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#### Abstract:

This descriptive type of cross-sectional study was conducted to identify the need for reviewing and updating the existing Bachelor of Dental Surgery (BDS) curriculum. The study was conducted in different government and nongovernment dental colleges of Bangladesh in January to March 2013. Self-administered structured questionnaire was used to collect data. Teachers of different levels, intern doctors and final year BDS students were included in the study. Convenient sampling was done and the sample size was 63. A total number of three focus group discussions were conducted including 65 teachers as participants. Study revealed that the course duration should be five years instead of 4 years. Organizational structures of 5 years BDS course would be as MBBS course consisting of four phases. Duration of the 1<sup>st</sup> BDS curriculum would be 1 & ½ years, 2<sup>nd</sup> phase 1 year, 3<sup>rd</sup> phase 1 year and the 4<sup>th</sup> phase would be 1 & ½ years duration. There would be four professional university examinations for four phases within the specific duration. Redistribution and renaming of the few subjects in total course were also suggested.

**Key words:** Review, update, BDS curriculum, stakeholders' views.

#### Introduction:

The term 'curriculum' was originally related to the concept of a course of studies followed by a pupil in a teaching institution. The concept of "curriculum" was used in the English-speaking tradition as equivalent to the French concept programmed 'études'. Curriculum is a comprehensive plan for an educational training program /course to offer new /improved manpower to fulfill the rising needs of a dynamic society.

In fact, the term curriculum is mostly used to refer to the existing contract between society, the State and educational professionals with regard to the educational experiences that learners should undergo during a certain phase of their lives. For the majority of authors and experts, the curriculum defines: (i) why; (ii) what; (iii) when; (iv) where; (v) how; and

(vi) with whom to learn.<sup>1,2</sup>

Using educational concepts, it can be said that the curriculum defines the educational foundations and contents, their sequencing in relation to the amount of time available for the learning experiences, the characteristics of the teaching institutions, the characteristics of the learning experiences, in particular from the point of view of methods to be used. The resources for learning and teaching (e.g.- textbooks and new technologies), evaluation and teachers' profiles originally, the curriculum was considered as the product of a technical process. In other words, it is considered as a document prepared by the experts, depending on the state of the art of disciplinary and pedagogical knowledge. Benjamin Bloom and Hilda Taba were the most well-known authors of this period.<sup>3</sup> Curriculum is not static because of the society is

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changing, diseases demography is changing, medical science is expanding exponentially, concepts of teaching are changing and newer teaching technologies are available. So curriculum itself is a dynamic one. There are different types of curriculum in medical education such as, discipline based curriculum, core and optional content based curriculum, community oriented and community based curriculum, competence based curriculum, integrated curriculum, problem based curriculum, evidence based curriculum, best evidence based curriculum and outcome based curriculum.

Curriculum development process proceeds from the top downwards. The most usual term to indicate this type of process is the English expression "top-down". In this case, curriculum development processes can be defined through four phases: (i) the curriculum presented to teachers; (ii) the curriculum adopted by teachers; (iii) curriculum assimilated by learners; and (iv) evaluated curriculum.<sup>5</sup> The majority of centralized countries follow this type of curriculum development process. In some other cases, the curriculum development process proceeds from the bottom upwards (a "bottom-up" process). In this case as well, four different phases can be identified: (i) what the society or the parents want; (ii) responses provided by teachers in the schools; (iii) collection of these responses and the effort to identify some common aspects; and (iv) development of common standards and their evaluation.<sup>4</sup> For developing a curriculum usually some steps are followed by the respective experts. First of all, needed assessment is done accordingly then objectives are formulated as per the society needs followed by the selection and organization of contents. After this learning experiences are selected as per the expert and evaluation is also done accordingly. Lastly, implementation of the evaluation results in new or updated version.<sup>6,7</sup>

Existing 4 years BDS curriculum was lastly updated in 2007. As per the necessity of the society on recent days, it is the prime demand of the time to expand and rearrange the existing BDS curriculum regarding the duration, assessment and evaluation system with the active teaching and learning. MBBS curriculum of our country has been updated and reviewed in 2002 and 2012, accordingly. So reviewing, selective addition and editing is needed to enrich the faculty of dentistry as per global standard. In spite of yearly professional examination it is the urge of the stakeholders of different corners to rearrange the examination system and duration as

phase wise as like as the current MBBS curriculum. It would surely uplift the modern dentistry and make it valuable portion of evidence based medical education.

#### Methodology:

A cross-sectional descriptive study was carried out at different government and non-government dental colleges. The study was carried out in January to march, 2013. After gaining the consent and fulfillment of the criteria, data were collected from the faculty members, intern doctors and final year BDS students. Total number of respondents was 63. Self-administered structured questionnaire was used to collect data. Three FGD were also conducted involving 65 senior teachers of different dental colleges of 15 subjects. Consent from the concerned authorities and also from the respondents was also taken.

#### Results :

**Table-I: Distribution of the respondents according to category. (n=63)**

Category	Frequency	Percent (%)
Teacher	37	58.7
Intern doctor	10	15.9
Student	16	25.4
Total	63	100

Table-I shows that among the respondents, 60% were the faculty members, 16% were intern doctors and 26% were the students of final year BDS of different dental colleges.

**Table-II: Views of the Respondents regarding total duration of BDS course.**

Total duration of BDS course	Frequency	Percent (%)
4 years	2	3.2
5 years	61	96.8
Total	63	100.0

Table-II shows that 97% of the respondents thought that the total duration of BDS course should be of 5 years. Only 3% thought that duration should exist as before i.e. 4 years.

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**Table-III: Views of the respondents regarding number of total professional examination.**

Total number of professional examinations should be	Frequency	Percent (%)
4	47	74.6
5	16	25.4
Total	63	100.0

It was found in table-III that according to 75% respondents, the professional examinations should be 4 in numbers and the rest (25%) thought that it should be 5 in numbers.

**Table- IV: Views of the respondents about per year professional examination.**

Professional examination Per year	Frequency	Percent %
2 (six months interval)	39	61.9
3 (four months interval)	24	38.1
Total	63	100.0

Table-IV shows that 62% respondents viewed that interval between the professional examinations should be 6 months i.e. twice in a year. The rest (38%) thought that it should be three times in a year.

**Table-V: Students should attend clinical classes.**

Students should attend clinical classes	Frequency	Percent (%)
Before passing 1st professional examination	6	9.5
After passing 1st professional examination	57	90.5
Total	63	100.0

Table-V shows that 90.5% of the study population said that students should attend clinical class after passing 1<sup>st</sup> professional examination. Only 9.5% thought that it should be before passing 1<sup>st</sup> professional examination.

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Periodontology should be included as per 62%, 59% and 58% respondents, respectively. Regarding the subject of 4<sup>th</sup> phase, 62%, 63%, 64%, 65% and 62% respondents, respectively thought that Oral and Maxillofacial Surgery, Conservative Dentistry and Endodontics, Prosthodontics, Orthodontics and Children Dentistry should be included.

#### Discussion:

Medical education of students preparing for initial registration, trainees on vocational programs and those taking part in continuing medical education takes place under the auspices of a range of authorities, including universities, medical councils, professional bodies and colleges. Regardless of the purpose of the education, the controlling authority or the site of its delivery educational processes from curriculum design through to delivery and assessment need to be based on sound teaching and learning practices and underpinning theories.<sup>9</sup> This article considers how recent understandings of learning and trends in medical curriculum design impact on the design of effective courses and their delivery in a range of settings, including that of the clinical workplace. Thus, the cross-sectional study of 63 respondents was conducted in January to March, 2013.

In analysis, 59% of the respondents were faculty members, 16% were intern doctors and 25% were students. Regarding the duration of the course, majority of the respondents (97%) opined their statement for 5 years; only 3% commented that previous course duration should be extended. In South East Asia regional countries, USA, UK and Japan, the BDS course is of five years duration (National Curriculum For BDS student In India, Pakistan and Sri Lanka- online version; April, 2013). It was also found that according to 75% respondents, the professional examinations should be 4, but the rest (25%) respondents thought that it should be 5 in numbers. Regarding the Intervals between professional examinations, 62% respondents expressed that the intervals between the professional examinations should be 6 months, i.e. twice in a year. Rest 38% thought that it should be thrice in a year. Most of the respondents stated that the numbers of formative assessments should be increased (table-VI). Besides this, some added conception was got like arranging scientific workshops and practical works for upgradation by improving the laboratory facilities. Over 65%-70% of the respondents viewed that Anatomy, Physiology and Biochemistry should be included in the 1<sup>st</sup> phase of BDS, but in case of Science of Dental Materials and Dental Anatomy, 51% and 56%, respectively, opined that it should be included in the 1<sup>st</sup> phase of

**Table- VI: Comments of the respondents about formative assessment.**

Comments about formative assessment	Frequency	Percent (%)
To be increased	33	52.4
To be decreased	3	4.8

Table-VI shows that 52% of the respondents expressed that frequency of the formative assessments should be increased, 05% opined that it should be decreased and 43% said that it was alright. None of the respondents opined that it should be eliminated.

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**Table-VII: As per the three focus groups' discussion- distribution of subjects in different phases as per the views of the Respondents.**

Sl. No	Name of the subjects	1 <sup>st</sup> Phase (1.5years)	2 <sup>nd</sup> Phase (1 year)	3 <sup>rd</sup> Phase (1 year)	4 <sup>th</sup> Phase (1.5 years)
01	Anatomy	65	-	-	-
02	Physiology & Biochemistry	65	-	-	-
03	Science of Dental Materials	51	14	-	-
04	Dental Anatomy	56	-	-	-
05	Pharmacology & Dental Therapeutics	-	58	7	-
06	Pathology & Microbiology	-	58	7	-
07	Dental Public Health	-	52	11	02
08	Medicine	-	02	62	01
09	Surgery	-	02	59	4
10	Oral Pathology & Periodontology	-	02	58	5
11	Oral & Maxillofacial Surgery	-	-	03	62
12	Conservative Dentistry & Endodontics	-	-	02	63
13	Prosthodontics	-	-	01	64
14	Orthodontics	-	-	01	65
15	Children Dentistry	-	-	03	62

Table-VII shows that regarding the redistribution of different subjects in different years, Anatomy, Physiology and Biochemistry, Science of Dental Materials and Dental Anatomy should be included in the 1<sup>st</sup> phase, according to 65%, 65%, 51% and 56% respondents, respectively. Pharmacology and Dental Therapeutics, Pathology and Microbiology and Dental Public Health should be included in the 2<sup>nd</sup> phase according to 58%, 58% and 52% of the respondents, respectively. In case of 3<sup>rd</sup> phase of BDS course, majority of the respondents commented that Medicine, Surgery and Oral Pathology and Periodontology should be included (table-VII). Data revealed that 62% in favor of Medicine, 59% in favor of Surgery and 58% in favor of Oral Pathology and Periodontology to be included in the 3<sup>rd</sup> phase of BDS course.

Majority of the respondents opined for the subjects Oral and Maxillofacial Surgery, Prosthodontics, Orthodontics, Conservative Dentistry and Endodontics and Children Dentistry for the 4<sup>th</sup> phase of BDS course. In case of Oral and Maxillofacial surgery, 62% respondents stated to include it in the 4<sup>th</sup> phase but 03% commented for the 3<sup>rd</sup> phase; Conservative Dentistry and Endodontics, 63% gave their opinion for the 4<sup>th</sup> phase, but 02% stated in favor of the 3<sup>rd</sup> phase. In case of Prosthodontics, Orthodontics and Children Dentistry, 64%, 65% and 62%, respectively, opined to include it in the 4<sup>th</sup> phase of BDS course. Few of the respondents also gave their opinion to include those subjects in the 3<sup>rd</sup> phase. By analyzing the results, it can be mentioned that majority of the respondents gave their consent to review the curriculum by extending the time schedule or tenure but keeping the professional examinations in previous format. As per the world trend, some of the respondents recommended separating Periodontology, Oral Pathology and Oral Medicine as individual identities and some respondents requested to include Dental Radiology, another subject apart from the existing 15 subjects (School of Dentistry-UK and Japan Oral Diagnosis is included in Oral Medicine).

#### Conclusions:

Due to changing pattern of times and society with reality, science and technology is upgrading day by day. So globalization is the necessity for the current century. To motivate the common people and serve the nation in broader spectrum need to assess the existing education system as well as its upliftment. This article has considered some of the current trends in medical education curriculum and course

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design, locating these within contemporary educational theory. Medical education plays a key role in equipping the health workforces with the doctors that it requires and the way in which curricula are designed and teaching, learning and assessments are planned and delivered are immensely influential. Medical curricula and teaching and learning strategies need to be dynamic and responsive if they are to ensure that the doctors of the future have the knowledge, skills and attitudes required by the communities which they serve. An understanding of wider educational theories about the learning process and curriculum design can help medical educators improve the quality of medical education.

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