

Teachers' Opinion about Pharmacology Written Question Papers of MBBS Professional Examinations

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Abstract

Written examination is an important method for judging the learning of medical students. Short Answer Questions (SAQ) and multiple choice questions (MCQ) are introduced in MBBS curriculum to assess student cognitive domain. This cross sectional descriptive study was conducted to get the teachers' opinion about Pharmacology professional written short answer question papers of different Universities of Bangladesh. For this purpose, opinion of total 56 purposively selected teachers of the Department of Pharmacology & Therapeutics of 20 Medical Colleges were collected through self-administered semi-structured questionnaire. Most of the teachers (66% & 61%) were in favour of existing distribution of different types of question in curriculum (recall-60%, understanding -30% and problem based-10%) for short answer question paper (SAQ). Majority of the teachers (66% & 54%) were satisfied with the present coverage of recall and understanding type questions respectively but only 41% teachers were satisfied with the coverage of problem based type questions. Seventy-seven percent teachers were satisfied with content coverage in SAQ papers. Eighty-seven percent teachers were satisfied with present marking scheme on SAQ paper. Findings of this study may be used to redefine the distribution of different types question in SAQ papers and to improve the quality of question papers by ensuring their coverage.

Key Words: *Teachers' Opinion, Pharmacology Question Paper, SAQ*

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Introduction

Through assessment teachers judge whether the learning objectives of the course are met or not.¹

The educational objectives are broadly allocated to three domains- knowledge, skill and attitude, i.e. what we know, what we do and what we feel.

Knowledge includes all cognitive process from the mere recall of facts through comprehension and understanding to an ability to solve problem. Skills include the various psychomotor skills those are required to be performed by a competent physician. Attitude includes the personal qualities of students and their attitude towards medicine, their patients and their peers.²

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Different assessment instruments are used to judge the different learning outcomes. No single assessment instrument is perfect and no single tool can test all aspect of medical competence and performances. Each instrument has its strengths and weakness.³ Some of the assessment tools are inherently subjective, while the rest of them may be applied with greater degree of objectivity. No method of assessment can however be intrinsically flawless.⁴ Open ended short answer questions (SAQ) are perhaps the most widely accepted question type for written assessment. Their format is commonly believed to be intrinsically superior to a multiple choice format though much evidence shows that this assumed superiority is limited. Short answer open ended questions should be aimed at the aspects of competence that cannot be assessed in any other way.⁵ Curriculum for Undergraduate Medical Education in Bangladesh-2002 have introduced short answer questions (SAQ) and multiple choice questions (MCQ) for written examination, objective structured practical examination (OSPE) and objective structured clinical examination (OSCE) for practical examinations and structured oral examination (SOE) for viva examinations to assess the different domains of learning objectives of undergraduate medical students.⁶

Before the implementation of 2002 curriculum for undergraduate medical education in Bangladesh, written

Method

This study was a Cross-sectional descriptive study and was conducted over

assessment of the students was carried out by essay questions. Essay questions have many disadvantages in covering content and judging students' actual learning. Furthermore, essay type questions are very much subjective in nature. To overcome these disadvantages Curriculum for undergraduate medical education-2002 implemented a dramatic change in the written assessment, introducing short answer questions (SAQ) and multiple choice questions (MCQ).

Five public universities are conducting MBBS examination of all medical students. There are some differences among the universities in the distribution of content in the different groups but all the universities suggested distribution of question type both in SAQ and MCQ would be: recall type-60%, understanding type-30% and problem based type-10%.⁷ After implementation of the curriculum 2002 pharmacology professional written examination had been conducting following this rules since January 2007. During this period, no evaluation has been done whether the pharmacology professional written question papers of different universities are fulfilling the stated requirements about content coverage and coverage of different level of cognitive domain. This study tried to find out the teachers' views and satisfaction about the content coverage and knowledge domain coverage as per stated in the curriculum.

one-year period starting from July 2015 to June 2016. For collection of data Bangladesh University of Professional (BUP), Chittagong University (CU), Dhaka University (DU), Rajshahi University (RU)

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and Shahjalal University of Science & Technology (SUST) of Bangladesh were chosen as they conduct MBBS course. Total fifty-six teachers of the Department of Pharmacology & Therapeutics from both government (ten) and non-government (ten) medical colleges of above mentioned universities were included for studying teachers view about the quality of professional question papers. Purposive and convenience sampling was adopted for selection of teachers for their opinion.

All the teachers (assistant professor & above) of the department of Pharmacology and Therapeutics of the selected medical colleges, who were willing to participate were included in this study. Teachers who were not yet participated as question setter/moderator/script examiner of professional examination were excluded from the study.

Pre-testing was performed using self-administered questionnaire at one government institute and one non-government medical college and questionnaire was corrected accordingly.

Principals of the selected medical colleges were approached for necessary permission for collecting opinion from the Pharmacology teachers through Director of CME. The researcher visited selected medical colleges. He introduced himself to the principal of the medical colleges and Head of the Department of Pharmacology and Therapeutics. Later on opinions of all the present and willing teachers of the

department were collected through the self-administered questionnaire.

After data collection a quality control check was made for completeness and internal consistency. The data were then entered in the computer, process and analysis were done by using computer SPSS 19 programme. Interpretations were made subsequently. Data were presented in table and graph with necessary description where necessary for easy understanding and interpretation.

Results

Opinion was obtained from 56 teachers of the Department of Pharmacology and Therapeutics of both Govt and Private medical colleges of all five Public universities, those conduct MBBS Course in Bangladesh. Out of 56 teachers 16 (28.6%) were Professors, 24 (42.8 %) were Associate Professors and 16 (28.6%) were Assistant Professor. Majority (39.3%) of the teachers were from DU (Table 1). Thirty-five (62.5%) teachers were from government medical colleges and 21 were from non-government medical colleges (Table 2). Out of 3 types of participation with written professional examination as question setter, moderator and script examiner. Most of the teachers (41.1%) were involved in all these three type activities, 35.7 % teachers were only involved with script examination (Table 3).

During their teaching life 64% teachers participated in faculty development programme on student assessment. Twenty-three percent teachers attended workshop, 20% attended both seminar and workshop and 16 % attended seminar, symposium and workshop and CME was

the main organizer of these faculty development programme (Figure 1).

Regarding the justification of present distribution of recall (60%), understanding (30%) and problem based (10%) questions, 5.4% teachers strongly agreed, 60.7% agreed and 19.6% disagreed. About the content coverage, 7.1% strongly agreed, 69.9% agreed and 16.1% disagreed. About the coverage of recall type questions, 1.8 % teachers strongly agreed, 64.2% agreed, 16.1% disagreed and 17.9% neither agreed nor disagreed. About the coverage of understanding type questions, 3.6% teachers strongly agreed, 50 % agreed, 17.9% disagreed and 28.6% neither agreed nor disagreed. About the coverage of problem based type questions, 1.8 % teachers strongly agreed, 39.3 % agreed, 1.8 % strongly disagreed, 25% disagreed

and 32.1% neither agreed nor disagreed. About the presence of marking scheme for each component of the questions, 39.3% strongly agreed and 46.4% agreed. In case of introduction of single word answer type questions, 5.4% strongly agreed, 30.4% agreed, 28.6% disagreed and 19.6% strongly disagreed with the proposal (Table 4). Among the teachers 66% agreed with present distribution (60%) of recall questions in SAQ papers, 18% proposed 50% recall questions and 7% proposed 40% (Figure 2).

For understanding type questions, 18% teachers proposed 40%, 7% proposed 20% and 66% agreed with present 30% (Figure 3). In case of problem based type questions, 63% agreed with present 10%, 21% proposed 20% (Figure 4).

Table 1: Distribution of the teachers according to designation and universities

Designation	n= 56					
	BUP f (%)	CU f (%)	DU f (%)	RU f (%)	SUST f (%)	Total f (%)
Prof	1 (1.8%)	1 (1.8)	8 (14.3%)	5 (8.9%)	1 (1.8%)	16 (28.6%)
Assoc Prof	2 (3.6%)	4 (7.1%)	8 (14.3%)	3 (5.4%)	7 (12.5%)	24 (42.8%)
Asstt Prof	1 (1.8%)	3 (5.4%)	6 (10.7%)	3 (5.4%)	3 (5.4%)	16 (28.6%)
Total	4 (7.1%)	8 (14.3%)	22 (39.3%)	11 (19.6%)	11(19.6%)	56 (100%)

NB: BUP= Bangladesh University of Professionals, CU= University of Chittagong, DU= University of Dhaka, RU= Rajshahi University, SUST= Shahjalal University of

Science & Technology, Prof= Professor. Assoc Prof= Associate professor, Asstt Prof= Assistant Professor

Table 2: Distribution of teachers according to designation and type of medical colleges

n = 56				
Type of Colleges	Prof f (%)	Assoc Prof f (%)	Asstt Prof f (%)	Total f (%)
Government College	10 (17.9%)	17 (30.4%)	08 (14.3%)	35 (62.5%)
Non-Government College	06 (10.7%)	07 (12.5%)	08 (14.3%)	21 (37.5%)
Total	16 (28.6%)	24 (42.9%)	16 (28.6%)	56 (100%)

Table 3: Distribution of teachers according to participation in professional examination

n = 56		
Participation	Frequency	Percentage
Script Examiner	20	35.7
Question setter & Script Examiner	13	23.2
Question setter & Moderator & Script Examiner	23	41.1
Total	56	100.0

Table 4: Distribution of respondents as per their views regarding the different aspects of SAQ papers

Statements regarding different aspects of SAQ paper	Extent of views					Mean ± SD
	SD 1	D 2	NAND 3	A 4	SA 5	
	f (%)	f (%)	f (%)	f (%)	f (%)	
Present distribution for the SAQ papers is justified*	0 (00)	11(19.6)	8(14.3)	34(60.7)	3(5.4)	3.52 ±0.87
Satisfied with content coverage	0 (00)	04 (7.1)	9(16.1)	39(69.6)	4(7.1)	3.77 ±0.69
Satisfied with coverage of recall type questions	0 (00)	09 (16.1)	10(17.9)	36(64.2)	1(1.8)	3.52 ±0.78
Satisfied with coverage of understanding type questions	0 (00)	10 (17.9)	16(28.6)	28(50)	2(3.6)	3.39± 0.82
Satisfied with coverage of problem based type questions	1(1.8)	14 (25.0)	18(32.1)	22(39.3)	1(1.8)	3.14 ±0.88
Showing of marking scheme in the SAQ paper for each component of the question	3(5.4)	02 (3.6)	03(5.4)	26(46.4)	22(39.3)	4.11 ±1.04
Introduction of single word answer type questions in SAQ	11(19.6)	16(28.6)	09(16.1)	17(30.4)	3(5.4)	3.41± 0.89

NB: SD= Strongly disagree, D= Disagree, NAND = Neither agree nor disagree, A= Agree, SA=Strongly agree, and numbers (1 to 5) indicates scores

* Present distribution of different level of questions is Recall-60%, Understanding- 30% and Problem based -10%.

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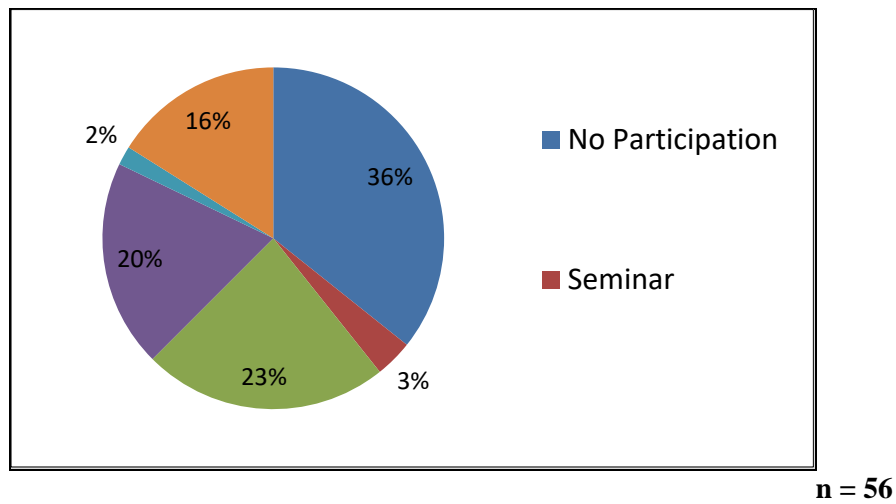


Figure 1: Distribution of teachers according to participation in faculty development programme on assessment

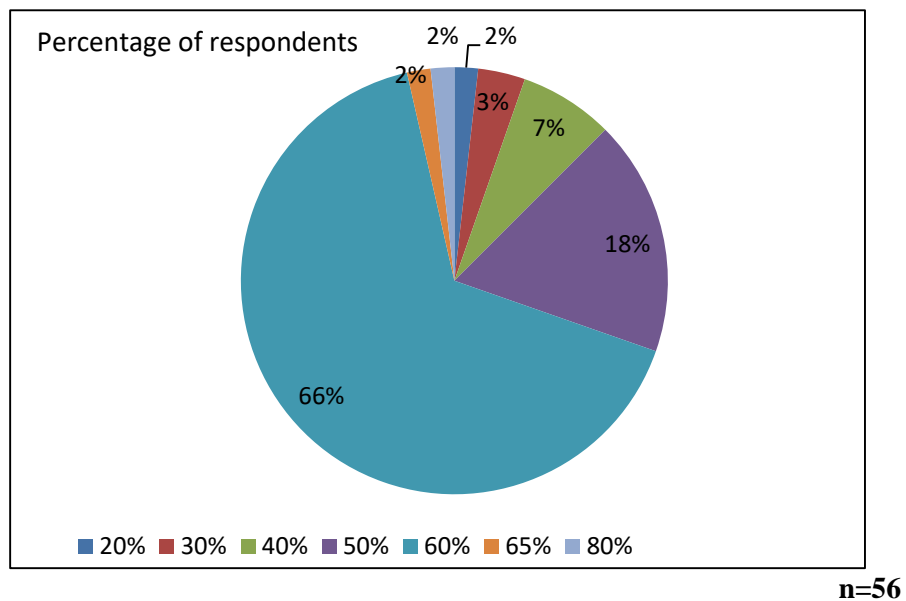
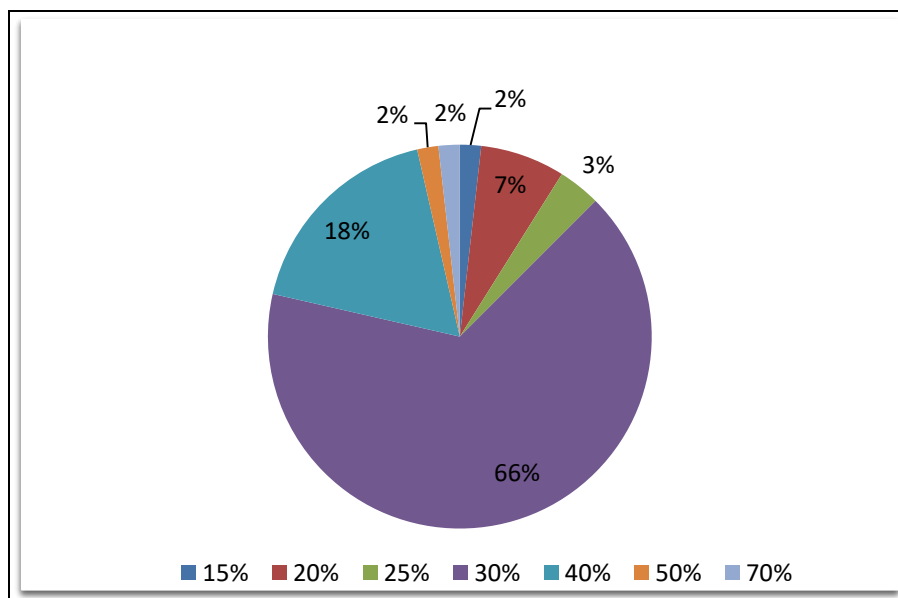


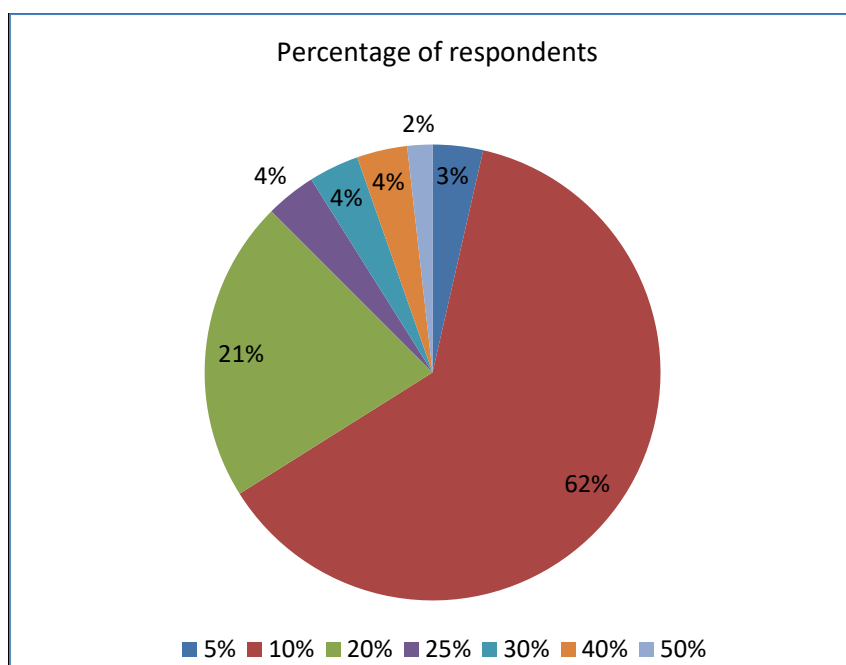
Figure 2: Distribution of teachers as per the percentage of recall type questions proposed by them in SAQ papers



Percentage of respondents

n=56

Figure 3: Distribution of teachers as per the percentage of understanding type questions proposed by them in SAQ papers



Percentage of proposed problem based type questions n=56

Figure 4: Distribution of teachers as per the percentage of problem based type questions proposed by them in SAQ papers

Percentage of proposed understanding type questions

Discussion

This cross sectional descriptive study was carried out by obtaining teachers' opinion regarding professional written question papers on Pharmacology in five public universities of Bangladesh. Views of the teachers of the Department of Pharmacology & Therapeutics were collected from 10 governments and 10 non-government medical colleges/institutes. Information was collected about the Pharmacology written questions papers which was introduced in the MBBS course since 2007 after the implementation of curriculum 2002. Information was collected through semi-structured self-administered questionnaire. Information was collected from 56 teachers of Pharmacology; those who participated in the written professional examination at least in one category as question setter, moderator or script examiner. The questionnaire included different options about SAQ papers were rated using Likert scale provided. Open ended questions were also included in the questionnaire to collect qualitative information about the written assessment tools. Among the 56 responding teachers 35 were from government medical colleges and 21 were from non-government medical colleges. Among the teachers 28.5% were professor, 43% were associate professor and 28.5% were assistant professors. Out of 16 professors, 10 were of government and 6 were of non-government. Among associate professors 71 % were of government and 29% were of non-government. Among the assistant professor government and non-government distribution was equal. This distribution of respondents was similar to the study of Khan (2008).⁸ Out of the 56 responding teachers 41% teachers performed in all the categories of written professional examination (question setting, moderation and script examination), 23% participated in question setting and script examining and

36% worked as script examiner only. Among the responding teachers 64% participated in one or more faculty development programmes on assessment. Thirty seven percent of the respondents participated in more than one type faculty development programme. On the other hand 36% not yet participated in any faculty development programme on assessment though they were taking part in the assessment process of professional examination. At the beginning of curriculum- 2002, most of the teachers opined in favour of training in the form of workshop or seminar for acquainting with new assessment process under this curriculum (Khan 2008).⁸ Though most of the teachers were trained but still a portion of teachers were not yet trained on assessment.

In this study majority of the teachers (66%) agreed upon the present distribution of the different type questions in the SAQ papers (recall-60%, understanding-30% and problem based-10%). Only 20% teachers disagreed with this distribution, rests of the teachers were undecided. Teachers those who were not agreed or undecided with the current distribution of different type question in the curriculum, proposed new distribution. For recall type questions 18% teachers proposed 50% and 7% teachers 40%. For understanding type questions, 18% teachers proposed 40% and 7% proposed only 20%. Proposal was 20% in case of problem based question from 21% teachers. Four percent teachers proposed for 30% another 4% proposed it for 40%. Most of the teachers those who differed from existing distribution proposed less recall type questions and more for understanding and problem based type questions.

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Sixty-six percent teachers agreed that the SAQ papers of the universities' professional examination covered the required percentage of recall type questions. In case of understanding and problem based type questions this agreement was 54% and 41% respectively.

In case of presence of marking scheme in the question paper most of the participating teachers (86%) agreed upon it. Only 9% teachers disagreed about this. It is a prerequisite to provide marking scheme in the SAQ paper (Sabherwal 1995). 9

About the content coverage in SAQ papers, maximum (77%) agreed that it was satisfactory, only (16%) disagreed with the content coverage. About the wide content coverage in SAQ papers 51% and 77% agreed in the study conducted by Khan (2008) 8 and Ali (2009) 10 respectively. Second study finding is similar with the present study.

In case of introducing single word answer type questions in SAQ paper, only 36% teachers agreed with it, maximum (48%) disagreed, another 16% were undecided. They did not also propose any other form of SAQs in their suggestion regarding SAQ paper. So teachers are satisfied with present forms of SAQs.

Conclusion

In this study it was found that majority of the teachers were in agreement with the present distribution of different types of questions (recall-60%, understanding -30% and problem based-10%) in curriculum for SAQ papers. Majority of the teachers were satisfied with the present coverage of recall

and understanding type questions in SAQ papers but with the coverage of problem based questions, satisfied teachers were less. Maximum teachers were satisfied with content coverage in SAQ papers.

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