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Impact of Community Outreach Placements on Social Accountability and Cultural Competence among Medical Students at Rehman Medical College, Peshawar

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ABSTRACT

OBJECTIVE: To evaluate medical students' perceptions regarding the impact of community outreach placements on cultural competence, social accountability, and educational development at Rehman Medical College, Peshawar.

METHODOLOGY: A cross-sectional study was conducted among 103 undergraduate medical students using a self-developed structured questionnaire based on a 5-point Likert scale. The questionnaire explored multiple thematic domains related to outreach-based learning. Data were analyzed using IBM SPSS Statistics version 26. Pearson's chi-square test was applied to assess associations between demographic variables and student perceptions.

RESULTS: Students reported positive perceptions regarding cultural competence (mean = 2.08), social accountability (mean = 1.94), and clinical and communication skills (mean = 1.85) with mean lower score referring to stronger agreement. Students aged 23-25 years demonstrated significantly higher agreement regarding improvement in history taking and patient examination skills (p = 0.007) and communication skills (p = 0.003), whereas gender-based differences were not statistically significant. Participants also identified gaps in undergraduate curricula related to underserved populations and community-oriented learning.

CONCLUSION: Community outreach placements were perceived as valuable educational experiences that promote cultural awareness, social accountability, and practical learning among medical students. Incorporating structured community-based placements into undergraduate medical curricula may help foster socially responsive and culturally sensitive future physicians.

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INTRODUCTION

Effective communication between patients and healthcare providers underpinned by provider cultural competency is central to reducing disparities in health outcomes and access to care.[1] Cultural competence training equips healthcare professionals to serve communities with diverse social, economic, and linguistic backgrounds, thereby enhancing patient-centered care.[2] Through such education, providers learn to address healthcare barriers with culturally appropriate communication strategies.[3]

Community-based outreach further situates clinical practice within a broader socio-cultural context, offering insights into structural determinants of health, local needs, and the mobilization of community resources.[4] Student-run free medical camps, for instance, offer dual benefits: providing basic healthcare services to underserved populations while simultaneously exposing students to real-world patient interactions, including history taking and physical examination.[5] However, these short-term engagements often lack sustainability, and their educational value may diminish over time if not reinforced. Furthermore, logistical challenges in maintaining continuity hinder their long-term integration into undergraduate curricula.

Outreach programs serve as vital safety nets, delivering primary healthcare services to marginalized populations while introducing students to the complexities of language barriers and medical illiteracy.[5] In recent years, there has been increasing advocacy for incorporating social justice and health equity into medical education through experiential and community-based learning opportunities.[6] Such exposure helps medical trainees understand social determinants of health (SDH), introspect on healthcare inequities, and appreciate the importance of socially accountable practices. Medical schools with a social orientation are now embracing their responsibility to meet the health needs of the communities they serve.[7] Institutions are expected to

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collaborate with local stakeholders to serve marginalized, underserved, and vulnerable populations, who continue to face persistent inequities in access to quality healthcare.[8]

Evidence from medical education literature in Pakistan suggests that cultural competence training improves communication skills and patient-centered care outcomes. However, its implementation remains constrained by inconsistent curricular structures, limited faculty preparedness, and insufficient institutional support.[9] Similarly, studies have highlighted that although social accountability is being increasingly incorporated into undergraduate curricula, its implementation remains variable, with limited structured integration within community-based learning.[10] Recent evidence also suggests that service learning and community oriented medical education promote clinical competence, empathy, and community engagement among medical students. However, systematic evaluation of their long term institutional impact and sustainability remains limited.[11] Collectively, these findings indicate a need for continuous and structured academic exposure to community settings within Pakistan's medical education system to foster the development of socially accountable and culturally competent future physicians.

Despite increasing global emphasis and emerging national literature, structured evaluation of community outreach placements in developing social accountability and cultural competence among medical students in Pakistan remains limited. Rehman Medical College, aligned with its mission of promoting social accountability, has consistently partnered with public sector, community-based hospitals to facilitate student placements. This study aims to evaluate the perceived impact of these outreach experiences on students' cultural competence and their understanding of accountability towards the communities they are being trained to serve.

METHODOLOGY

A cross-sectional study was conducted at Rehman Medical College, Peshawar. The sample size was determined using the World Health Organization (WHO) sample size calculator for single population proportion studies at a 95% confidence level and 5% margin of error. In the absence of prior local prevalence estimates, a conservative approach was applied. Due to feasibility constraints and the limited accessible student population within the study setting, 103 undergraduate medical students were recruited through non-probability convenience sampling. Inclusion criteria included all undergraduate students actively enrolled in Rehman Medical College who had participated in structured community outreach placements as part of their curriculum. Exclusion criteria: students who did not provide informed consent or returned incomplete questionnaires were excluded from the study.

Data were collected using a self-developed, structured questionnaire designed to capture perceptions across five thematic domains: cultural competence, social accountability, empathy, clinical and communication skills, and understanding of underserved populations. Content validity was ensured through review by faculty members in medical education to assess relevance and clarity of items prior to data collection. A 5-point Likert scale (1 = Strongly Agree to 5 = Strongly Disagree) was used to quantify responses.

To ensure internal consistency, the reliability of the instrument was assessed using Cronbach's alpha, which yielded a value of 0.70, indicating acceptable reliability. The survey was administered over a period of four months. Data was analysed using IBM SPSS Statistics version 26. Descriptive statistics (means and standard deviations) summarized the data. Pearson's chi-square test was employed to assess associations between gender, age, and perceived impact across thematic domains. Statistical significance was set at $p < 0.05$.Ethical approval was obtained from the Institutional Review Board (IRB) of Rehman Medical Institute (Approval No: RMI/RMI-REC/Approval/151). Written informed consent was obtained from all participants prior to inclusion in the study.

RESULTS

A total of 103 medical students participated in the survey. The majority expressed strong agreement that community outreach placements enhanced their learning and professional development across multiple domains.

- Social Accountability: 86 students agreed that outreach placements helped them recognize their responsibility to the community (Mean = 1.94; SD = 0.739).
- Clinical Competence & Future Learning: 89 participants agreed that outreach experiences enhanced future learning, reflecting the lowest mean score (Mean = 1.81; SD = 0.780), indicative of the strongest level of agreement.
- Cultural Competence: 85 students acknowledged improved understanding of healthcare in culturally diverse settings (Mean = 2.08; SD = 0.765).

Age-based analysis revealed that students aged 23–25 demonstrated significantly higher agreement regarding the development of clinical and communication skills, while gender-based differences were statistically insignificant.

Students also highlighted curricular gaps in addressing the needs of underserved populations and expressed a desire for deeper integration of community-based learning within the academic program.

Table 1: Students' Perceptions on Cultural Competence, Social Accountability, and the Educational Value of Outreach Programs. (N = 103)

Thematic domains	Survey Item	Mean	SD
Cultural Competence in Healthcare	Healthcare providers in Pakistan contribute to reducing cultural disparities.	2.25	0.894
	Pakistani healthcare professionals are effective in addressing cultural differences in healthcare delivery.	2.50	0.979
	Cultural competency education in the MBBS curriculum helps providers understand disparities.	2.08	0.750
	Tertiary healthcare institutions should integrate cultural competency education.	1.98	0.907
	Culturally competent providers are more aware of their social accountability.	2.20	0.809
	Outreach programs improve understanding of cultural diversity not possible in tertiary care alone.	2.22	0.779
Community Outreach & Social Accountability	Outreach placements help students recognize their responsibility to the community.	1.94	0.739
	Hospital-based outreach enhances understanding of social accountability.	1.96	0.712
	Outreach participation prepares students to better serve social justice reforms.	2.01	0.734
	Exposure to community health problems enhances students' contribution to reform.	1.85	0.691
	Trust and confidentiality are vital components of outreach experiences.	1.86	0.792
	Outreach fosters awareness of local health needs.	1.95	0.745
	Students gained experience in history-taking and patient examination during outreach.	2.10	0.752
	Outreach improved clinical and communication skills.	1.85	0.845
	Outreach experiences support future learning.	1.81	0.780
	Outreach facilitated understanding of social determinants of health.	1.96	0.803
	Outreach improved awareness of cultural and economic health factors.	2.12	0.771
	Outreach offered more clinical diversity than tertiary hospital settings.	2.08	0.848
Education and Curriculum Reform	Current curriculum includes content on care for underserved populations.	2.35	0.882
	Outreach addresses gaps in cultural competence education.	2.02	0.754
	Undergraduate education can reduce healthcare disparities.	2.19	0.805
	Medical curricula should include both primary and tertiary care placements.	1.86	0.755
	Curriculum should address differences between primary and tertiary care.	2.06	0.790
Systemic Impact of Outreach	Outreach mitigates barriers due to medical illiteracy.	2.12	0.771
	Outreach can reduce the burden on tertiary care through resource distribution.	1.96	0.766
	Outreach is more effective than tertiary care in addressing cultural disparities.	2.22	0.779
	Outreach improves understanding of community-specific health challenges.	1.95	0.746

Items are grouped according to five predefined thematic domains corresponding to the study framework for clarity of interpretation.

Perceptions regarding cultural competence demonstrated relatively greater variability among participants. A majority (n = 80) agreed that the MBBS curriculum contributes to developing an understanding of cultural disparities (Mean = 2.08, SD = 0.750). However, fewer students perceived current healthcare professionals as effective in addressing cultural differences in health care delivery (Mean = 2.50, SD = 0.979), which represented the highest mean score in this theme, indicating the lowest level of agreement.

Participants expressed strong support for curriculum reform. A substantial proportion (n = 91) endorsed the inclusion of both primary and tertiary care placements in medical college curricula (Mean = 1.86, SD = 0.755). Similarly, 84 students agreed that community outreach programs could reduce the burden on tertiary care facilities through better resource distribution (Mean = 1.96, SD = 0.766).

Responses related to empathy and understanding of underserved populations demonstrated positive perceptions among participants. Students agreed that outreach experiences improved their understanding of social determinants of health (Mean = 1.96; SD = 0.803), community-specific healthcare

Figure 1: Gender wise distribution across different themes of Social Accountability

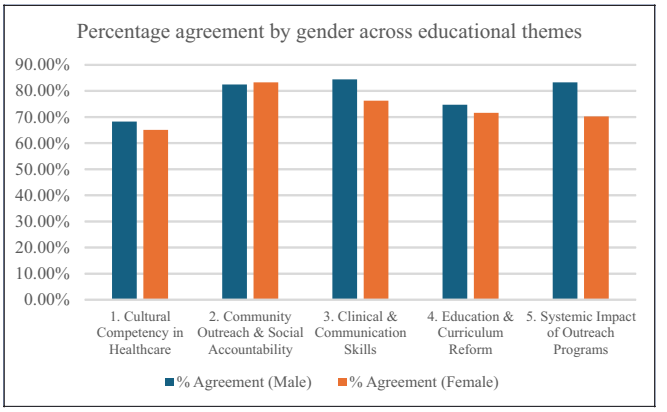
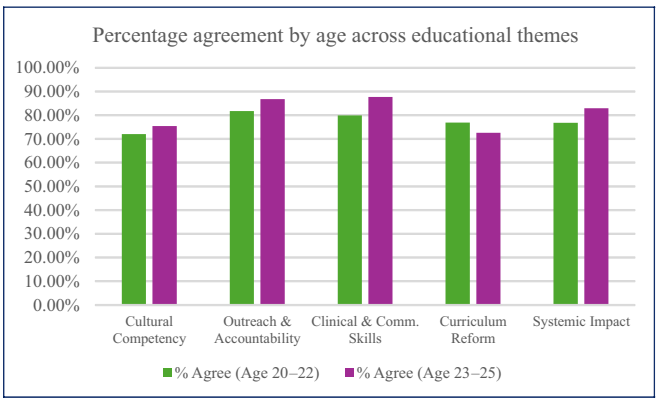


Figure 2. Percentage agreement by age group (20–22 vs 23–25 years) across core educational themes assessed in the study.



challenges (Mean = 1.95; SD = 0.746), and barriers related to medical illiteracy (Mean = 2.12; SD = 0.771). These findings suggest that exposure to underserved populations enhanced students' awareness of healthcare disparities and strengthened their appreciation of patient-centered and socially responsive care.

No statistically significant gender-based differences were observed in student responses across the primary themes of cultural competence, social accountability, clinical skills, and curriculum development. These findings suggest a shared perspective as seen in Fig 1.1, among male and female students regarding the value of outreach programs in enhancing cultural sensitivity, promoting accountability, and improving educational outcomes.

Age was categorized into two groups (20–22 and 23–25 years) for analysis. Stratification by age revealed meaningful differences in perceptions across key educational themes. As illustrated in Figure 1, students aged 23–25 demonstrated consistently higher levels of agreement across four of the five domains: Cultural Competency, Outreach and Accountability, Clinical and Communication Skills, and Systemic Impact. These differences were particularly pronounced in the domain of Clinical and Communication Skills.

Further statistical analysis indicated significant age-based variation in specific items under this domain. Students aged 23–25 were more likely to agree that outreach improved their experience with history taking and patient examination ($p = 0.007$), as well as enhanced their communication skills ($p = 0.003$). These findings suggest that older students, likely with greater clinical exposure, exhibit a deeper appreciation of the practical learning benefits offered through outreach placements (Figure 2).

DISCUSSION

This study provides novel insights into how community outreach placements contribute to the holistic development of medical students particularly in the areas of cultural competence, social accountability, and clinical skill acquisition while simultaneously highlighting critical gaps within the existing medical curriculum. In contrast to earlier studies that primarily focused on classroom-based interventions, our findings underscore the transformative potential of experiential learning within underserved community settings. These real-world encounters appeared to strengthen students' empathetic understanding and contribute to the development of a socially responsive professional identity.[12]

Our findings echo those of previous research that underscores the role of community-engaged education in cultivating empathy and accountability among undergraduate medical students.[8] Immersive exposure to healthcare challenges in diverse communities allows students to confront health inequities firsthand, aligning closely with the objectives of socially accountable medical education frameworks.[8,13]

Notably, students perceived community outreach as more effective than traditional tertiary hospital placements in promoting cultural sensitivity. This aligns with emerging evidence demonstrating that integrating cultural humility training during the clinical years enhances patient-centered care, empathy, and accountability.[14] Similarly, role-play interventions at Boston University have shown that experiential, interaction-based learning strategies can significantly improve students' communication competencies and cultural awareness.[15]

The relatively lower confidence students expressed in the cultural competence of current healthcare professionals may reflect a disconnection between undergraduate training and clinical practice. This finding is consistent with earlier reports highlighting persistent cultural and structural gaps in Pakistan's medical education system.16 It points to the urgent need for

systemic reform, including enhanced faculty development and the incorporation of cultural competence at all levels of healthcare delivery. Variability in outreach experiences, limited duration of placements, and differences in individual learning experiences may also explain the differences in student perceptions.

Although no significant gender differences were observed, students aged 23–25 reported greater perceived skill development. This suggests that increasing clinical maturity and exposure over time may enhance students' capacity to internalize the educational benefits of outreach. It also resonates with research indicating that senior students typically score higher on cross-cultural readiness and professional preparedness assessments.[17] These findings support the longitudinal integration of outreach activities throughout the medical curriculum to maximize their perceived educational value.

Limitations: This study was limited to a single medical institution, which may affect the generalizability of the results. Additionally, due to its cross-sectional design, the study cannot evaluate the long-term impact of community outreach on students' clinical behavior or professional development beyond graduation. The use of convenience sampling and reliance on self-reported perceptions may have introduced selection bias and response bias, respectively.

Recommendations: Future research should investigate the long-term effects of community outreach on graduates' clinical performance, cultural competence, and professional behaviour in practice settings. Longitudinal studies tracking students into their postgraduate years could offer deeper insights into the sustained impact of outreach. Moreover, further exploration is needed to assess the feasibility, effectiveness, and scalability of structured outreach programs, particularly in low-resource or rural settings, where the alignment between training and community health needs is most critical.

CONCLUSION

This study reinforces the value of community outreach as a vital educational strategy for developing socially accountable and culturally competent physicians. Outreach experiences provide students with essential skills, perspectives, and values that are often underemphasized in conventional tertiary hospital placements. The findings highlight the potential of outreach-based education to address current gaps in undergraduate medical curricula and better prepare students to meet the evolving needs of diverse communities

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CONFLICT OF INTEREST

Author declared no conflict of interest

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AUTHORS CONTRIBUTIONS

MS: Conception, Design of the work, Data collection, and Drafting, Reviewed, Final approval, Agreement to be accountable.

MAM: Conception, Design of the work, Acquistion, Data Analysis, and Drafting, Reviewed, Final approval, Agreement to be accountable.

RY: Conception, Design of the work, Interpretation of data for the work, and Drafting, Reviewed, Final approval, Agreement to be accountable.

AH: Conception, Design of the work, Data collection, and Drafting, Reviewed, Final approval, Agreement to be accountable.

Y: Conception, Design of the work, Data collection, Data analysis and Drafting, Reviewed, Final approval, Agreement to be accountable .

DATA SHARING POLICY

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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