

ROLE OF SUPERVISORS AS MENTOR IN THE ACADEMIC PERFORMANCE OF POST GRADUATE DOCTORS IN A PUBLIC SECTOR HOSPITAL OF KARACHI

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ABSTRACT

Objective: To identify the role of supervisors as mentor in the academic performance of post graduate doctors in a public sector hospital of Karachi.

Study Design: Post positivist quantitative quasi experimental study.

Place and Duration of Study: PNS Shifa Hospital Karachi, from Aug 2017 to Jan 2018.

Material and Methods: In this study pre-test scores of mentees and non mentored trainees (control group) were compared with the post-test scores. A total of 91 post graduate trainees and their supervisors was enrolled in this study. The trainees were randomly assigned to 2 group labeled as A and B. Group A was given mentoring sessions on fortnightly basis for three months. Group B was not given any mentoring during the initial 3 months. For data analysis the statistical software SPSS version 20.0 was used.

Results: A total of 91 post graduate trainees participated in this study. There were 21 male participants and 70 female participants with male to female ratio of 1:3.3. The ages of the trainees ranged from 26 to 43 years. While comparing the pre-test and post-test scores between groups A and B, it was seen that both the post-test scores, at 3 months and at 6 months, were significantly different among both groups ($p < 0.05$). While the post-test scores with mentoring, i.e. of group A at 3 months and of group B at 6 months, were higher than post-test scores without mentoring.

Conclusion: On the basis of this study it was concluded that mentoring by supervisors has a significant impact on the academic performance of the post graduate trainees in our set up.

Keywords: Counselor, Mentoring, Mentor, Professional.

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INTRODUCTION

Mentoring is interpreted as 'the person to person relation in acquisition of knowledge and skills between a student and an expert in a specific topic or discipline. The mentor acts as a counsellor and adviser to the student to develop in that area of interest¹. They prove useful to the mentees when they share their experiences, information and wisdom with the mentee. Besides they give timely feedback and provide insight about the various professional customs, grids and openings for professional growth^{2,3}. The interactions between mentor and protégés enhance the qualities in mentees that enable them to follow a successful career³. Mentors are part of the community of practice which the trainees

want to be part of. They facilitate the residents to move from the periphery to the central portion of the community⁴. The medical institutions are responsible for the training of health professionals. They aim at advancing clinical care, research and education. In this respect mentoring is considered a core component of the duties of medical faculty to facilitate successful achievement of this mission⁵. Mentoring has imparted a significant impact on the career of top executives and in one study 70% reported having a major influence of a mentor in their career⁶. In a study about 93% residents acknowledged that mentors had a significant impact on the decision to pursue a career in academic medicine⁷. The mentors help their mentee in career development by providing them with avenues for networking; by assisting in acquisition of important skills including data analysis and scientific writing besides providing personal advice and moral

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support⁸. As a result of this relationship both mentor and mentee are beneficiaries and above all it gives benefits to the institute as well⁶. Mentoring is a significant contributor in the development of successful career in academic medicine as well⁹. The model program should have appropriate short-and long-term goals¹⁰. The goal for undergraduates is to encourage the mentees to attain their full potential by sharing knowledge & experience along with providing emotional support¹¹. An important goal of post graduate training is to prepare the young graduates for future careers in the respective fields besides empowering them to attain their personal and professional goals to serve the society in a better way¹². Mentoring has been shown to have a positive impact on the career success of Swiss doctors undergoing post graduate specialist training¹³. A study carried out in a private sector hospital from Karachi about 5 years ago in 20 family medicine residents proved that mentoring plays an important part in personal and professional growth of the trainees especially when their requirements are met¹⁴. The undergraduate mentoring program has been perceived by the mentors to be a successful and promising strategy for grooming young medical students¹⁵. The rationale of this research was to figure out the relation between mentoring and performance of post graduate trainees in academic activities in our setup to fill up this gap.

MATERIAL AND METHODS

This study was designed as a post positivist quantitative research. After approval from the institutional ethical committee, it was conducted in Pakistan Naval Ship (PNS) Shifa Hospital Karachi, an accredited hospital to impart post graduate training in various disciplines including anaesthesia, dermatology, gynaecology, medicine, paediatrics, pathology, radiology and surgery, from August 2017 to January 2018. It was a quasi experimental study in which pre test scores of mentees were compared with the post test scores. These were analyzed with the control group. Non probability consecutive sampling strategy was utilized where all the willing

supervisors and trainees were included¹². A total of 91 post graduate trainees (including 6 x anaesthesia, 8 x dermatology, 12 x medicine, 15 x paediatrics, 3 x pathology, 8 x surgery and 39 x radiology) and their supervisors were enrolled in the study. Random binary division of trainees was done in groups labeled as A and B. A pre test was conducted which was anonymous so as to maintain the privacy. The record of the pre test carried out was compiled. Group A was given mentoring sessions on fortnightly basis for three months. During these sessions trainees were given feedback on academic performance, skills and professionalism. Besides they were informed about the various opportunities to upgrade their professional capabilities. They were offered to

Table-I: Difference between Pre-Test and Post-Test Scores in Group A.

Variable (n=48)	Median (IQR)	p-value
Pre Test	64 (8)	<0.001
Post Test at 3 Months	78 (16)	
Pre Test	64 (8)	<0.001
Post Test at 6 Months	70 (7)	

Table-II: Difference between Pre-Test and Post-Test Scores in Group B.

Variable (n=43)	Median (IQR)	p-value
Pre Test	60 (12)	0.008
Post Test at 3 Months	58 (10)	
Pre Test	60 (12)	<0.001
Post Test at 6 Months	75 (14)	

discuss personal matters, if any, in private. Group B was not given any mentoring during the initial 3 months. The academic performance of post graduate trainees was assessed in the quarterly examinations conducted for this study. The groups were switched over at the end of three months. Then over the next three months the group B was given similar one to one mentoring sessions and group A was left alone without mentoring. Then they were subjected to another post test at the end of second quarter. For data analysis the statistical software SPSS version 20.0 was used. The quantitative data were expressed median and inter-quartile range (IQR) and qualitative data was expressed as frequency and percentage. Shapiro Wilk test was used to verify the normal distribution. Wilcoxon sign rank test

was applied to evaluate the difference between pre and post test evaluation. Man-Whitney u test was applied to assess the difference between the groups. *p*-value ≤ 0.05 was taken as significant.

RESULTS

All the supervisors/mentors were male. A total of 91 post graduate trainees participated in this study. There were 21 male and 70 female participants with a male to female ratio of 1:3.3.

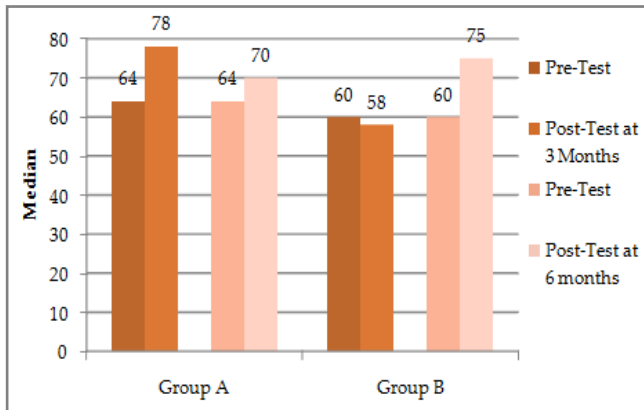


Figure-1: Comparison of Pre and Post Median Test Scores.

The ages of the trainees ranged from 26 to 43 years. The study results revealed a significant difference between pre test scores and post test

months; the median score at 3 month post-test was found to be significantly lower whereas the median score at 6 month post-test was found to be significantly higher than the median score at pre-test (table-II & fig-1).

Moreover, while comparing the pre-test and post-test scores between groups A and B, it was seen that both the post-test scores, at 3 months and at 6 months, were significantly different

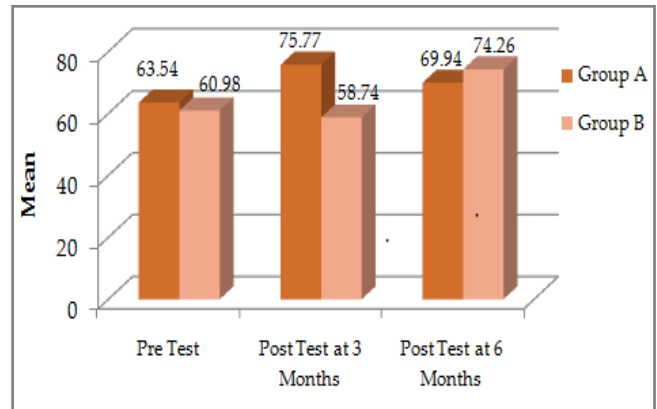


Figure-2: Group wise comparison of mean test scores.

among both groups ($p < 0.001$ and $p = 0.01$ respectively) where the post-test scores with mentoring, i.e. of group A at 3 months and of group B at 6 months, were higher than post-test

Table-III: Comparison of Pre-Test and Post-Test Scores between groups.

Variable	Group A (n=48) Mean \pm SD	Group B (n=43) Mean \pm SD	<i>p</i> -value
Pre Test	63.54 \pm 7.97	60.98 \pm 6.88	0.161*
Post Test at 3 Months	75.77 \pm 10.37	58.74 \pm 6.79	<0.001*
Post Test at 6 Months	69.94 \pm 6.05	74.26 \pm 9.45	0.01*

*Mann-Whitney U test

scores, both at 3 months and at 6 months, in group A where the students were subjected to mentoring between baseline and 3 months; the median score at both 3 month post-test and 6 month post-test was found to be significantly higher than the median score at pre-test (table-I & fig-1).

The study results further revealed a significant difference between pre test scores and post test scores, both at 3 months and at 6 months, in group B as well where the students were subjected to mentoring between 3 to 6

scores without mentoring (table-III & fig-2).

DISCUSSION

Mentoring is interpreted as the person to person relation in acquisition of knowledge and skills between a student and an expert in a specific topic or discipline. It plays a pivotal role in the personal and professional development of medical residents¹⁶. In a study by Sadiq *et al* from Pakistan in 2013 it was shown that the mentor acts as a counsellor and adviser to the student to develop in his area of interest¹. Mentors are

perceived as trustworthy confidant who guide towards the professional development. To achieve this end they share personal experiences and knowledge with the mentee. Besides they give timely feedback and provide insight about the various professional customs, grids and openings for professional growth^{2,3}. In this study the mentors also provided feedback on academic performance, skills and informed them about opportunities and professional networks during the mentoring sessions. A meta analysis of school based mentoring in year 2010 showed effectiveness of mentoring program in terms of improved performance, reduced absenteeism and misconduct and increased non-parental support from peers and senior colleagues¹. In our study it is proved that mentoring significantly improves the academic performance of post graduate trainees. In one study from Tanzania in 2017 it was shown that the intention of a mentoring program is to achieve the professional competence by the mentees so as to make them effective in the discharge of their professional duties¹⁷. We also intended to explore the impact of mentoring on the academic performance of post graduate trainees, enabling them to effectively perform their professional duties.

In a systematic review of mentoring programs the frequency of meetings ranged from weekly to twice yearly^{3,18}. In our program the meeting occurred at fortnightly intervals. In the same review, most of the programs where result evaluation was done, the data was collected from the mentees. We also analyzed the results obtained from the tests conducted on the mentees.

The trainees value a mentoring program highly in which clinical, professional and academic development are integrated and they are provided one on one feedback and training¹⁸. A systematic review of 8 studies from Croatia revealed that mentoring in academic medicine has an influence on personal development and career guidance⁵. Similar observations have been determined by analysis of data by our study

where mentoring had a significant impact on the academic performance of post graduate trainees.

Literature also provides evidence that mentoring was a critical component of effective undergraduate education and has been recognized by the students and journalists as well¹⁹. In an earlier study in 1991 it was concluded that the concept of mentoring was not clear and precise. It was thought that the effectiveness of informal or formal mentoring in promoting undergraduate academic success was an assumption which had to be proved¹⁹. However Usmani *et al* emphasized in their study that altruistic act of mentoring plays an important part and a major role in the productive development of the medical students¹⁵.

In a study from Germany by Dimitriadis *et al* (2012) it was reflected that high achiever medical students were more probable to take part in formal mentoring programs. The mentoring alliance between faculty and medical tutee/ scholar is gratifying for both. It is an effective instrument for the professional growth of medical students⁹. Comparable results were derived from this study where supervisors and institutes took pride in the better performance of their trainees in the post graduate exams.

In a study conducted in USA, in 2014, mentoring was perceived helpful in career planning, choosing the specialty and importantly pursuing academic careers. Overwhelming majority of residents (93%) believed that mentors had a constructive impact on the decision to pursue a career⁷.

A study carried out with post graduate internal medicine residents associated with Harvard Medical School, supported the reason that residents exceedingly value the effective mentorship relationship and contribute the improved satisfaction with career to their training experiences¹². However, we could not find a study that related the impact of mentorship on the academic performance of post graduate trainees in our setting. Our study has exhibited a statistically significant impact of mentorship on

the academic performance of post graduate trainees in our organization.

CONCLUSION

Mentoring by supervisors had a significant impact on the academic performance of the post graduate trainees in our framework as well.

RECOMMENDATION

A qualitative search needs to be conducted to explore the mentoring traits of supervisors which are perceived as influential towards the professional development of their trainees.

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CONFLICT OF INTEREST

This study has no conflict of interest to be declared by any author.

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