



Original Research Article

Exploring the impact of ‘structured mentorship programme’ on psychological adjustments of students in the early phase of medical training

Momi Baruah¹, Priyadarshini Mishra^{2*}¹Lokmanya Tilak Municipal College and General Hospital, Sion, Mumbai, Maharashtra, India²Dept. of Physiology, All India Institute of Medical Sciences, Bhubaneswar, Odisha, India

ARTICLE INFO

Article history:

Received 06-05-2023

Accepted 09-12-2023

Available online 21-12-2024

Keywords:

Mentorship programme

Psychosocial

Psychological adjustment

Structured

ABSTRACT

Background: Poor psychological adjustment can have negative influence on health provider as well as patient care. Mentoring bears positive impact on mental health of medical students particularly in early stage of training. The study was conducted among first year MBBS students to assess the effect of structured mentorship programme on their psychosocial wellbeing.

Materials and Methods: This was an interventional study, carried out at tertiary health care teaching institute in Mumbai City of Maharashtra, India. Psychological adjustment was evaluated using DASS (Depression, Anxiety, Stress Scale), General Self Efficacy Scale (GSES) and Scale of Psychological Wellbeing. Pre and post intervention scores were calculated. Data analysis was done by SPSS 20.0 and comparisons were performed by ‘Wilcoxon Signed Ranks Test’ and ‘Spearman’s rank correlation coefficient Test’.

Results: A total of 62 (41.33%) students and 15 (100%) mentors participated in the study. There was statistically significant difference ($p < 0.001$) in pre (29.77) and post intervention (31.40) scores of students, indicating positive effect of mentoring programme on their mental health issues. The study could not reveal any significant relationship between individual components (stress, anxiety and depression) of subjects and mentoring programme.

Conclusions: The study reported improvement in psychosocial domains of medical students as a result of mentorship programme. Both students and mentors favored the programme and perceived several benefits.

This is an Open Access (OA) journal, and articles are distributed under the terms of the [Creative Commons Attribution 4.0 International License](#), which allows others to remix, and build upon the work. The licensor cannot revoke these freedoms as long as you follow the license terms.

For reprints contact: reprint@ipinnovative.com

1. Background

Mentoring is a reciprocal and collaborative relationship by which student is mentored by experienced person to develop professional, academic and other relevant skills.¹ An effective mentorship association helps mentee through multiple crucial outcomes such as personality and professional identity development, achievement of career goals, bridging of gaps in generic skills and knowledge etc.²

Due to substantial curriculum workload and competitive educational environment, medical students often face several challenges. One of the major problems perceived

by medical students, particularly during early phase of training, are emotional and psychological related issues like poor self-confidence, fear of failure, anxiety about future, homesickness, difficulty in adjusting to the surroundings etc.^{3,4} One study reported that around 60% of students had problems with their mental health.⁴ Interventions like ‘mentoring programmes’ are helpful to mitigate such negative influences on students’ formation. The need for well-designed and structured mentoring programmes in initial stage of medical course to address these issues is warranted.

Even though, several authors reported that mentoring is a key strategy for successful and satisfying career in

* Corresponding author.

E-mail address: baruahmomi12@gmail.com (P. Mishra).

medicine; the scientific data on the role of structured mentorship programmes in addressing mental health of novice medical students is sparse.^{5,6} The present study was intended to evaluate the effects of 'Structured Mentorship Programme' on psychological adjustment of first year MBBS students. An attempt was also made to assess the effectiveness of an intervention through feedback from students and mentors.

2. Materials and Methods

2.1. Study design and sampling methods

An interventional study was implemented between year 2015 to 2017 at one of the public tertiary health care teaching institutes in Mumbai City of Maharashtra, India. An Institutional Ethics Committee approval was obtained from the respective institution. After taking an informed consent, all 150 first year undergraduate MBBS students were enrolled as study subjects. Fifteen Preclinical faculty members of same institute who volunteered to be a part of mentorship programme were included as 'Mentors'. These 150 subjects were divided into 15 small groups according to their roll numbers and each group was assigned to one mentor.

2.2. Procedures

2.2.1. Questionnaires

Three prevalidated, pilot tested, standardized questionnaires were used to assess psychological adjustment of study subjects. DASS (Depression, Anxiety, Stress Scale)⁷ measured the negative emotional states of depression, anxiety and stress. The scale of Psychological Wellbeing (SPW)⁸ was 18 items questionnaire consisting of a series of statements reflecting 6 core areas of psychological well being namely autonomy, environmental mastery, personal growth, positive relations with others, purpose in life, and self-acceptance. The responses were recorded on a 'Likert Scale' of 1 to 6 with 1 indicating strong disagreement and 6 showed strong agreement. Ten items version of General Self Efficacy Scale (GSES)⁹ was utilized to evaluate subjects' ability to respond to novel or difficult situations and to deal with any associated obstacles and setbacks.

2.2.2. Phase wise Implementation of an Intervention

The study was executed through three phases; -

1. Sensitization Programme and Planning
2. Interactive Sessions
3. Assessment and Statistical Analysis

2.3. Sensitization programme and planning

Initial orientation was given to subjects and mentors separately regarding the study including, the need of

mentorship programme, various interactive activities between mentors and subjects, conduction of workshops and assessment methods. Mentors were provided handouts, e- books and online learning modules to ensure their in-depth understanding of mentoring process. All three questionnaires were administered to subjects and their responses were recorded as pre intervention scores.

2.4. Interactive sessions

One-on-one mentoring sessions were held through face to face meetings between study subjects and mentors. Each subject spent one hour per fortnight with the assigned mentor. Mentoring sessions incorporated individualized activities like academic counselling, personality development, stress management, communication skills etc. The subjects were encouraged to meet mentors frequently as per their felt needs. A Logbook was used to document topics or issues discussed during meetings.

2.5. Assessment and statistical analysis

At the end of the study, the subjects completed all three similar questionnaires and their responses were recorded as post intervention scores. Subjects' and mentors' perceptions about mentoring programme were evaluated by 'free response' type of feedback. The data analysis was performed using SPSS (Statistical Package for Social Sciences) 20.0 (SPSS, Inc., Chicago, IL, USA). Descriptive statistics were calculated in terms of mean, standard deviation (SD) and percentiles. Pre and post intervention comparisons were computed by 'Wilcoxon Signed Ranks Test' and 'Spearman's Rank Correlation Coefficient Test'. P value of <0.05 was considered as statistically significant.

3. Results

In the current study, out of 150, only 87 (58%) subjects [42 (48.27%) males and 45(51.72%) females] attempted pre and post test questionnaires. Of which, statistical analysis was done only for 62 (41.33%) subjects as the incomplete questionnaires of remaining 25 subjects were not considered and excluded. The percentage of subjects with unanswered questionnaires was 58%. All study subjects were 19-22 years of age.

The post intervention mean score (31.40) of subjects was higher than pre intervention score (29.77) and the difference was statistically significant ($p < 0.001$) (Table 1). It indicates that overall mentoring process improved psychological problems of subjects on DASS scale. However, there was no statistically significant association ($p > 0.05$) between individual components (stress, anxiety and depression) of subjects and mentoring programme (Table 2).

Correlation analysis did not report any significant correlation between pre and post intervention scores with 'anxiety' and 'stress'. However, 'depression' showed

Table 1: Impact of mentoring on psychological components of subjects (n=62)

DASS Scale	Mean value	S.D.	p-value*
Pre intervention	29.77	2.784	< 0.001
Post intervention	31.40	3.159	

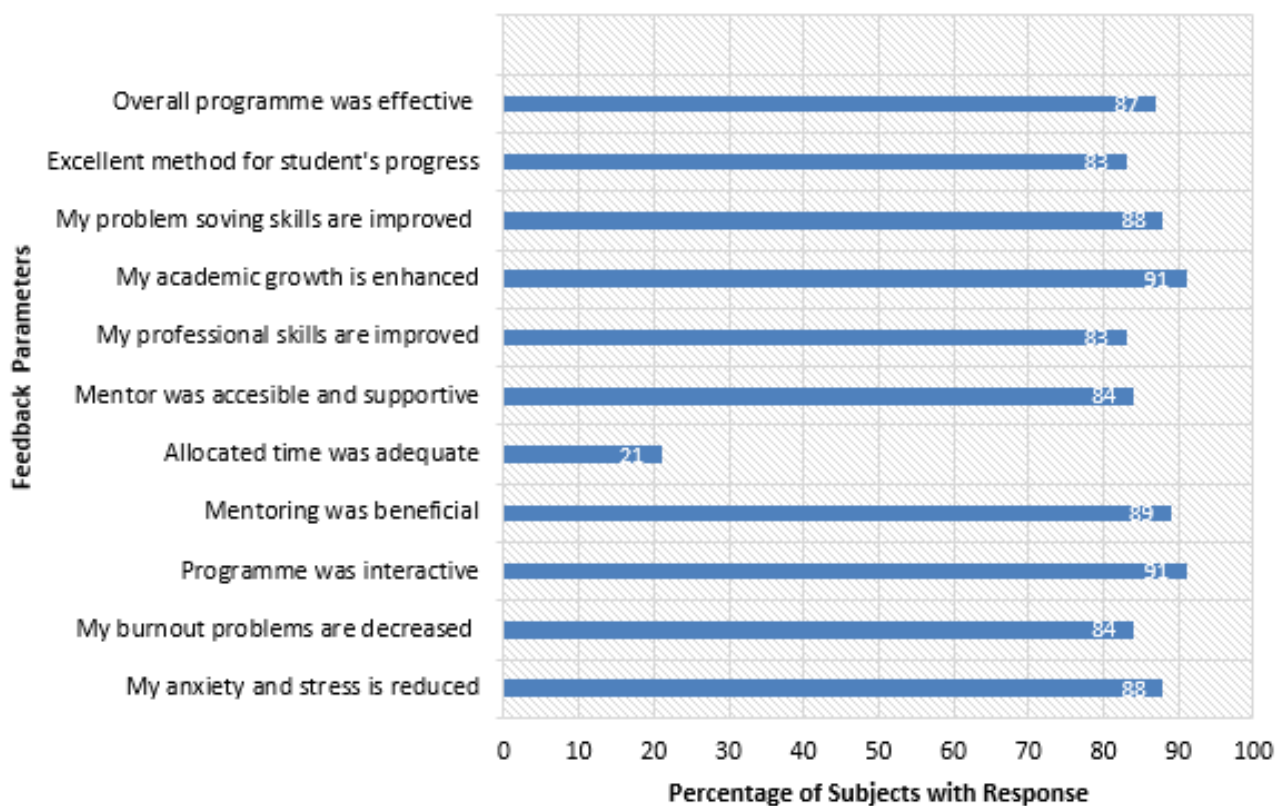
*Two tailed P value of < 0.05 was considered statistically significant, p<0.001 – Highly significant, SD – Standard Deviation

Table 2: Impact of mentoring on stress, anxiety and depression (n=62)

Component	Pre-test mean value	Percentile Range(25 th – 75 th)	Post-test mean value	Percentile Range(25 th – 75 th)	p value
Depression	7.29	2 -12	6	2-8	0.083
Anxiety	10.87	4-16.50	9.58	4-14	0.111
Stress	9.90	4-14	10.29	4-14.50	0.584

Two tailed P value of < 0.05 was considered statistically significant

Feedback Analysis of Study Subjects (n = 62)

**Figure 1:** Feedback of study subjects about mentoring programme(n=62)

moderate positive correlation with 'anxiety' ($r = 0.463$) and 'stress' ($r = 0.621$) and 'anxiety' had moderate positive correlation with 'stress' (0.714).

The study also revealed that 'general self-efficacy' of subjects was enhanced due to mentoring sessions. In present study, the majority (87%) of subjects appreciated mentoring programme as an effective method to improve psychological health (Figure 1). Around 89% of subjects found this methodology beneficial (Figure 1).

Almost more than two third of subjects stated that less time was allocated for mentoring meetings (Figure 1). Ten (16.12%) subjects felt that mentees should have flexibility in choosing their own mentors. Around 45% of subjects expressed the need of more mentoring sessions. One (1.61%) subject was in favor of availing financial support during mentoring programmes. All (15) mentors mentioned that mentoring assisted subjects to develop their personal and professional skills. Nine (60%) mentors opined that

their subjects showed good academic improvement due to the intervention while 41% said that they were satisfied with the academic results of their subjects. All mentors believed that 'student – teacher' relationship was strengthened as a result of this methodology.

Analysis of subjects on SPW Scale also revealed significantly ($p < 0.05$) higher scores after an implementation of mentoring sessions. These scores indicated a sense of greater wellbeing among subjects. However, the pre-intervention scores were found to be less among subjects before the commencement of mentoring programme.

4. Discussion

In our institution, formal mentorship programme existed since long time. This programme was restricted only to allotment of students and assigned mentors, at the entry of fresh undergraduate students. There was no induction training of mentors/ faculty and sensitization of students regarding the implementation of mentoring programme. Even, the lack of 'blue print' would not accomplish the predetermined goals of existing mentorship programme. Such programme was found to be ineffective to foster various skills of students. Considering the gaps into current programme, it was revised, structured and re-introduced with specific objectives, scheduling of mentoring meetings, capacity building of mentors and effective assessment methodologies.

After inculcation of modified mentorship programme, this study observed significant trend towards reduced psychological problems among subjects. This finding was consistent with previous limited literature.^{10–12} Furthermore, the maximum subjects in this study thought that, their mentors embodied the features of ideal mentors, including accessible, conversant, intellectual and supportive. Such reflective feeling of subjects emphasizes on providing freedom for the selection of own mentors by mentees. This should be considered for an effective mentoring process.

In this study, mentors also perceived an array of multiple advantages like personal and professional development, knowledge sharing, achieving wider perspectives on career rejuvenation, rapport building etc. Positive self-reflection of mentors about entire mentoring process can augment their ability to learn new knowledge and skills and promote professional advancement which is one of the fundamental elements of medical education.¹³

'Mentors of same gender' and 'time constraints' were noted to be the most identified challenges by subjects in the present study. Limited time and restricted number of sessions were also perceived as an obstacle to effective mentoring by Jaime Jordan et al.¹⁰ In this study, mentor gender preferences were observed. Around 12% of subjects stated that mentor with similar sex should no be involved in mentoring process. This should be considered for further

qualitative research to explore the reasons for the same. The published data suggests that mentor gender may influence the mentoring relationship even in a virtual environment.¹⁴ Mentoring process cannot be successfully accomplished with gender differences and hence needs to be eliminated. The research shows that 'quality of the mentoring and mentoring relationships' is the central strategy for effective implementation of any mentoring programme.¹⁴ Gender biases is always secondary to it and can be dealt with overcoming communication barriers and maintaining conducive relationship.

In concordance with the current study, several research works showed evidence to promote mental health of medical students through mentorship programmes.^{15,16} Psychosocial issues among aspiring doctors, especially in early phase of training is common and various structured mentorship models need to be incorporated as an integral part of medical curriculum to improve academic and mental wellbeing of the students. In our study, subjects suggested improvement strategies in terms of timeframe and communication modes. Appropriate time scheduling, increase in number of mentoring sessions and the use of alternative meeting online methods like Zoom, Microsoft Teams etc. may enhance the impact of programme.

There were some limitations in current study. It was carried out at only one institution, so the results could not be generalized. Due to time constraints and limited number of trained mentors, control groups were not included in the study. Subjects' performance for longer period could not be evaluated which may be a crucial area of impending research.

5. Conclusions

The present study observed a positive gain in psychosocial adjustments of newly admitted medical students. Both students and mentors showed favourable attitudes towards the programme and perceived numerous benefits, including personal and professional development. Further research is contemplated to analyze the complex process of mental problems of medical students.

6. Source of Funding

None.

7. Conflict of Interest

None.


References

1. Nor ZM, Yusoff SBM, Rahim FAA. Characteristics of Mentoring Programmes in the Early Phase of Medical Training at The Universiti Sains, Malaysia. *J Taibah Univ Med Sci*. 2017;12(4):343–8.
2. Cheah WL, Hazmi H, Hoo J, Ying CJ, Nazif N, Kamil SNM, et al. Peer Mentoring Among Undergraduate Medical Students: Experience from Universiti Malaysia Sarawak. *Educ Med J*. 2015;7(1):45–54.

3. Kim NC, Kim SH, Lhm HK, Kim JH, Jung HS, Park JC, et al. Comparison of Stress and Life Satisfaction Between Non-Medical and Medical College Students. *Korean J Psychosom Med*. 2015;23(1):47–56.
4. Kim MS, Kim JH, Kim DY, Kim JH, Park HJ. Awareness of Students for Implementation of a Peer Mentoring Program in A Medical School. *Keimyung Med J*. 2016;35(2):113–21.
5. Skjevik EP, Boudreau JD, Ringberg U, Schei E, Stenfors T, Kvernenes M, et al. Group mentorship for undergraduate medical students-a systematic review. *Perspect Med Educ*. 2020;9(1):272–80.
6. Frei E, Stamm M, Buddeberg-Fischer B. Mentoring programs for medical students—a review of the PubMed literature 2000-2008. *BMC Med Educ*. 2000;10(32):1–14.
7. DASS FAQ (Frequently Asked Questions); 2021. (Accessed on January 14, 2021). Available from: <http://www2.psy.unsw.edu.au/dass/DASSFAQ.htm>(accessedon).
8. Ryff Scales of Psychological Wellbeing. (Accessed on February 15, 2021) . Available from: <https://centerofinquiry.org/wabash-national-study-instruments-investigate-liberal-arts-education/#1492019468793-b616ce11-f8d1>.
9. General Self-Efficacy Scale (GSE); 2021. (Accessed on March 1, 2021). Available from: [https://www.drugsandalcohol.ie/26768/1/General_Self-Efficacy_Scale%20\(GSE\).pdf](https://www.drugsandalcohol.ie/26768/1/General_Self-Efficacy_Scale%20(GSE).pdf).
10. Jordan J, Watcha D, Cassella C, Kaji AH, Trivedi S. Impact of a Mentorship Program on Medical Student Burnout. *AEM Educ Train*. 2019;3(1):218–25.
11. Fares J, Tabosh HA, Saadeddin Z, Mouhayyar CE, Aridi H. Stress, Burnout and Coping Strategies in Preclinical Medical Students. *N Am J Med Sci*. 2016;8(2):75–81.
12. Alpert JS. The Importance of Mentoring and Of Being Mentored. *Am J Med*. 2009;122(12). doi:10.1016/j.amjmed.2009.04.002.
13. Miraglia R, Asselin ME. Reflection as An Educational Strategy in Nursing Professional Development: An Integrative Review. *J Nurses Prof Dev*. 2015;31(2):62–72.
14. Rockwell B, Leck JD, Elliot CJ. Can E-Mentoring Take the Gender Out of Mentoring. *Cyberpsychology: J Psychol Res Cyberspace*. 2013;7(2):1–5.
15. Hawkins A, Jones K, Stanton A. A mentorship programme for final-year students. *Clin Teach*. 2014;11(5):345–9.
16. Usmani A, Omaee Q, Sultan ST. Mentoring undergraduate medical students: experience from Bahria University Karachi. *J Pak Med Assoc*. 2011;61(8):790–4.

Author's biography

Momi Baruah, Associate Professor  <https://orcid.org/0000-0002-7532-2739>

Priyadarshini Mishra, Associate Professor  <https://orcid.org/0000-0001-5571-3954>

Cite this article: Baruah M, Mishra P. Exploring the impact of 'structured mentorship programme' on psychological adjustments of students in the early phase of medical training. *Panacea J Med Sci* 2024;14(3):787-791.