

## **QUIZ -An Innovative Practice in Medical Education**

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### **ABSTRACT**

Effective medical teaching requires that teachers are able to address learner's needs and understand the variations in learners' styles and attitudes. Teachers can achieve these goals while building an optimal teaching-learning environment by adopting a variety of teaching methods and teaching styles. All over the world, current teaching methods show a shift from the conventional classroom teaching to nonconventional teaching so as to encourage interactive forms of learning among medical students through active participation. These efforts lead to transform the relationship between the teacher and the students. Some of the nonconventional teaching methods adopted in pharmacology department of LMDC included learning through active participation by the students through Web-based learning (Facebook page of the department), clinicopharmacological seminars, and quiz. The present study is a Descriptive study involving Third year MBBS students, conducted in the department of Pharmacology to highlight the role of quiz as a learning tool in medical education and to find out whether quiz can serve as an active and effective learning method for medical undergraduates.

**Keywords:** innovative techniques, quiz, clinicopharmacological seminars, pharmacology

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### **INTRODUCTION**

Learning is a complicated phenomenon as it involves complex mental activities such as critical thinking and ability to solve problems. To make the medical subjects interesting, it is important to try out innovative methods for teaching and learning in which Quiz is one the various methods<sup>(5)</sup>. Many students just copy the notes from lecture considering its part of their responsibility being in the class. Many students just listen and do not get involved in the class to understand the concepts. This typical environment only promotes a fraction of students who take their subject seriously on their own. In modern age of science and technology there is a great need to improve quality of education specifically in the field of medicine. This can be possible by bringing essential changes by introducing innovative techniques through which teachers can provide students centered learning environment that can make learning process interesting and understandable to the young learners (Goud, BKM and Begum GS, 2014).

Teachers in almost every academic environment have to tackle the common problem of students who come to classes unprepared. In medical teaching, teachers also meet challenges in presenting various difficult academic subjects that require students to learn a huge amount of material in a relatively short period of time. Traditional lectures are easy for the teachers, but are not always the best educational

method for the majority of the students. Teachers have tried to include different active methods in the classroom. They add active learning activities and technology-driven changes in their teaching sessions to make their lectures more interesting (Christi P, 2013)

Researches in education has been conducted about students' views and perceptions toward teaching and learning as well as factors that affect their learning in undergraduate programs as far back as the 19th century (Smith C, 2008). Several studies on students' perceptions regarding learning of pharmacology documented students' improvements in performance through improved teaching and learning processes (Mohan L et al., 2012). Pharmacology is a fundamental subject for medical students who are going to be future medical practitioners. It is therefore important that medical students appreciate pharmacological principles and are able to relate and apply them in the practice of medicine (Sekhri K, 2012). Conventionally, the teaching of pharmacology in medical schools follows a lecture-based approach with a stress on acquiring factual knowledge concerning drugs and does not train the medical students adequately in their therapeutic application (Maxwell S and Walley T, 2003). Hence it is important to make this subject interactive and interesting in order to involve the students. In this regard new and innovative teaching and learning techniques may be useful

The goal for the acquiring new learning methodologies is to provide the student's brains with the best learning tools available, so that they in turn they can have thorough understanding, knowledge

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and relevant skills for their career. The use of innovative techniques requires time, planning, a commitment to the teaching process and a belief that the resulting learning will be both more enjoyable and productive. Every effort should be made to encourage the use of active methods of teaching (Jones R Hetal., 1993). Quizzes can be an effective tool not only to increase the awareness and interest in the topic but also to test the knowledge in the applied aspects of clinical pharmacology (Rotti SB et al., 2004)

The objective of this descriptive study was to analyze the change in attitude and to increase the knowledge of students in application of the taught drugs in different cardiovascular diseases.

## METHOD

A quiz session was arranged in pharmacology department of LMDC in the month of May 2015 for 3<sup>rd</sup> year MBBS students on the topic of "Drugs Used in Cardiovascular Diseases". Since health issue related to cardiovascular system e.g., hypertension, heart failure, angina etc. are quite common and prevalent worldwide, especial emphasis is made on this subject during every academic year. A routine class test was already conducted before arranging this quiz in which students showed unremarkable performance. Students were advised to go through these topics and also seek extra knowledge from internet. The date and time of the quiz was announced 2 weeks earlier.

Total number of students (present in that session) was 136 and they were divided in two main groups and they sat facing each other. Each group was represented by set of 10 students who were given 1 minute of time and during this time they were allowed to discuss among themselves the answer of question. The questions were already made on power point presentation. This quiz was conducted by a faculty member of pharmacology department and a panel of judges (other faculty members) was sitting on the stage to mark the groups. There were four sessions

1. MCQs (displayed on the screen through multimedia incorporating different clinical scenarios)
2. Short answers (including mechanism of action drugs)
3. Rapid fire round (mainly included name of the drugs and their parent group)
4. Naming major adverse effects of the drugs

Cumulative scores of all the rounds were taken to decide the winning team. At the end of Quiz a suitable prize (a basket of chocolates) was also given to the winning team. To evaluate the students'

performance a post-test evaluation was also conducted for all the students.

## RESULTS

1. High number of students attended the quiz session
2. The responses were encouraging. The quiz session facilitated learning as there was active participation of the students. This session was interesting, interactive, and informative, and helped to build healthy competition among groups.
3. The quiz session turned out to be a strong and effective mode of teaching. This was confirmed by a post-test on the same topics as almost 70 % of students were able to clear the test as compared to a pretest in which the percentage result was only 41%.
4. This method ensured greater participation and involvement of the students in teaching/ learning process.

## DISCUSSION

The concept of 'active learning' is gaining much popularity, especially in the field of Medicine. Lectures alone are not generally sufficient in teaching and are not very effective means of transferring and acquiring information, even less effective at skill development and in generating the appropriate attitudes. New methods like Problem-based learning, Quiz etc. are being introduced, based on the above said concept (Patil D et al., 2004). They enhance the cognitive level of medical students and also help them to retain academic content.

Quizzes have been utilized by educators in medical and non-medical academic settings to ensure student involvement, promote critical thinking skills and improve subsequent test scores and grades (Tariq SG et al., 2007). It is important to try out innovative methods for teaching and learning and Quiz is one of the various methods described in the literature to make the subject attractive throughout the course. (Mahajan PB et al., 2014).

According to one study conducted in Michigan, U.S. A similar result was shown. Interactive video disc units were used for teaching pathology laboratory cases. Each of these units had case studies followed by a quiz. These units were extremely appreciated by students (Soudarsanan MB et al., 1994). In another study from Australia; case study was used as a novel teaching/learning setup. The learning experience consisted of a quiz followed by a class discussion. This approach ensured greater participation of the students in the teaching/learning (Jamison JR, 1996),

**Limitations:** Equality of opportunity is less as all the students cannot participate equally but comparing with a regular lecture the involvement of students was much more. Most important problem was that it was time consuming. Much of the time was spent mainly for outlining the questions in quiz. Hence this method cannot be organized frequently.

Pictures showing active session of quiz among 3<sup>rd</sup> year MBBS students



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