

# Student participants' perception about Medical quiz at the Manipal College of Medical Sciences, Pokhara, Nepal

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**Background:** Quiz has been used as an active learning strategy in medical schools. The Manipal College of Medical Sciences, Pokhara, Nepal admits students from Nepal, India, Sri Lanka and other countries for the undergraduate medical course. A medical quiz program (called Mediquiz) has been organized at the medical school for the last four years. The present study was carried out to obtain information on the student perceptions towards Mediquiz and note the association, if any, of the perception with respondent characteristics.

**Materials and Methods:** The study was carried out during March 2006 using a semi-structured questionnaire. Demographic information was collected. Student attitudes towards Mediquiz were studied by noting their degree of agreement with a set of twelve statements. The median total scores were compared among different subgroups of respondents using appropriate non-parametric tests ( $p < 0.05$ ).

**Results:** Seventy-one of the 80 students (88.7%) participating in the quiz preliminaries completed the questionnaire. Thirty-nine respondents (54.9%) were Nepalese and 29 (40.8%) were Indians; 47 respondents (66.2%) were male. The median total score was 41 (maximum score 60) and was higher among the Nepalese. Text books, multiple choice question books, journals and the internet were used for preparation.

**Conclusions:** The student opinion was positive and Mediquiz was an enjoyable active learning experience. The respondents felt that there was an unfair advantage for the fourth and ninth semester students. The quiz should be conducted more frequently and improvements to make it more informative and enjoyable can be considered.

**Key words:** Integrated learning, Medical quiz, Medical students, Nepal

## Introduction

Active learning strategies have been shown to be helpful in improving retention of information and improving students' conceptualization of systems and their functioning.<sup>1</sup> In a United States (US) medical school, peer instruction, short presentations and a multiple choice quiz was used to teach physiology.<sup>2</sup> In a pharmacy college in the US, timed PowerPoint quizzes were found to save resources and time and increase students' ability to analyze information.<sup>3</sup> The students had a positive opinion regarding

the technique. In India, quiz has been used as a method to teach family welfare and demography to undergraduate medical students.<sup>4</sup> The Manipal College of Medical Sciences (MCOMS), Pokhara, Nepal admits students from Nepal, India, Sri Lanka and other countries for the undergraduate medical (MBBS) course. The course is divided into nine semesters with the first four semesters being devoted to the basic science subjects and the last five to the clinical subjects. A medical quiz contest (named Mediquiz) has been organized as part of the college week celebrations at MCOMS since the last four years. The quiz covers all the subjects of

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the MBBS course. General knowledge and history of medicine are also included.

Six teams consisting of three students each participate in the finals. To select the finalists, a written preliminary round is conducted. The students are divided into basic and clinical semesters for selection purposes. The top six students in terms of their score in the preliminary round from the basic sciences and clinical sciences are selected. After selecting these twelve, the next top six in order of merit are selected. Despite the quiz program being conducted for the last four years, information on student perceptions regarding Mediquiz is lacking. Hence the present study was carried out to obtain

- Information on student perceptions towards Mediquiz and
- Note the association, if any, of the perceptions with the respondents' demographic and personal characteristics.

## Materials and Methods

The study was conducted among students participating in the written preliminary selection rounds of Mediquiz 2006 during the month of March 2006. The participants were explained the aims and objectives of the study and were invited to participate. Student attitude was studied using a semi-structured questionnaire. The questionnaire was pre-tested among six students and their responses were not included in the final analysis.

Information on semester of study, nationality, medium of instruction at school and gender was collected. The respondents were questioned whether they had participated in quiz contests before coming to medical school, whether they had participated in quiz preliminaries and finals at MCOMS before and whether they usually prepare for the quiz individually or as a team. Student attitudes towards Mediquiz were studied by noting their degree of agreement with a set of twelve statements. Ten statements had a positive opinion about Mediquiz while two had a negative opinion. The free text questions dealt with how the participants prepared for the quiz and any other general comments. The questionnaire used is shown in the Appendix.

The total scores for the twelve statements were calculated. The scores of the negative statements (statement numbers 6 and 8) were reversed while calculating the total score. The median total scores among different subgroups of respondents were compared using appropriate non-parametric tests ( $p < 0.05$ ). The free text comments were grouped together and the commonly occurring comments determined.

## Results

A total of 71 of the 80 students (88.7%) participating in the preliminary rounds of Mediquiz 2006 completed the questionnaire. Fifty-two of the 71 respondents (73.2%) were clinical science students. Thirty-nine respondents (54.9%) were Nepalese, 29 (40.8%) were Indians while 2 were of other nationalities. One respondent did not indicate his nationality. Sixty-five students (91.5%) were educated in English medium schools and 47 respondents (66.2%) were male. Certain details were not completed by some respondents.

The median total score was 41 and the interquartile range was 8 (36 to 44). The maximum possible score was 60. The median total scores of respondents according to demographic and personal characteristics of respondents are shown in Table 1. The median score was significantly higher among the Nepalese compared to other nationalities.

Only twenty respondents answered the questions relating to method of preparation for the quiz. Eight respondents prepared individually, two prepared as a team while ten respondents had no special preparation. Text books were most commonly used for preparing followed by books containing multiple choice questions (MCQs), journals and the internet. Among the suggestions put forward by the respondents were that there should be different sets of questions for different semesters and Mediquiz should be conducted more frequently.

## Discussion

A major part of the teaching and learning at MCOMS takes place through the traditional lecture format. Creating innovative educational methods that enhance and supplement the lectures has been a challenge for medical educators. Medical quiz has been used as a method of teaching and learning. In India, a quiz approach ensured greater participation of students in the learning process.<sup>4</sup> The students found the method very useful and interesting. The rapid fire and the visual round were liked the most.<sup>4</sup>

At MCOMS, the quiz preliminaries consist of a set of forty-five questions from different medical subjects. There are also five general knowledge questions. The quiz finals is of approximately two hours duration and consists of a warm-up round, basic science and clinical rounds, visual and audio rounds, history of medicine round and a rapid-fire round. From this year we have introduced a general knowledge round also. The questions for the different rounds are mainly selected from the question banks supplied by the various departments. There is a viva-voce round where different heads of departments act as quiz masters.

**Table 1:** Median total scores according to demographic characteristics of student respondents

Characteristic	Number of respondents*	Median score (Interquartile range)	P value
<b>Phase of study</b>			
Basic	19	40 (11)	0.254
Clinical	52	41 (7)	
<b>Nationality</b>			
Nepalese	39	42 (7)	0.049
Indian	29	39 (7.5)	
<b>Medium of instruction at school</b>			
English	65	41 (7.5)	0.672
Vernacular	3	37	
<b>Gender</b>			
Male	47	41 (8)	0.360
Female	19	42 (6)	
<b>Participation in quiz at school</b>			
Yes	49	41 (7.5)	0.511
No	20	39.5 (7.75)	
<b>Won prize for quiz at school</b>			
Yes	28	40.5 (7.75)	0.343
No	18	42 (5.5)	
<b>Previous participation in quiz preliminaries</b>			
Yes	28	41.5 (6)	0.178
No	42	40 (8.25)	
<b>Previous participation in quiz finals</b>			
Yes	11	41 (5)	0.635
No	56	41 (7.75)	

\* Some students did not fill in all the required details

Three heads from the basic and three from the clinical sciences are invited on stage. For the other rounds, two of us, PKS and PRS act as quiz masters. There is a short audiovisual multimedia clip of around two minutes which serves as an introduction to the finals. The clip is prepared by the students and the best one is selected through an open competition.

The median score was high and the students had a favourable perception towards Mediquiz. The Nepalese students had a higher score and a greater proportion of Nepalese participate in the preliminary and final rounds. The Nepalese students are selected through an entrance examination and perform better academically compared to others. No other association of the median total score with demographic characteristics was noted.

In India, a survey of attitudes of medical students towards the Pediatric quiz conducted by the Indian academy of Pediatrics was carried out.<sup>5</sup> The students had a favorable attitude but they were not able to devote sufficient time to the preparation as they were preoccupied with other

subjects.

Mediquiz may serve as a means of integrating information from different subjects and may help to develop a holistic view of medicine. Faculty members from various departments collaborate in preparing questions for the quiz. However, this aspect has to be developed further. The students were introduced to the various personalities and ideas in the history of medicine. The students cover areas of medical science which are not usually emphasized.

The problems noted were that the present pattern of questions conferred an immense and maybe, unfair advantage to the ninth semester and the fourth semester students.

The number of respondents compared to the total student number was low. However, 88.7% of the students participating in the preliminaries completed the questionnaire. Our observation over the years has been that only around 15 to 20% of the total students participate in the quiz selections.

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Mediquiz was an enjoyable active learning experience for the students. We plan to improve on and if possible, conduct Mediquiz more frequently. A problem-solving round can be considered. Conducting an intercollegiate quiz among the various medical colleges in Nepal can be a future option.

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