

Reforming Higher Education in Pakistan: A Focus on Medical and Allied Health Sciences

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Pakistan, the world's fifth most populous country, faces significant challenges and opportunities in its higher education system. With over 229 million citizens, 55% of whom are under 24 years old, Pakistan has a youthful demographic that can be an asset if provided with quality education. However, the current higher education scenario reflects a mixture of progress and persistent obstacles, particularly in medical and allied health education, which is critical for national development.

Higher education in Pakistan has grown substantially since 2000s, with 247 Higher Education Institutions (HEIs), majority of them in the public sector (60%).¹ The Higher Education Commission (HEC), established in 2002, oversees these institutions and has introduced initiatives to enhance research, innovation, and commercialization. Despite these efforts, significant gaps remain in governance, funding, access, and quality of education.

The HEC mandated all HEIs to establish Offices of Research, Innovation, and Commercialization (ORICs), which led to the establishment of Business Incubation Centres (BICs). These centres aim to strengthen academia-industry links. Furthermore, national and provincial incubation centres have been established to promote entrepreneurship and innovation.

However, the challenges in Pakistan's higher education system are multifaceted. Issues such as outdated curricula, teacher-centric methodologies, limited research culture, and inequitable access remain prevalent. Regional disparities in literacy rates, i.e. ranging from 96% in Islamabad (federal capital) to 23% in the Torghar District (Hazara Division, Khyber Pakhtunkhwa province), further underscore the need for targeted interventions.

According to a recent national survey, the total literacy rate in Punjab, Sindh and Islamabad increased by 2.3%, 2.9% and 2.5% respectively, while it fell for Khyber Pakhtunkhwa by 2.9% and for Balochistan by 1.6%. However, the overall literacy rate improved by 1.8%, from 58.9% in 2017 to 60.7% in 2023.²

Challenges

Medical and allied health education in Pakistan faces additional complexities. The country has 176 medical and dental colleges, with a rapid increase in private sector institutions since the 1990s. While this growth has expanded access, it has also raised concerns about quality, infrastructure, and regulatory oversight. Key issues include:

- **Outdated Curriculum:** The medical and allied health curriculum often fails to align with global standards or local needs, emphasizing rote learning over critical thinking and problem-solving skills.
- **Research Deficits:** Weak research culture due to inadequate funding, infrastructure, and mentorship prevents the integration of innovative practices into medical education and healthcare delivery.
- **Examination System:** Assessment methods focus heavily on theoretical knowledge, often encouraging unethical practices such as cheating, with minimal emphasis on clinical or practical skills.
- **Infrastructure and Faculty Shortages:** Many medical and allied health colleges lack essential facilities such as laboratories and libraries. Faculty members often lack formal training in medical education, exacerbating the quality gap.

- **Disparities and Access:** Regional imbalances in medical education institutions contribute to inequitable access, particularly in remote and underserved areas, e.g. there is no medical university in Azad Jammu & Kashmir, and Gilgit-Baltistan, while in Balochistan there is only one and that too being established in the recent past.
- **Teacher-Centric Methods:** Another major challenge facing Pakistan's medical education system is its outdated teaching methodology. In many, if not most, medical and allied health colleges across the country, teaching follows a one-dimensional approach. Typically, instructors deliver lectures by reading through extensive slides with very little engagement or discussion. This lack of interactive, concept-based learning inhibits the development of critical problem-solving and analytical skills among medical students, creating a significant gap in the education system. While public sector colleges are often criticized for this shortcoming, private institutions are not exempt, as their teaching methods also lean heavily toward rote learning.

Government Initiatives

The Pakistan Medical and Dental Council (PMDC) has taken significant steps to improve medical education. The PMDC Act of 2020 established three functioning bodies to oversee medical education: the Medical and Dental Council, the National Medical and Dental Academic Board, and the National Medical Authority. Key reforms include computerizing and redesigning the Medical and Dental College Admission Test (MDCAT) to emphasize critical thinking and aptitude testing, revising accreditation standards for undergraduate teaching hospitals and postgraduate medical education (PGME), and developing an updated national MBBS curriculum to enhance competency-based learning. These initiatives have reinvigorated medical education, but more comprehensive efforts are needed to ensure consistent quality and accessibility.

Recommendations

Governance and policy reforms should focus on decentralizing decision-making to grant universities greater autonomy in academic and administrative matters. Strengthening regulatory

frameworks is essential to ensure transparency and accountability in both public and private institutions.

Medical curricula must be aligned with global standards while incorporating local health needs. An interdisciplinary approach, including public health and community medicine, should be integrated to prepare graduates for diverse healthcare challenges.

Enhancing research and innovation requires increased funding for health research, particularly focusing on public health issues. Establishing partnerships between academia and industry can encourage innovation, while research mentorship programmes should be developed to cultivate a culture of inquiry among students and faculty.³

Faculty development should include structured training programmes for medical educators in modern teaching methods and technology use. Faculty members should be encouraged to pursue advanced qualifications in medical and allied health education and pedagogy, with priority given to concept-based learning at all levels. To improve access and equity, financial aid and scholarships should be expanded for underprivileged students. Medical campuses should be established in underserved regions to reduce geographical disparities. Additionally, gender equity must be promoted through targeted enrollment campaigns for women.

The integration of technology in medical education is crucial. Robust e-learning platforms should be developed to complement traditional teaching methods, and investments must be made in simulation labs and digital tools for clinical training. Faculty and students should be trained in the effective use of technology for education and healthcare delivery. Assessment systems need to be strengthened by shifting from rote-based assessments to competency-based evaluations. Continuous assessment mechanisms should be introduced to measure practical and clinical skills.

To enhance global competitiveness, Pakistan's higher education institutions must actively pursue international collaborations. Partnerships with leading universities for faculty exchange and joint research programs should be established. Dual-degree programmes must be introduced to attract international students and

promote educational tourism. Furthermore, accreditation standards should be aligned with global benchmarks, such as those set by the World Federation for Medical Education.

Conclusion

The higher education system in Pakistan, particularly in medical and allied health fields, is at a critical juncture. Addressing systemic challenges through governance reforms, curriculum modernization, faculty development, and enhanced research capabilities is essential. By leveraging technology and encouraging international collaborations, Pakistan can transform its medical education system to produce globally competent healthcare professionals. These improvements will not only elevate Pakistan’s standing in the global educational landscape but also contribute

significantly to national socio-economic development.

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