

ORIGINAL ARTICLE

Evaluation of mentoring skills by mentees using the mentoring competency assessment (MCA) instrument at an undergraduate medical school in Lahore

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ABSTRACT

Background: Mentoring, a committed relationship has established its significance in the field of undergraduate medical education. Mentors invest in their protégés' personal and professional development, beyond the realm of teaching. The mentors and the organization also gain a multitude of benefits. Formal mentoring is considered to have more advantages. Recruiting mentors should be thoughtful and mentors should be trained for their job. The assessment of mentor's competence remains a challenge and many instruments have been tried for this purpose. Evaluation can help identify areas for training. The Mentoring Competence Assessment inventory developed by Fleming et al. focused on measuring six main competencies of a mentor-mentee relationship. Since these competencies overlap with the objectives of more general mentoring programs, this tool can be adapted to measure outcomes.

Aim: To evaluate mentoring skills by mentees.

Methods: A cross sectional study was conducted at The University of Lahore. The Mentoring Competence Assessment instrument was used with appropriate modification. Volunteers filled in an online questionnaire. 129 students responded, out of which 97 completed responses were considered. Response scores were added to calculate score for each competency. Correlational analysis was performed for competence and seniority. Cross gender mentoring was also compared to same gender mentoring.

Results: The high scoring competencies in the order of ratings they attained are: maintaining effective communication, fostering independence, promoting professional development and aligning expectations, whereas assessing understanding and addressing diversity were rated at less than fifty percent, indicating areas for faculty development training. Almost 80% students rated high on how much they had benefitted from their mentor. They also felt their mentor helped them the most by motivating them, by being a good listener and by guiding them. Mentees believed their mentoring relationship was uncomfortable due to group mentoring, seniority bias, and lack of time. The mentor's gender had no significant effect on all the six competencies.

Conclusion: Mentoring is a mutually beneficial relationship and is most beneficial when started at an early stage. The mentoring program should be relevant to local perspectives and cultural issues. To prevent misunderstandings, mentors should acknowledge the differences of gender & cultural background. Mentors should be monetarily rewarded for their contribution to medical education. Educating & empowering students, along with faculty education regarding students' needs may improve mentoring.

Keywords: *Mentorship, Competence, Assessment, Undergraduate Medical Students*

Introduction: Mentoring has established its significance in education for decades. Teaching expertise is no longer synonymous with content expertise, although closely associated (Wilkerson & Irby, 1998). Srinivasan et al. have worked out a total of ten teaching competencies (6 core +

4 specialized) for medical educators drawing on ACGME framework. It also described mentorship as one of the four specialized teaching competencies (Srinivasan et al., 2011). The 12 roles of a medical teacher defined by Harden mention mentoring as one (Harden & Crosby, 2000).

Definition of Mentoring: Although all the teaching faculty is involved in advising students, but mentoring is not the same as advising. Mentoring is considered as contextual, and there is no distinct definition for it, but this definition by Johnson (2002), seems rational for exploring preliminary mentoring competence:

"Mentoring is a personal relationship in which a more experienced faculty member acts as a guide, role model, teacher, and sponsor of a less experienced graduate student. A mentor provides the protégé with knowledge, advice, challenge, counsel, and support in the protégé's pursuit

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of becoming an active member of a particular profession. Mentorships are reciprocal and mutual by design, and the ultimate goal of the relationship is development of a strong professional identity and clear professional competence on the part of the protégé” (Johnson, 2002).

According to Levinson (Levinson DJ, Darrow CN, Klein EB, Levinson MA, 1978), the concept of mentorship has existed since Ancient Greece, and a chunk of the prior work in was in adult development and higher education (Sozio, Chan, & Beach, 2017).

Type of Mentoring: Mentoring is a multi-faceted process, ranging from informal to formal programs, where the relationship is arranged by the institute’s committee and students are assigned to mentors. Most of the times, the mentors are chosen from the faculty and may typically be trained. Formal mentoring, in effect, is superior to informal mentoring. Among other benefits, it provides opportunity for students to find mentors earlier in medical school, and foster student-faculty contact (Mann, 1992). Studies have also shown that structured mentoring experiences increase student retention and degree completion (Crisp, Baker, Griffin, Lunsford, & Pifer, 2017).

Mentoring can be one-to-one, group or team mentoring. As the names suggest, one-to-one mentoring means one mentee for one mentor while group mentoring means multiple mentees assigned to a single mentor. Team mentoring is when multiple mentors are involved in mentoring a single student. Most of the formal programs at undergraduate medical colleges, practice group mentoring. This may be due to the mentor-mentee ratio or because it is known to be effective where collaborative advancement is desirable (Shamim, 2013).

Benefits of Mentoring: Jacobi (1991) declared five generally agreed functions of mentoring relationships: “ 1) mentoring focuses on achievement or acquisition of knowledge; 2) consists of emotional and psychological support, direct assistance with career and professional development, and role modeling; 3) is reciprocal, where both mentor and mentee derive emotional or tangible benefits; 4) is personal in nature, involving direct interaction; and 5) emphasizes the mentor’s greater experience, influence, and achievement within a particular organization” (Jacobi, 1991).

Mentorship should not be misinterpreted as reviewing the students’ performance in an examination. It is more about a broader range of issues concerning the student (Harden & Crosby, 2000). While some students need a tangible instruction or task-oriented assistance, others may need help pronouncing their thoughts or clarifying a life purpose. Mentors invest in their protégés’ personal and professional

development, beyond teaching (Rose, Rukstalis, & Schuckit, 2005). One reported positive aspect for students is learning from faculty who have ‘done it before’ (Fornari et al., 2014). A good mentor early in the career can mean the difference between success and failure in any field (Lee, Dennis, & Campbell, 2007). It has been described as a fulfilling undergraduate medical experience. Somebody rightly said, “A lot of people have gone further than they thought they could, because someone else thought they could”.

As Chickering and Reisser (1993) state in their identity formation model, the development of integrity is inchoate in young adults and will continue developing throughout their life (Chickering & Reisser, 1993). A mentor may influence them in appreciating whether the values they advocate align with the behaviors they exhibit. Mentor’s own integrity is probably his or her students’ most important inspiration to develop integrity (Ramirez, 2012). Honesty is a paramount for both the mentor and the protégée, as it vital for developing trust, which is ultimately an essential thread in binding the fabric of the relationship. (Ramirez, 2012)

To actively mentor students, faculty must value that role as both rewarding and rewarded (Mann, 1992). A genuine mentoring relationship is a reciprocal one, with the mentors gaining a multitude of possible benefits as well (Rose, 2003). They include personal satisfaction, career enhancement and feeling rejuvenated at work by the enthusiasm of their protégées (Rose et al., 2005). Student feedback can increase the self-confidence of mentors (Houghton, 2016). Mentoring programs can also strengthen the mentor’s commitment to the medical school & professional recognition within the school. It can fortify his/her identity and create a greater sense of community (Fornari et al., 2014). Administration can be informed about existing hidden curriculum by mentoring (Rose et al., 2005). Organizations also benefit from cost savings by staff retention and satisfaction (Lafleur & White, 2010).

Who should Mentor: Although many studies have parroted the positive implications of mentoring, it still remains a challenge in undergraduate medical colleges. In Pakistan, only a few colleges offer a formal mentoring program, and those too are yet to be evaluated. Who should mentor? What should be the qualities of the mentor? Are there organizational policies that support the selection of competent, suitable mentors? Are there strategies for development of mentoring skills? How will the mentor be assessed? Is there periodic evaluation of mentors? Every step is a task on its own.

Some faculty members have natural attitude and mentoring skills. Others can acquire them through faculty development programs (Shamim, 2013). The spectrum of motivation has

intrinsic motivation at one end and lack of motivation at the other with extrinsic motivation in between. Intrinsically motivated people pursue an activity for their own interest and satisfaction. Indeed, if one volunteers, he/she is determined & more likely to put in effort. Whereas extrinsically motivated people pursue an activity to obtain a reward or to avoid a loss (Kusurkar, Ten Cate, Van Asperen, & Croiset, 2011). Reward may be appreciation, promotion points, monetary or time compensation.

Implementing an effective mentoring program requires thoughtful recruitment. Unenthusiastic or inappropriately selected mentors can have negative implications on the mentoring program (Shamim, 2013). It can be due to lack of perceived value in terms of compensation (Fornari et al., 2014). It can also be due to the fact that medical curricula are overcrowded and many faculty members are under constant time constraint (Frei, Stamm, & Buddeberg-Fischer, 2010). Time also seems to be an issue for students where mentoring activities must fit in with other tasks (Fornari et al., 2014). Mentoring requires time and institutes should support by providing time or financial resources (Lafleur & White, 2010).

Measuring Competence: Competence as a mentor encompasses several mentoring competencies. For mentoring to be fruitful to the mentee and mentor both, it is necessary that the competence of the mentor be assessed from time to time. There is limited information (only 100 google search results) about how to measure the competencies. Lack of attention to competence may stem from a “positivity bias” among administrators, who assume that all faculty can effectively mentor (Duck, 1994). Different competence assessment methods are used based on different theoretical frameworks. Johnson proposed a triangular competency framework, which holds that competence to mentor hinges on the presence of essential virtues, abilities, and micro-skills/competencies (Johnson, 2003). The faculty mentor has to skillfully integrate all three. Canadian Coalition For Global Health Research also uses the this triangular framework as a basis for mentoring competence (Plamondon, 2007).

Rose G L, at the University of Iowa, made a 34 question rating scale on qualities of an ideal mentor. This “Ideal Mentor Scale (IMS)” uses the work of Levinson (1978) (Levinson DJ, Darrow CN, Klein EB, Levinson MA, 1978) and Anderson & Shannon (1988) (Anderson & Shannon, 1988) as theoretical background. It identifies the roles of the mentor-protégée relationship in three broad areas: Integrity, Relationship and Guidance.

Nature’s guide for mentors, a feature published in the journal Nature offered a table developed by using mentees’ statements regarding mentors nominated by Nature’s awards for creative

science mentoring. It has ten activities/strategies adjacent to which a mentor can write his/her example of such. This is to aid mentors in self-reflection on where they stand and what can be improved. (Lee et al., 2007)

NHS Lancashire Trust’s guide to Supporting Learner’s & Promoting Best Practice gives Nursing & Midwifery Council’s mentor self-assessment Performa with 26 reflective questions that fall under 8 major qualities of the mentor (NHS & Nursing & Midwifery Council, 2011).

The emerging leader mentor course describes five mentor approaches with ten mentorship skills. Growing as a mentor happens over time. The mentors can use these skills to self-reflect on their practice from time to time to grow (Emergence international Inc.

Students’ perception of mentor skills, could be a way to identify the relationship between mentees progression and mentors’ qualities (Nickitas, A, & Stephen, 2015).

Mentorship Effectiveness Scale (a 12 point rating scale) along with the mentor profile, were developed by the Ad Hoc Faculty Mentoring Committee at John Hopkins University School of Nursing (Berk, Berg, Mortimer, Walton-Moss, & Yeo, 2005).

A mixed methods approach collecting both quantitative and qualitative data from students and mentors is also proposed. It requires allocated institutional resources for data collection and analysis (Frei et al., 2010).

Fleming et al. developed the Mentoring Competence Assessment inventory that focused on measuring six main competencies of a mentor-mentee relationship, which were in line with the workshop Mentor training for Clinical and translational Researchers, used in previous studies performed by researchers from the University of Wisconsin (Pfund et al., 2013). These competencies are: maintaining effective communication, aligning expectations, assessing understanding, addressing diversity, fostering independence, and promoting professional development (Fleming et al., 2013). Since these competencies overlap with the objectives of more general mentoring programs, this tool can be considered for adaption to better assess outcomes.

Methodology: This was a cross sectional study at University College of Medicine & Dentistry at The University of Lahore. To measure the students’ perceptions of their mentors’ competence, we selected the Mentoring Competency Assessment inventory. This instrument comprises 26 Likert items and measures six competencies: maintaining effective communication (6 items), aligning expectations (5 items), assessing understanding (3 items), addressing diversity (2 items), fostering independence (5 items), and promoting professional development (5 items). It was used with a slight modification to include demographic information of both

mentor and mentee, gender and seniority of the mentor etc. Responses were collected on a 5 point rating scale (not 7), in which 1 = 'Not at all skilled', 3 = 'Moderately skilled', 5 = 'Extremely skilled', and N/A where a skill was not applicable. The final questionnaire had around 35 items & it was peer reviewed.

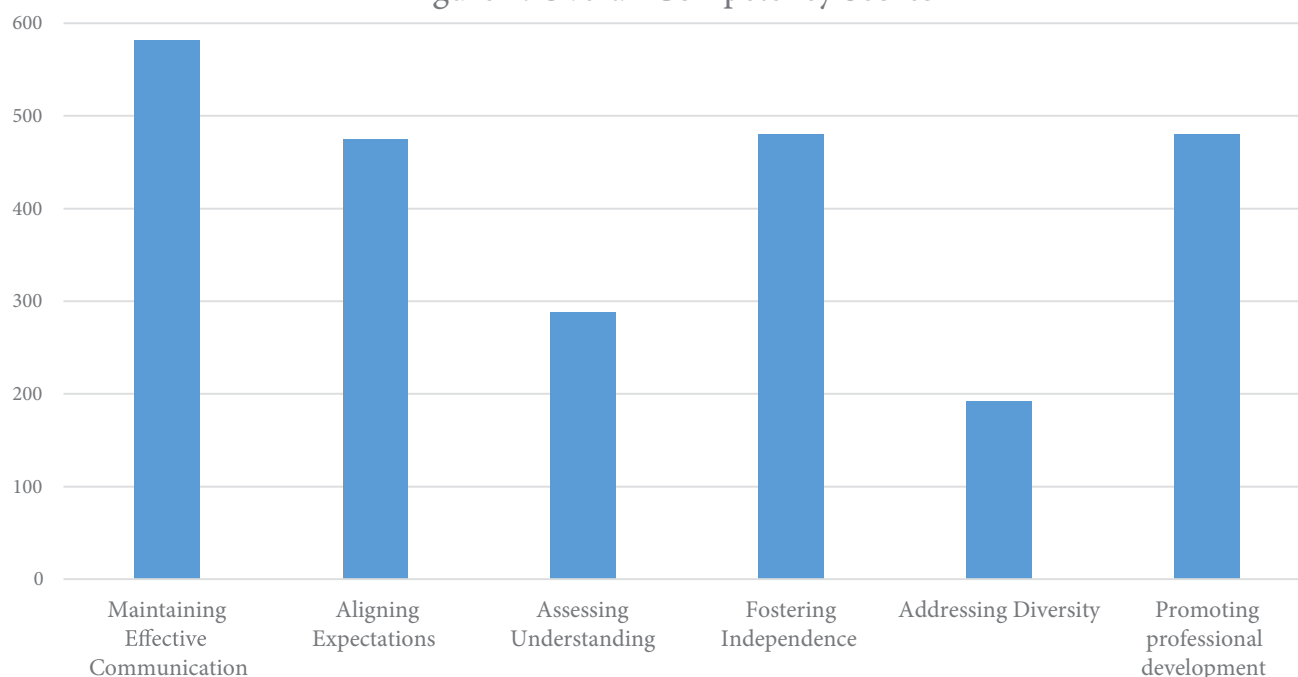
The mentoring program at UCMD caters to the students of the first three years (n=465). Volunteers from students filled out the questionnaire online. 129 students responded, out of which 97 completed responses were considered (32 partially completed responses were discarded).

To calculate scores, the response values were summed up and then score for each competency was calculated. Correlational analysis was performed for competence and seniority.

Cross gender mentoring was also compared to same gender mentoring.

Ethics: Approval was taken from the Institutional Ethical Review Board. All participants were informed about the nature and purpose of the study, and that refusal to participate will not affect their progress in any form. A message on the cover page indicated that by completing the survey they were consenting to participate in the study. Anonymity and confidentiality in treatment of the information was ensured. Almost 86% students rated 3 to 5 (moderately to extremely effective) on how effective they perceived informal mentoring to be. The mentor's gender had no significant effect on all the six competencies. Female students rated the mentors higher on establishing a relationship based on

Figure 1: Overall Competency Scores



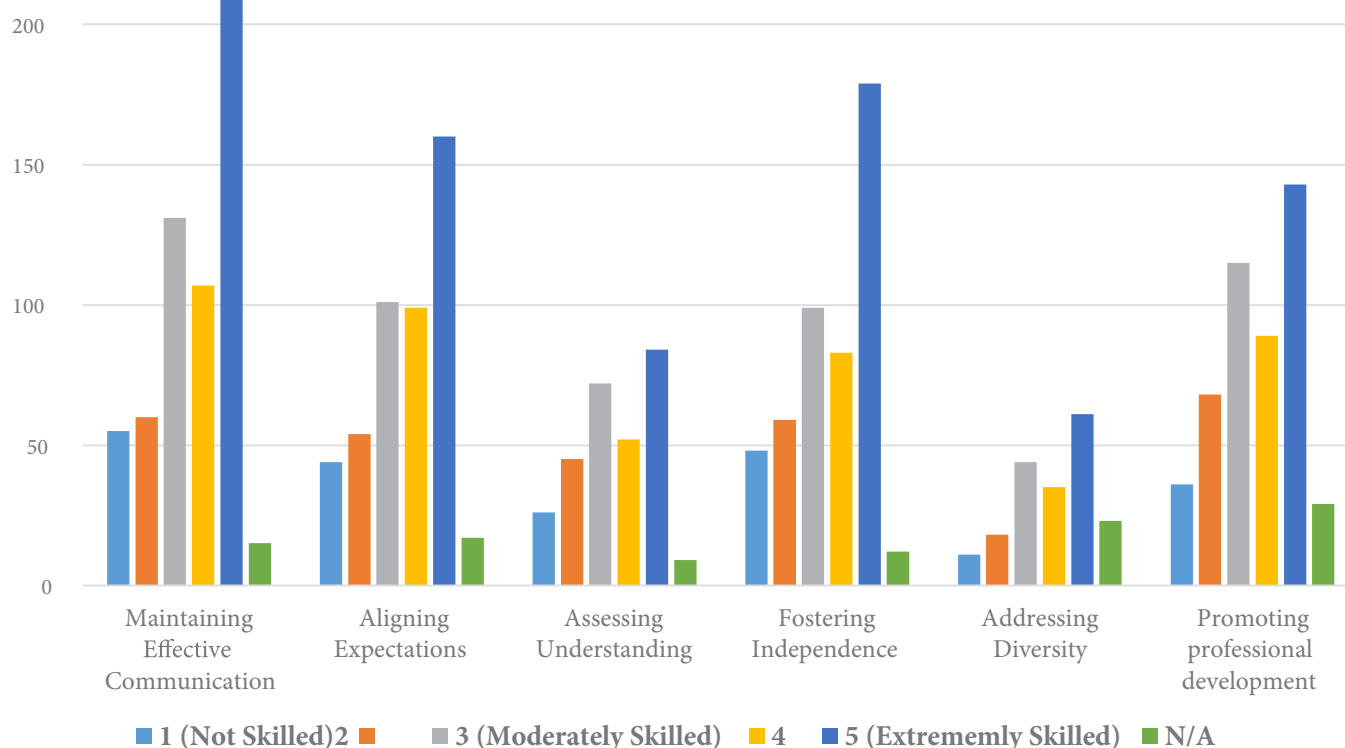
trust (p value= 0.02), aligning his/her expectation with you (p value= 0.04), considering how personal & professional differences impact expectations (p value= 0.02), accurately estimating your knowledge (p value= 0.01), working effectively with mentees from different backgrounds (p value= 0.04) and helping you acquire resources (p value= 0.02). Assistant professors were best at motivating students (p value=0.01) and providing constructive feedback (p value=0.05). Mentors from department of medical education were better at considering how personal & professional differences impact expectations (p = 0.04).

Discussion: Customary mentorship in undergraduate medical education focuses on such items as personal and

professional development, along with emotional support and encouragement (Rose et al., 2005). A systematic review of mentorship for medical students mentioned 16 papers that described structured mentorship programs (Buddeberg-Fischer & Herta, 2006). Another systematic review in PubMed identified 14 manuscripts that described themes in medical student mentoring programs, ranging from career counseling, professionalism, increasing interest in research, and supporting personal growth. (Frei et al., 2010).

Measuring mentorship is immature in undergraduate medical education, as mentorship takes place in variable contexts and the conceptualizations differ (Chen, Watson, & Hilton, 2016). The Mentoring Competence Assessment

Figure 2: The Six Mentor Competencies



(MCA) emerges as a measure for efficacy of mentor training or for identifying areas needed for mentor training (Fleming et al., 2013). The perceptions of the students regarding the six mentor competencies, as depicted by our results, show high baseline values (Figure 1). The high scoring competencies in the order of ratings they attained are: maintaining effective communication, fostering independence, promoting professional development and aligning expectations, whereas assessing understanding and addressing diversity were rated at less than fifty percent, indicating areas for faculty development training (Figure 1 & 2). There remains no data in literature to support whether randomly assigned mentors or pre-thought assigned mentors best achieved successful mentoring relationships (Fornari et al., 2014).

In our survey, 25% students regarded group mentoring as the cause of their uncomfortable mentoring relationship (Figure 4). The impact of different mentee-mentor ratios on the relationship is unknown and may in part depend on the purpose and goals of the mentoring program as well as available resources (Fornari et al., 2014).

In most instances, the proportion of women and minorities among students is higher than it is among faculty. Women make up nearly half of the medical students (Lakoski & Lou Voytko, 2017) and they are more likely to become depressed than men over the first year of medical school (Parkerson, Broadhead,

& Tse, 1990). In cross gender mentoring, stereotypical roles are assumed, defined by expectations of appropriate behavior for each gender. There are also differences in work styles, temperaments, capacity, energy and drive (Lakoski & Lou Voytko, 2017). Although some women students indicated they would prefer women mentors (Igartua, 1997), but in our survey, students were not uncomfortable with cross gender mentoring (Figure 4).

Seniority bias, reported by 19.57% students, pointed out a dire need to train our faculty for a friendlier attitude based on mutual respect (Figure 4). 86% students rating informal mentoring as effective means also shows their liking for mentor's friendly attitude. According to Chickering's seven vector model of identity development, undergraduate students, as young adults, are in the process of personality development and at this stage they can be easily honed into better professionals of the future (Chickering & Reisser, 1993). Assistant professors rated best on motivating students and providing constructive feedback, may be due to the fact that they also have more contact hours with the students in terms of teaching and assessment.

80% students rating high on benefitting from mentoring, is good news for the mentoring program, although areas for improvement always persist. The MCA can be administered from time to time for this purpose. The mentees feel they

FIGURE 3: MY MENTOR HELPED ME THE MOST BY

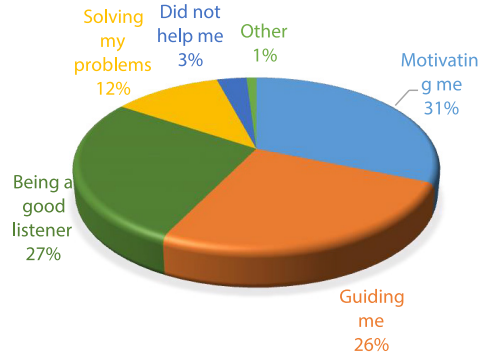


Figure 3

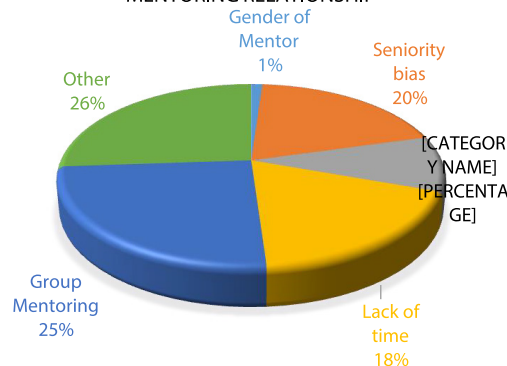
Nearly 80% students rated 3 to 5 (moderate to a great deal) on how much they have benefitted from their mentor.

They claimed their mentor had helped them most by motivating (31.25%), by being a good listener (27.08%), guiding (26.04%) solving problems (11.46%) and other (1%). 3.3% mentees alleged they have not benefitted from their mentor.

Figure 4

On what makes the mentoring relationship uncomfortable, the mentees responded as: Group mentoring (25%), seniority bias (19.57%), lack of time (18.48%), attitude of my mentor (9.78%), gender of mentor (1.09%), and 11.11% said lack of resources & materials for feedback. 14.98% claimed nothing made their relationship uncomfortable.

FIGURE 4: REASON FOR UNCOMFORTABLE MENTORING RELATIONSHIP



benefitted most by being motivated, guided, being listened to and by help in solving problems. Although the mentees who think they have not benefitted from their mentor are very less in number, yet it should be looked upon, as little to more, mentoring has something for everybody. It should also be explored and ensured that mentoring would not have any negative impact on the mentees.

Conclusion: Mentoring at an early stage is most beneficial and the mentoring pairs should meet regularly. It is a mutual & committed relationship. South Asia has a distinction from the West socio-culturally and this difference must be acknowledged while implementing mentoring programs in the region. Our programs should be in sync with local perspectives and cultural issues should be considered (Shamim, 2013). A student's gender and race can affect medical school experience. Therefore, to prevent misunderstandings, mentors can acknowledge differences and accept education from protégée's about their unique perspectives. Female mentors might be particularly important for female students, since they may provide a role model for balancing the demands of professional and personal life (Frei et al., 2010). Faculty needs and recognition for mentoring services are

areas which require institutes' hindsight (Shamim, 2013). Mentoring must become a faculty priority & those who take up this duty should be rewarded for their contribution to medical education (Igartua, 1997). An evaluation of the individual successes of the participants as well as the cost-benefit analysis are also needed (Buddeberg-Fischer & Herta, 2006). Educating & empowering students, along with faculty education regarding students' needs may improve mentoring (Shamsunnisa, Khan, Rauf, Shaheen, & Waqar, 2014).

Our study helped in identifying potential areas for improvement in faculty training for mentorship.

Limitations: One limitation is that it is a single-institution study. The students of different cultural backgrounds were not considered for their specific needs. High ratings may be a ceiling effect. Most mentoring relationships only include a subset of possible functions, so the MCA may not be fully applicable as such, to assess mentor competence.

Way forward: The study can be conducted at other institutes with formal mentoring programs. The mentors can be asked the same questions simultaneously to see how the mentor's self-assessment of a competency differs with that of his/her mentees. Amendments can be made to the MCA based

on our values and mentoring program goals. MCA ratings can be used for assessing & rewarding mentors. Further studies would aid to build on the framework of mentoring by assessing students' preferences, modifying our program accordingly and then evaluating the required competencies.

Appendix A & B: A: Questionnaire used

B: Individual scores of each competency

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