

Research Article

Leadership in Undergraduate Medical Education: A Study of Pakistani Medical Students' Perceptions, Attitudes, and Interest

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Abstract

Background: Despite calls for the much-needed involvement of physicians in leadership, very few medical colleges in Pakistan provide explicit training on the knowledge, skills, and attitudes necessary to be an effective physician leader.

Objective: To explore Pakistani medical students' perceptions, attitudes, and interests regarding Leadership training in medical education.

Methods: Participants were asked about their perceptions and attitudes towards medical leadership on a 5-point Likert scale. Students also self-rated their leadership competencies noted as per Medical Leadership Competency Framework. Survey also assessed the perceived need and topics for a leadership curriculum for physician leaders, the teaching format, and barriers to leadership training in medical schools. Data was analyzed using SPSS 26.

Results: About 60.6% of the total 1204 respondents rated their leadership training in medical college as “very poor” or “poor” and 80.3% of them endorsed their interest and need for it. 77.4% of the participants agreed that clinicians should influence leadership decisions in a clinical setting. Only 25% of respondents were aware of the demands of a leadership rank in medicine. Leadership competencies endorsed for training included problem-solving, leading a team, confronting problematic employees, and communication skills with a multimodal teaching approach, including teaching methods like small group discussions. The main barriers to leadership training were identified as time constraints (66.1%), lack of available curriculum (69.0%), and disinterest by faculty (67.0%).

Conclusion: Our study suggests that medical students in Pakistan appreciate the importance of leadership training in undergraduate education. There is a need for dedicated leadership teaching and study data to specify the possible content and delivery methods to serve as goals for an undergraduate leadership curriculum in Pakistan.

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Keywords | medical education, medical leadership, medical student, training, barriers



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Introduction

Leadership is the potential of an individual or a group to influence and guide others towards achieving a common goal and solving problems

thoughtfully and effectively. A leader should be able to foresee the circumstances and utilize resources to improve things. He /She should motivate and inspire others and be empathetic. Some are born with leadership qualities, but they can be instilled in a person by teaching behaviors that can be learned and skills that can be nurtured.

Although leaders are often thought to belong to professions like politics and business in which they lead organizations or countries, being an effective leader is equally important for a doctor and any other profession.¹ A doctor has to treat the patient but to perform this duty efficiently, physician has to be an effective leader in the hospital working in a team to guide patients accurately, lead people towards a healthy community, resolve conflicts and take mutual responsibility.^{2,3} In recent events of COVID-19, doctors played an extremely important role in controlling the pandemic.⁴ Doctors, nurses and paramedic staff were the frontline warriors. On the one hand, they treated the patients and, on the other hand, addressed the issue expeditiously to the government and masses about the ongoing situation and how to prevent it from worsening. That explains how important learning leadership skills and acquiring management skills are.

The medical profession demands excellent clinical knowledge, training, leadership qualities, and effective management skills to provide good services to patients.⁵ For doctors to be effective leaders of the future, a basic training program for medical students should be started earlier in the medical curriculum.³ Many medical schools and residency programs all over the world, lack this kind of curriculum and Pakistan is not an exception.^{6,7} Studies have shown that medical ethics, time management, and communication skills are not incorporated into the MBBS (Bachelor of Medicine, Bachelor of Surgery) curriculum taught in Pakistan, resulting in communication deficiencies in final year medical students.⁷ These competencies also fall under leadership training. It may be due to lack of resources, lack of time given the hectic schedules of medical degree or lack of perception of how necessary these skills are in practical life.⁸ This study aims to determine medical students' perceptions of leadership qualities, scope of these qualities in the medical profession, how they should be taught at the undergraduate level, and the barriers that may hamper this teaching.

Methods

We conducted a descriptive cross-sectional study in the year 2021-2022. Our study participants comprised of undergraduate medical students in two medical colleges. All medical students enrolled in five undergraduate MBBS years in two medical institutions (one public sector and one private-sector medical college in Lahore) were invited to participate in the study. Ethical approval was obtained from Institutional Review Board, KEMU (Reference number: 783/RC/KEEMU). Informed consent was taken from the participants. Confidentiality of participants was ensured. Data were collected in September- December 2021 by written questionnaires and online google forms. The questionnaire used was based on literature review of published studies of medical students' views about medical leadership and its importance in their medical curricula.⁹

The questionnaire used had several sections apart from collecting demographic information (age, gender, nationality, year of study, name of institution) and any details about prior leadership experience and training. Section 1 assessed medical students' perceptions, attitudes, and interest toward medical leadership using a 5-point Likert scale (strongly agree to strongly disagree). Section 2 asked the respondents to self-rate on a 5-point Likert scale (very good to very poor) on personal leadership qualities considered important by the Medical Leadership Competency Framework (MLCF)- (confidence, organization, timekeeping, motivating others, calm under stress, resolving conflict, communication, self-reflection, acting with integrity, and critical evaluation). Section 3 asked about the leadership training in their medical college and the need for it as well as leadership competencies considered important by them for the training curriculum. The last section asked the respondents for their opinion about the effectiveness of different teaching and learning methods used for leadership training and specify any barriers they think are likely to be encountered. Statistical analysis was performed using SPSS 26. (Questionnaire available on request from Authors)

Results

1204 undergraduate medical students completed the questionnaire from 2 institutions in Lahore. Among them, 774 (64.3%) were females. Year 1 students made

up 24.2% (291) of the respondents, Year 2 students 20.8% (250), Year 3 students 16.4% (197), Year 4 students 23.0% (277) and Year 5 students 15.7% (189). Almost 95.9% (1153) students reported no prior leadership training, and 87.5% (1051) reported no previous leadership experience.

Table 1 describes the students' perceptions and attitudes, and interests regarding medical leadership. Only one-fourth of respondents agreed with the statement, when asked if they were well-informed about the demands of leadership position in medicine. 77.4% of respondents were in agreement that clinicians ought to influence leadership decisions in a clinical setting. In contrast, 86% felt it is crucial for clinicians to have leadership

tasks. A significant proportion (80.3%) of medical students would like to have more focus on leadership training during medical college, and almost 60% would prefer to seek additional training in this domain in residency training. Questions about whether undergraduate medical students would be attracted towards embracing leadership duties in their future careers and need for such opportunities to be emphasized to them led to majority's agreement at 56% and 81.5%, respectively. (Table 1)

Table 2 shows the self-perception of leadership qualities [as per medical students' medical leadership competency framework (MLCF)]. The highest-ranked qualities were "acting with integrity", "organization" and "moti-

Table 1: Perceptions, attitudes, and interest toward medical leadership using a 5-point Likert scale (strongly agree to strongly disagree)

Statement	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
"I am well informed about what a leadership position in medicine entails".	51(4.3%)	249(20.9%)	454(38.0%)	336(28.1%)	104(8.7%)
"I think leadership decision within a clinical setting should be influenced by clinicians"	247(20.6%)	680(56.8%)	231(19.3%)	30(2.5%)	9(0.8%)
"I think it is important for clinicians to have leadership responsibilities"	385(32.2%)	645(53.9%)	137(11.4%)	22(1.8%)	8(0.7%)
"I would like to have/had more leadership training during medical school"	383(32.0%)	578(48.3%)	201(16.8%)	25(2.1%)	10(0.8%)
"I would seek additional leadership training in my post graduate studies"	222(18.5%)	496(41.4%)	387(32.3%)	74(6.2%)	19(1.6%)
"I am interested in taking on leadership responsibilities during my career"	258(21.5%)	417(34.8%)	403(33.6%)	100(8.3%)	20(1.7%)
"I think clinicians' leadership opportunities should be highlighted and promoted to medical students."	328(27.4%)	648(54.1%)	195(16.3%)	21(1.8%)	6(0.5%)

vating others", with 56.3%, 49.7% and 49.4% of respondents grading themselves as "very good" or "good". (Table 2)

Table 2: Self-perception of leadership skills highlighted by the MLCF, using a 5-point Likert scale (very good to very poor)

MLCF criteria	Very good	Good	Satisfactory	Poor	Very poor
Confidence	133(11.1%)	370(31.0%)	542(45.4%)	109(9.1%)	39(3.3%)
organization	149(12.5%)	444(37.2%)	493(41.3%)	88(7.4%)	20(1.7%)
Time keeping	160(13.4%)	389(32.6%)	515(43.2%)	99(8.3%)	29(2.4%)
Motivating others	256(21.5%)	333(27.9%)	501(42.0%)	72(6.0%)	30(2.5%)
Keeping calm under stress	123(10.4%)	310(26.1%)	537(45.2%)	147(12.4%)	71(6.0%)
Resolving conflict	155(13.0%)	383(32.2%)	534(44.9%)	87(7.3%)	29(2.4%)
Communication ideas	144(12.1%)	350(29.4%)	554(46.5%)	110(9.2%)	34(2.9%)
Self reflection	213(17.9%)	344(28.9%)	532(44.7%)	66(5.5%)	35(2.9%)
Acting with integrity	212(17.8%)	459(38.5%)	454(38.1%)	41(3.4%)	26(2.2%)
Critical evaluation	215(18.0%)	355(29.8%)	537(45.1%)	60(5.0%)	24(2.0%)

MLCF (Medical Leadership Competency Framework) The numbers may vary because of missing data.

More than half the respondents (60.6%) described their leadership training in medical college as “very poor” or “poor”. (Figure 1)



Figure 1: Rating of Leadership Training Received during Medical School by Undergraduate Medical Students

1107(94.0%) students agreed that formal leadership training is needed at their institution. Figure 2 describes leadership competencies endorsed by medical students for training, with problem-solving (74%) as the highest-ranked competency (Figure 2). In the open-ended questions, students also mentioned the need for leadership training in communication skills, leading with honesty and keeping calm under stress.



Figure 2: Competencies Endorsed by Medical Students for Leadership Training in Medical College

Respondents preferred the intermodal approach to leadership training that included various teaching methods like small group discussion, formal leadership course (hybrid with online content and interactive sessions conducting faculty), and role-play. (Table 3) More than half of respondents wanted these sessions to be taught by physicians (637, 53.7%). Other respondents wanted them to be taught by hospital managers (258, 21.7%), business school professors (181, 15.2%) and by private industry leaders (111, 9.4%).

The main barriers that prevented the students from developing leadership skills during medical school were identified to be time constraints (783, 66.1%), lack of available leadership curriculum / education (817, 69.0%), disinterest by the faculty (781, 66.0%), limited available opportunities (768, 64.9%) and lack of incentive (675, 57.1%). Different system issues in educational institutions were also identified as a major barrier to developing leadership skills.

Discussion

Studies on leadership skill acquisition within a health-care setting in Pakistan are few. To our knowledge, this is the first multi-institutional study that evaluated the attitudes and views of medical students towards medical leadership following recommendations of leadership being one of the competency which should be acquired at undergraduate level. Although there is ample evidence of the need for leadership amongst physicians, given the nature of their profession, it appears that there is a lack of concentration on curricula that focus on this need.^{10,11}

Physicians are constantly put in situations where they have to act quickly and maturely under immense amounts

Table 3: Preference of leadership training methods desired by the medical students.

Teaching method	Not effective at all	Slightly effective	Moderately effective	Significantly effective	Extremely effective
Lectures (in person)	294(24.9%)	413(35.0%)	319(27.0%)	118(10.0%)	36(3.1%)
Small group exercises	40(3.4%)	140(11.9%)	350(29.7%)	497(42.1%)	153(13.0%)
Leadership case studies	194(16.5%)	281(23.9%)	306(26.0%)	272(23.1%)	123(10.5%)
Online self-paced courses	202(17.2%)	325(27.6%)	400(34.0%)	190(16.2%)	59(5.0%)
Journal club (reviewing articles on leadership)	249(21.2%)	402(34.2%)	342(29.1%)	130(11.1%)	52(4.4%)
Role play	48(4.1%)	139(11.8%)	424(36.0%)	437(37.1%)	129(11.0%)
Reflective writing exercises	73(6.2%)	175(14.9%)	455(38.6%)	394(33.4%)	81(6.9%)
Feedback	64(5.4%)	173(14.7%)	413(35.1%)	394(33.5%)	133(11.3%)
Formal leadership course (hybrid with online content and interactive sessions conducting faculty)	69(5.9%)	147(12.5%)	381(32.4%)	441(37.5%)	138(11.7%)

The numbers may vary because of missing data.

of pressure, both in healthcare and medical education institutions.¹² Not only in times of unprecedented social upheaval, such as natural disasters and pandemics but everyday situations, physicians face life and death decisions. The expectation placed on doctors and healthcare workers to govern situations steadfastly leads to quick burnout.¹³ This problem can be addressed by equipping future physicians with appropriate leadership skills. This would lead to adaptive strategies in times of upheaval and high-pressure situations and equipping healthcare workers with the emotional intelligence to handle such grave situations. Our study has shown that medical students agree with a need for leadership-based curricula, with 86% of students surveyed pointing out that physicians must have leadership responsibilities. Another 77.4% of students agreed that clinicians should be more influential in decisions making in a clinical setting.

Leadership is a teachable skill,¹⁴ and, as such, should be inculcated into curriculums across medical schools, a need demonstrated by student perceptions in this study. However, it appears that medical school curricula are sorely lacking in non-clinical skill training such as leadership, with only 4.1% of students confident that they are aware of what a leadership position looks like. A further indictment of training in medical college appears when we see that over half the students (60.6%) feel that their leadership training experience is 'poor'.

It is also notable that there were no demographic biases within the results; most participants identify as women and agree with a pressing need to acquire leadership skills, whereas developing countries often do not have women in visible leadership positions. This study indicates a changing trend within medical colleges, with women wanting to take up leadership positions, as highlighted by the fact that a majority of respondents in our study wanted to take up leadership roles in the future and would like any leadership positions available to be highlighted.

While the differences in the training and social circumstances of students from the developed and developing world are vast, medical students across the board have similar perceptions of what constitutes leadership skills necessary for physicians.¹⁵ These include communication skills, conflict resolution, and ethical considerations such as acting with integrity and self-reflection. Those

mentioned above were all areas students identified as deficient in their learning, with a majority self-identifying as 'satisfactory'.

However, it is still not understood how best to approach the integration of leadership skills into physician training during medical college. With the demands of the medical curriculum, it seems unlikely that further adding on lectures and tests around leadership would be effective. This idea was furthered by the fact that only 10% of respondents within this study found this method to be significantly effective. A study at the University of Michigan corroborates this idea and argues that while students recognize a need for leadership skill acquisition, mandatory curriculum changes have limited effectiveness.¹⁶

The students surveyed appeared to prefer more interactive and hands-on methods of acquiring leadership skills consistent with previous studies,¹⁷ with 42.1% of students agreeing that small group exercises would be 'significantly effective'. In contrast, 37.1% of students also agreed that role play would be 'significantly effective'. This appears to be an idea shared across the board, with a survey of residents at Massachusetts General Hospital corroborating that hands-on leadership training is a preference of trainee physicians.¹⁸

The study has several limitations. Although our study includes medical students from both public and private medical colleges, the results may not be generalized to all the medical colleges in the country, especially those in smaller cities of Pakistan with different social and economic statuses. Further, data was collected by the means of a self-administered questionnaire. There is a possibility that respondents who answered together may have caused each other to give similar responses or there may have been selection bias with students interested in leadership responding more.

Conclusion

Our study suggests that medical students in Pakistan appreciate the importance of leadership training in undergraduate education. Despite the limitations, this study accurately identifies the deficiencies perceived by medical students concerning leadership training within their studies in Pakistan. However, a plan for implementing adequate training depends on various

factors which were not surveyed within this study. Faculty perceptions and willingness, resources availability in public and private universities, and time constraints of medical students also need to be addressed effectively.

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Conflict of Interest: The authors declare no conflict of interest.

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