



## International Journal of Research in Pharmacology & Pharmacotherapeutics



ISSN Print: 2278-2648

IJRPP |Vol.7 | Issue 3 | July - Sep - 2018

ISSN Online: 2278-2656

Journal Home page: [www.ijrpp.com](http://www.ijrpp.com)

Research article

Open Access

### Evaluation of pharmacology teaching-learning methods in a government medical college

Dr. S. Jeya Ponmari<sup>1\*</sup>, M.D., and Dr. Priya<sup>2</sup>, M.D.,

<sup>1</sup>Associate Professor, Dept. of Pharmacology, Govt. Villupuram Medical College, Villupuram, Tamilnadu, India.

<sup>2</sup>Assistant Professor, Dept. of Pharmacology, Govt. Villupuram Medical College, Villupuram, Tamilnadu, India.

\*Corresponding author: Dr. S. Jeya Ponmari

Email: [ponmarisj@yahoo.com](mailto:ponmarisj@yahoo.com)

#### ABSTRACT

The primary objective of this study is to evaluate students' knowledge and attitude on the various teaching methods and evaluation methods in pharmacology.

A cross-sectional study was carried out in a tertiary care teaching hospital in Tamilnadu using a pretested questionnaire. One hundred pretested questionnaires were distributed among the second MBBS students and all the students responded. Data analysis is done using MS Excel spreadsheet and percentage observations were noticed. The study demonstrated that the students prefer combined method teaching using PPT and chalk and talk and many students gave the opinion of inclusion of MCQs in evaluation. Majority of the students answered that prescription writing in practical classes is more interesting.

**Keywords:** Chalk and talk, Medical students, Pharmacology, Power-point, Teaching methods.

#### INTRODUCTION

Medical education enables students to gain knowledge and apply it in therapeutics. The methodology of teaching will influence the students in the comprehension of the subject and in the management of clinical conditions.

Pharmacology, like any other branch of medical science is ever-changing and challenging branch where lots of drugs are been poured in our armamentarium every day, changing the strategies for a given clinical condition. To make the lectures of

pharmacology more interesting and comprehensible, one has to review the teaching program at regular intervals. It is agreed that the modifications in methodologies of providing basic knowledge about drugs and drug therapies is need of the hour. [1]

Pharmacology forms the backbone of rational therapeutics, being both a basic and applied science. The primary objective of teaching pharmacology is to enable undergraduate medical students to take rational therapeutic decisions in clinical practice. The training in pharmacology takes place by way of

didactic lectures, audiovisual aids, problem based learning methods using various clinical problems and practical curriculum including animal experiments, prescription writing, and solving the clinical problems. Learning pharmacology to choose and prescribe drugs is a major challenge encountered by students. Curriculum development is a scholarly process. [2]

Pharmacology is the pillar of medicine and deals with drugs and therapeutics. Without it there will be no new drug discovery and treatment will become at halt. The main objective of teaching Pharmacology is to understand drugs and enable medical students to take right therapeutic decisions in their future medical practice. However, this objective is neglected and not emphasized by the prevailing curriculum. [3]

Teaching is considered as ever evolving process. Consequently it needs to be upgraded continuously. Major hurdle for any medical school is to deliver enormous amount of knowledge in narrow schedule and students are expected to retain, remember and effectively interpret. Today, the teaching of pharmacology has become theoretical based with trivial clinical application. [4]

Pharmacology is a subject which has to be learnt thoroughly in order to treat patients effectively. It serves as a foundation stone for clinical practice. Pharmacology subject although crucial for physicians, is perceived as dry and volatile by medical students. Due to content overload, students often find it difficult to remember and recall the pharmacological terms, concepts and drug names in the subject.

Many attempts have been made by various colleges all over India and abroad to make the teaching of pharmacology more interesting and relevant. There is a growing awareness that learner's views of their educational experiences are valuable in assessing the effectiveness of courses and modification of teaching methods. Reviewing the teaching program at regular intervals and the methodologies of imparting knowledge is a must. So, in order to assess the strength of our Pharmacology curriculum and students learning experience in this setting, evolution of the students' feedback through a questionnaire must be done so that necessary reforms can be implemented for the betterment of teaching/ learning the subject. Feedbacks also enhance learning and provide an opportunity to assess the lacunae in

the current system and this continuous process of repair and reforms is an essential platform to bring out the changes needed at present. [5]

With the growing awareness of the importance of teaching and learning in medical education and the need to move towards evidence-based teaching, it is important to re-examine the teaching methodology. India with the huge population needs quality doctors and not just quantity. Heightened focus on the quality of teaching in medical college has led to increased use of student surveys as a means of evaluation of teaching methods. [6]

Hence the present study has been carried out to evaluate students' knowledge and attitude on the various teaching methods and evaluation methods in pharmacology among second year MBBS students in a tertiary care teaching hospital in Tamilnadu.

## **MATERIAL AND METHODS**

### **Methodology**

A cross sectional study was conducted among second MBBS undergraduate students in a tertiary care teaching hospital in Tamilnadu. The study was conducted from April 2018 to May 2018. The total no. of enrolment in second MBBS was 100. All students were included in the study. Data were entered in the Microsoft Excel and statistical analysis was done.

### **Instruments used**

Structured pretested questionnaire, containing 20 items was used to evaluate the pharmacology teaching-learning methods in a tertiary care teaching hospital in Tamilnadu. . All participants were explained the purpose of study and were requested to complete and return the questionnaire immediately. Consent was obtained from the participants prior to the study.

### **Ethics**

Ethics approval for the study was obtained from the ethics committee, Government Villupuram medical college, Tamilnadu.

### **Data analysis**

Data analysis is done using MS Excel spreadsheet and percentage observations were noticed.

## RESULTS

A total of 100 students selected from second MBBS students. All 100 responses were received. The results were analyzed and tabulated

Regarding teaching methods, 50% of students feel that the most effective method of understanding pharmacology is combination of lecture using chalk and talk and power-point presentation, 42% of students feel that chalk and talk method is better and 8% preferred PPT. [Table.1]

For retaining the subject, 50% of students are of the opinion that the combined method of teaching is better and 42% of students feel that chalk and talk method is better.

The following reforms are suggested by students to be included in the teaching methods. [Table.2]

- Case study 56%
- Recent advances 88%
- Group discussion 66%

- Clinical posting 78%
- Research orientation 61%

Regarding lecture classes combination of chalk and talk and power-point presentation are more interesting than either alone.

The impact of pharmacology as given by the students is that the subject is very useful for rational drug therapy in clinical practice and better understanding of adverse drug reactions.

Regarding practical classes, majority of the students consider prescription writing is more interesting and more demonstrations are needed. [Table.3]

Regarding evaluation methods most of the students consider multiple choice questions are more interesting and the evaluation by combination of essay question, short answers and MCQs will be better method of evaluation.

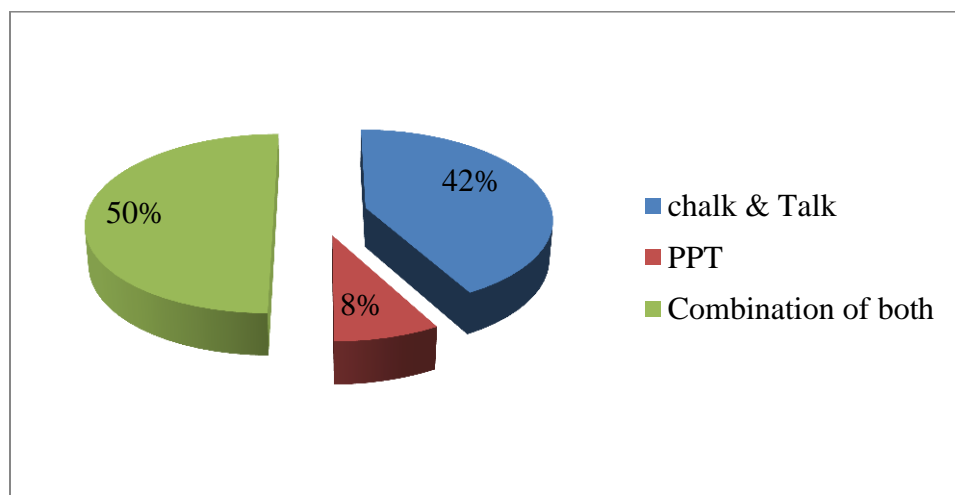
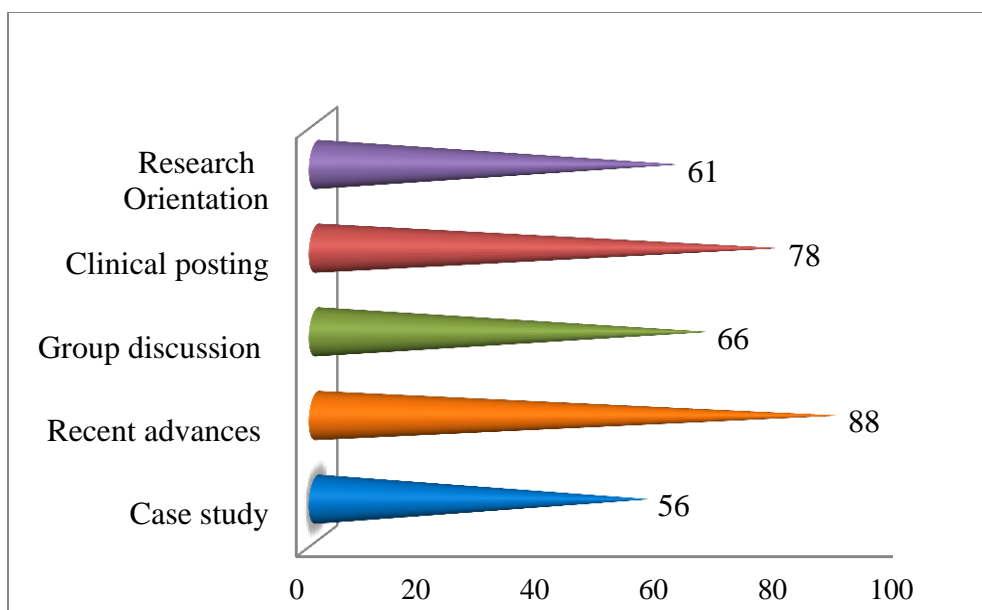
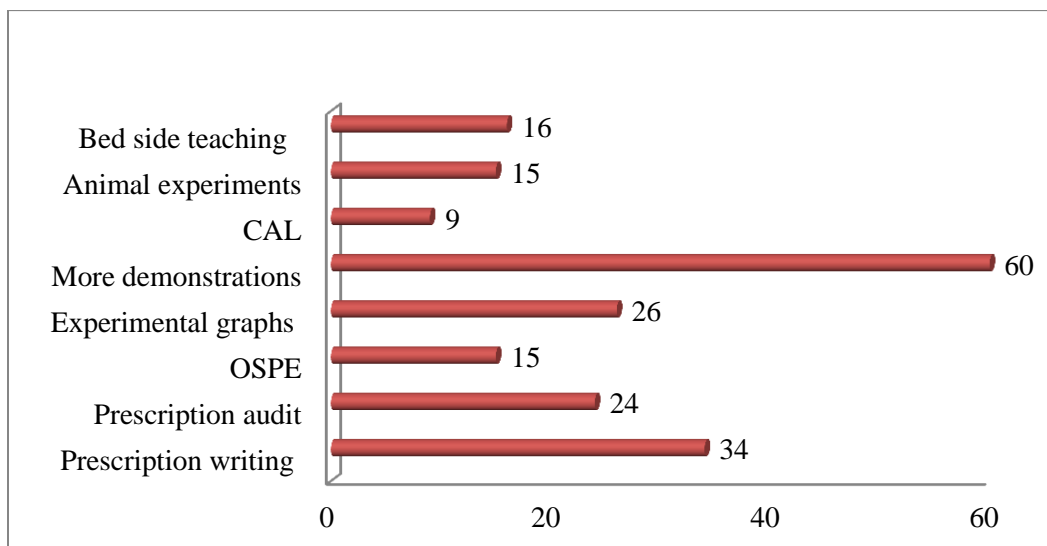


Table.1 Teaching methods preferred.



**Table.2 Reforms suggested in teaching methods**



**Table.3 Practical methods preferred (%)**

## DISCUSSION

Pharmacology as a subject is undergoing continuous development and is becoming an important component of all areas of medicine. Prescribing skills of newly graduated doctors largely depend upon good foundation in pharmacology. To acquire the prescribing skills it is important that medical students should understand the pharmacological principles and their clinical applications. Hence, reforms in undergraduate teaching are the need of the hour. Reviewing the teaching program at regular intervals and

modifications in the methodologies of imparting basic knowledge about drugs and drug therapies is a must. [7]

Learning in the 2nd year is the foundation on which a process of becoming a good professional is resting. Pharmacology is a medical science that forms the backbone of the medical profession as drugs form the corner stone of therapy in human diseases. There is a growing awareness that learner's views of their educational experiences are valuable in assessing the effectiveness of courses and teaching methods. [8]

In the last two decades, the importance of teaching evaluation has been emphasized in higher

education. Many Medical Schools have searched for ways to effectively and constructively evaluate performances of their faculty members. Teaching evaluation has been used to provide information for teachers on specific aspects of their teaching to help them improve their performance. The teaching evaluation system depends primarily on the students' evaluation of teaching methods and peer faculty reviews. [9]

Pharmacology is unique among basic sciences as students follow it from preclinical to clinical years and beyond. The knowledge of pharmacology is essential to ensure a scientific basis for rational therapeutic decisions. Understanding among students regarding the importance of pharmacology was evident as majority of the students considered it as one of the few most important subjects. In another study done at a private medical school in Malaysia, majority of the students agreed that pharmacology has created a knowledge base that will help them with the rational choice of drugs during future practice. [10]

The present study was undertaken to evaluate different existing teaching methods in pharmacology including overhead projector, PowerPoint presentations and traditional blackboard method and to find out the best method amongst them. As far as superiority of particular method is concerned, students preferred teaching method most interesting when chalk and talk combined with PowerPoint than

either method alone. Although earlier studies have inferred that traditional chalk and talk method is superior method than other methods, a study has pointed out that in PowerPoint presentations the ability to integrate the text and the pictures and images is a great advantage and improves the educative value of the subject. It is also suggested that although PowerPoint has some advantages, it reduces the interactive discussion between teacher and students. In the present study, students gave lot of suggestions and recommendations like inclusion of interactive lecture classes, training of clinical pharmacology and case based learning.

So, frequent feedbacks from the students will definitely help teachers to modify the curriculum and improvise themselves in teaching.

## CONCLUSION

According to subjective analysis of students the best method for teaching is combination of power point and chalk and talk. Also maximum number of students in their comments & suggestion recommended combination of blackboard and Power Point presentations whenever necessary. Students also gave suggestions regarding evaluation methods using multiple choice questions also. Hence there is always need for several such studies to make policy and changes in the teaching methods.

## REFERENCES

- [1]. Dr. Hanmant S. Amane, Dr. Shilpa N. Kaore and Dr. Suresh V. Vasvani, Evaluation of existing teaching methods used for lecture classes in pharmacology, *International Journal of Pharma and Bio Sciences*, 4(1), 2013, 193 – 198.
- [2]. Vineeta Sawhney, Mohammad Younis Bhat, Samina Farhat, Student Evaluation of teaching and assessment methods in pharmacology among MBBS students A questionnaire based study of pharmacology curriculum in undergraduate students, *International journal of Research in Pharmacology & Pharmacotherapeutics*, 3(4), 2014, 382-386.
- [3]. Vasundara K, Kanchan P, Pundarikaksha HP, Girish K, Prassana S, Jyothi R , An imperative need to change pharmacology curriculum: a pilot survey. *Indian Journal of Pharmacology*. 42, 2010, 420-4.
- [4]. Ruckmani A, The role of pharmacologists: Present and future (report), *Indian Journal Pharmacology*, 38(2), 2006, 145-6.
- [5]. Dr. Vibha rani, Dr. Kranti Tekulapally, Dr. Padmavathi, Dr. Simpson. G.B., Second year Medical students perception about pharmacology and teaching methodologies used: A questionnaire based cross sectional study, *Indian Journal of Basic and Applied Medical Research*, 5(4), 2016, 238-245.
- [6]. Muneshwar JN, Mirza Shiraz Baig, Zingade US, Khan ST, A Questionnaire Based Evaluation Of Teaching Methods Amongst MBBS Students, *International journal of Medical research and Health Sciences*, 2(1), 2013, 19-22.

- [7]. Prasad SR, Ravi H. Kudthni, Santhosh R., A questionnaire based study of students' opinion on the teaching and learning methods in pharmacology in a medical school of India, *International Journal of Basic and Clinical Pharmacology* 5(6), 2016, 2589-2593.
- [8]. Nagapati Prabhakar Bhat, SN Rao, Perceptions and suggestions of second year medical professional students of deemed health university about their teaching and learning process in pharmacology: an analytical study, *International Journal of Basic & Clinical Pharmacology*, 5(3), 2016, 763 -8.
- [9]. Shreemanta Kumar Dash, Shubhransu Patro, Basanta Kumar Behera, Teaching Methods and Its Efficacy An Evaluation by the Students, *Journal of the Indian Academy of Forensic Medicine*, 35(4), 2013, 321-324.
- [10]. Renu Agarwal, Nafeeza Mohd Ismail , Students' Perception of Teaching Methods in Pharmacology in a Malaysian Medical School, *Journal Of Clinical And Health Sciences*, 1(1), 2016, 16-21.