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Need Assessment for Undergraduate Medical Curriculum of Bangladesh Through Exploring The Views of Government Primary Health Care Doctors

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Abstract

Objective: *To identify the relevancy of contents of undergraduate medical curriculum of Bangladesh for providing service at primary health care (PHC) level through exploring the views of government PHC doctors.*

Methods*: This descriptive study was conducted upon the government doctors who were working at primary health care level of Bangladesh. A total of 545 doctors of 176 upozilas of 62 districts of the country participated in this study by filling mailed self administered semi-structured questionnaires*

Result*: It was found that majority of doctors were satisfied on their skill and knowledge that they acquired at undergraduate level. Their opinions indicated that clinical subjects of MBBS course need more emphasis than basic subjects. On the basis of their opinion a total of 129 health problems are prioritized according to the load of the health problems at the working place of PHC doctors.*

Conclusion: *Curriculum of undergraduate medical education should be reviewed and more emphasis should be given on skills especially on the clinical subjects keeping in mind common health problem of Bangladesh*

Key words*: Need Assessment Medical Curriculum, Medical Education Bangladesh, Undergraduate Curriculum Bangladesh, Health Needs Bangladesh, Curriculum Development Bangladesh.*

Introduction:

Curriculum is a plan of educational activity. Learners can go for attaining specific objectives by this plan. Curriculum contains three factors, objective, strategy, and evaluation. Curriculum must be modified as the need arises[1]. The debate of curriculum started from the period of Plato (360 BC) who stated purpose of education to run the society smoothly. Then Rousseau (1762) declared that the purpose of education is to develop the unique worth and freedom of the individual [2]. We think both the opinions are correct; to have a good curriculum we should be careful about individual need and the need of the society.

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Kern's six-step approach to curriculum development is widely accepted as short, practical, and generic. The six steps are: Problem identification / general need assessment, targeted needs assessment, goals and objectives, education methods, implementation and evaluation.[3] There is no doubt to develop a good medical curriculum we should clearly be informed about the health needs of the community.

A need has been described as: A gap between 'what is' and 'what should be'.[4]

It is observed, in many cases, 'it is more a question of having to modify an existing programme rather than building up a whole operation from the beginning'.[5] Several steps we can follow in needs analysis. These are: Perform a gap analysis to identify the current skills, knowledge, and abilities, and the organizational and personal needs for human resource development activities; identify priorities and importance of possible activities; identify the causes of performance problems and/

or opportunities, identify possible solutions and growth opportunities. [6]

A number of approaches may be used to identify needs in curriculum. Teachers, students, patients, doctors, community leaders and other stakeholders can provide necessary information for development of the curriculum.[7-10] During revision of undergraduate medical curriculum 1988 mainly opinion of senior teachers of the medical colleges were gathered. For updating and development of curriculum in Bangladesh the opinions of doctors who were working at very remote places were never been considered. More than 6 years have passed after introduction of the Undergraduate Medical Education Curriculum 2002 in the country. Now we have to revise the curriculum from different angles to cope with changing needs of the society and changing disease pattern. This particular study was designed to collect information from those doctors who were working at primary health care (PHC) level to assess the need of undergraduate medical education of Bangladesh.

Methodology:

This descriptive study was conducted from January - June 2008. The study population was doctors who had graduation (MBBS) from any medical college of Bangladesh and were working at Thana (Upazila) Health Complexes (THC) or Union Sub Centers (USC). Initially 405 THCs were selected from the available list. A total of 1625 self-administered semi-structured questionnaires were mailed to the Thana Health and Family Welfare Officers (THFWO) and requested for participation of all doctors of those THCs and attached USCs. Estimated average time to response a questionnaire was approximately 20 minutes. Finally 545 doctors of 176 thanas of 62 districts participated in this study.

Result:

Table-I shows that 82% doctors were highly satisfied or satisfied on the skill they had acquired at their graduation, but 18% were highly unsatisfied or unsatisfied about it. Similarly 87% doctors were highly satisfied or satisfied on the knowledge they had acquired at their graduation, but 13% were highly unsatisfied or unsatisfied about it.

Table -II distributes doctors by their views regarding the extent of emphasis that should be given on different subjects of the MBBS course. These opinions were given by the doctors on the basis of their job experience at primary health care (PHC) level. In the table the subjects of undergraduate medical curriculum are categorized into three groups e.g. preclinical, para-clical and clinical. The clinical subjects again were sub-grouped into principal clinical subjects, allied subjects to medicine and allied subjects to surgery. Majority of the doctors viewed that emphasis should be same as before on preclinical and para-clical subjects except in pathology which needed to be given more emphasis. While majority of doctors viewed that more emphasis should be given on all clinical subjects.

Table-III shows the rank and score of the health problems / syndromes / diseases listed in the questionnaire. There were 129 names of different health problems in the list of the questionnaire. There were four options of responding for each health problem. The options were high, medium, low and nil. The doctors had to choose one among these 4 options according to the load of the health problem in his / her place of work. From the obtained data score of a health problem was calculated applying the formula: Score of a health problem = (3 × number of doctors graded it as high + 2 × number of doctors graded it as medium+ 1 × number of doctors graded it as low + 0 × number of doctors graded it as nil) × 1000 " Total number of doctors participated in mentioning load of the health problem. After obtaining scores of all listed health problems these have been ranked according to their higher to lower scores.

Table-I

Distribution of respondents by their level of satisfaction on skill and knowledge they acquired during MBBS course n=535

Level of satisfaction	On skill %	On knowledge %
Highly satisfied	9.3	12.0
Satisfied	72.9	74.8
Un-satisfied	17.1	12.9
Highly- unsatisfied	0.7	0.4

Table-II

Distribution of doctors by their views regarding how much emphasis should be given on different subjects of MBBS course on the basis of their job experience at primary health care level.

Subjects of	Name of the Subjects	Level of emphasis		
		More	Less	Same As before
		%	%	%
Preclinical subjects	Anatomy n=524	20.8	13.7	65.5
	Physiology n=525	40.8	4.8	54.5
	Biochemistry n=522	44.4	8.6	46.9
Para-clinical subjects	Pathology n =527	50.5	4.6	45.0
	Microbiology n =523	43.8	6.7	49.5
	Pharmacology n =518	41.7	6.0	52.3
	Forensic Medicine n =515	31.3	21.2	47.6
	Community Medicine n =518	29.3	17.6	53.1
Principal Clinical subjects	Medicine n = 529	67.9	.6	31.6
	Surgery n =526	56.8	3.0	40.1
	Gynecology and Obstetrics n=525	63.0	2.7	34.3
Allied subjects of Medicine	Paediatrics n = 517	71.6	1.2	27.3
	Dermatology and Venereology n =517	69.6	3.3	27.1
	Psychiatry n =517	65.5	5.6	29.8
Allied subjects of Surgery	Ophthalmology n =519	52.4	3.5	43.9
	Otolaryngology n =518	50.2	3.9	45.9
	Orthopaedics n =520	70.0	1.7	28.3

Table-III

Rank and score of the health problems / diseases / syndromes according to the doctors' responses in the questionnaire

Rank	Name of health problem	Score
1.	Peptic ulcer	2673.66
2.	Cough and cold	2632.76
3	Pneumonia	2576.55
4	Diarrhoea	2536.72
5	Helminthic infestation	2495.04
6	Scabies	2436.78
7	Normal pregnancy	2432.53
8	Viral fever	2424.52
9	Injury	2408.82
10	Headache	2371.64
11	Anaemia	2363.53
12	Low back pain	2345.70
13	Urinary tract infection	2307.25
14	Anxiety	2305.92
15	Normal labour	2292.15
16	Abdominal discomfort	2291.75
17	Asthma	2283.80
18	Acute abdominal pain	2268.77
19	Allergy	2239.00
20	Poor nutrition	2169.49
21	Amoebiasis	2160.68
22	Anorexia	2157.08
23	Depression	2122.60
24	Nausea, vomiting	2108.91
25	Hypertension	2088.51
26	Muscle pain	2081.59
27	Enteric fever	2046.99
28	Eczema	2009.54
29	Dental carries	1939.80
30	Poisoning	1934.74
31	Vertigo	1932.95
32	Fungal skin disease	1927.59
33	Vitamin B deficiency	1915.05
34	Tonsillitis	1896.94
35	Tuberculosis	1890.35
36	Candidiasis	1886.79
37	Sinusitis	1857.69
38	Oral ulcers	1840.77
39	Acne	1840.67
40	Conjunctivitis	1840.60
41	Abscess, boil carbuncle	1817.64
42	Dysmenorrhea	1814.49
43	Non specific symptoms	1795.22
44	Irritable bowel syndrome	1787.76
45	Menopausal syndrome	1750.49
46	Fracture	1742.48
47	Trichomoniasis	1735.00
48	Infected wound	1694.88
49	Constipation	1691.42
50	Febrile convulsion	1673.22
51	Diabetes mellitus	1640.30
52	Appendicitis	1630.43
53	Low birth weight	1626.48
54	Dysfunctional uterine bleeding	1624.52
55	Cerebro vascular disease/ accident	1615.38
56	Weight loss	1593.15
57	Cervical spondylosis	1588.11
58	Ischaemic heart diseases	1574.85
59	Viral hepatitis	1536.82
60	Cataract	1536.82
61	Abortion	1534.61
62	Burn	1517.57
63	Polyarthritis	1513.25
64	Cellulites	1463.27
65	Sexual dysfunction	1435.64
66	Piles, fissure, fistulae	1411.06
67	Prostatic enlargement	1406.67
68	Foreign body	1381.50
69	Birth asphyxia	1378.69
70	Complited laboar	1375.49
71	Complicated pregnancy	1356.57
72	Sepsis	1332.04
73	Monoarthritis	1329.52
74	Haemoptysis	1303.03
75	Loss of visual acuity	1299.40
76	Cyst	1299.02
77	Mumps	1269.74
78	Retention of urine	1267.85
79	Rheumatic fever	1263.77
80	Pediculosis	1260.19
81	Lymphadenopathy	1257.93
82	Otitis media	1256.16
83	Tumour	1254.43
84	Chicken pox	1236.74

Table III Cont.

Rank	Name of health problem	Score
85	Cholelithiasis	1234.84
86	Vitamin A deficiency	1218.93
87	Dislocation	1209.12
88	Haematemesis, melaena	1207.50
89	Obesity	1206.68
90	Drug abuse	1193.42
91	Suicide	1173.41
92	Dacryocystitis	1169.20
93	Mental retardation	1158.45
94	HbsAg+Ve cases	1154.10
95	Phimosis and paraphimosis	1154.00
96	Measles	1138.46
97	Acute glomerular nephritis	1138.19
98	Chalazion	1119.37
99	Meningitis	1109.40
100	Dysphagia	1100.00
101	Thyroid disease	1098.85
102	Nephrotic syndrome	1086.61
103	Epilepsy	1084.72
104	Gangrene	1083.17
105	Malaria	1079.45
106	Renal calculus	1066.79
107	Cancer	1065.63
108	Cirrhosis of liver	1065.51
109	Peripheral arterial disease	1057.88
110	Bleeding disorders	1035.43
111	Sterility	1029.18
112	Gonorrhoea	1018.97
113	Developmental disorder	1008.06
114	Snake bite	976.69
115	Congenital deformity	964.56
116	Drug reaction	960.00
117	Osteomyelitis	944.86
118	Renal failure	944.76
119	Schizophrenia	926.73
120	Encephalitis	881.90
121	Syphilis	772.90
122	Leprosy	752.89
123	Filariasis	581.39
124	Arsenecosis	571.71
125	Kala-azar	569.76
126	Tetanus	530.88
127	Dengue	366.08
128	Rabies	364.00
129	HIV/ AIDS	216.06

The respondents were allowed to write down the health problems that were not listed in the questionnaire but they considered common or important as found in their place of work. Out of 545 respondents only 94 mentioned such names of health problems. These were: acute respiratory tract infection, bronchiolitis, ascariasis, acute falciparum malaria, rickettsial fever, hepatitis-A, hepatitis-C, cystitis, herpes zoster, herpes simplex, post kala-azar dermal leshmaniasis, bird flu, nipa virus infection, psoriasis, vitiligo, lichen planus, feeding mismanagement of children or newborn, neonatal jaundice, protein energy malnutrition, nutritional deficiencies, haemophilia, congenital heart diseases, rheumatic heart diseases, cerebral palsy, septicemia, congestive cardiac failure, early aging process, migraine, motor neuron disease, myopathy, neuropathy, flaccid paralysis, heart failure, obstructive jaundice, electrolyte imbalance, diabetic keto-acidosis, lymphoma, cancer stomach, multiple sclerosis, transient ischaemic attack, oral candidiasis, periodontitis, leucorrhoea, uterine prolapse, pelvic inflammatory diseases, eclampsia, retained placenta, functional disorders, frozen shoulder, intestinal perforation, intestinal obstruction, hydrocele, hysteric conversion reaction, mass hysteria, wine addiction, physical assault, accident, drowning, road traffic accident, head injury, electric burn, poisoning, dog (animal) bite, snake bite, rape, suicide, throttling,.

Discussion:

Out of 1625 mailed questionnaires 545 were mailed back within due time. This good participation rate (33.54%) indicated that doctors working at PHC level are very interested in the development of medical education of Bangladesh and they were also highly cooperative in research activities.

It was revealed that majority of the respondents were satisfied or highly satisfied with their skill and knowledge acquired during MBBS period. A few of them were unsatisfied or highly unsatisfied on these issues. This indicates that medical education of Bangladesh has been maintaining a standard since long, even then there is area for further improvement. It was also found that the un-satisfaction were more on the skill than knowledge. This indicates that our

undergraduate medical education should emphasize on adequate training to develop skills of the doctors.

Major portion of the respondents opined that different clinical subjects and pathology should be taught more elaborately for the medical students who will be future doctors of the country. Regarding pre-clinical and para-clinical subjects (except pathology) the majority of respondents opined that emphasis on these subjects should remain as before. This study did not find out which contents /areas of each subject to be learned more elaborately. So further study can be conducted considering this issue.

There were 129 different names of health problems/ diseases /syndromes in the list of the questionnaire. The doctors choose one among 4 options (high, medium, low, and nil) for each listed disease. This choice was mostly subjective and relative. It was not the epidemiological features of the disease. Doctors of same thana sometimes differed widely in their opinion regarding load of a particular disease. The reason for this difference might be due to they might have different number of patients of the same diseases in their place of work. Diagnosis of some of the listed diseases depends mostly on investigation e.g. amoebiasis, oestiomyelitis, syphilis etc. But at thana and sub-centre level investigation facilities are very inadequate. Even then a qualified doctor might have clinical diagnosis of a disease without having any investigation report. The dilemma between confirmed diagnosis and clinical diagnosis might be another reason for the difference of opinion regarding disease load among the doctors. The limitation of this study is that it listed only the generic names of some health problems but not specified the diseases or syndromes. As for example by a comment regarding injury or poisoning we cannot determine which type of injury or poisoning is common at primary health care level. To get detail information further study can be conducted specifying each health problem. The target of the disease list was to identity whether we have introduced any health problem unnecessarily in the undergraduate medical curriculum or we have not included an important health problem. It was found that all these 129 health problem should be taught with care according to their priorities in undergraduate medical courses.

There were some respondents who had mentioned some additional health problems that they felt to be common and some to be important though uncommon. There was some overlapping of the health problems mentioned as either common or important but uncommon. For example, some of the respondents mentioned road traffic accidents was a common health problem and some mentioned it was rare but important. Similarly though some health problems were in the list of the questionnaire even then some of the doctors mentioned them specifically. As for example, acute falciform malaria is a critical condition of malaria.

Conclusion and recommendation:

Majority of doctors working at PHC level of Bangladesh were satisfied with the skill and knowledge that they acquired at undergraduate level. Their opinions also indicated that undergraduate medical education required more emphasis on acquiring skills than theoretical knowledge by the medical students and the curriculum should give more emphasis on the clinical subjects. Considering the importance and priority of the health problems of the country our curriculum should be reviewed. Future doctors of Bangladesh should have adequate skill and knowledge regarding these health issues.

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