



ORIGINAL RESEARCH PAPER

Pharmacology

EVALUATION OF ATTITUDE, PERCEPTION AND PREFERENCES IN PHARMACOLOGY TEACHING TECHNIQUES: A QUESTIONNAIRE BASED CROSS SECTIONAL STUDY

KEY WORDS: Questionnaire, Pharmacology, Powerpoint

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ABSTRACT	Objective: This study evaluates medical student's attitude and preferences in the methods of teaching in pharmacology to make the process of teaching more beneficial for the students.
	Methods: A questionnaire based cross-sectional study was conducted on 178 MBBS students and analysed.
	Results: 60% students found pharmacology useful, 25% found interesting. 40% students found lecture to be most useful method to learn the subject. The best method to memorise drug names were repeated revision and mnemonics (36%, 31% respectively). The most interesting chapters were CNS, CVS, ANS (22%, 20% & 20% respectively). According to students, the best method of teaching was through power point presentation followed by chalk and board (46%, 42% respectively). They preferred semester based subjective paper based examination as the best evaluation method (42%). 72% preferred teaching in both English and Hindi language. 78% students wanted lectures in the early morning time. Most of the students, 76% were satisfied with the exam results.
	Conclusion: Powerpoint method should be used more frequently for teaching. Students should be encouraged to actively participate in different academic activities. Innovative methods can be used to make the subject more interesting for students.

Introduction-

Pharmacology is one of the most interesting and scientific subject taught in II year of MBBS course. Knowledge of pharmacology is very crucial for safe and effective practice of medicine. Therefore an improved teaching methodology is very essential so that the students can learn the subject effectively. The subject undergoes constant update and is ever expanding feedback is very effective to improve on areas not so good and with positive attitude for improvisation. Various methods like didactic lectures, use of audio-visual aids, computer simulated animal experiments, problem based learning are being undertaken to make the subject interesting and easy. The evaluation of their knowledge is also done through periodical examination, multiple choice question, and oral and practical examination. Currently student feedback represents the primary means used by most programs to assess their methodology^[1-3]. Our study aims towards the perceptions and view of the medical students about pharmacology as a subject, evaluation process and their suggestion on teaching and learning pharmacology in future.

Material and Methods-

A cross sectional questionnaire based study was conducted by the department of pharmacology on MBBS II professional students 5th semester. Written informed consent was taken and confidentiality was maintained at all level. There were 11 questions and each had four choices. They were asked to give only one answer which they found most appropriate. SPSS version 17 was used to make tables and graphs. Percentage was calculated. Questions asked were about-

- 1) Opinion on pharmacology subject.
- 2) Type of teaching method students find useful.
- 3) Method used to memorise drug names.
- 4) Usefulness of student seminars.
- 5) Unit in pharmacology students find interesting.
- 6) Method of teaching students find most helpful.
- 7) Type of evaluation students prefer.
- 8) Students methods for preparing for exam.
- 9) Language students prefer during teaching.
- 10) Students opinion on their exam results.
- 11) Whether they find computer simulated exercises helpful in understanding animal experiments.

Result:- The questionnaire based cross sectional study was conducted on 178 MBBS students and analyzed. There were 90 boys and 88 girls.

60% students found pharmacology useful, 25% found interesting, 15% tough (fig. 1). They believed that a sound knowledge of the subject would help them in rational use of drugs in future. Students find lecture 40% to be most useful method to learn the subject, whereas 25% find tutorial to be useful (fig. 2).

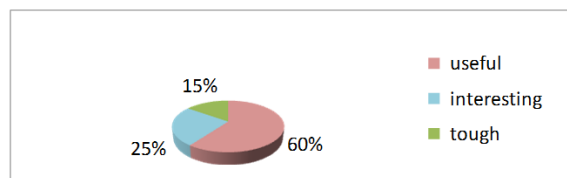


Fig 1: Opinion on pharmacology subject

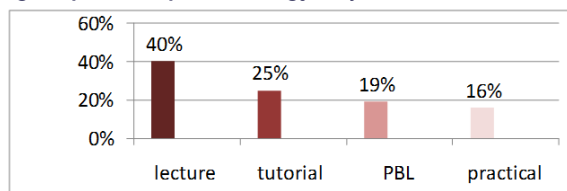


Fig 2: Type of teaching method students find useful

Interactive lectures with audio-visual aids and demonstrations and tutorials were considered interesting and useful respectively. On being questioned about the best method to memorise drug names they were of the opinion that repeated revision and mnemonics were the best methods for long term retention of drugs in memory (36%, 31% respectively) (fig. 3). Most were of the opinion that students seminars were useful tool for understanding the subject for both presenter and listener (fig. 4). The most interesting chapters were CNS, CVS, ANS (22%, 20% & 20% respectively) (fig. 5).

The best method of teaching students was through power point presentation followed by chalk and board (46%, 42%

respectively) (fig. 6). They preferred semester based subjective paper based examination as the best method, followed by MCQ based evaluation method (42%, 27% respectively) whereas lesser percentage wanted class tests & viva. (fig. 7). On preparing for examination they were of the opinion that a combination of list text book and class notes (30%) (fig. 8).

Most of the students wanted a mix of English and Hindi (72%)(fig. 9) to be used during teaching so that they comprehend the subject better. Most of the students studing in this college is from Hindi speaking background so they find themselves more at ease. Most of the students were satisfied 76% (fig 10) with the exam results. They considered the examination system fair.

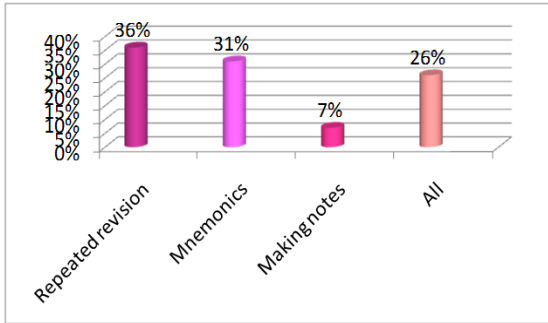


Fig.3 Methods used to memorise drug names

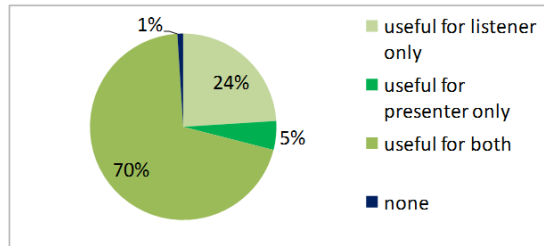


Fig 4: Usefulness of student seminars

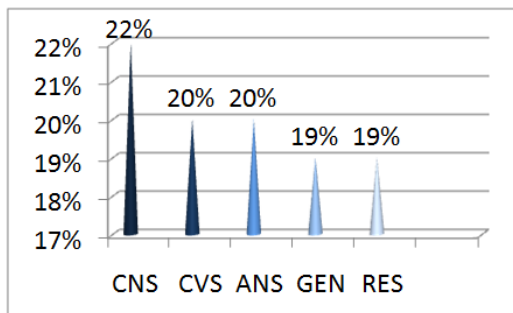


Fig.5: Unit in pharmacology students find interesting

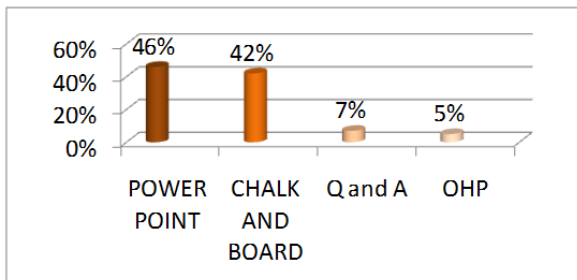


Fig.6 Method of teaching students find most helpful

Lectures they wanted in the early morning time (78%) (fig. 11) as compared to afternoon and evening. Regarding use of animals for practical demonstration of concepts of the subject they were of the opinion that computer simulation was an alternative and helpful in understanding animal experiments (fig. 12).

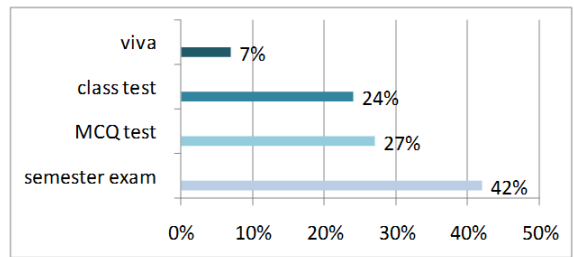


Fig.7 Type of evaluation students prefer

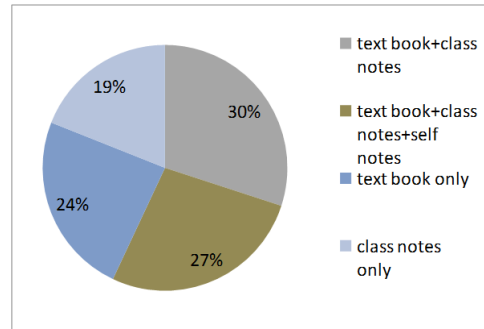


Fig.8 Student's methods for preparing of exams

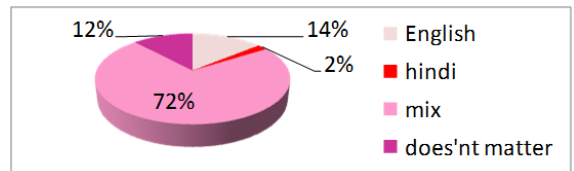


Fig.9 Language students prefer during teaching

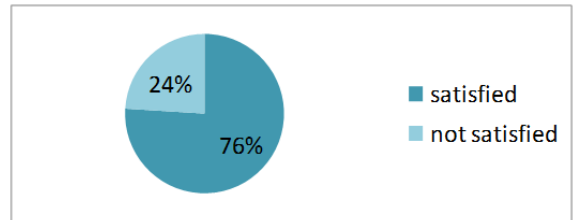


Fig10. Student's opinion on their exam results

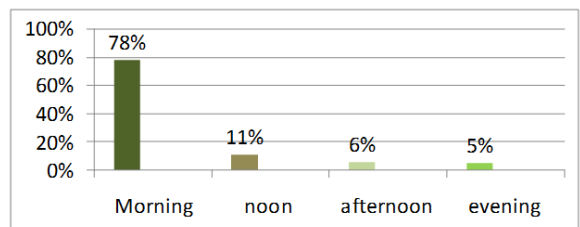


Fig.11 At what time of the day students like to take the lectures

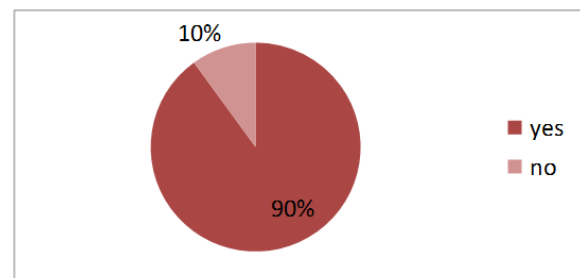


Fig. 12 Find computer simulated exercises helpful in understanding animal experiments

Discussion:-

Medicine is a progressive discipline for medical graduates who are going to be future doctors. It is important that these graduates have proper clinical orientation, pharmacological principles and apply them in the practice of medicine^[4]. In the past decade a number of educational programmes have been developed in different institutions.

Total students enrolled in the study were 178 with male to female ratio in 1:1. Their response rate was very high which showed great interest of medical students in the subject pharmacology which was also seen in the study done by Mehta et al^[5]. Students find lecturers to be the most useful method of teaching so it is our duty to make the subject more useful and interesting with the use of audio-visual aids along with repeated revision of the chapters and use of mnemonics to memorise difficult names will be helpful. Most of them preferred interesting teaching method through seminars, power point presentation^[6]. Through power point presentation we can save time of drawing diagrams on board which can be utilized for teaching and discussing the subject. This opinion was also expressed by other fellow researcher^[7]. One such study disagreed with our study where the students wanted chalk and board as the preferred method^[8].

The students preferred both teachers notes and text book as the preferred material for students. According to other study the most effective lectures were ones where teachers notes were supplied that could be annotated during the lecture^[7].

Regarding the examination system they preferred semester based examination. Most of them were satisfied with the exam result whereas in another study they preferred MCQ based evaluation method^[9]. Majority preferred the lectures to happen in the morning hours when the grasping power of the brain is at its optimum.

Conclusion:- Pharmacology is an evolving subject in medical sciences. So pharmacologists need to evolve teaching and learning methodologies. Problem based learning, use of audio visual aids and clinical pharmacology is key to its reforms. The limitations of our study is the single time feedback, which may not be enough to arrive at a definite conclusion. Long term analysis and heterogeneous group of students will provide us more information.

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