

Research Article

Introduction of Near-Peer Mentorship Program in an Undergraduate Medical College in Pakistan: A Pilot Study

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Objective. Transitioning from college to university life is a whole new exciting experience for the students but it also often develops feelings of unfamiliarity within them. The literature states that near-peer mentoring is a new paradigm that can provide multiple opportunities for the professional growth of the mentees and mentors. This study aims to introduce a formal near-peer mentoring program at Ziauddin Medical College and identifies its effects on the participants of this program. **Methods.** A quasi-experimental study design was used for a duration of 5 months. In total, 73 students participated in the program, 21 from the 3rd year as near-peer mentors (NPMs) and 52 from the 1st year as mentees. All mentees were randomly distributed among the mentors, broadly in a ratio of 1 : 2. Data were collected using a peer-mentoring evaluation toolkit, having questions based on a Likert scale. **Results.** The results showed that after participating in this program, 69% of the mentees felt acclimatized into the university environment and 66% of the mentors also developed a sense of belonging. Ninety percent of the mentors agreed that their soft skills improved after mentoring their juniors. Overall, around 70% of the mentors and mentees agreed that participation in this program had positive effects on their learning. **Conclusion.** This study provides baseline information of NPM program intervention, which had a positive effect on both the participated mentors and mentees. Thus, the formal introduction of such programs will be beneficial for medical institutes to improve the student support process.

1. Introduction

Transitioning from college to university life is a whole new exciting experience for the students but it brings along some new and unique challenges as well. The literature reveals that students develop feelings of diffidence, stress, and unfamiliarity while trying to acclimatize to the new, quite alien environment [1, 2]. They look for support from their peers and faculty members to help them acculturate as they start their professional lives [3]. Lack of guidance and support may result in a high failure rate among newcomers and even withdrawals from university within the 1st year [1].

The freshly inducted students are in search of opportunities that can help them feel connected to their environment and one such group of people who can direct them during this phase is their near-peers [4].

Near-peers are senior students, slightly more advanced, who provide guidance and help juniors to learn while learning themselves [3, 4]. Near-peer mentors (NPMs) share a similar knowledge base and social role with the freshly inducted students, which are known as cognitive and social congruence. This helps the juniors relate better with the seniors as well as with the institute as the seniors try to bridge the gap between the students and the higher professionals [5]. As compared to faculty members, students regard their near-peers as more relatable and approachable [2]; thus, they find it less intimidating to share their problems with them [6].

The literature states that near-peer mentoring is a new paradigm that provides multiple opportunities for the professional growth and psychological well-being for not only the mentees but also the NPMs [3, 4, 7]. It has been reported that an increase in self-confidence, clinical decision-making

skills, and peer collaboration is evident in students participating in near-peer-led programs [8]. While it hones the professional and academic skills of the mentors and mentees alike [2], another huge advantage is the development of the professional identity of a medical student [4].

Medical identity is developed within a social context by incarnating professional behaviors and values whereby students no longer consider themselves as “laymen,” but instead become members of a professional group with a defined set of abilities and attitudes [9].

Near-peer mentoring programs (NPMPs) provide an opportunity for the students to reflect upon themselves and help them realize “who they are” and progress toward “who they want to be” [10].

Moreover, the medical profession calls for professionals to be altruistic and benevolent so that they can serve people selflessly. NPMPs are one such example where the mentors voluntarily help the mentees, promoting the pay-it-forward culture in institutes [5]. This culture enhances positive attitudes and generosity among students which gradually adds up to a healthy learning environment [5]. Rightfully, a need for introducing NPMPs in the curricula has been highlighted for many years now in literature [2].

Internationally, NPMPs have already been introduced and are being practiced providing helpful transitions to the mentees and a platform to flourish the mentors [2]. The literature provides evidence that universities like Tehran University of Medical Sciences [11], Sydney Medical School [5], Shiraz Medical School, Iran [12], University of Minnesota Medical School Duluth Campus [3], Undergraduate Medical School Korea [13], and Sri Siddhartha Medical College [14] are few among others where near-peer mentorship programs are already being experienced.

The improved relativity between senior and junior students, successful implementation of NPMPs, and the positive effects on the mentees and mentors indicate an urgent need for the introduction of similar programs in medical universities of Pakistan as well [15, 16] because the absence of structured and formal NPMPs may perpetuate stress and problem in early adjustment into the new environment [7].

Formal or informal near-peer mentoring practices are observed in some medical institutes but there are very few published studies explaining the need of near-peer mentoring to support students. There is also a dearth of evidence showing implementation of such programs in medical institutes of Pakistan, indicating a dire need of providing the starting point and baseline studies to assist the long-term development of medical students.

This study intends to introduce a formal NPMP at Ziauddin Medical College to identify the effects of near-peer mentoring on the students participating as mentors and mentees.

2. Methodology

A NPMP was introduced as a quasi-experimental type of study at Ziauddin Medical College for a duration of 5 months (July to November, one complete semester).

TABLE 1: Distribution of mentors to mentees.

	Mentors (21)	No. of mentees allotted	Total mentees (52)
	8	3	$8 \times 3 = 24$
	12	2	$12 \times 2 = 24$
	1	4	$1 \times 4 = 4$
Total	21	–	52

2.1. Mentors Selection. For the selection of mentors, a non-probability purposive sampling technique was used.

2.1.1. Inclusion Criteria. MBBS 3rd-year students were taken as mentors on the basis of results of continuous assessment tests (CAT) of the 5th semester which were extracted from the examination department with the permission of the principal.

2.1.2. Exclusion Criteria. Students who secured less than a B+ grade in the CAT were not invited.

For this study, 44 MBBS 3rd-year students were short-listed as NPMs and were invited to an orientation session by the principal researcher. Their roles, requisites, and the possible benefits they could achieve by participating in the program were informed.

Twenty-one NPMs submitted online consent forms and stayed in the program for the whole duration, out of which nine were males and 12 were females.

The NPMs were allotted with groups of mentees randomly (mentioned in mentees selection heading).

2.2. Mentees Selection

2.2.1. Inclusion Criteria. All 1st-year MBBS students were given the opportunity to join as mentees from which 52 students volunteered to participate, out of which 16 were males and 36 were females.

Simple random sampling was done for making groups of students that were later allotted to 21 NPMs.

2.2.2. Grouping. There were 21 groups made; details of which are mentioned in Table 1.

All the NPMs held meetings with their mentees online through Google Meet as the classes were suspended due to rising cases of COVID-19.

Both the mentors and mentees were in continuous contact with the principal researcher through WhatsApp group and e-mails to give updates about the frequencies of their meetings or to inform if they could not contact their mentors.

2.2.3. Exclusion Criteria. All those students (mentors or mentees) who did not give consent to participate in the program were excluded from this study.

2.3. Data Collection Procedure. After receiving approval from the ethical review committee (ZU) and finalization of mentors–mentees groups, the NPMP was initiated.

The NPMs were provided with a proposed schedule which is as follows: online meetings are to be held every week on Tuesday, Thursday, and Saturday for 1 hr.

This was just a proposal and the mentors were given the leniency to schedule these meetings according to their needs and the time available and feasible for them to manage.

After the implementation of the program for 5 months, Aston peer mentoring evaluation toolkit (quantitative portion) was distributed [17, 18], which consisted of a questionnaire based on a Likert scale, and was sent to all the participants (via Google Forms).

The questionnaire had three sections.

Section 1 was for both mentors and mentees to identify the effects of NPMP on their academic and professional lives.

Section 2 was for the mentees only to recognize the “before and after” effects of participating in NPMP and Section 3 was for the mentors only about the implementation, support, and training they received regarding this program.

2.4. Data Analysis Plan. The data were entered and descriptive statistics (percentages and frequencies) of responses for every item was calculated using SPSS version 24.

The responses from mentors and mentees, in percentage, about the effects after participating in this program and about the implementation process and the trainings provided for this program are shown in Table 2.

3. Results

There were 21 students from 3rd-year MBBS as NPMs and 52 students from 1st-year MBBS as mentees who participated in the program for the whole 5-month duration.

Table 2 shows the frequencies and percentages of responses from mentors and mentees regarding NPMP. The results showed that after participating in this program, 69% of the mentees felt acclimatized into the university environment and 66% of the mentors also developed a sense of belonging to the university. The majority of the mentors agreed that their soft skills and subject knowledge improved after mentoring their juniors. The last item was asked from the mentees only where most of them were satisfied with their contribution from the NPMs. Furthermore, around 70% of both the mentors and mentees agreed that participation in this program had positive effects on their learning.

The results in Table 3 showed improvement in mentees' attitudes after participating in NPMP. Forty-six percent of the mentees were anxious and fearful about their adjustments to the university lives but after being part of this program, 61% reported a decrement in their fears. Not only that they also felt more prepared and confident for their studies and completing the entire course successfully, and 75% of them agreed that NPMP gave them a better opportunity to study at this level.

Figure 1 depicts that 62% of the NPMs were satisfied with the information and sessions which were conducted to prepare them for their roles as near-peer mentors.

Also, as shown, 76% of the mentors were satisfied with the support that was provided by the management throughout the session.

4. Discussion

The results of this study showed that 81% of the NPMs and 79% of the mentees agreed that the NPMP had been a positive learning experience for them. The main aim of introducing this program was to help newcomers acclimatize into the new environment which was successfully achieved as stated by 69% of the mentees. This was similar to the results of studies by Guhan et al. [19] and Burgess et al. [4] where the mentees reported agreement that the mentors provided them an insight into the university which helped them in settling into the university environment.

Furthermore, majority of the mentees were comfortable in discussing matters with their NPMs at times of stress and worry, instead of sharing it with faculty or other members of staff because they could relate better with their NPMs. This was consistent with the studies by Raghunandana et al. [14], de los Angeles Cambrón-Carmona et al. [20], and Abdolalizadeh et al. [11] who also stated that the mentees felt less intimidated by their near-peers and were at ease in discussing matters with them. Cognitive and social congruence can be a possible reason for this as they are also students like them and have come across the same issues as they are facing currently or might face in the future.

Moreover, in this study results, the NPMs and mentees enjoyed taking part in this program as they interacted with each other freely. This was inline with the results of the study by Naseem [15] where the mentors reported that it was fun taking these sessions. Contrary to this, in a study by Nimmons et al. [6], the mentors reported that it was difficult for them to manage these sessions. Since the NPMs are students themselves so it might be difficult for them to keep a balance between being a mentor and student at the same time plus taking care of their own professional studies which could add burden to their already busy and hectic professional lives.

Furthermore, 90% of the NPMs also agreed that their confidence and communication skills were improved during this study. This was consistent with the studies by Abdolalizadeh et al. [11] and by Muazam et al. [21] in which it was evident that near-peer mentoring brought a positive change in students' professional abilities like communication, leadership, and facilitation. The reason can be that they were networked and managed the diverse groups of mentees solely and this led to an increase in motivation to complete their course with more dedication.

The majority of mentees (59%) and mentors (76%) agreed that their academic knowledge also improved by taking part in this NPMP. This finding was in accordance with the studies by Cho and Lee [13] and by Reyes-Hernández et al. [22], where the mentees agreed that being taught by senior students greatly benefitted them academically. This also goes inline with the studies by Sarwar and Tarique [23], Friel et al. [24], and Martinez et al. [25] who stated that teaching others helped in the cognitive development of the tutor themselves.

In this study, NPMs were randomly allocated to the mentees and results show that 80% of the mentees were satisfied with the mentors assigned to them. Similarly, the

TABLE 2: Frequencies and percentages of responses from mentors and mentees regarding NPMP.

Responses from mentors (21) and mentees (52) Items	Mentors		Mentees		Mentors		Mentees	
	Strongly agree/agree, n (%)	Neutral, n (%)	Strongly disagree/disagree, n (%)	Mentees Strongly disagree/disagree, n (%)	Strongly agree/agree, n (%)	Neutral, n (%)	Strongly disagree/disagree, n (%)	Mentees Strongly disagree/disagree, n (%)
As a result of participating in the peer mentoring program								
I feel part of the university	14 (66.7)	7 (33.3)	0	0	36 (69.2)	11 (21.2)	0	5 (9.6)
I feel I am making more use of the opportunities available at the university.	15 (71.4)	4 (19.0)	2 (9.5)	2 (9.5)	33 (63.5)	11 (21.2)	2 (9.5)	8 (15.4)
I am finding my time at university more enjoyable	15 (71.4)	6 (28.6)	0	0	24 (46.2)	16 (30.8)	0	12 (23.1)
I feel my communication skills are more developed	19 (90.1)	2 (9.5)	0	0	25 (48.1)	16 (30.8)	0	11 (21.2)
I am more committed to completing my course	15 (71.4)	6 (28.6)	0	0	36 (69.2)	9 (17.3)	0	6 (11.5)
My confidence in succeeding in my studies has increased	16 (76.2)	4 (19.0)	1 (4.8)	1 (4.8)	34 (65.4)	15 (28.9)	1 (4.8)	3 (5.8)
My confidence about my academic skills has increased	16 (76.2)	5 (23.9)	0	0	36 (69.2)	14 (26.9)	0	2 (3.9)
My subject knowledge has improved	14 (66.7)	7 (33.3)	0	0	34 (65.4)	16 (30.8)	0	2 (3.9)
My confidence in using student services has improved	12 (57.1)	8 (38.1)	1 (4.8)	1 (4.8)	34 (65.4)	17 (32.7)	1 (4.8)	1 (1.9)
Your learning experience Items								
Peer mentoring has positively influenced the way I approach learning	15 (71.4)	4 (19.0)	2 (9.5)	2 (9.5)	36 (69.2)	13 (25.0)	2 (9.5)	3 (5.8)
Working with a peer has been a positive learning experience	17 (80.9)	3 (14.3)	1 (4.8)	1 (4.8)	41 (78.9)	8 (15.4)	1 (4.8)	3 (5.8)
Peer mentoring has increased my interest in my subject area	10 (47.6)	10 (47.6)	1 (4.7)	1 (4.7)	31 (59.6)	18 (34.6)	1 (4.7)	3 (5.7)
Peer mentoring has helped me learn independently	13 (61.9)	6 (28.6)	2 (9.5)	2 (9.5)	35 (67.3)	13 (25.0)	2 (9.5)	4 (7.6)
I feel my grades will improve as a result of peer mentoring	11 (52.4)	8 (38.1)	2 (9.5)	2 (9.5)	31 (59.6)	13 (25.0)	2 (9.5)	8 (15.4)
The value of peer mentoring								
Peer mentoring is responsive to my individual needs	9 (42.8)	11 (52.4)	1 (4.8)	1 (4.8)	36 (69.2)	13 (25.0)	1 (4.8)	3 (5.8)
I can relate to my mentee	15 (71.4)	6 (28.6)	0	0	40 (76.9)	7 (13.5)	0	5 (9.6)
Working with another student has been useful	17 (80.9)	4 (19.0)	0	0	38 (73.1)	8 (15.4)	0	6 (11.6)
I enjoy working a one-to-one basis with a student	18 (85.7)	3 (14.3)	0	0	41 (78.8)	8 (15.4)	0	3 (5.8)
I feel I can talk to my mentor/mentee if I am worried	8 (38.1)	8 (38.1)	5 (23.8)	5 (23.8)	38 (73.1)	8 (15.4)	5 (23.8)	6 (11.5)
I feel comfortable working with my mentee/mentor	18 (85.7)	3 (14.3)	0	0	46 (88.5)	5 (9.6)	0	1 (1.9)
I can talk to my mentor/mentee about things I would not discuss with a member of staff	13 (61.9)	7 (33.3)	1 (4.8)	1 (4.8)	33 (63.5)	15 (28.8)	1 (4.8)	4 (7.7)
My mentor was adequately prepared for their mentoring role	–	–	–	–	42 (80.8)	6 (11.5)	–	4 (7.7)

TABLE 3: Frequencies and percentages of responses from mentees only, identifying the “before and after effects” of being part of the NPMP.

S. no.	Items	Before starting university			Items	Being part of the NPM program		
		Strongly agree/ agree, <i>n</i> (%)	Neutral, <i>n</i> (%)	Strongly disagree/ disagree, <i>n</i> (%)		Strongly agree/ agree, <i>n</i> (%)	Neutral, <i>n</i> (%)	Strongly disagree/ disagree, <i>n</i> (%)
1.	I was anxious about making new friends	24 (46.2)	14 (26.9)	14 (26.9)	Allayed any fears I may have had about coming to the university	32 (61.5)	13 (25)	7 (13.5)
	I was anxious about adjusting to university life	24 (46.2)	15 (28.8)	13 (25.0)				
2.	I felt prepared for university level study	24 (46.2)	17 (32.7)	11 (21.2)	Made me better prepared to cope with the demands of my course	39 (75)	9 (17.3)	4 (7.7)
	I felt confident about starting university	25 (48.0)	21 (40.4)	6 (11.5)				
3.	I was confident I had the ability to develop my subject knowledge	37 (71.2)	13 (25.0)	2 (3.8)	Made me more confident about successfully completing this year of study	37 (71.2)	11 (21.2)	4 (7.7)
	I was confident I would be supported at university	27 (51.9)	17 (32.7)	8 (15.4)				
	I was confident about my communication skills	24 (46.2)	17 (32.7)	11 (21.2)				
4.	I was apprehensive about starting university	21 (40.4)	21 (40.4)	10 (19.2)	Given me insight into studying at the university level	39 (75)	8 (15.4)	4 (7.7)
	I was committed to complete my studies at university	41 (78.8)	8 (15.4)	3 (5.8)				

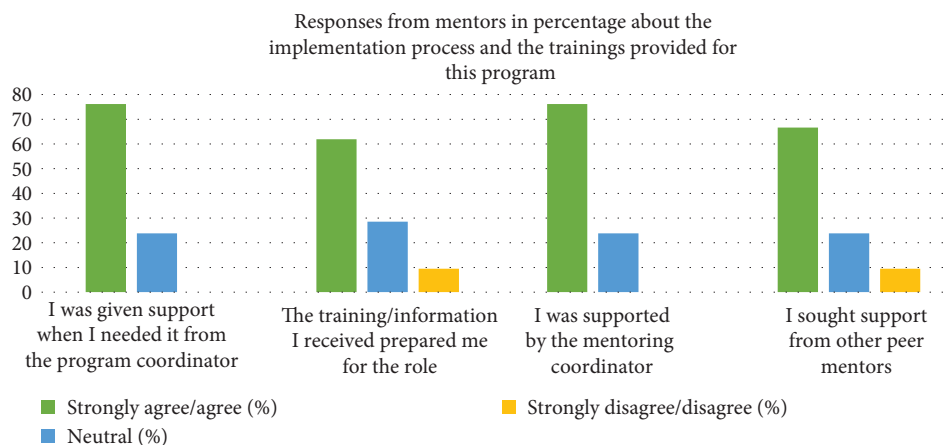


FIGURE 1: Bar chart showing the percentages of responses from mentors only, about the implementation process and the trainings provided for this program.

study by Tan et al. [26] stated that this random matching had beneficial outcomes on mentoring relationships and also improved professional and personal skills.

Contradictory to this, the studies reported by Singh et al. [27] and Nimmons et al. [6] showed that the mentees were not satisfied by the random allocation of mentors as they highlighted the issue of noncompatibility between them. As we all understand that adult learners want to have the autonomy to choose their own options [28]. Allocating mentors through randomization may promote a feeling of forced pairings. Maybe the mentees would be more comfortable with mentors of the same gender and it might be another reason of noncompatibility identified in these studies.

Over and above in this study, 62% of the mentors were satisfied with the trainings provided to prepare them for their roles as NPMs as evident in the bar graph shown in Figure 1. But a negative significant finding was identified in the study by Akinla et al. [2] where it was reported that the mentors did not consider themselves ready to play this role for the mentees. This was probably because the students were not much familiar with NPM programs or may be they would be familiar with it but were not trained for the NPMs by the institution.

4.1. Limitations. This study has some potential limitations. The near-peer mentors and mentees were from one batch only, so the results could not be generalized. Second, since this mentoring program was not included in the timetable so taking out time for these sessions was difficult for the students due to their fixed schedules.

Also, since this study is based on cross-sectional design, it only focuses on the effects of NPM, recorded at a single time. Thus, it does not provide much information on its long-term outcomes.

Only those students were selected as near-peer mentors who did academically well. This was a limitation identified later on with the study as opportunity should be given to all students to experience the role of being mentors.

At last, in this study, only the quantitative part of the evaluation toolkit was used leaving the qualitative part

because of time constraint; however, further research will add value using the whole toolkit.

5. Conclusion

The results of this study showed that the intervention of the near-peer program was accepted and received positive responses from both the mentors and the mentees. It is also evident that NPMP enhances support for freshly enrolled medical students which may improve their confidence and motivate them to retain and complete the program. Thus, the formal introduction of such programs will be beneficial for medical institutes. It is suggested that researchers should further study and continue its implementation in the future to study its long-term implications on the performance of the mentors and mentees academically as well as personally to improve the quality of the student support process.

Abbreviations

NPMs: near-peer mentors
 NPMP: near-peer mentoring program
 ZMC: Ziauddin Medical College.

Data Availability

Data supporting this research article are available from the first author on reasonable request.

Conflicts of Interest

The authors declare that they have no conflicts of interest.

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