



OPINIONS OF MEDICAL UNDERGRADUATE STUDENTS ABOUT THE USE OF TEACHING AIDS IN PHARMACOLOGY LECTURES IN A RURAL MEDICAL COLLEGE - A QUESTIONNAIRE BASED STUDY

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ABSTRACT

There is a constant and rapid progress in the field of pharmacology. Pharmacology teaching faculty and also the students, both undergraduates and postgraduates, need to keep pace with the on-going progress in this field. In order to make learning by the students more effective, the appropriate use of teaching aids by the teaching faculty during lectures is very essential. The feedback from the students is as well important to review and revise teaching methodologies on a regular basis in medical institutions. Objectives to study the opinions of undergraduate medical students regarding the use of various teaching aids in pharmacology lectures for each system and thereby implement and improvise the lectures accordingly in order to improve the student learning. This is an observational, questionnaire-based study. The study was conducted in MBBS students (n=123) who completed their phase II. The questionnaires about various teaching aids for each system were distributed to the students and were asked to write their preferential teaching aid for each system in pharmacology. The data was analyzed and expressed in percentages. For all the 9 major systems which we included, the students preferred the combination of black-board and PowerPoint presentation (BB+PPT) followed by black-board (BB) alone and PowerPoint (PPT) alone, respectively, in the lecture classes. OHP with Black board combination (OHP+BB) and OHP alone were least preferred by the students. Since majority of the students preferred the combination of black-board and PowerPoint, black-board alone, and PowerPoint presentation alone, respectively, the teaching faculty of Pharmacology need to practice the appropriate use of teaching aids to deliver lectures in our institution. This may help the students to understand the subject better and carry out better practice of medicine in their future.

Key words: Teaching aids, Pharmacology lectures, System-wise, Perceptions.

INTRODUCTION

Pharmacology is an ever changing and ever challenging science. It is one of the basic subjects in the medical curriculum. Progress in this subject like any other branches of medicine, is happening with such rapidity that it has become a need and challenge for the teaching faculty to update their knowledge of the subject regularly as well as to improve the teaching methods and skills in order to impart knowledge to the students, for better understanding of the fundamentals of the subject. This knowledge when

applied clinically by the students would result in better management of patients in their future. Teaching methods are the means or ways that we use to teach material to our students. Our choice of methods depends on *what we want to teach* (content), *who we are teaching*, and the *level of competence expected*. Lecturing is probably the most widely used formal educational method in the world. The word "lecture" has its etymological roots in the Latin participle *lectus* (to read) [1].

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Teaching and learning are the active processes occurring simultaneously on a continuous basis. The old concept of teaching "know all" has to change to "know how and why" with emphasis on active learning [2]. Lecturing or large group teaching is one of the oldest forms of teaching. Lectures are an efficient means of transferring knowledge and concepts to large groups. They can be used to stimulate interest, explain concepts, provide core knowledge, and direct student learning. The other strength of lectures is the ability to support a complementary study of books or other material, by amplifying or explaining key points. However, they are not an effective way of teaching skills, changing attitudes, or encouraging higher order thinking. Students receive information but have little opportunity to process or critically appraise the new knowledge offered [3,4,5]. Concepts such as flexibility in learning, problem solving, critical thinking and independent learning are least recognized [6].

The mode of delivery and transfer of information in a lecture appeals particularly to those with strong verbal/linguistic skills. Presentation of the material in a variety of ways and format attracts the active participation of the students, which enhance their understanding and learning of the subject [7].

There are conventional and non-conventional teaching aids for supplementing the lectures. The conventional aids include blackboard and chalk with oral demonstrations and verbal dictations, while the non-conventional ones include more modern teaching aids, like overhead projectors (OHPs), power-point (PP) slides, white board, medical videos and animation clips [8,9].

Students' perceptions and attitudes regarding the different teaching-learning methods are important for further development of medical education in future [10]. The main objective of the this study was to find out the students' opinions about the use of various audio visual aids for delivering the pharmacology lectures for each major system at Adichunchanagiri Institute of Medical Sciences, Bellur, Karnataka.

METHODOLOGY

The present study is an observational, questionnaire-based study. It was carried out at

Adichunchanagiri Institute of Medical Sciences, Bellur, Karnataka between January and March 2015.

The study was conducted in undergraduate medical students who recently passed their MBBS phase II examination as they might have attended the lectures till the end of their phase II and also have complete idea of the teaching methods or aids which might have helped them to understand and retain the subject better. In the beginning, the purpose and procedure of the study was explained to the students and the informed consent was obtained. Then, the hard copies of the study were distributed to the students. The hard copies consisted of two sections: the first section for filling up the demographic details such as name, gender, and age of the student and the second section consisted of questionnaires to know the students' preferences of teaching aids such as, black-board (BB), overhead projector (OHP), PowerPoint presentation (PPT) and the combination of black-board and OHP (BB+OHP) and black-board and PPT (BB+PPT) for each of 9 major systems in pharmacology (Table). The data collected was analyzed by calculating the percentages for each teaching aid and for each system in pharmacology.

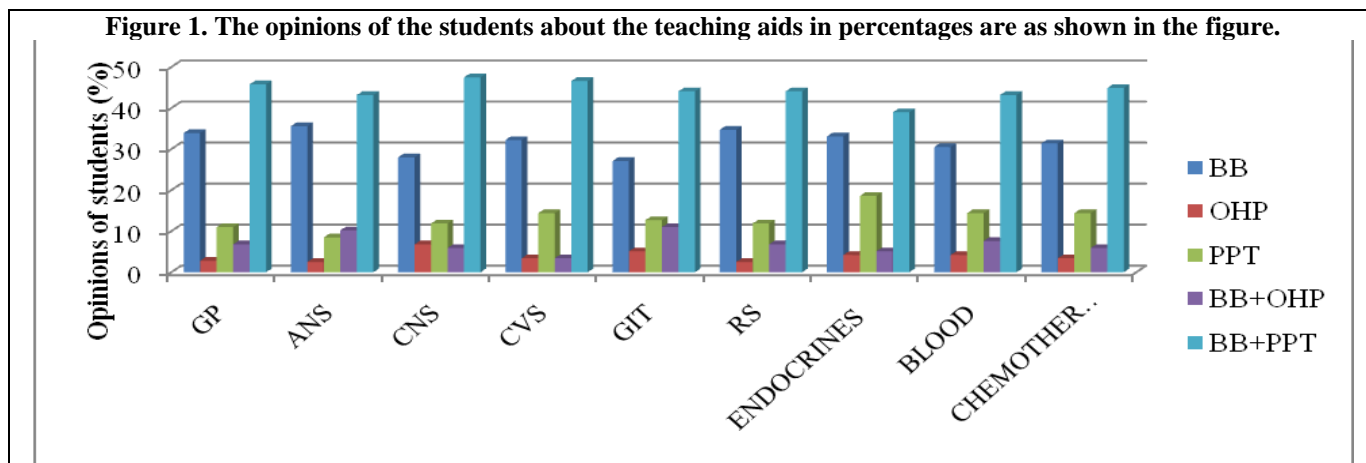
RESULTS

The data was collected from 123 students out of whom 67 were females and 56 were males. Five forms were excluded due to incomplete filling. The mean age of the students was 20.9 years.

We had included 9 major systems of pharmacology syllabus as shown in the table and had asked the students to give their opinions about the teaching aid which would be better to teach each system which helps to make the concepts clearer. Majority of the students opined that the combination of black-board and PowerPoint presentation (BB+PPT) as the most preferred teaching aid to teach all 9 major systems in Pharmacology. Next preference was for black-board (BB) teaching for all systems. PowerPoint presentation (PPT) alone was preferred third except for teaching Autonomic Nervous System (ANS). OHP and the combination of OHP and black-board (BB+OHP) respectively, were least preferred teaching aids. The opinions are as depicted in the table.

Table 1. The Number of Students Showing the Preferences for Teaching Aids for Each System in Pharmacology

Systems	BB	OHP	PPT	BB+OHP	BB+PPT
General Pharmacology (GP)	40	3	13	8	54
Autonomic Nervous System (ANS)	42	3	10	12	51
Central Nervous System (CNS)	33	8	14	7	56
Cardiovascular System (CVS)	38	4	17	4	55
Gastro-intestinal Tract (GIT)	32	6	15	13	52
Respiratory System (RS)	41	3	14	8	52
Endocrinology	39	5	22	6	46
Blood	36	5	17	9	51
Chemotherapy	37	4	17	7	53



DISCUSSION

In the present study, female students were slightly more in number compared to male students which could be due to more number of admissions of female students in our institution when compared to male students. The analysis of the results shows that the majority of students preferred the combination of power-point and black-board followed by black-board alone for delivering the lectures of all major systems of pharmacology. The reasons could be that power-point slides can display both text and audiovisual clips easily [11]. Whereas, blackboard facilitates the interaction between teachers and students, helps coping with teaching speed of teacher, and arousing interest in learning and holding attention in classes. It also is more helpful in grasping the content and facilitates an increased ability to think and understand [12]. The poor preference for OHP presentations could be due to the factors like illegible handwriting, improper use of marker pens, a small font, too much text which add to the poor presentation of transparencies leading to minimal attention span of students in transparency-based lectures [13].

Finally, the teacher's knowledge of the subject, preparation, and self-confidence while presenting the lectures along with optimal use of preferred teaching aids all will help to make the lectures effective and also effective learning by the students.

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CONCLUSION

For second year medical undergraduate students in the beginning, pharmacology is 'difficult to understand and remember' subject. Therefore, it is very essential for the teaching faculty to teach in a way as to make it easily understandable by the students. When they understand better, they retain and also apply the knowledge in real life situations better.

Since majority of the students preferred combination of black-board and power-point presentation and black-board also to teach majority of pharmacology topics it is necessary for the teaching faculty to practice the optimum use of these teaching aids in order to make the learning more effective and strengthen the basic knowledge for application of the same in clinical practice.

LIMITATIONS

As the study has been done in a small number of students, the results cannot be extrapolated to all medical students of all medical institutions.

ACKNOWLEDGEMENT

We are very grateful to all the students who participated in the study and friends who rendered their valuable co-operation and help.

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