

Evolution of Anatomy Curriculum: Bangladesh Perspectives

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Abstract

Curriculum is a precise design of educational experiences and activities offered to a learner under the guidance of an educational institution. Periodic updating or renewal of a curriculum is necessary to improve medical sciences. Anatomy, a branch of biological sciences concerned with the identification and description of the body structures of living organisms. Anatomy is a complex and dynamic field constantly evolving as new discoveries are made. In the recent past, there has been a significant increase in the use of advanced imaging techniques, such as MRI (Magnetic resonance imaging), Elastography and CT (Computed tomography) scans. The course contents, teaching-learning strategy and assessment procedure are also updated. This article analyzes the medical curriculum on anatomy at different times in Bangladesh. It provides a structured, conceptual framework that supports our undergraduate students for intellectual & academic accountability.

Keywords: Anatomy, Medical curriculum in Bangladesh

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Introduction

Anatomy has been the bedrock of medical education for hundreds of years. Anatomical knowledge supports examination of patients and provides a platform of knowledge suitable to all medical careers. Under old style medical education, students were expected to learn detail with little understanding of relevance.¹ As medical education is a dynamic process, the curriculum needs multiple review with the continuous changes in the medical field.² There are many anatomy curricula restructured to reflect novel teaching philosophies like problem-based learning (PBL), teaching by organ system and integration with clinical experiences.³ The arguing of curriculum started from the period of Plato (360BC) who stated the goal of education to run the society smoothly.⁴ Curriculum development is a specialized task that includes curriculum design, implementation and evaluation.

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tion.⁵ A new curriculum is launched to modernize the learning.

Medical curriculum in Bangladesh

Bangladesh did not have any formal undergraduate medical curriculum before 1988 except a syllabus published by the Bangladesh Medical and Dental council (BMDC). The current form has inherited from the curriculum of 1988 which was the first official curriculum for the MBBS degree in Bangladesh.⁶ 1988 curriculum has been updated in the year of 2002, 2012 and 2021.

Curriculum reform

Before 1988 and in 1988 curriculum, course duration for 1st professional examination was 2 years. In 2002 curriculum, course length has been shrunk to one and half years and this additional 6 months were moved to final professional examination. Furthermore, formative assessments' marks are added to professional examination which is absolutely new concept implemented.⁷

In traditional technique, Anatomy learning was dissection and lecture based. Assessment system was unstructured. Use of tools and teaching materials were inadequate. Evolution is an enduring process and the one who manages to change "survives". Anatomy, too, has transformed in every aspect in course of time.⁸

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Course content

Learning objectives and course contents are almost same. In 2002 curriculum, course contents divided into core & additional contents in some areas. No significant changes are made in topics and contents. Integrated teaching was first incorporated in 2002 curriculum but full- scale integrated teaching was not practicable.⁹ Topics are mentioned and 30 hours is allocated in 2012 curriculum.¹⁰ However integrated teaching and generic topics on medical humanities are started in 2021 with a new dimension. Time allocation is 36 hours for integrated teaching and 7.5 hours for generic topics on medical humanities.¹¹

Teaching- Learning method

Before 1988, teaching was mostly by customary old practice which was teacher centered and consists of lectures and practical session. Teaching-learning method – lecture, dissection, demonstration, practical, tutorial and self-study & self-assessment are not changed in 2002, 2012, 2021 but in case of teaching aid, computer & multimedia is added in 2012 and 2021. The rest are almost same. Virtual anatomy dissection table and various projection systems among the teaching aids are included in 2021 curriculum.

Assessment procedure

Time allocation in 2002 curriculum, lecture & review 120 hours, cell biology & histology-practical & tutorial 60 hours, dissection, demonstration & tutorial 410 hours, (dissection & demonstration - 350hours). Card completion exam hours - 60 hours in 2002 curriculum. Total hour - 650 hours.

In 2012, lecture & review - 115 hours, cell biology & histology - tutorial & practical – 52 hours, dissection, demonstration and tutorial – 343 hours. Card completion Exam hours -20 hours, Total = 530 hours .Integrated teaching for phase I – 30 hours.

In 2021, lecture & review - 115 hours, cell biology & histology - tutorial & practical – 52 hours.

Dissection, demonstration and tutorial – 354 hours, card completion exam hours - 6 hours, total = 527 hours. Integrated teaching for phase I – 36 hours.

So it is observed that time allocation for anatomy greatly reduced by 120 hours in 2012 curriculum compared to that of 2002. 3 hours degraded in 2021. Card Examination time is gradually declined from 60 hours in 2002; 20 hours in 2012 to 6 hours in 2021. No specific time period for integrated teaching for phase I in 2002. 30 hours and 36 hours are allotted in 2012 and 2021 curriculum respectively.

Components and mark distribution

1st professional mark distribution of assessment of anatomy is same in 2021 as in 2012 and 2002 (Total marks = 500 • Written = 200 • SOE = 150 • Practical = 150) but question pattern are changed e.g. Written - 200 (formative 20 + MCQ 40 + SAQ 140) in 2002 & 2012, and written - 200 [formative 20 + MCQ (SBA+MTF) 40+SAQ (SEQ+SAQ) 140] in 2021 curriculum.

Discussion

Anatomy curriculum is being sound, comprehensive and helpful for our future clinicians. Anatomy is the backbone of basic sciences and dissection is the building block of it. A great deal has changed since the seventh century when the first dissections were exercised and henceforth out-lawed for the next few centuries. Dissections can now be practiced legally within the ethical parameters and build a reservoir of knowledge regarding human body.¹² The past few decades have observed major changes in the teaching of anatomy to medical students.

Now it is clear that as a basic subject human Anatomy has been served an important role in the medical education that is relevant to health care specialties.¹³ There are so many changes found in teaching methodology and assessment processes of anatomy. During one and half years, specific number of hours is allocated to gross anatomy,

histology, and neuroanatomy etc. Traditional methods for teaching anatomy such as didactic lecture and complete dissection of the body are being replaced by prosection, the use of plastic models, living anatomy, body painting, examination of preserved specimens, instructional videos, 3D computer, simulated models.¹⁴ The anatomy education system may vary in institute or country due to resources. But the goal is same that is to prepare better future health professionals.

Conclusion

A medical curriculum should be based on a multi-step procedure. Arrangement of seminar and video conference on common clinical problems in each region will make anatomy teaching more relevant. In the new curriculum, students may be introduced some new information from integrated teaching and generic topics which come earlier to them than past medical students. Besides this, students should be introduced to new technology which enhanced classical dissection part by using ultrasound (US), tridimensional visualization, multi-axial computerized image reconstruction & magnetic resonance imaging (MRI). In current time, knowledge can be transmitted in multi-disciplinary way. It is a great achievement and progressive sign in our medical course.

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