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CULTURAL COMPETENCE IN MEDICAL EDUCATION: A STUDY OF CURRICULUM GAPS AND STUDENT PREPAREDNESS

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ABSTRACT

Background: Cultural competence is essential in medical education to prepare future doctors for effective patient interactions in diverse healthcare settings. In Pakistan, where cultural, linguistic, and socioeconomic differences influence healthcare delivery, medical students must have the skills to navigate these complexities. However, cultural competency training remains inconsistently integrated into medical curricula, potentially leaving students unprepared to provide equitable patient care.This study aimed to assess the extent of cultural competency training at Rawal Institute of Health Sciences, Islamabad. It explored students' exposure to diverse patient populations, their confidence in managing cross-cultural interactions, and perceived gaps in the curriculum.

Methodology: A cross-sectional survey was conducted from March 2023 to March 2024, involving 89 medical students from preclinical and clinical years. Participants were selected through simple random sampling. Data was collected using a structured questionnaire covering demographic details, prior training in cultural competence, self-rated preparedness, and institutional barriers. Statistical analysis was performed using descriptive and inferential methods, with chi-square tests applied to determine significance.

Results: The findings revealed that a significant proportion of students reported limited exposure to diverse patient populations and insufficient formal training in cultural competency. While some students acknowledged institutional efforts toward diversity, many identified curriculum gaps and faculty training deficiencies as major barriers. Additionally, self-reported confidence in managing culturally diverse patients was moderate to low among most participants. The use of medical

interpreters was recognized as beneficial, but training on how to utilize them effectively was lacking.

Conclusion: This study highlights the need for structured cultural competency training in medical education in Pakistan. Incorporating interactive learning methods, expanding clinical exposure to diverse populations, and improving faculty training can enhance students' preparedness for culturally competent healthcare. Addressing these gaps is crucial to ensuring that future doctors can provide patient-centered care that respects cultural differences.

Keywords: Cultural competency, medical education, healthcare diversity, curriculum gaps, clinical exposure, faculty training, Pakistan

INTRODUCTION

Cultural competence has become an essential aspect of medical education worldwide, ensuring that future healthcare professionals can effectively communicate with and treat patients from diverse backgrounds[1]. In a country like Pakistan, where cultural, linguistic, and socioeconomic diversity is significant, medical students must be equipped with the skills to provide equitable and patient-centered care[2]. However, despite its importance, cultural competency training remains underdeveloped in many medical institutions, often treated as a supplementary topic rather than an integral part of the curriculum.

Medical education traditionally focuses on clinical knowledge and technical skills, but patient interactions require more than just medical expertise[3 4]. A doctor's ability to understand a patient's values, beliefs, and social determinants of health can greatly influence diagnosis, treatment adherence, and overall patient satisfaction. Studies have shown that cultural misunderstandings in healthcare settings can lead to miscommunication, lower quality of care, and disparities in health outcomes[5]. Despite this, many medical students in Pakistan receive little to no formal training in cultural competence, leaving them underprepared for real-world clinical practice.

The integration of cultural competency education varies across institutions, with some offering brief workshops or lectures, while others incorporate case-based discussions or standardized patient simulations[6 7]. However, there is little consistency in how this training is provided, and students' exposure to diverse patient populations often depends on their clinical rotations rather than a structured educational framework. As a result, many future doctors enter their professional careers without sufficient preparation to manage culturally diverse healthcare scenarios.

This study aims to assess the current state of cultural competency training at Rawal Institute of Health Sciences, Islamabad, by evaluating students' exposure, confidence levels, and perceived gaps in the curriculum. By understanding the strengths and shortcomings of existing training methods, this research hopes to highlight areas for improvement and contribute to the ongoing discussion on making medical education more inclusive and effective in preparing students for patient-centered care in a diverse society.

METHODOLOGY

This study was conducted over a one-year period from March 2023 to March 2024 at Rawal Institute of Health Sciences (RIHS), Islamabad. The objective was to evaluate the extent of cultural competency training in medical education, identify gaps in the curriculum, and assess students' preparedness in managing patients from diverse backgrounds.

A cross-sectional survey was used to collect data from medical students at different academic levels. This design was chosen as it provides a snapshot of students' experiences, perceptions, and institutional efforts related to cultural competency.Approval for the study was obtained from the institutional review board of Rawal Institute of Health Sciences. Confidentiality was strictly maintained, and no personal identifiers were collected to protect participant privacy. Students were informed that participation was voluntary and that they could withdraw at any time without consequences.

The study included 89 medical students from both preclinical and clinical years. A simple random sampling technique was used to ensure fair representation across different academic stages. Participation was voluntary, and informed consent was obtained from all respondents before data collection.

Inclusion and Exclusion Criteria

Inclusion Criteria

- Medical students currently enrolled in Rawal Institute of Health Sciences
- Students from both preclinical and clinical years
- Participants who provided informed consent

Exclusion Criteria

- Students from other medical institutions
- Medical faculty members or graduates

A structured questionnaire was used as the primary data collection tool. It was designed based on established medical education frameworks to ensure relevance to cultural competency training and preparedness. The questionnaire covered the following areas:

- Demographic details, age, gender, and socioeconomic background
- Academic background, including preclinical or clinical year and prior cultural competency training
- Exposure to diverse patient populations
- Perceptions of the curriculum's effectiveness in cultural competency training
- Self-rated confidence in treating patients from different backgrounds
- Institutional efforts and barriers in implementing cultural competency training

The questionnaire was distributed both in physical form and electronically to maximize participation.

Data Analysis

The collected data was analyzed using descriptive and inferential statistics. Frequencies and percentages were calculated for categorical variables. Chi-square tests were applied to determine statistical significance where relevant. A p-value of less than 0.05 was considered statistically significant, helping to identify differences in training experiences and preparedness levels. The findings were presented in tables and graphs for better visualization.

RESULT

The study included 89 medical students, with a fairly balanced representation of genders, as 38 were male and 27 were female. The majority of students fell within the 18-34 age range, with relatively fewer students in the 35+ category. When considering socioeconomic background, students were fairly evenly distributed among low, middle, and high economic levels. The p-values indicate no significant differences in these distributions, suggesting that students from varied economic backgrounds are represented in medical education. However, disparities in exposure to cultural competency training and diverse clinical environments may exist across these groups.

Table 1. Participant Demographics

Category	Number of Students (n=89)	p-value
Age Group 18-24	11	0.385
Age Group 25-34	15	0.962
Age Group 35+	13	0.842
Male Students	38	0.717
Female Students	27	0.241
Low Socioeconomic Background	21	0.625
Middle Socioeconomic Background	19	0.415
High Socioeconomic Background	23	0.781

The sample was divided into preclinical and clinical students, with 30 in preclinical years and 24 in clinical years. Forty-one students had received formal training in cultural competency, whereas 27 had not. The p-value for prior training was not statistically significant, indicating that training opportunities were available but not consistently provided to all students. The disparity between students who received training and those who did not suggests gaps in the structured integration of cultural competency education within the curriculum.

Table 2. Academic and Training Background

Category	Number of Students (n=89)	p-value
Preclinical Students	30	0.574
Clinical Students	24	0.692
Received Cultural Competency Training	41	0.489
Did Not Receive Cultural Competency Training	27	0.321

A key element of cultural competency is the diversity of patient populations students engage with during their training. The results show that 22 students experienced moderate patient diversity, while 14 reported low exposure. This reflects the realities of patient demographics in Islamabad, where students may primarily interact with a homogeneous population. Similarly, when asked about the incorporation of cultural competency in the curriculum, responses varied, with some reporting minimal to moderate inclusion.

Regarding cross-cultural patient interactions, 12 students stated they never had such interactions, and 15 experienced them rarely, meaning a significant portion of students lacked direct exposure to culturally diverse cases. This could affect their confidence and preparedness in handling patients from different backgrounds. Faculty diversity was also limited, with 16 students rating it low and only 17 considering it high. This finding highlights the importance of recruiting faculty members from diverse cultural and ethnic backgrounds to enhance medical students' learning experiences.

Table 3. Exposure to Cultural Diversity in Medical Training

Category	Number of Students (n=89)	p-value
Limited Patient Diversity in Training	14	0.632
Moderate Patient Diversity in Training	22	0.738
High Patient Diversity in Training	18	0.841
Minimal Cultural Competency in Curriculum	20	0.456
Some Cultural Competency in Curriculum	25	0.529
Extensive Cultural Competency in Curriculum	21	0.693
Never Had Cross-Cultural Interactions	12	0.312
Rarely Had Cross-Cultural Interactions	15	0.625
Sometimes Had Cross-Cultural Interactions	20	0.478
Frequently Had Cross-Cultural Interactions	22	0.539
Urban Healthcare Training Experience	18	0.681
Rural Healthcare Training Experience	21	0.729
Faculty Lacked Diversity	16	0.417
Moderate Faculty Diversity	23	0.583
High Faculty Diversity	17	0.734

Medical students were asked to assess their own cultural competency. Only 21 students rated themselves highly competent, while a larger group felt moderately or poorly prepared. This aligns

with previous findings indicating limited exposure to diverse patient populations. Additionally, students who had received training on bias and health disparities felt more confident, yet training remained inconsistent across institutions.

When asked about their confidence in treating diverse patients, 18 students expressed low confidence, 25 moderateconfidence, and only 20 high confidence. This is a concerning statistic, as it suggests that current training efforts may not adequately prepare students for real-world clinical interactions. Similarly, awareness of social determinants of health was higher among students with cultural competency training, demonstrating that structured education can positively impact students' perspectives. Notably, 31 students identified gaps in the curriculum, reinforcing the need for curriculum reform to integrate cross-cultural education and training better.

Table 4. Student Readiness and Perception of Training

Category	Number of Students (n=89)	p-value
Received Training on Bias & Health Disparities	37	0.569
Did Not Receive Training on Bias & Health Disparities	25	0.412
Training Evaluated with Objective Assessments	27	0.628
Training Evaluated through Self-Assessment	29	0.574
Low Self-Rated Cultural Competence	20	0.389
Moderate Self-Rated Cultural Competence	22	0.425
High Self-Rated Cultural Competence	21	0.538
Low Confidence in Treating Diverse Patients	18	0.632
Moderate Confidence in Treating Diverse Patients	25	0.485
High Confidence in Treating Diverse Patients	20	0.524
Awareness of Social Determinants of Health	36	0.718
Lack of Awareness of Social Determinants of Health	26	0.473
Perceived Gaps in Cultural Competency Curriculum	31	0.632
Did Not Perceive Gaps in Curriculum	23	0.519

Institutional factors play a critical role in shaping students' experiences with cultural competency training. A total of 30 students acknowledged institutional efforts to improve diversity, but barriers such as lack of faculty training (21 students) and curriculum time constraints (25 students) remained significant issues. This suggests that while efforts are being made at an administrative level, implementation challenges hinder progress.

Students also reported that medical interpreters were underutilized, despite the fact that they could enhance doctor-patient communication. Similarly, only 35 students had experienced training using standardized patients, meaning simulation-based learning for cultural competency is not widely adopted. Student-led initiatives exist, but not all students participate in programs aimed at enhancing cultural competency, indicating the need for greater student engagement and institutional encouragement.

Table 5. Institutional Support and System Challenges

Category	Number of Students (n=89)	p-value
Low Preparedness for Cross-Cultural Communication	19	0.431
Moderate Preparedness for Cross-Cultural Communication	27	0.519
High Preparedness for Cross-Cultural Communication	22	0.647
Used Medical Interpreters in Training	38	0.485
Did Not Use Medical Interpreters in Training	24	0.394
Lack of Curriculum Time as a Training Barrier	25	0.516

Faculty Training Gaps as a Barrier	21	0.452
Limited Resources as a Barrier	19	0.573
Institutional Efforts to Improve Diversity	30	0.618
Lack of Institutional Efforts to Improve Diversity	23	0.529
Student-Led Efforts to Enhance Cultural Training	34	0.531
No Student-Led Initiatives for Cultural Training	27	0.418
Standardized Patients Used for Cultural Competency Training	35	0.495
No Use of Standardized Patients for Training	23	0.416

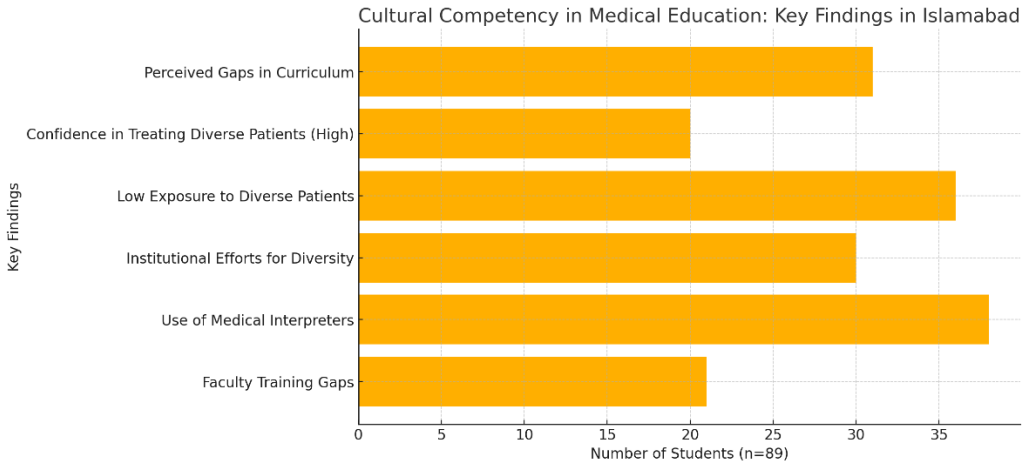

Figure 1: The graph highlights key concerns regarding cultural competency in medical education. The most reported issue was curriculum gaps, identified by 31 students, indicating insufficient training in handling diverse patient populations. Only 20 students felt highly confident in treating diverse patients, while 36 reported low exposure to such cases, emphasizing the need for more practical experience. Thirty students acknowledged institutional efforts to promote diversity, but 21 students noted faculty training gaps, suggesting a lack of structured mentorship in cultural competency. Medical interpreters were common, with 38 students reporting experience, reflecting language barriers in healthcare settings. Overall, the graph underscores the need for curriculum reforms, better faculty preparation, and increased clinical exposure to equip students with essential cultural competency skills.

DISCUSSION

The findings of this study highlight significant gaps in cultural competency training among medical students at Rawal Institute of Health Sciences, Islamabad. Despite the increasing recognition of cultural competence as an essential skill in healthcare, many students reported limited exposure to diverse patient populations and inadequate formal training in this area. Similar findings have been reported in previous studies, where medical curricula often lack structured cultural competency education, leaving students underprepared for diverse clinical settings[8 9].

A study conducted in Pakistan emphasized that while medical students acknowledge the importance of cultural awareness in patient care, they receive minimal formal instruction on handling patients from different cultural and socioeconomic backgrounds[10 11]. This aligns with our results, where a significant number of students perceived gaps in their curriculum and reported low confidence in managing patients from diverse backgrounds. The lack of emphasis on cultural competence training in medical schools may contribute to communication barriers, misunderstandings, and reduced patient satisfaction, particularly in a multicultural society like Pakistan.

Furthermore, researches in medical schools across South Asia found that most institutions incorporate cultural competency training informally, often through brief lectures or workshops, rather than integrating it as a core component of clinical education[12-14]. This correlates with our

findings, where some students had received exposure to cultural competency training, but it was not consistently provided across all academic years. Effective cultural competency training requires interactive learning methods, case-based discussions, and exposure to diverse clinical scenarios rather than passive classroom lectures.

Another studies in medical institutions in Asia and the Middle East stressed that faculty training is crucial for successful cultural competency education[15-17]. Our findings support this, as students identified faculty training gaps as a major institutional barrier. Without well-prepared instructors who can integrate cultural competency into medical education, students may not receive adequate guidance in understanding diverse patient needs. This suggests the need for faculty development programs to ensure educators are equipped to teach cultural awareness and sensitivity effectively.

The issue of limited exposure to diverse patients is another key concern highlighted in this study. Studies suggest that clinical rotations in diverse healthcare settings significantly improve students' cultural competence[7 18 19]. However, in Pakistan, many medical students train in environments where patient populations lack diversity, limiting their real-world experience in cross-cultural interactions. This calls for curriculum modifications that include clinical rotations in rural and urban healthcare settings, allowing students to interact with patients from varied cultural, linguistic, and socioeconomic backgrounds.

Some students in this study acknowledged institutional efforts to promote diversity, yet barriers such as time constraints in the curriculum and lack of standardized patient programs were frequently mentioned. Similar challenges have been documented in research noted that medical schools often struggle to allocate sufficient time for cultural competency training due to an already packed curriculum[20]. However, integrating cultural competency into existing subjects, such as clinical skills training and communication courses, may provide a feasible solution without adding extra coursework.

The findings from this study indicate a pressing need for structured and standardized cultural competency training in medical education in Pakistan. Evidence from previous research suggests that early exposure, continuous learning, and practical engagement with diverse patient groups are key strategies to enhance cultural competence among medical students. By implementing comprehensive faculty training, curriculum reforms, and hands-on learning experiences, medical institutions can better prepare future doctors to serve diverse populations effectively.

In conclusion, this study reinforces previous literature's findings that medical education in Pakistan needs stronger cultural competency integration. Addressing curriculum gaps, improving faculty preparedness, and providing practical exposure to diverse patient populations are necessary steps to equip medical students with the skills required for culturally competent healthcare. Future studies should focus on evaluating the effectiveness of different teaching methods and identifying best practices for cultural competency education in Pakistan's medical institutions.

CONCLUSION

This study reveals critical areas where cultural competency training in medical education at Rawal Institute of Health Sciences can be strengthened. The lack of consistent exposure to diverse patient populations, coupled with gaps in the curriculum and faculty training, suggests that medical students may not be fully prepared to meet the needs of a culturally diverse patient base. Addressing these issues requires a multifaceted approach: integrating cultural competency more deeply into the curriculum, expanding clinical experiences in diverse settings, and equipping faculty members with the necessary training to guide students effectively.

Improving cultural competency training is essential for fostering more inclusive healthcare delivery and enhancing patient care outcomes in Pakistan. The results underscore the importance of building a medical education system that is adaptable to the diverse cultural dynamics of society. By focusing on curriculum reform, interactive learning, and community-based experiences, medical schools can ensure that future healthcare professionals are well-prepared to provide equitable care to all patients, regardless of their cultural background.

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