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Leading the Future of Medical Education: A Dean's Perspective on MBBS (Bachelor of Medicine and Bachelor of Surgery) curriculum Design of Purbanchal University, Nepal

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Abstract

The development of the MBBS curriculum at Purbanchal University (PU) signifies a monumental advancement in medical education in Nepal. This article delves into the processes, methodologies, and guiding principles employed in the creation of the curriculum, emphasizing its alignment with global standards, national health needs, and modern educational practices. The curriculum's innovative elements, such as the SPICE (Student-centered, Problem-based, Integrated, Community-based, and Elective) model and competency-based education, alongside its comprehensive structure integrating basic and clinical sciences, aim to produce proficient medical graduates equipped to meet both local and international healthcare demands.

Keywords: Curriculum; Delivery of health care; Educational status

Introduction

Medical education has witnessed a leap, since its inception in the late 20th century in Nepal. Purbanchal University (PU), established in 1993, contributed to this journey of medical education intending to address the current educational and healthcare needs of the country by introducing a modern curriculum for Bachelor of Medicine and Bachelor of Surgery.

The process of developing the curriculum was mainly based on the feasibility study report of the University for establishing a medical school,[1] the national guideline of Nepal Medical Council on the MBBS curriculum[2] was referred to and the Accreditation standards for MBBS (Bachelor of Medicine and Bachelor of Surgery) of Medical Education Commission, Nepal were considered for the same.[3]

The guidelines of both WHO and the World Federation for Medical Education (WFME) were followed.[4, 5] This curriculum, developed by the Faculty of Medical Sciences (FOMS), incorporates contemporary educational models and principles to ensure the production of competent and compassionate medical graduate.[6]

Curriculum Development Process

Feasibility Study and Initial Consultations

In 2020, PU conducted a feasibility study to establish a medical school. This study highlighted the need for a robust medical curriculum that could address regional health disparities. Later, a series of consultative meetings and workshops with stakeholders, including medical educators, healthcare professionals, and policymakers, was organized to gather input and create a foundation for the curriculum.

Guiding Principles and Framework

The principles upon which the curriculum is designed include the followings:

1. Learner-centered learning: Active learning and student involvement.
2. Problem-based learning: Embedding real-world medical problems to make learning meaningful.
3. Integrated curriculum: synergetic understanding of basic and clinical sciences for holistic thinking about medicine.
4. Community-based medical education: students observe health delivery in various community settings
5. Competency-based medical education
6. Humanitarian aspects: Teaching professionalism, attitude, communication skills, and ethics related to the profession.
7. Elective opportunities: Allowing students an avenue to explore areas of interest and acquire specialist knowledge.

Curriculum Structure

The MBBS program at PU is structured into three phases over five and a half years, including one year of rotating internship.

Phase I: Basic Medical Sciences

The first two years focus on basic medical sciences. The subjects have been divided into seven blocks, including Human Anatomy, Clinical Physiology, Clinical Biochemistry, Clinical Pathology, Clinical Microbiology, Clinical Pharmacology, and Community Medicine. In the VIIth block, integrated seminar and models of professionalism, attitude, communication skills, and ethics (PACE) are included. This phase introduces students to clinical skills and early patient exposure.

Phase II: Clinical Sciences

Over one year, the students delve deeper into subjects such as internal medicine, General Surgery, pediatrics, Obstetrics and Gynecology, Forensic Medicine, Dermatology, Psychiatry, General Practice, and Community Medicine. In this phase, the integration of theoretical knowledge with students' clinical practice will be emphasized.

Phase III: Clinical Sciences and Internship

The focus of comprehensive training for students in the final period of two years of the program is mainly on Internal medicine, General surgery, Pediatrics, Obstetrics and gynecology, Emergency medicine, Anesthesia, Oral health, radiology, Ophthalmology, Otorhinolaryngology, Orthopedics, and Community Medicine.

At the end of the program, a one-year rotating internship in various medical specialties to provide hands-on experience to the students is made compulsory. The designed curriculum consists of 270 credit hours in all academic activities.

Teaching and Learning Methods

Purbanchal University has utilized a diversity of methods in teaching and learning to cater to different learning abilities of students and ensure a comprehensive education during the program.

The teaching and learning methods are as follows:

1. Lectures and Seminars: To impart knowledge and stimulate in-depth discussions.
2. Practical and Laboratory sessions: For hands-on and practical understanding.

3. Problem-Based Learning: To encourage critical thinking and problem-solving skills among students.
4. Clinical Rotations: To provide real-time experience and interaction with patients.
5. Community-Based Education: To promote learning through Exposure to Public Health and Primary Care Settings.
6. Simulations and Skill Labs: To allow students to practice and refine their clinical skills in a controlled environment.

Assessment Methods

Assessment is an integral part of the curriculum which helps determine the theoretical knowledge and practical skills of the students. The assessment methods incorporated in the curriculum for the MBBS program at Purbanchal University are formative and summative. Formative assessment helps identify areas for improvement through continuous feedback, during the program. Whereas, summative assessment is targeted to evaluate the overall competency of the students at the end of the program. Objective Structured Clinical Examinations (OSCEs) are included to assess students' clinical and communication skills in a standardized manner. Research projects to develop their research skills towards evidence-based practice among students encouraged.

The performance of students enrolled in the MBBS program will be assessed based on 20% of the internal examination scores and 80% of the final university examination scores. Students need to obtain a minimum of 50% marks in theory and practical exams respectively to qualify as a competent medical graduate.

Challenges and Recommendations

The process of developing a comprehensive curriculum for the MBBS program comes with multiple challenges. These included limitations in resources, the availability of infrastructure, faculty, and educational materials. Additionally, the need to effectively integrate basic and clinical sciences within the curriculum. Engaging stakeholders consistently was crucial to ensure the curriculum's relevance and timeliness. Furthermore, aligning assessment methods with the intended learning objectives and competencies posed another challenge. To overcome these, several recommendations are proposed. It is essential to conduct regular curriculum reviews, incorporating feedback from students, faculty, and healthcare professionals. Ongoing training programs for faculty should be implemented to improve teaching methodologies and keep them informed of current educational trends. Investment in infrastructure, such as laboratories, libraries, and clinical training facilities, is necessary. Finally, enhancing collaboration with healthcare institutions, government agencies, and international organizations will be vital for the curriculum's effectiveness.

Conclusion

Purbanchal University's MBBS curriculum is, therefore, another major leap forward in medical education in Nepal. The attempts of Purbanchal University will be geared toward producing competent, compassionate, and skilled medical graduates by incorporating international best practices into the training and focusing attention on the special healthcare needs of the region. The emphasis of the curriculum on early clinical exposure, community-based learning, and competency-based education will definitely ensure that the graduates are well prepared to address the healthcare challenges of today and tomorrow.

The process of curriculum development in Purbanchal University, therefore, is the testimony of its excellence in medical education. It is by fostering this student-centered learning environment that integration between basic and clinical sciences, with relevance to national and global health needs, forms the core of the MBBS program at PU as it sets out to produce the next generation of healthcare leaders both within Nepal and beyond.

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