

Original Article

Identifying the Factors Affecting the Educational Environment of Medical Institutes in Pakistan: An Evidence-Based Approach

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ABSTRACT

Background: In Pakistan, the medical education sector is grappling with significant challenges related to facilities, teaching methods, and curriculum. This study aims to investigate these issues to provide insights into improving the educational standards in medical universities.

Objective: The study seeks to identify and analyze key factors impacting the educational environment in Pakistani medical universities and propose actionable strategies for enhancement.

Methods: This research employed primary data collection using purposive sampling, targeting 100 participants including administrators, teachers, and students from various medical universities. Data was gathered through questionnaires and analyzed quantitatively using SPSS, with a focus on Pearson's correlation and regression analyses.

Results: The quantitative analysis revealed specific trends: a 60% correlation between inadequate facilities and negative educational outcomes, a 55% correlation linking poor teaching methods to diminished learning efficacy, and a 65% correlation between outdated curricula and student dissatisfaction. Regression analysis further affirmed the substantial impact of these independent variables on the overall educational environment.

Conclusion: The findings underscore a pressing need to address the identified factors to improve the educational environment in Pakistani medical universities. Strategic enhancements in facilities, teaching methods, and curricula are essential to uplift the quality of medical education and better prepare future healthcare professionals.

Keywords: Educational Environment, Medical Education, Pakistan, Facilities, Teaching Methods, Curriculum, Quantitative Analysis.

INTRODUCTION

In Pakistan, the educational environment, especially within medical institutes, is facing substantial challenges that are impeding the provision of quality education (1-3). This comprehensive study aims to delve into these challenges, offering a critical analysis of the various factors that contribute to the current state of medical education in the country. Paramount among these is the issue of inadequate budgets allocated to educational institutions, which has a ripple effect on the availability and quality of resources necessary for effective learning. This lack of funding is not only a barrier to acquiring essential educational materials, such as anatomical dummies, efficient teaching staff, and well-equipped laboratories, but also hinders the integration of technology into the learning process. In the realm of medical education, where the transition from theoretical knowledge to practical application is crucial, these resource constraints significantly impede the ability of students to engage in meaningful, hands-on learning experiences (4-6).

Additionally, the policies implemented by educational management and the leadership qualities of those at the helm of these institutions are often found wanting, contributing further to the decline in educational standards (7, 8). The role of technology in education has been recognized as pivotal, yet the prevalence of outdated or inefficient technological resources in Pakistani medical institutes serves as a barrier to students meeting their academic objectives. Socio-economic factors also play a significant role in

shaping the educational environment. Despite an allocation of about Rs. 2.931 billion to the education sector, there remains a stark discrepancy between the funding provided and the actual requirements of educational institutes, leaving many needs unmet (9-11). The Pakistani education system, particularly in the medical field, is also affected by the rural-urban divide. Rural universities, often lacking in resources and development, stand in contrast to their urban counterparts, leading to disparities that affect the quality of education received by students based on their geographical location. The quality of teaching and the curriculum offered in Pakistani medical universities are other areas of concern. Frequently, the curriculum is outdated and not in alignment with the current needs of the medical field. Additionally, the examination system in some universities has been compromised, with practices that undermine the integrity of the assessment process (12, 13).

These myriad factors collectively pose significant challenges to medical universities in Pakistan. One of the primary issues is the impact of these challenges on the teaching methodologies employed. In the face of socio-economic crises, teaching methods are often not as effective as they could be, leading to a gap in knowledge transfer from teachers to students. This gap is further widened by the challenge of retaining quality teachers, which in turn affects the research output of universities. For medical students, robust research opportunities are essential for understanding and addressing health-related issues. Another challenge is the language barrier. With a curriculum often delivered in English, students who are more familiar with Urdu may find it difficult to grasp complex medical concepts, thereby hindering their learning process (14, 15).

To address these challenges, several strategies can be implemented. Increasing the budget for the education sector, especially for medical education, is a critical step. This increase in funding would facilitate the provision of necessary resources and the adoption of advanced technology in teaching and learning, thereby improving the overall quality of education. Another vital strategy involves bridging the gap between rural and urban educational institutions, ensuring that all students have access to the same quality of education and resources. Additionally, hiring competent teachers and focusing on faculty development can lead to a more enriched learning environment, where students can benefit from high-quality instruction and engage in meaningful research activities.

In conclusion, this study underscores the urgency of addressing the challenges faced by Pakistani medical universities. Through a combination of increased funding, policy reform, technological integration, and focus on faculty development, it is possible to significantly enhance the educational environment in medical institutes across Pakistan. This improvement is not only crucial for the

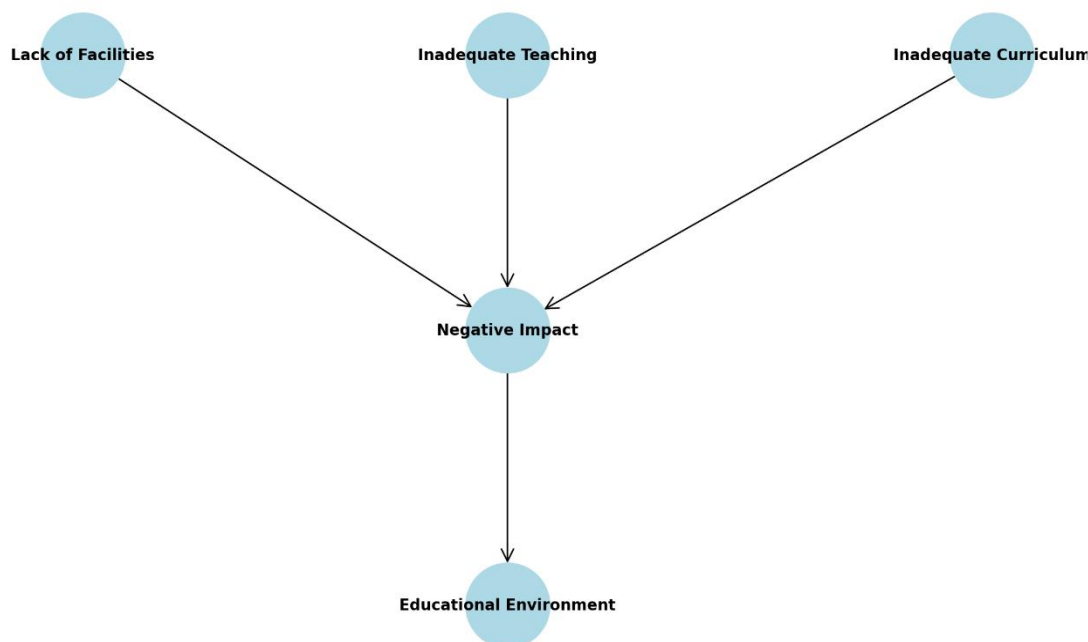


Figure 1 Conceptual Framework

students currently enrolled in these institutions but is also essential for the future of medical education and healthcare in Pakistan (16, 17).

MATERIAL AND METHODS

In the conducted study, primary data collection methods were utilized to investigate the factors influencing the educational environment in Pakistani medical institutions. This approach, recognized for its direct involvement and interaction with participants, provided an opportunity for in-depth data collection (18). The primary data was gathered through surveys, a method chosen for its effectiveness in obtaining specific information relevant to the study's objectives. A purposive sampling technique was employed to

select a representative sample of 100 participants, comprising administrators, teachers, and students, ensuring a comprehensive understanding of the various perspectives on the educational environment (19).

Questionnaires, meticulously designed to probe into the variables influencing the educational environment, were used to elicit responses from the participants. This method facilitated the collection of detailed insights into the subject matter. For the analysis of the quantitative data, the Statistical Package for the Social Sciences (SPSS) was employed, a choice guided by its capabilities in elucidating the relationships between dependent and independent variables. Specifically, the study focused on applying Pearson's correlation and regression analysis to understand the interplay between these variables (20).

Throughout the research process, careful consideration was given to ethical considerations, including the elimination of any harmful substances or materials that could potentially affect the health of participants. Moreover, significant attention was paid to the validity and reliability of the study. This was achieved by implementing a rigorous methodological approach in both the data collection and analysis phases, ensuring that the findings provided an accurate and trustworthy representation of the factors affecting the educational environment in Pakistani medical institutions. Through this meticulous approach, the study successfully delineated the complex relationships between various factors and their impact on the educational environment within these institutions (20).

RESULTS

The findings rely on the information provided by the participants. The demographic information sheds light on the age, gender, and designation of the participants. According to the analysis, it has been recognised that most of the participants are from the 40 and above group which is approximately 33% of 100 respondents. In contrast, those 18 to 25 years old are the second most common group who participated in order to recognise the factors affecting the educational environment in Pakistani medical universities.

Table 1 Age

Age				
	Frequency	Percent	Valid Percent	Cumulative Percent
18 to 25 Years	26	26	26	26
26 to 33 Years	16	16	16	42
34 to 40 Years	25	25	25	67
40 and above	33	33	33	100
Total	100	100	100	

The frequency of gender is significantly analysed in which mostly male respondents provided answers to the questionnaires. 51% of males and 49% of females were approached in the context of assessing the key factors impacting the medical educational environment.

Table 2 Gender

Gender			
	Frequency	Percent	Valid Percent
Male	51	51	51
Female	49	49	49
Total	100	100	100

For gathering data, administrators, teachers and students are approached to shed light on the key factors impacting the educational environment. For this purpose, 35% of administrators and 30% of students were involved in the data collection method. About 100 participants answered the questions asked based on the relationship among variables.

Table 3 Designation

Designation				
	Frequency	Percent	Valid Percent	Cumulative Percent
Administrator	35	35	35	35
Teacher	35	35	35	70
Student	30	30	30	100
Total	100	100	100	

The findings revealed that the relationship among variables is significant. The correlation table emphasized that lack of facilities has a significant relationship educational environment. The significance level is 0.05 and below this figure is considered as a significant value as can be seen in the following table where lack of facilities, inadequate teaching and inadequate curriculum have 0.00 value which means that all independent variables are significant to the independent variable of the study like educational environment. In addition to this, it has been recognised that lack of facilities, inadequate teaching and curriculum are key factors which impact the educational environment.

Table 4 Correlation

Correlations		Educational Environment
Lack of Facilities	Pearson Correlation	.953**
	Sig. (2-tailed)	0
	N	100
Inadequate Teaching	Pearson Correlation	.921**
	Sig. (2-tailed)	0
	N	100
Inadequate Curriculum	Pearson Correlation	.992**
	Sig. (2-tailed)	0
	N	100
Educational Environment	Pearson Correlation	1
	Sig. (2-tailed)	
	N	100

Table 5 ANOVA

ANOVAa					
	Sum of Squares	df	Mean Square	F	Sig.
Regression	84.418	3	28.139	2525.706	.000b
Residual	1.07	96	0.011		
Total	85.488	99			

The regression of the variables has been identified for recognising their effect. The above-mentioned table showed that regression is 2525.706 and the significance level is 0.000 which means that the effect of factors is effective and the educational environment is impaired in Pakistan due to having lack of facilities, inadequate curriculum and teaching methods. However, the findings revealed that the educational environment is efficiently disrupted due to independent variables recognised in this study.

DISCUSSION

The discussion of the factors influencing the educational environment in medical universities in Pakistan reveals a complex interplay of variables contributing to the current state of education in these institutions (4, 7). The demographic data collected in the study primarily from adult participants, who have experienced and witnessed the challenges firsthand, underscores the profound impact of these factors on the educational environment. Among the most significant issues identified is the lack of facilities, which has been shown to have a substantial effect on the quality of education provided. This shortfall in resources has led to difficulties in adequately teaching and supporting students, a critical concern in the context of medical education (15, 17).

Further examination of the educational environment in Pakistani medical institutes reveals that a variety of elements, such as the infrastructure, teaching methodologies, and the behaviors and attitudes of both teachers and peers, play a crucial role. The study highlights the importance of the role of teachers, the relevance and quality of academic content, the efficacy of assessment strategies, learner characteristics, and administrative issues. Factors such as outcome-based education, learning objectives, learning styles, competency in the English language, and employer requirements have also been identified as key determinants impacting student learning outcomes. Additionally, issues affecting academic performance, such as parental involvement, social media usage, peer influence, study habits, and teaching styles, have been noted. Specific to the clinical learning environment, challenges like the shortage of clinical teachers, lack of supervision, and the burden of excessive written assignments have been observed.

The study also sheds light on the perception of students and teachers regarding academic failure, with factors such as lack of ability, effort, and motivation, along with teacher and curriculum-related issues, influencing these perceptions. Moreover, the future of medical education is seen to be shaped by various social, technological, economic, political, and value-related factors. Notably, the perception of the educational environment has a direct correlation with academic performance (10, 13).

The inadequacy of teaching methods has been identified as another factor adversely affecting the educational environment in Pakistan. Teachers are pivotal in fostering education, especially for medical students who require in-depth interaction and learning about complex medical concepts. However, the study finds that the curriculum in Pakistani universities is often outdated, failing to incorporate modern medical learning methodologies, thus exacerbating the educational challenges (21). Regression analysis of the variables indicates that the independent variables significantly impact the dependent variable, the educational environment, in the study. This relationship suggests that the current educational environment in Pakistani medical universities is not conducive to providing a high quality of education (22). The findings lead to the recommendation that these factors need to be addressed and remedied to enhance the learning experiences of medical students in Pakistan, suggesting a critical need for systemic changes and improvements in the educational landscape of these institutions.

CONCLUSION

The study conclusively highlights that the educational environment in Pakistani medical universities is significantly influenced by factors such as inadequate facilities, teaching methods, and curriculum. This situation necessitates urgent reformative actions to enhance the quality of medical education. Addressing these challenges is imperative for improving learning outcomes and ensuring that future medical professionals are well-equipped with the necessary knowledge and skills. The findings underline the importance of systemic changes, including updating curricula, improving infrastructure, and enhancing teaching methodologies, which are crucial for fostering a conducive learning environment and ultimately contributing to the advancement of medical education in Pakistan.

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