

Students' perception of mentoring at Bahria University Medical and Dental College, Karachi

Sobia Ali,¹ Aamir Omair,² Mukhtiar Baig³

Abstract

Objective: To assess the students' perception regarding mentoring at different stages of their studies at a private-sector medical college.

Method: The cross-sectional study was conducted from April 2012 to July 2014 at Bahria University Medical and Dental College, Karachi, and comprised students from first to fourth year. Data was collected through a self-administered questionnaire, which was developed after literature search and discussion. The total score for the 35 questions was used as the 'perception score' for the students. The perceptions among all students in an academic year were compared using the Kruskal-Wallis test for median score differences.

Results: Of the 401 students approached, 341(85%) completed the survey. The median perception scores for personal support ($p=0.81$) and career advice ($p=0.07$) were not different across the four years. There was a significant difference in the perception scores for role modelling ($p<0.001$) and research collaboration ($p=0.002$). Students in pre-clinical years (1st/2nd years) rated their mentors higher on role modelling aspects of mentoring ($p<0.001$) compared to those in the clinical years (3rd/4th years).

Conclusion: Agreement for personal support had the highest score out of the four categories which was not different among all the four years. However, students' perception varied among preclinical and clinical groups when it came to the matter of career advising and role modelling.

Keywords: Mentoring; Medical students; Stage specific. (JPMA 65: 615; 2015)

Introduction

The concept of mentoring "appears to have its roots from Homer's *Odyssey* where in ancient Greece, Odysseus, about to leave for the Trojan War, entrusted the education of his infant son, Telemachus to Mentor, a loyal servant, friend and retainer".¹ Contemporary interest in prospective value of mentoring emerged possibly from the work of Roche in 1979 from the United States, which showed that mentoring had a major role in the career of top executives there with three-fourths having been mentored and also 70 percent reporting that there was a major influence of a mentor in their career.²

In the world of medical education, a longstanding informal mentoring practice is evident, but it was officially formalised in late 1990's when mentoring was adopted for medical students in the United States as formal regular practice.³ The development of a formal mentoring programme in medical colleges has been emphasised since then in literature. The elements that have been found to have a significant role include 'the goals and objectives of the programme, mentor

selection and training, mentor-mentee meetings, and continuous feedback from mentees.⁴

Literature also emphasised that the effectiveness of mentoring fosters the mutually beneficial relationship, in which both mentor and mentee are beneficiaries and, above all, it gives benefits to the institute as well.⁵⁻⁷ A study⁸ categorized the benefits to mentee as "personal support and academic advising, career advising, role modelling for career and family, and research collaboration".

In addition to the objectives, types, benefits, and models of mentoring, the literature also highlights the phases of mentoring and labels them as 'transition and termination'.^{5,6,9,10} It is evident that mentee's needs vary according to the stage through which he is passing. Similarly, medical students need mentoring at different stages of their studies differently, and they approach their mentor according to their need at that particular stage. For example, initially, their major issues are to settle into the college environment, examination fear, learning difficulties, financial and or social problems. As the student progresses and becomes more confident, the need on these issues decreases and usually shifts to the need for career counselling, specialty selection and research guidance.^{5,6,9,10}

In Pakistan, the Dow International Medical College (DIMC) announced a formal mentoring programme in 2006 as part

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¹Department of Medical Education, Liaquat National Hospital & Medical College, Karachi, ²Research Unit, Department of Medical Education, King Saud bin Abdulaziz University for Health Sciences, Riyadh, ³Assessment Unit, Faculty of Medicine, Rabigh, King Abdul Aziz University, Jeddah, Saudi Arabia.

Correspondence: Sobia Ali. Email: dralisobia99@gmail.com

of its curriculum with the objective of enhancing academic and moral support for career and personality development of students.¹¹ A few other private and public-sector medical colleges have also introduced mentorship in their curriculum, particularly for postgraduate students.^{12,13}

Although mentoring is being practised for over seven years, but very limited research work has been done on the impact of mentoring on mentee and mentors in our context. A study¹⁴ concluded that mentoring programme is perceived by the mentors to be a successful and promising strategy for grooming young medical students. Another study¹² suggested that "formal mentoring in career preparation, and development was appreciated in psychiatric services across different countries and cultures" and in Pakistan too. However, no study is available that focuses on the mentees' perception about the process.

Bahria University Medical and Dental College (BUMDC) initiated a structured mentorship programme since its inception in 2008.¹³ Ten students in a group were assigned to a single Basic Sciences faculty member (as mentor) from the early days of their studies. It was planned that these mentors will remain for the five years until the end of their studies. The students of the first two batches, after the guidance of their Basic Science mentors, have started spending more time with clinical educators in clinical environment. Here the question arises whether the Basic Science faculty mentors are uniformly efficient for both pre-clinical and clinical years' students? This was the rationale behind this study with the aim of determining if the mentorship relationship between the faculty and students at BUMDC is effective and if the mentees get some benefit from this relation equally in all stages of their studies. The objective of this study was to assess and compare the perception of students regarding the effectiveness of mentoring relationship in different stages of their studies.

Subjects and Methods

The cross-sectional comparative study was conducted between April 2012 and July 2014 at BUMDC, Karachi, and comprised students from first year to fourth year MBBS. All students were considered eligible. A questionnaire was developed based on mentorship issues discussed in the literature.^{8,15-17} In addition, some parts were also taken from the Mentorship Effectiveness Scale developed by the Ad-Hoc Faculty Mentoring Committee, John Hopkins University School of Nursing.¹⁸

The questionnaire only had close-ended questions; 32-items were generated and then reviewed by a panel consisting of two faculty mentors and four students (one from each year) for their mentor's characteristics to provide evidence of content-related validity. Item revisions required

three meetings until agreement within the panel was attained. The final questionnaire contained 35 items in four sections of Personal Support (17 items), Career Advising (6 items), Role Modelling for Career and Family (10 items), and Research Collaboration (2 items). The questionnaire also contained information about the academic year of the students, mentor's name and mentee's gender. A Likert scale format was used to elicit each mentee's responses to the items. A 'Not Applicable' option was also listed in case a characteristic was not appropriate for a particular mentor-mentee relationship. The maximum score on each question was 5 and so the maximum possible total for the 35 questions was 175.

The questionnaire was distributed at the end of lectures and was collected after an interval of 15-20 minutes. Students were explained about the study in detail and asked to fill the consent form before filling in the questionnaire. Maximum attendance of the students was ensured to minimise non-response.

SPSS 16 was used for statistical analysis. Results were expressed as median and inter quartile range (IQR) for quantitative variables, i.e. scores of students' perception because the data was found to be skewed. Statistical comparison was performed by using non-parametric Kruskal Wallis test for median score differences for comparing the scores between the different years and for comparing the perception of students in pre-clinical and clinical years. In all statistical analysis, $p < 0.05$ was considered significant.

Results

Of the 401 students approached, 341 (85%) completed the survey. Of them, 214 (63%) were females and 127 (37%) were males. The response rate was relatively higher in the 1st and 3rd years compared to 2nd and 4th years (Table-1).

The mean scores for Personal Support (54.9+19.2; max=85), Career Advice (14.4+6.2; max=30), role modelling (29.7+9.1; max=50), and Research Collaboration (5.6+2.1; max=10) were worked out. The distribution of the scores for all the four mentoring aspects was skewed by the Shapiro-Wilk test ($p < 0.001$), so the data was compared using Kruskal-Wallis test for median scores.

In the median scores of students' overall perception, there was no significant difference in the score from first year to fourth year for Personal Support ($p = 0.81$) and Career Advice ($p = 0.07$). There was a significant difference for the scores for Role Modelling ($p < 0.001$), with the 1st and 2nd year students having higher scores compared to the 3rd and 4th year students. There was also a significant difference in the scores for Research Collaboration ($p = 0.002$) but in this case

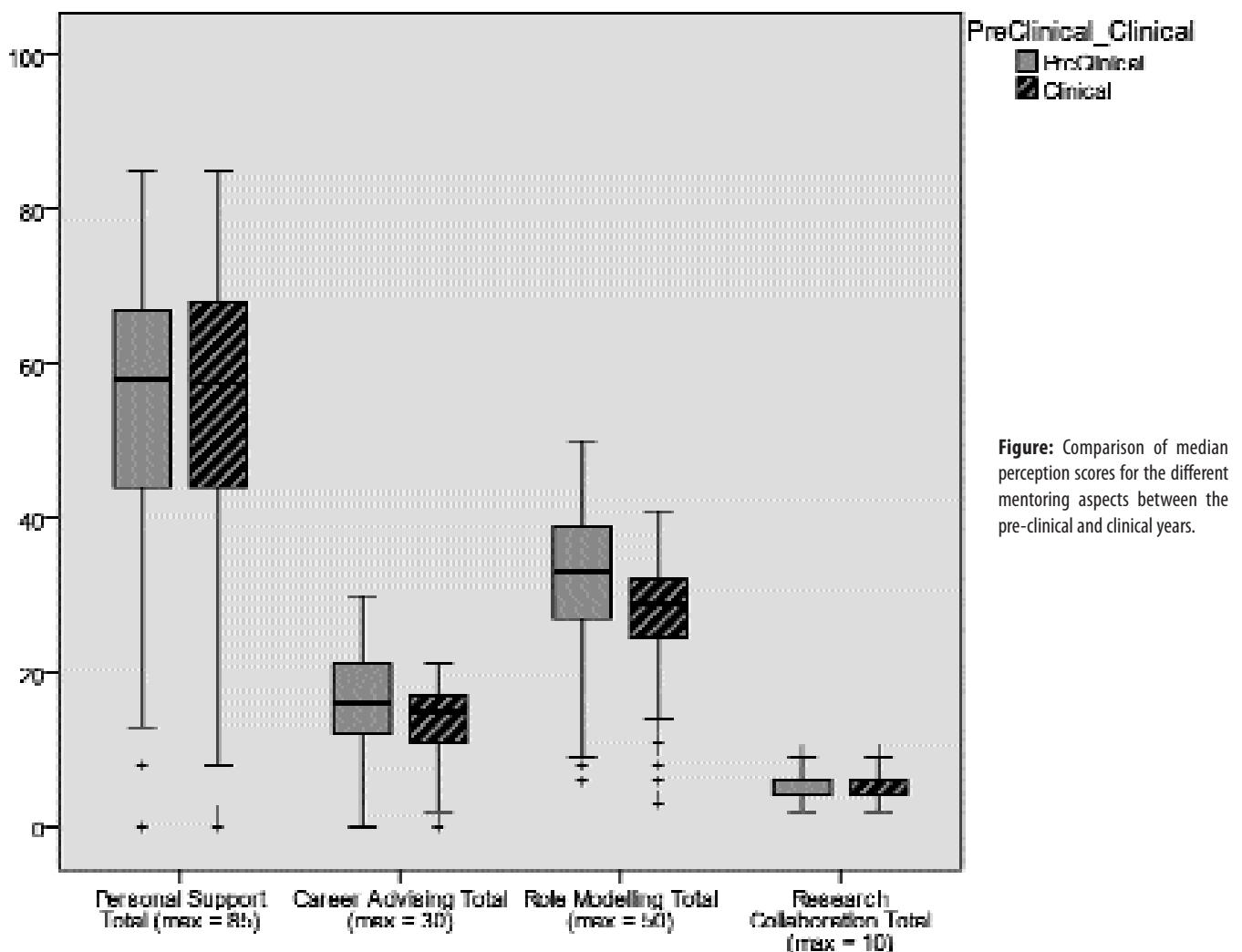
Table-1: Gender and response distribution by year of study.

Students' Gender	Year of Study				Total
	First year (n=97)	Second year (n=76)	Third year (n=89)	Fourth year (n=79)	
Male	35(36%)	25(33%)	37(42%)	30(38%)	127(37%)
Female	62(64%)	51(67%)	52(58%)	49(62%)	214(63%)
Total students in class	106	97	97	99	401
Number of students responded	97	76	89	79	341
Response rate by class	92%	78%	92%	80%	85%

Table-2: Median (IQR*) perception scores of respondents for the different aspects of mentoring by year of study.

Mentoring aspect	1st year (n=97)	2nd year (n=76)	3rd year (n=89)	4th year (n=79)	P-value
Personal support (max = 85)	54 (41.5, 66.5)	59.5 (47,68.75)	58 (45.5, 65.6)	56 (41, 71)	0.81
Career advice (max = 30)	16 (12, 21)	16 (10.25,21)	15 (11, 17)	14 (11, 17)	0.07
Role modelling (max = 50)	34 (26.5, 34)	32 (26.25, 38)	30 (26, 32.5)	28 (22, 31)	<0.001**
Research collaboration (max=10)	6 (4, 7)	5.5 (4, 6)	6 (4.5, 6)	6 (4, 6)	0.002**

IQR: Inter-quartile range.



the scores for the 2nd year students were less compared to the students of the remaining three years (Table-2).

Comparison was also done of the median scores of students grouped as pre-clinical years versus clinical years. Overall median scores for Personal Support (58 and 57.5), Career Advice (16 and 15), and research collaboration (6 and 6) for the pre-clinical and the clinical groups respectively showed no significant difference ($p > 0.05$) (Figure). The results for Role Modelling showed the median scores to be significantly higher for the pre-clinical years (33) compared to the clinical years (29) ($p < 0.001$).

Discussion

The study examined the mentees' perception of mentorship at BUMDC. It analysed the effectiveness of the mentoring programme in the light of four different objectives on which this programme is based, relating the results with the mentees' current academic stage. It is expected that the findings will not only contribute to the improvement of students mentoring programme at BUMDC, but will also help guide the development of mentoring programmes at other health sciences universities.

The findings suggest that agreement for Personal Support had the highest score of the four categories. This perception, though endorsed with moderate scoring (63.5%-66.2%), was still consistent through all the years. Having a mentor seemed to be a positive experience for the students from year 1 to year 4 in terms of personal development. Mentors, by motivating, provide a constructive critique, demonstrating sensitivity to the mentees' need, and by keeping an eye on their academic performance provide personal support to the mentees. This finding is in line with previous studies^{8,19} that provided evidence of association of mentoring with personal support of the mentee and it was observed that students rated their perception high when a mentor was interested in students' needs and gave emotional support and guidance for their learning.

A study²⁰ while comparing the students and resident's perspectives about role-model clinicians concluded that "both groups valued different abilities. Medical students categorised their role models as an outstanding didactic teacher, while residents appreciated direct feedback and ability to provide professional opportunities as much more than education". The BUMDC students scored their Basic Science's faculty mentors low in Role Modelling aspects which may probably be based on this observation. Again on the role modelling issue, literature argues as to who is the better role model; a clinical educator or clinical scientist?^{21,22} The role of a mentor belonging to Basic Sciences as a role model for students doing their clerkship is unclear in literature. A study²¹ added evidence to this debate by

concluding that mentees got influenced by mentor's academic rank, faculty type and experience of the faculty members as a mentor, and further stated that role modelling was considered as being one of the roles of clinical supervisors. This conclusion further explains the low scoring of mentors by third-year and fourth-year students, as their mentors may not fit perfectly on the above criteria of role modelling.

On the Career Advising issue, a study²³ proposed that "career advising is a rational process in which five phases should be imminent, including the information on career option, developing career plans, focusing on career goals, realisation of career steps, and evaluation of career development". Students from third and fourth year, although they do not still reach the step of evaluation for this purpose, but they have now reached the phase of developing career plans and at this stage, they need support and guidance from their mentors for career selection and development, which can be better provided by a clinician, whether educator or scientist. While seconding the quoted statement others also added a component for being stage-specific for this purpose. They emphasised that mentees should be allowed to choose their career advisors at the time they need them. This may be the reason for low scores of third-year and fourth-year students on Career Advising aspect of mentoring because this is the time they are exposed to clinicians and clinical environment of different specialty, and they need advice for future house job and specialty selection. Although the first two years also are not very positive on this aspect, but the exaggerated responses emerged from clinical year students supported this argument.

The mentoring programme of BUMDC is providing career advising for students from year 1 to year 5 by the same mentor belonging to Basic Sciences and does not encompass the philosophy of transition or being stage-specific and thus verified our students' negative perception of Career Advising aspect of mentoring. A study²² conducted in South Carolina said third-year students encounter with physician role models as "Llate" and suggested that students could meet their role model early before their career choice. Third-year and fourth-year students of BUMDC rated their Basic Science mentors really low, because they were now in clinical environment, and probably they were more willing to select the clinicians as their role models.

The study also suggests that students rate their mentors low in all stages of medical school when asked about the Research Collaboration aspect of mentoring. This response was expected from the first two years, as research collaboration was planned to work for the later years of

medical school life. It is unclear why students at all stages have such perception, but literature provides the clue for the probable reasons behind it. A study²⁴ defined the research mentorship as a complex and multidimensional process which consists of domains that include the criteria for selecting mentors, networking and training of mentors and mentees. Most probably so many expectations from a Basic Science mentor are impractical provided he may not be selected on predefined criteria and not be provided enough resources for research purposes.

Our study has several limitations, including its cross-sectional design which prevents the finding of the cause behind the effects. A new questionnaire was designed for this study, which has not been previously validated, to gauge the perception of students. Furthermore, all the questions were close-ended and may have failed to ask questions specific to their relationship. Finally, it only measured the perception according to the mentor's characteristics and did not give importance to other factors associated with effective mentoring, such as mentor rank, and time spent for activity and programme process.

The sample size of the study is its strength because the chances of bias and error would be less with such a sample size. This study is the first comparing the perception of students at different stages of learning in medical school in our own context and provide a baseline for the development of a structured mentoring programme according to the needs of the mentees. It is recommended that the selection of mentors should be evidence-based, and the programme should be planned for the specific stages of the mentees' requirements.

Conclusion

The mentoring programme of BUMDC scored moderate in providing Personal Support to students at all stages of medical school life. However, perception varied on the Career Advising and Role Modelling aspects of mentoring, especially when compared between the students in their pre-clinical years with those in clinical years. Mentors were scored low by the students of all years for Research Collaboration. The concept of selection of mentors and transition of needs at different stages may be the main motives behind it.

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