Reforming Undergraduate Dental Education in Pakistan: The Case for an Integrated Five-Year BDS Curriculum

The quality of a nation's oral healthcare system is closely linked to the quality of its dental workforce. Consequently, the design of undergraduate dental education has significant implications for patient safety, professional competence, and healthcare delivery. The current debate surrounding the duration and structure of the Bachelor of Dental Surgery (BDS) programme in Pakistan therefore represents an important opportunity to revisit broader questions regarding the goals, organization, and effectiveness of dental education.

Historically, undergraduate dental curricula in Pakistan have largely followed discipline-based educational models characterized by compartmentalized teaching and summative assessment structures. Although these approaches have produced generations of dental practitioners, advances in educational theory and evolving healthcare needs have exposed limitations in traditional curricula. Contemporary healthcare environments increasingly demand practitioners who can integrate biomedical knowledge with clinical reasoning, demonstrate professional competence across multiple domains, and adapt to rapidly changing scientific evidence and technologies. Such expectations necessitate educational approaches that move beyond content transmission towards competency development.

Globally, substantial reforms have been undertaken in health professions education over the past two decades. Organizations such as the World Federation for Medical Education (WFME), Association for Dental Education in Europe, General Dental Council (GDC), Australian Dental Council (ADC), and Commission on Dental Accreditation (CODA) have progressively emphasized competency-based education, curricular integration, early clinical exposure, simulation-enhanced learning, and outcomes-focused assessment systems. These developments have shifted the focus of educational quality from the quantity of instructional hours towards the achievement of clearly defined graduate competencies.[1–5]

The recent initiative by the Pakistan Medical and Dental Council to undertake a comprehensive review of the BDS curriculum should therefore be welcomed as a necessary and timely exercise. Importantly, curriculum reform should not be viewed merely as a question of programme duration. Extending a curriculum from four to five years without addressing educational design would be unlikely to produce meaningful improvements in graduate outcomes. Conversely, a carefully structured five-year integrated curriculum has the potential to create sufficient educational space for deeper learning, enhanced clinical exposure, and more robust competency development.

One of the most compelling arguments for curricular reform concerns the need for greater horizontal and vertical integration. In many traditional dental programmes, students encounter basic sciences, preclinical disciplines, and clinical subjects as separate educational entities. This compartmentalization often limits opportunities for learners to appreciate the relevance of foundational sciences to clinical decision-making. Integrated curricula seek to bridge these divisions by organizing learning around themes, systems, competencies, or patient-centered problems rather than individual disciplines alone. Evidence suggests that integrated learning promotes knowledge retention, facilitates transfer of learning to clinical contexts, and enhances students' ability to apply scientific principles in practice.[6]

Similarly, the sequencing and distribution of subjects within the existing BDS programme warrant critical review. Certain preclinical dental disciplines are often taught relatively early in the curriculum, while their practical application occurs considerably later. Educationally, learning is strengthened when theoretical concepts are taught closer to their clinical application. Reconsideration of subject placement may therefore improve educational efficiency, reduce unnecessary cognitive overload, and enhance student engagement. Such restructuring would also facilitate meaningful horizontal and vertical integration throughout the programme.[7,8]

Another area deserving attention is the role of biomedical sciences within dental education. Dentistry increasingly involves the management of medically complex patients with multiple chronic conditions. Consequently, dental graduates require a stronger understanding of medical sciences and their clinical application than was previously necessary. Strengthening the integration of anatomy, physiology,

pathology, pharmacology, and clinical medicine within the BDS curriculum may improve patient management capabilities and better prepare graduates for postgraduate training and international licensing examinations.

Assessment reform represents another essential component of modernization. The current assessment burden within undergraduate dental education remains substantial, with students often facing numerous professional examinations across relatively short periods. Excessive emphasis on high-stakes summative assessments may inadvertently encourage short-term memorization rather than meaningful learning. Contemporary educational literature increasingly advocates for programmatic assessment models that utilize multiple low-stakes assessments, workplace-based evaluations, reflective activities, and competency-based judgments to support learning and provide more comprehensive evaluations of performance.[7] Such approaches align more closely with the objective of producing competent practitioners rather than successful examinees.

However, curricular revision alone will not achieve meaningful reform if implementation systems remain unchanged. Many dental institutions continue to operate within departmental structures that may inadvertently impede integrated teaching and assessment. Faculty development, educational leadership, interdepartmental collaboration, and institutional readiness are therefore critical determinants of successful curriculum implementation. Educational reform requires cultural transformation as much as structural change.

Equally important is the need for alignment between curricular reform and regulatory frameworks. Any revision of the BDS curriculum should be accompanied by corresponding updates in accreditation standards, inspection criteria, internship requirements, faculty development policies, and quality assurance mechanisms. Educational innovation can only be sustained when regulatory expectations are consistent with curricular objectives. Fragmented reform risks creating discrepancies between what institutions are expected to teach and what accreditation systems evaluate.

The modernization of dental education also presents an opportunity for stronger collaboration among national stakeholders. Meaningful partnerships between PM&DC, universities, the Higher Education Commission, the College of Physicians and Surgeons Pakistan, and international accreditation bodies could facilitate harmonization of standards and enhance global recognition of Pakistani qualifications. Consideration may also be given to progressive adoption of semester-based curricular structures that facilitate competency tracking, curricular flexibility, and international comparability.

The future of dental education in Pakistan should not be defined solely by the number of years allocated to undergraduate training. Rather, it should be determined by whether graduates emerge as competent, ethical, reflective, and patient-centered practitioners capable of meeting the oral health needs of the population. A well-designed five-year integrated BDS curriculum appears well positioned to support these objectives. Nevertheless, the success of such a model will depend upon thoughtful implementation, sustained stakeholder engagement, and regulatory alignment.[9,10]

Pakistan's dental education system stands at a pivotal moment. The decisions taken during the current curriculum review process will shape the profession for decades to come. The opportunity should therefore be utilized not merely to extend a programme but to transform it.

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