that most of the students are afraid of their teachers and thus fear approaching their mentor. All the students may not be scared of the teacher; instead, some of them have very high respect for their teacher. The teaching profession is presumed to be the noblest among all the professionals in these countries, which cannot be compared with any other country. Owing to this perception in the students' minds, they keep a distance from their teachers, fearing that they may misbehave with their teachers in the event of their being very free and liberal with their teachers. This criterion is a significant drawback in the implementation of a successful mentoring program in Eastern countries. In fact, most of the colleges or organizations in Saudi Arabia do not have any mentoring programs in their establishment. This scenario is not only in medical schools, but all other technical institutes lag behind in taking up the mentoring programs. Hence it is high time that mentoring be popularized in as many institutes as possible and train the mentors such that the program is successful to a great extent, and this will propagate with other institutes. Slowly all the institutes will have good mentoring programs running. On the other hand, it is also important to motivate students to participate in these mentoring programs. Active participation of both the mentee and the mentor is essential for the mentoring program's success on par with Western countries.

Future investigation should test the theoretical understanding of phenomena in medical practice and education. The objective of forthcoming investigations should be to extend theory, which is a conceptual description or explanation of a phenomenon, and not a practical problem or gap, by revealing causal relationships and specifying how/when they hold. There is a need for new theoretical understanding enabled by the more investigations related to mentoring programs.

To summarise, this paper pronounces our initial understanding of a recognized mentoring program for medical scholars. Mentoring is believed to be an important component of medical education. It is not very challenging for dedicated teacher and student mentors to spare some time for their mentees, so significantly less determination is required for mentoring. Notably, both mentees and mentors have an advantage; further trust and bonding among students and teachers increase. Mentees with operative mentors as a good example will take on their qualities, be good mentors in the future, and propagate this legacy. Contingent on the traditional understandings and needs, each college can be encouraged to participate in its mentoring program. The outcome, not the process, must be the main motive of the program. Research in the future could focus on nurturing and sustaining philanthropic mindsets in medical college faculty and students using medical humanities and mentoring.

Conclusion

An essential instrument in the career development of a medical student is mentoring. A goal-oriented and well planned mentoring program is not only beneficial for mentees but also the mentors. Strategies should be planned, especially in the developing countries, to motivate the students and the teacher equally for the success of such programs.

References

1. Buddeberg-Fischer, B., & Herta, K. D. Formal mentoring programs in medicine – a review of the Medline literature. *Med. Teach.* 28, 248–257 (2006).
2. Ousager, J., & J. H. Humanities in undergraduate medical education: a literature review. *Acad. Med.* 85, 988–98 (2010).
3. Pedersen, R. Empathy development in medical education - a critical review. *Med. Teach.* 32, 593–600 (2010).
4. Woessner, R., Honold, M., Stehle, I., Stehr, S., & Steudel, W. I. Faculty mentoring programme: ways of reducing anonymity. *Med. Educ.* 32, 441–443 (1998).
5. Bligh, J. Mentoring: an invisible support network. *Med. Educ.* 33, 2–3 (1999).
6. Woessner, R., Honold M., Stehr, S. N., & S. W. I. Support and faculty mentoring programs scheme. *Med. Educ.* 34, 635–641 (2000).
7. Malik, S. Students, mentors and relationships: the ingredients of a successful student support for medical students in Germany, Switzerland and Austria. *Med. Educ.* 34, 480–482 (2000).
8. Murr, A. H., Miller, C., & Papadakis, M. Mentorship through advisory colleges. *Acad. Med.* 77, 1172–1173.
9. Kalet, A., Krackov, S., & Rey, M. Mentoring for a new era. *Acad. Med.* 77, 1171–1172 (2002).
10. Garmel, G. M. Mentoring medical students in academic emergency medicine. *Acad. Emerg. Med.* 11, 1351–1357 (2004).
11. Frei, E., Stamm, M., & Buddeberg-Fischer, B. Mentoring programs for medical students -a review of the PubMed literature 2000-2008. *Br. Med. Coll. Med. Educ.* 30, 32 (2010).
12. Von der Borch, P., Dimitriadis, K., Störmann, S., Meinel, F. G., Moder, S., Reincke, M., Tekian, A., & Fischer, M. R. A novel large-scale mentoring program for medical students based on a quantitative and qualitative needs analysis. *Ger. Med. Sch. Zeitschrift für Medizinische Ausbildung* 28, 26 (2011).
13. Castaldelli-Maia, J. M., Martins, S. S., Bhugra, D., Machado, M. P., Andrade, A. G., Alexandrino-Silva, C., Baldassin, S., & De Toledo Ferraz Alves, T. C. Does ragging play a role in medical student depression -cause or effect? *J. Affect. Disord.* 139, 291–297 (2012).
14. Abdulghani, H. M., AlKhanhal, A. A., Mahmoud, E. S., Ponnampuruma, G. G., & Alfaris, E. A. Stress and its effects on medical students: a cross-sectional study at a college of medicine in Saudi Arabia. *J. Heal. Popul. Nutr.* 29, 516–522 (2011).

15. Behere, S. P., Yadav, R., & Behere, P. B. A comparative study of stress among students of medicine, engineering, and nursing. *Indian J. Psychol. Med.* 33, 145–148 (2011).
16. Shah, M., Hasan, S., Malik, S., & Sreeramareddy, C. T. Perceived stress, sources and severity of stress among medical undergraduates in a Pakistani medical school. *Br. Med. Coll. Med. Educ.* 15, 2 (2010).
17. Levinson, D. J. *The Seasons of a Man's Life*. (Ballantine Books, 1978).
18. Daloz, L. A. *Mentor: Guiding the Journey of Adult Learners*. (Jossey-Bass, 1999).
19. Al-Dubai, S. A., Al-Naggar, R. A., Alshagga, M. A., & Rampal, K. G. Stress and coping strategies of students in a medical faculty in Malaysia. *Malaysian J. Med. Sci.* 18, 57–64 (2011).
20. Meinel, F. G., Dimitriadis, K., Von Der Borch, P., Stormann, S., Niedermaier, S., & Fischer, M. R. More mentoring needed? A cross-sectional study of mentoring programs for medical students in Germany. *Br. Med. Coll. Med. Educ.* 11, 68 (2011).
21. Nakanjako, D., Byakika-Kibwika, P., Kintu, K., Aizire, J., Nakwagala, F., Luzige, S., Namisi, C., Mayanja-Kizza, H., & Kanya, M. R. Mentorship needs at academic institutions in resource-limited settings: a survey at Makerere University college of Health Sciences. *Br. Med. Coll. Med. Educ.* 29, 53 (2011).
22. Van Eps, M. A., Cooke, M., Creedy, D. K., & Walker, R. Student evaluations of a year-long mentorship program: a quality improvement initiative. *Nurse Educ. Today* 26, 519–524 (2006).
23. Cohen, M. S., Jacobs, J. P., Quintessenza, J. A., Chai, P. J., Lindberg, H. L., Dickey, J., & Ungerleider, R. M. Mentorship, learning curves, and balance. *Cardiol. Young* 17, 164–74 (2007).
24. Flexman, A. M., & Gelb, A. W. Mentorship in anesthesia. *Curr. Opin. Anesthesiol.* 24, 676–681 (2011).
25. Stenfors-Hayes, T., Kalén, S., Hult, H., Dahlgren, L. O., Hindbeck, H., & Ponzer, S. Being a mentor for undergraduate medical students enhances personal and professional development. *Med. Teach.* 32, 148–153 (2010).
26. Britten, N. Qualitative Research: Qualitative interviews in medical research. *Br. Med. J.* 311, 251–253 (1995).
27. DiCicco-Bloom, B., & Crabtree, B. F. The qualitative research interview. *Med. Educ.* 40, 314–321 (2006).
28. Reeves, S., Lewin, S., & Zwarenstein, M. Using qualitative interviews within medical education research: why we must raise the 'quality bar'. *Med. Educ.* 40, 291–292 (2006).
29. Scott, E. S. Peer-to-Peer Mentoring: Teaching Collegiality. *Nurse Educ.* 30, (2005).
30. Bellodi, P. L. Mentors, Students, and the Undergraduate Medical Course: A Virtuous Circle. *Rev. Bras. Educ. Med.* 35, 382–388 (2011).
31. Tan, Y. S., Teo, S. W. A., Pei, Y., Sng, J. H., Yap, H. W., Toh, Y. P., & Krishna, L. K. R. A framework for mentoring of medical students: thematic analysis of mentoring programmes between 2000 and 2015. *Adv. Heal. Sci. Educ. - Theory Pract.* 23, 671–697 (2018).
32. Oelschlager, A. M., Smith, S., Tamura, G., Carline, J., & Dobie, S. Where do medical students turn? The role of the assigned mentor in the fabric of support during medical school. *Teach. Learn. Med.* 23, 112–117 (2011).
33. Fornari, A., Murray, T. S., Menzin, A. W., Woo, V. A., Clifton, M., & Lombardi, M. Mentoring program design and implementation in new medical schools. *Med. Educ. Online* 19, 24570 (2014).
34. Roff, S., McAleer, S., Harden, R. M., Al-Qahtani, M., Ahmed, A.U., Deza, H., Groenen, G., & Primparyon, P. Development and validation of the Dundee Ready Education Environment Measure (DREEM). *Med. Teach.* 19, 295–299 (2009).