



Dual peer mentoring program for undergraduate medical students: exploring the perceptions of mentors and mentees

Parya Abdolalizadeh¹, Saeed Pourhassan², Roghayeh Gandomkar³, Farrokh Heidari⁴, Amir Ali Sohrabpour^{5*}

Received: 30 June 2016

Published: 11 Jan 2017

Abstract

Background: Despite the advantages of dual peer mentoring, there are a few reports of implementing and evaluating such programs for medical students. This study aimed at exploring the perceptions of mentors and mentees about the dual peer mentoring program for the first year undergraduate medical students of Tehran University of Medical Sciences.

Methods: This qualitative study was conducted at the end of the first year of implementing the mentoring program. All mentees and mentors were invited to participate in focus group discussions. Data were analyzed using a qualitative content analysis.

Results: All mentors ($n=12$) and a group of mentees ($n=21$) participated in focus group discussion sessions. We provided a variety of supports for the mentees including academic and psychosocial support and positive relationship; as a result, some developments occurred to the mentors. We also explored participants' views on some unique aspects of the program such as student-authorized, dual mentoring, and role model sessions.

Conclusion: Our participants found the mentoring program beneficial in various academic achievements and psychosocial supports for both the mentors and the mentees. Dual peer mentoring program can be an alternative to school administered programs.

Keywords: Peer Mentoring, Dual Mentoring, Undergraduate, Medical Education

Copyright © Iran University of Medical Sciences

Cite this article as: Abdolalizadeh P, Pourhassan S, Gandomkar R, Heidari F, Sohrabpour AA. Dual peer mentoring program for undergraduate medical students: exploring the perceptions of mentors and mentees. *Med J Islam Repub Iran.* 2017 (11 Jan);31:2. <https://doi.org/10.18869/mjiri.31.2>

Introduction

Mentoring is a crucial factor in career success in medicine (1). There is growing evidence for the positive effects of mentoring programs in undergraduate medical education in professional and personal development (2, 3). Different designs of mentoring programs for medical students have been described in the literature (4-6).

Peer mentoring is a type of mentoring program in which individuals are equal in age, experience, and rank. This model requires fewer resources and offers an opportunity for more friendly and comfortable mentor-mentee relationship with more mutual understanding (7-10). Moreover, during the transition to academic institutions, peer mentoring is essential to adapt to the new learning and

teaching environment and the specific struggles that the newcomers face (11-13). Despite these advantages, there are a few reports of implementing peer mentoring programs in the early stage of medical school (14).

In peer mentoring programs, second year medical students are usually chosen as mentors for the first year students because of their common personal and academic issues (14). However, some of the new comers' concerns such as uncertainty about the importance of basic science, unfamiliarity with their future role as a doctor, as well as their low motivation, may remain unaddressed. In this case, the idea of dual mentoring, in which any individual mentee is assigned to 2 students (one in the clinical phase and an-

Corresponding author: Dr Amir Ali Sohrabpour, aasohrabpour@tums.ac.ir

1. Eye Research Center, Rassoul Akram Hospital, Iran university of Medical Sciences, Tehran, Iran

2. Department of Internal Medicine, School of Medicine, Tehran University of Medical Sciences, Tehran, Iran

3. Health Professions Education Research Center, Medical Education Department, Tehran University of Medical Sciences, Tehran, Iran

4. Amir Alam Hospital, Department of Otorhinolaryngology, School of Medicine, Tehran University of Medical Sciences, Tehran, Iran

5. Department of Internal Medicine, Liver and Pancreatobiliary Diseases Research Center, Digestive Disease Research Institute, Tehran University of Medical Sciences, Tehran, Iran

↑What is "already known" in this topic:

There are a body of evidence suggesting overall positive effects of mentoring programs in medical education. Few programs have been applied in academic medicine and nursing, though it has not been used in undergraduate medical education.

→What this article adds:

Dual mentoring was helpful in guiding students and in shaping mentees' professional identity and promoting their interests in basic science subjects. Both mentors and mentees preferred formal peer mentor-mentee relationship because of reciprocal commitment, and mentors' reliable, accurate, and specific guidance.

Table 1. Demographic Information of the Participants

Focus Group Discussion Sessions	Participants	Number of the Participants	Gender of the Participants
First	Mentee	7	Female: 2/ Male: 5
Second	Mentee	6	Female: 5/ Male: 1
Third	Mentee	8	Female: 5/ Male: 3
Fourth	Mentor	12	Female: 6/ Male: 6

other in the preclinical phase), may be an appropriate solution to satisfy the needs of the first year medical students (15).

A few models of dual mentoring have been applied in academic medicine (16-18) and nursing (19). However, to our knowledge it has not been used in undergraduate medical education.

Tehran University of Medical Sciences (TUMS), School of Medicine, launched a new outcome-based undergraduate medical education program in 2011. The fundamental reforms in the basic science phase of the program raised some concerns as to whether newcomers could cope with the upcoming changes. Thus, in September 2011, a dual peer mentoring program was designed and initiated to assist the first year medical students. A group of 4 volunteer fifth year medical students took the responsibility to organize the program after it was approved by the school administration.

Twelve medical students participated in the program as mentors: 6 from the clinical phase, and 6 from the preclinical phase, and 1 faculty member supervised the mentors. All mentors were trained on the concept of mentoring and communication skills. Each clinical mentor was connected to a preclinical mentor to form a couple of mentors based on the dual mentoring idea; and each couple had 6 mentees. Thirty-six mentees were randomly selected among 150 first year medical students, of whom 18 were female.

The mentors and their mentees were planned to communicate through the following methods: telephone call (once a week at the beginning to form the mentor-mentee relationship, which was gradually reduced to once every 3 weeks at the end of the program); email or virtual modalities (including email templates, addressing the first year students' common problems and learning concepts and skills); and face to face meetings (individually or in groups). Meetings with the role models (those who were successful young clinical faculties of medicine) were another part of the program. Due to the probable limitations of the consulting abilities of the student mentors in psychological, educational, or financial affairs, a referral system was defined to refer the mentees to relevant supportive or executive centers of the university as needed. In addition, regular weekly intermentor sessions were held so that the mentors could exchange ideas and share their experiences.

The present study aimed at exploring the perceptions of the mentors and the mentees about TUMS dual peer mentoring program for undergraduate medical students.

Methods

All the 36 mentees and 12 mentors were invited to participate in this qualitative study in September 2012 after one

year of running the dual peer mentoring program. Twenty-one mentees and all the mentors accepted to participate. The present study consisted of 3 focus group discussion sessions with the mentees and a separate session with the mentors. Questions in the interview guide were about the participants' experiences of the mentor-mentee relationship, the students' perceptions about their own development, benefits and drawbacks of the program, and the quality of each component of the program. Each session lasted for approximately 60 minutes. An educationist, who was familiar with qualitative methodology, facilitated the discussions in all focus group sessions. All sessions were recorded and transcribed verbatim.

A conventional content analysis was performed for data analysis. Focus group texts were read several times, the meaning units were identified, abstracted, and labeled with appropriate codes. Subsequently, preliminary codes were compared for similarities and differences and followed by grouping into broader categories. Credibility and dependability were established through member checking, peer debriefing, and prolonged engagement with data. The purpose of the study was explained to the participants, and they were ensured of the anonymity of their responses. Informed consent was obtained from all participants.

Results

In this qualitative study, 21 mentees and 12 mentors participated in the focus groups. Twelve mentees and 6 mentors were female (Table 1). Two common categories were extracted from the mentees and the mentors' responses: "mentees' support" and "mentoring as a program". Another category was "mentors' development" which emerged from the mentors' comments. Table 2 provides a summary of the main categories and related subcategories.

Mentees' Support: Participants referred to a variety of supports provided for the mentees during the mentoring program categorized as *positive relationship*, *academic support*, and *psychosocial support*.

Positive Relationship: Both mentors and mentees pointed out to some positive aspects of the formal peer mentoring program concerning the mentor-mentee relationship. They

Table 2. A summary of the main categories and related subcategories based on the mentees and mentors' points of view

Category	Subcategories
Mentees' support	Positive relationship Academic support Psychosocial support
Mentoring as a program	Dual mentoring Student-authorized program Communication methods Role Model sessions
Mentors' development	Personal development Social development

stated that honesty and sincerity were the most prominent features of the relationship. They also compared the relationship with informal connection with senior medical students and believed that mentors' guidance was more reliable, accurate, and specific. One mentee said, "...I have many senior friends who give me advices, but some are not reliable.... I usually share comments I receive from other seniors with my mentor to know whether they are true; and I often try to stick to my mentor's...." Similarly, all mentors revealed that mentorship was different from what they had experienced as informal mutual relationship with their seniors in the past; they described mentorship as a systematic, persistent, and reliable relationship in which both the mentee and the mentor were engaged. One mentor stated, "I used to consult with senior students sometimes, but the mentoring program makes use of a group of trained and talented senior students who act in concert to provide genuine advices"

Some mentees mentioned that the friendly atmosphere was another beneficial feature of the mentor-mentee relationship. They believed that mentors might be real friends even beyond the mentoring program. However, 2 mentees emphasized the importance of the disciplined and structured interaction along with friendly relationship. One mentee said, "The atmosphere was friendly and sincere, not formal, so the mentees felt they were talking with a friend." Another mentee echoed this thought, "I think if we have close and friendly relationship with our mentors, their advices will be more acceptable. However, being systematic at the same time can make our relationship serious enough and I think this is a necessity in such situations."

Both the mentors and the mentees believed that patience, persistence and being active were the most important characteristics of good mentors. All mentors revealed that although their mentees were not persistent on continuous connection and consultation, they behaved patiently to maintain the connection and promote mentorship. One mentor said, "I learned that if I want to help juniors, I should be persistent in following the relationship much more than them."

Academic Support: Most mentees mentioned that their mentors played an important role in providing some academic support for them, which was mainly focused on the way of studying for exams. According to the mentees' views, mentors provided information about different types of study methods and helped the mentees choose the suitable one that improved their study performance, and subsequently, their exam results at the early stage of the medical school. A participant said: "I didn't know how to study biochemistry lessons in the elementary course. My mentor reviewed a chapter of biochemistry with me in about 1 hour and it helped me so much to learn a good way of studying." Another mentee stated, "I received an email template from my mentor regarding different study methods before respiratory block exam. One recommendation was writing a list of what we should learn in a chapter. I tested it in my physiology lesson and it was really helpful." Academic support, from the perspective of the mentors, was one of the most effective aspects of mentoring

program as well.

Psychosocial Support: The mentees pointed out that the mentors tried to increase their motivation and hope, helped them reduce their stress, cope with new situations, and confront with difficulties. Mentees agreed that such psychosocial support was especially beneficial during the transition phase to medical school and while staying in the dormitory and away from home. The mentors agreed with the mentees about the importance of mentoring role in facilitating the adaption process throughout the medical school entrance and in reducing the tension for expatriate students. One mentor said, "Mentoring by itself is a positive point and having a mentor to is wonderful." Mentors additionally said they tried to be good consultants for the mentees in making correct decisions and referred the mentees to appropriate authorities or individuals if needed.

Mentoring as a Program: The respondents had some perceptions about the mentoring program and its components and functions: *dual mentoring, student-authorized program, commutation methods, and role model sessions.*

Dual Mentoring: All mentees believed that dual mentoring was one of the favorable features of the mentoring program because clinical and preclinical mentors provided different information and support for them. In their view, clinical mentors tried to modify the mentees' attitude and knowledge towards medical profession, medical ethics, professionalism as well as the importance of basic science in clinical setting. One mentee acknowledged, "When my clinical mentor was talking about his experiences at hospital, especially how one can help patients, I found it pleasant." Clinical mentors agreed with this point and said they were talking about the medical profession and professionalism most of the time to respond to the mentees' queries. They also declared the use of learned and experienced communication skills in the clinical environment in enhancing the mentorship. The mentees and mentors expressed that preclinical mentors were more effective in offering advices and practical tips for the first year courses and upcoming exams because of their recent experience.

Student-Authorized Program: Some participants considered the student-authorized program or lack of direct control of school administration on the program as another advantageous dimension, which in turn resulted in trustful mentor-mentee relationship. In the words of one mentor, "I think independency was the most positive point of the program that caused mentees feel friendly and believe this program could help them." However, they said that being independent from the school administration might have its own drawbacks. Another mentor stated, "Being independent was one of the strengths and also one of the weaknesses.... The mentees better accepted our advices when we were compatible with the revised school curriculum." In addition, some mentors believed appropriate support from school administration might facilitate the implementation of associated programs like the role model sessions.

Communication Methods: The mentors and the mentees appreciated the diversity of connecting methods in shaping the effective relationship. The mentors emphasized

that group meeting with their mentees was specifically a useful way to share concerns and opinions and to find and suggest solutions for problems. Near half of the mentees also preferred face-to-face conversation with mentors instead of calling or emailing.

Role Model Sessions: Some mentees believed that role model sessions in addition to the mentors' supports improved their perception about medicine as a profession and professionalism issues. One mentee stated, "*The role model sessions were great! It made us excited! Our attitudes and thoughts have really been changed in comparison with other classmates who did not attend the meetings.*" The mentees also preferred that the role models would talk more about basic science importance in students' clinical practice. Both clinical and preclinical mentors found the role model sessions to be useful. Preclinical mentors said they considered clinical mentors as a role model too.

Considering the valuable aspects of the program, the mentors made some suggestions for more improvement such as holding briefing sessions for the mentees and mentors and offering training workshops on communication skills for the mentors. The mentors emphasized that they needed to receive the mentees' feedbacks about their performance during the program to improve their weaknesses. Finally, providing rewards was another suggestion to motivate the mentors.

Mentors' Development: According to the mentors' point of views, the mentoring program had some benefits for them as well including *personal development* and *social development*.

Personal Development: The mentors believed that communicating with several mentees with different behavioral and emotional characteristics, specifically 'difficult' ones, strengthened their patience and endurance as well as self-awareness. One mentor stated, "*I think my best experience in this program was my own self-growth.*" To help the newcomers, the mentors had to reflect on their own experiences and choose successful ones to solve similar problems of the mentees, which in turn improved their own self-reflection ability. The mentors thought that intermentor sessions provide them an opportunity for discussing the mentees' problems and finding solutions for them, which enhanced their problem solving ability for similar conditions in the future. The mentors found emotional contentment in helping the mentees and felt self-satisfied by being a mentor. One mentor stated, "*I felt so happy and energetic for a whole week when I heard one of my mentees passed her IT exam with a high score.*"

Social Development: Based on the mentors' perception, communicating with the mentees improved their social skills, particularly their communication skills and sense of empathy. In addition to interact with mentees, the mentors had some opportunities to inform the medical school administrative authorities about problems and concerns of the newly entered students, which resulted in developing an effective relationship with them. Communicating with school officials as well as participating in inter-mentor sessions improved the mentors' ability to criticize and provide feedback to others in an effective manner. They

also declared that participation in the mentoring program improved their team-working skills.

Discussion

We explored the perceptions of the mentees and mentors about the dual peer mentoring program of TUMS School of Medicine. We identified a variety of supports including academic and psychosocial support and positive relationship for the mentees; and as a result, some improvements occurred in the mentors as well including personal and social development. We also explored the participants' views about some unique aspects of the program such as student-authorized, dual mentoring, and role model sessions.

Consistent with the findings of a previous research on mentoring first year medical students (2, 4, 20), our results revealed that peer mentors could offer various academic and psychosocial support for newcomer mentees. Medical students generally look for more experienced seniors who could help them comply with the new requirements during the transition time (21), while our participants mentioned that formal peer mentor-mentee relationship is more effective because of reciprocal commitment, and mentors' reliable, accurate, and specific guidance.

Based on our results, dual mentoring was beneficial because preclinical mentors were helpful in guiding students on their first year courses and upcoming exams, while clinical mentors were effective in shaping mentees' professional identity and promoting their interests in basic science subjects. The system of utilizing multiple mentors has been applied in academic medicine to address some challenges of differences between faculty mentors and mentees (16-18). However, the advantages and disadvantages of this model in undergraduate medical education need to be further investigated.

Although few studies demonstrated the effects of mentoring on the mentors, no one who has ever been a mentor can deny it. Those mentors who participated in the program felt that this relationship was beneficial for them in increasing their personal abilities, and social skills, and more importantly, it brought about a sense of satisfaction for them, which is consistent with the results of other peer mentoring programs (22, 23).

According to participants' views, student-organized mentoring program resulted in a trustful mentor-mentee relationship. Considering other strengths such as saving the resources, it may be concluded that student-organized mentoring programs can be an alternative to school administered-programs. However, independence from the school administrations may result in losing some important support systems. Fornari et al. (2014) stated that most schools house their mentoring programs in the office of student affairs and the office of academic affairs without any given responsibility to undergraduate medical students (24). We explored the perceptions of the mentors and mentees using a qualitative methodology. Examining short- and long-term outcomes of our mentoring program in academic improvement could quantitatively enhance our understanding about the program. As another limitation, our mentoring program was implemented only for the first year medical students, which might have different

needs compared to the students in other phases. Moreover, this study was limited to a mentoring program in TUMS School of Medicine, which might have influenced the generalizability of the findings.

Conclusion

This study aimed at exploring the perceptions of the mentors and mentees about the dual peer mentoring program for the first year undergraduate medical students of Tehran University of Medical Sciences. We found that peer mentors could offer various academic and psychosocial support to the newcomer mentees. Our results revealed that both mentors and mentees preferred formal peer mentor-mentee relationship because of reciprocal commitment, and mentors' reliable, accurate, and specific guidance. Dual mentoring was beneficial and the preclinical mentors were helpful in guiding students on their first year courses, while clinical mentors were effective in shaping the mentees' professional identity and promoting their interests in basic science subjects. The program was also beneficial in increasing the mentors' personal abilities and social skills. To conclude, student-organized dual peer mentoring program could be an alternative to school administered programs. Examining short and long-term outcomes of such mentoring programs is highly recommended.

Acknowledgements

The authors thank the mentees and the mentors for dedicating their time for the interview. The authors also extend their sincere appreciation to Azim Mirzazadeh, for his undeniable role in implementing the mentoring program and also his valuable feedbacks to draft this article.

Funding: Financial support for this study was provided by Tehran University of Medical Sciences, Tehran, Iran.

Conflict of Interest: None declared.

References

1. Sambunjak D, Straus SE, Marušić A. Mentoring in Academic Medicine - a systematic review. *JAMA* 2006;296(9):1103-1115.
2. Buddeberg-Fischer B, Herta KD. Formal mentoring programmes for medical students and doctors – a review of the Medline literature. *Med Teacher*. 2006;28(3):248-257.
3. Kalén S, Ponzer S, Seeberger A, Kiessling A, Silén C. Continuous mentoring of medical students provides space for reflection and awareness of their own development. *Int J Med Educ*. 2012;3:236-244.
4. Frei E, Stamm M, Buddeberg-Fischer B. Mentoring programs for medical students – a review of the PubMed literature 2000 – 2008. *BMC Med Educ*. 2010;10:32.
5. Aagaard EM, Hauer KE. A cross-sectional descriptive study of mentoring relationships formed by medical students. *J Gen Int Med*. 2003;18(4):298–302.
6. von der Borch P, Dimitriadis K, Störmann S, Meinel FG, Moder S, Reincke M, Tekian A, Fischer MR. A Novel Large-scale Mentoring Program for Medical Students based on a Quantitative and Qualitative Needs Analysis. *GMS Z Med Ausbild*. 2011;28(2).
7. Rotheray S, Watts D. Peer mentorship for medical students and junior doctors. *Med Teacher*. 2012;34:673–4.
8. Overeem K, Driessen EW, Arah OA, Lombarts KMJM, Wollersheim HC, Grol RPTM. Peer mentoring in doctor performance assessment:

strategies, obstacles and benefits. *Med Educ*. 2010;44:140-147.

9. Mayer AP, Blair JE, Ko MG, Patel SI, Files JA. Long-term follow-up of a facilitated peer mentoring program. *Med Teacher*. 2014;36:260-266.
10. Taylor JS, Faghri S, Aggarwal N, Zeller K, Dollase R, Reis SP. Developing a peer-mentor program for medical students. *Teach Learn Med*. 2013;25:97–102.
11. Goldsmith M, Stewart L, Ferguson L. Peer learning partnership: An innovative strategy to enhance skill acquisition in nursing students. *Nurs Educ Today*. 2006;26(2):123-30.
12. Vulliamy P, Junaid I. Peer-mentoring junior surgical trainees in the United Kingdom: a pilot program. *Med Educ Online*. 2013;18.
13. Webb J, Brightwell A, Sarkar P, Rabbie R, Chakravorty I. Peer mentoring for core medical trainees: uptake and impact. *Postgrad Med J*. 2015;91:188–192.
14. Asefzadeh S. Mentorship at Qazvin Medical School. *J Med Educ*. 2009;9:4(2).
15. Sambunjak D, Straus SE, Marusic A. A Systematic Review of Qualitative Research on the Meaning and Characteristics of Mentoring in Academic Medicine. *J Gen Int Med*. 2009;25(1):72-78.
16. Jackson VA, Palepu A, Szalacha L, Caswell C, Carr PL, Inui T. "Having the Right Chemistry": A Qualitative Study of Mentoring in Academic Medicine. *Acad Med*. 2003;78(3):328-334.
17. Koopman RJ, Thiedke CC. Views of family medicine department Chairs about mentoring junior faculty. *Med Teacher*. 2005;27:734–7.
18. Straus SE, Chatur F, Taylor M. Issues in the Mentor–Mentee Relationship in Academic Medicine: A Qualitative Study. *Acad Med*. 2009;84(1):135-139.
19. Hossein Abadi R, Gholami M, Biranvand Sh, Tarvedian A, Anbari Kh. Effect of Multi Mentoring Educational Method on Clinical Competence of Nursing Students. *J Med Educ Develop*. 2015;10(2):119-128.
20. Scheckler WE, Tuffli G, Schalch D, MacKinney A, Ehrlich E. The Class Mentor Program at the University of Wisconsin Medical School: a unique and valuable asset for students and faculty. *Wisconsin Med J*. 2004;103(7):46-50.
21. Murr AH, Miller C, Papadakis M. Mentorship through Advisory Colleges. *Acad Med*. 2002;77(11):1172-1173.
22. Hayes ST, Hult H, Dahlgren LO. What does it mean to be a mentor in medical education? *Med Teacher*. 2011;33:423-428.
23. Hayes TS, Kalen S, Hult H, Dahlgren LO, Hindbeck H, Ponzer S. Being a mentor for undergraduate medical students enhances personal and professional development. *Med Teacher*. 2010; 32:148-153.
24. Fornari A, Murray TS, Menzin AW, Woo VA, Clifton M, Lombardi M, Shelov S. Mentoring program design and implementation in new medical schools. *Med Educ Online*. 2014;25(19).