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IDENTIFICATION OF EDUCATIONAL FACTORS INFLUENCING THE QUALITY OF HEALTHCARE IN TERTIARY CARE HOSPITAL

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ABSTRACT

Objective: To identify the undergraduate medical educational factors according to faculty's perceptions influencing the quality of healthcare services in tertiary care hospitals.

Methodology: This study used a mixed method sequential design, integrating qualitative and quantitative components. Initially two focus group discussions with 24 participants were conducted until data saturation, followed by the development of a questionnaire based on the data collected through FGDs. For the quantitative phase, 250 participants who were faculty members within the research site were surveyed using a structured questionnaire and data were analyzed using SPSS V 25 with descriptive statistics, and Cronbach Alpha to determine internal consistency.

Results: From the qualitative phase, 15 codes were synthesized into five main themes namely curriculum design, teaching and supervision, assessment, research and professional development, learning environment and mentorship. These themes were used to develop the questionnaire. Results of survey revealed that faculty members expressed concerns regarding the curriculum relevance to local health issues, inconsistent teaching practices, and inadequate assessment of communication and professionalism. Additionally, gaps in research training and faculty development were also identified. Cronbach's Alpha was determined to be 0.942 across 26 items of the questionnaire.

Conclusions: The study concludes that there is a significant impact of undergraduate medical education on healthcare quality in Pakistan. It reveals critical gaps in many curricular components and also emphasizes the need for systemic reform to enhance graduate competency and healthcare delivery.

KEYWORDS: Healthcare, Service, Quality, Curriculum, Undergraduate Medical Education.

INTRODUCTION

The quality of healthcare in Pakistan is a pressing concern, with numerous reports indicating significant deficiencies in service delivery, patient safety, and overall healthcare outcomes.[1] Despite substantial investments in the healthcare sector, systemic challenges such as inadequate medical education, lack of skilled professionals, and insufficient training programs continue to hinder the provision of high-quality care.[2] As the backbone of healthcare delivery, medical education plays a critical role in shaping the competencies and attitudes of future healthcare providers.

However, the gap between educational outcomes and the practical needs of the healthcare system remains a significant barrier to enhancing quality.[3] A review of the existing literature reveals several factors related to medical education that impact the quality of healthcare services in Pakistan. For instance, Khan et al. identified that outdated curricula and teaching methodologies fail to equip medical graduates with the necessary skills to address the evolving health challenges in the country.[4] Additionally, lack of a robust continuing medical education framework has also been noted as a critical shortfall in sustaining healthcare professionals' knowledge and skills.[5] Especially, enhancing the quality of medical education continuum with a special emphasis on undergraduate medical education can lead to better-trained professionals who are capable of delivering high-quality care thereby improving patient outcomes and overall public health.[6] However, there is dearth of evidence regarding factors that are contributing towards the quality of undergraduate medical education in Pakistan and have an influence on value of healthcare. Therefore, this study aims to identify the undergraduate medical educational factors with reference to faculty's perceptions influencing the quality of healthcare services in a public sector tertiary care hospital in Lahore, Pakistan.

METHODOLOGY

After approval from the IRB and formal informed consent from the participants, the study was conducted. This study employed a mixed-method sequential design, consisting of qualitative and quantitative components to collect data from two sources to identify educational factors influencing quality of healthcare services. The study was conducted at a public sector tertiary care hospital attached to a public sector medical institute, affiliated with the University of Health Sciences, Lahore. The institute is accredited by the Pakistan Medical and Dental Council.

There are 1134 medical students studying here. Altogether 149 faculty members from basic and clinical sciences are working in this institute.

The first phase of the study comprised qualitative data collection through two focus group discussions (FGDs). A total of 24 participants were selected based on purposive sampling. Each of the focus group discussions consisted of 12 participants, with more than two years of teaching experience. To ensure uniformity of the focus groups, each group consisted of six medical teachers from basic sciences and six from clinical sciences. These FGDs were conducted in a committee room of the institution with an approximate duration of two hours for each FGD. The FGDs revolved around participants' perceptions regarding undergraduate medical educational factors influencing the quality of healthcare service within a tertiary care hospital. Participants of each FGD were given pseudonyms to safeguard their identities. FGDs were audio recorded after permission from the participants.

The quantitative study comprised a survey by using questionnaire developed on the basis of qualitative data generated through FGDs. A total of 250 doctors were selected using purposive sampling. Those medical doctors were included in the survey who were supervisors of post graduate clinical training and medical teachers for undergraduate medical education working in the institution. These survey participants also had previous experience of working in another medical institute because it gave them deeper insight into plausible educational factors that could influence healthcare services. The questionnaires were distributed to the study participants through Google Form. To validate the developed questionnaire, pilot testing was done by involving 10% of the calculated sample that was around 25 participants.

Data Analysis: Qualitative data was analyzed manually using thematic analysis technique. The technique started with transcription of audio recorded FGDs. Transcripts were read using iterative approach. Chunks of information with similar ideas were categorized into 15 codes. These codes were examined for emerging themes that were aligned with the information within each chunk of information (Table-I). Based on the themes, domains for the questionnaire were identified and questions were developed.

The quantitative data was entered in SPSS version 25. Descriptive statistics such as frequency and percentages were calculated. Cronbach alpha of the questionnaire was also calculated to determine internal consistency of the questionnaire.

RESULTS

The quantitative component of the study included 250 undergraduate medical faculty members. The majority of the participants were females (60%). In terms of teaching experience, most faculty members had more than 10 years of experience (61.2%), representing 153 participants. Cronbach's Alpha of 0.942 across 26 items was determined. Detailed demographic characteristics of the participating faculty are given in Table-II and percentages of their responses are delineated in Table-III.

DISCUSSION

This study explored perceptions of medical faculty regarding undergraduate medical educational factors that influence the quality of healthcare in a Pakistan's tertiary care hospital. The findings demonstrate that the competencies, professional attitudes, and behaviors cultivated during medical training directly shape the quality of patient care. Persistent challenges in Pakistan's health system such as lopsided service standards, inadequate patient safety, and gaps in service delivery are closely linked to compromised quality of medical education.

The curriculum was consistently described by faculty as static, outdated, and insufficiently aligned with Pakistan's healthcare needs. Participants pointed to an over-reliance on Western models, with limited emphasis on locally prevalent diseases such as hepatitis, dengue, and maternal morbidity. The mismatch between medical curricular content and community health needs has been widely documented in South Asia, where medical schools continue to favor hospital-based, specialty-driven training over preventive and community-oriented care.[7] Such curricular orientations inadvertently give rise to inequalities, leading towards graduates who are likely to pursue urban subspecialties while rural populations remain underserved.[8]

The results indicated that teaching practices and supervision were inconsistent with overcrowded teaching spaces, and predominantly didactic in nature. Faculty reported that bedside teaching was often compromised by large groups of students, while classroom instruction is influenced by lectures with little student engagement. The persistence of lecture-dominated teaching reflects deep-rooted teacher-centered paradigm. Though faculty acknowledged the pitfalls of didactic teaching but cited structural constraints as the root cause such as limited space, scheduling, and workload pressures preventing learner centered teaching practices. Supervision of clinical training quality was also reported to vary widely, sometimes depending on the "mood" of the teacher. The inconsistent supervision reported in this study, therefore, has implications not only for student learning but also for the long-term values and practices of future doctors.[9]

Another finding suggested that assessment was predominantly focused on evaluation of theoretical knowledge hence promoting rote memorization, with insufficient attention to clinical skills, communication, and professionalism. Medical teachers in this study recognized this gap, observing that students do not take communication or ethics seriously because these aspects are not formally examined. Importantly, absence of structured feedback loops further undermines learning, as formative feedback is among the most effective drivers

of improvement.[10] It underscores the significance of formally evaluating every competency that is identified in the national curriculum proposed by the Pakistan Medical and Dental Council if competency based medical education is to be implemented in true letter and spirit.[11]

Faculty development was consistently described as insufficient, with limited opportunities for continuing medical education (CME). The findings of this study highlighted a paradox- faculty had a good insight regarding the deficiencies in curricula, teaching, and assessment, yet lacked the institutional support to address them. Dath and Iobst assert that without systematic investment in faculty's growth, efforts to modernize education will remain superficial.[12]

The results suggest that the institutional faculty found research training at the undergraduate level as minimal or absent that renders medical graduates unable to design studies, appraise evidence, or integrate research into practice. The findings of this study conclude that weak research training translates directly into poorer healthcare outcomes, as graduates lack the skills to generate evidence and integrate it into clinical practice. Mahmood et al. shared similar concerns for undergraduate medical education in a Pakistani context.[13]

The study found out that the learning environment was described as overcrowded, stressful, and undermined by bullying, mistreatment, and weak mentorship. International literature consistently shows that a positive learning environment is critical for both educational outcomes and student wellbeing.[14] Mistreatment and bullying not only harm mental health but also compromise professional identity formation and patient safety.[15] Lack of structured mentorship was identified as another critical gap. As recommended by Henry-Noel et. al., without good mentorship, students may struggle to navigate complex career trajectories, contributing to dissatisfaction and attrition.[16] Finally, faculty's voices in this study emphasize an urgent need for systemic reforms in the implemented undergraduate medical education curriculum, thus reframing medical education as a central determinant of healthcare quality.

CONCLUSION

This study provides evidence that undergraduate medical education exerts profound influence on the quality of healthcare delivery in a Pakistan's tertiary hospital. Critical gaps in teaching, assessment, faculty development, research training, and learning environments compromise the training process of competent, compassionate, and evidence-driven graduates. Aligning curricula and actual teaching practices with international best standards while responding to local realities will not only improve educational outcomes but will also contribute to a more effective, equitable and robust healthcare system in Pakistan. Findings of this study are only limited to one public sector medical college and its affiliated hospital. Therefore, any generalization must be done with a certain level of caution. In addition, data regarding students' perspectives about medical education factors was not collected, which can be included in a future study.

Conflict of Interest: None.

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Both authors contributed in concept and study design, data collection, data statical analysis, writing and editing of manuscript, critical revision and final approval of manuscript.

Table-I: Thematic Analysis: Faculty's Perceptions of Educational Factors.

Theme	Codes	Representative Verbatim
Curriculum Relevance and Alignment with Local Needs	Outdated and Static Curriculum	"The curriculum is static. It doesn't evolve with emerging diseases."
	Western Influence and	"Our curriculum is largely copied from Western models."
	Weak Connection to Local Context	"Local diseases like hepatitis and dengue don't get enough emphasis."
		"Students don't see how it connects with the health problems they will face in Pakistan."
Teaching Practices and Clinical Supervision	Inconsistent and Overcrowded Bedside Teaching	"Bedside teaching is inconsistent. Some teachers are very committed; others just rush through."
		"Wards are overcrowded, sometimes 15–20 students around one patient."
	Passive Classroom Learning with Limited Engagement	"In classrooms, large group lectures dominate. Students are not engaged in active learning."
	Hidden Curriculum and Superficial Professionalism Training	"Professionalism and ethics are taught superficially; the hidden curriculum dominates."
Assessment and Evaluation Systems	Theory based assessment over practical skills	"Exams mostly test memory and they don't assess skills or attitudes."
	Limited Assessment of Skills, Communication, and Ethics	"Communication and ethics are not examined, so students don't take them seriously."
	Lack of Formative Assessments, OSCE and Feedback	"Formative assessment is missing. Students only study for finals."
Faculty Development and Professional Growth	Lack of Continuous Professional Development (CPD)	"Without CPD, even faculty skills become outdated."
	Need for Structured Training and Workshops	"Faculty need regular workshops and CME."
Research Training and Evidence-Based Practice	Lack of Structured Research Exposure at Undergraduate Level	"Research is neglected. Our graduates don't even know how to write a research question."
	Weak Skills in Study Design and Critical Appraisal	"Students graduate without knowing how to critique a paper."
Learning Environment, Mentorship, and Student Wellbeing	Weak Mentorship and Career Counseling	"Mentorship is very weak. Students come for advice informally."
	Bullying, Mistreatment, and Poor Learning Climate	"Bullying is still an issue. Students don't feel safe to report it."
		"Teaching spaces are too small, and group sizes too large."
	Neglect of Co-Curricular and Holistic Development	"Students are mostly judged only on academics."

Table-II: Demographic Characteristics of Study Participants (n = 250).

Characteristics	Category	Frequency (n)	Percentage (%)
Gender	Female	150	60.0
	Male	100	40.0
Designation	Senior Registrar	66	26.4
	Assistant Professor	48	19.2
	Demonstrator	48	19.2
	Professor	38	15.2
	Associate Professor	25	10.0
	Senior Demonstrator	25	10.0
Specialty	Basic Sciences	93	37.2
	Medicine and Allied	60	24.0
	Obstetrics & Gynecology	41	16.4
	Surgery and Allied	25	10.0
	Anaesthesia	14	5.6
	Pediatrics	9	3.6
	Pathology	8	3.2
Teaching Experience	More than 10 years	153	61.2
	7–10 years	46	18.4
	4–6 years	28	11.2
	2–3 years	23	9.2

Table-III: Faculty's Responses: Educational Factors.

Educational Domain & Statements	Agree / Strongly Agree (%)	Neutral (%)	Disagree / Strongly Disagree (%)
Curriculum Design			
The curriculum was designed with clear objectives	64.0	23.6	12.4
Effectively addresses local health issues	65.2	20.8	14.0
Prepares students for real clinical situations	59.6	22.8	17.6
Adapts to evolving educational needs	58.4	23.2	18.4
Emphasizes communication & soft skills	53.6	24.0	22.4
Emphasizes ethics & professionalism	50.0	21.2	28.8
Teaching & Supervision			
Clinical rounds emphasize relevant skills	67.6	19.6	12.8
Adult learning encourages active participation	72.4	18.0	9.6
Clinical educators are committed to teaching	64.4	25.2	10.4
Effective 360-degree feedback is implemented	38.0	30.8	31.2
Assessment			
Examinations effectively assess outcomes	61.2	20.8	18.0
Formative assessment is integral to system	74.0	16.4	9.6
Assessment of clinical/procedural skills is adequate	55.6	20.4	24.0
Assessment of communication skills is adequate	44.4	27.6	28.0
Assessment of professionalism is adequate	40.4	27.2	32.4
Research & Professional Development			
Faculty has ample CPD opportunities	40.8	25.2	34.0
Research skills are adequately taught	32.8	24.4	42.8
Research facilities are adequate	20.0	29.2	50.8
Learning Environment & Mentorship			
Mentorship programs are effective	45.6	31.2	23.2
Career counselling is adequate	30.4	28.0	41.6
Policies implemented to prevent bullying	49.2	25.6	25.2