

SURVEY ON OPINION OF INTERNS TO CHANGE THE PRACTICAL PHARMACOLOGY CURRICULUM USEFUL FOR GOOD CLINICAL PRACTICE

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ABSTRACT: The practical pharmacology curriculum includes pharmacy and experimental pharmacology practicals since very long time. Even though changes were made in between they were not useful for the students in implementation of their knowledge in their future clinical practice. Most of the teaching faculty feels that the curriculum should be drastically changed according to the need of the time. It should include teaching of essential skills that will help the students select the medicines safely and effectively throughout their professional life.[1]Most of the students never give a thought whether the pharmacology practicals taught in their UG medical course are helpful in their future practice. So a survey was done on Interns whether they want any change in practical pharmacology curriculum which is help full for their future good clinical practice.

Key Words: Curriculum, Good clinical practice, Internees, Practical pharmacology.

INTRODUCTION

Experiments to reform the medical education are being attempted all over the world [2] .It has been generally felt that pharmacology course in medical schools has failed to keep pace with the rapid changes and requirements of clinical practice [3] .Dispensing pharmacy and experimental pharmacology has remained the cornerstone of conventional pharmacology practical exercises. Clinical utility and relevance of these practical exercises have always been questioned and criticized [4]. Pharmacology is a basic and applied science that forms the back bone of rational therapeutics. The main objective of teaching pharmacology is to enable undergraduate medical students to take rational therapeutic decisions in clinical practice. However, this present curriculum is not reaching the above goal. The subject is taught with high factual information rather than therapeutic skills [5]. To replace the above and to make the subject attractive and useful, we need to design new pharmacological practical sessions for our undergraduates. These new experiments ought to be of use in good clinical practice [6].Such changes will bring the interest of the medical students back to our subject [7].Keeping these in mind, this study was launched to identify areas where useful practical exercises in

Pharmacology can be introduced by interrogating (or) obtaining opinion of Internees who has completed MBBS course and are going to practice in future. The main focus is whether the knowledge they obtained or exposed to the pharmacology practicals are helpful for their future good clinical practice or is there a need to change the curriculum of experimental pharmacology.

Material and Methods:

A pre-tested questionnaire was designed and given to Internees (n =110) working in various departments in Mamata General Hospital, Khammam. They were instructed to fill in and make suggestions according to the options given in the questionnaire. Participants were also encouraged to offer their suggestions about the ideas of new pharmacological skills useful for good clinical practice. The completed questionnaires were collected and assessed with the help of faculty. The following questionnaire was given and opinion was taken

1. Do you think the present pharmacology practical curriculum is adequate and useful for good clinical practice?
 - A) No
 - B) **To some extent**
 - C) Yes

2. Do you think, the knowledge gained in pharmacy practicals is helpful to you in patient care?
- A) No
B) **To some extent**
C) Yes.....If yes, Specify how?
- 3) Do you think **dispensing pharmacy practical** should be removed from the curriculum and replaced with something else?
- A) No
B) **Yes**
- 4) Do you find **experimental pharmacology** interesting and useful in understanding the pharmacology?
- A) **No**
B) Yes
- 5) According to recent guidelines, the **animal studies** in medical college are banned [8, 9], does it affect the student's understanding of the pharmacology?
- A) **No**
B) Yes
- 6) If yes, what **better alternatives** can be developed in that case?
- A) Only theory is sufficient
B) Computer simulated experiments
C) **Bed side / Live case discussion**
D) Others, Specify: _____
- 7) According to your opinion, which area of pharmacology would have been emphasized more in practicals that would be helpful in **patient care**?
- A) **Dose calculation / Routes of drug administration / Brand names of drugs**
B) Adverse drug reaction
C) Emergency medicine
D) Others, Specify: _____
- 8) Whether any **additional practical exercises** should be implemented?
- A) No
B) **Yes**..... If yes, Specify _____
- 9) Do you suggest the following exercises to be implemented to your regular pharmacology practicals? Please tick (OR) encircle the option

SL.NO	NAME OF THE EXERCISE	Yes	No
1	Use of emergency drugs		
2	Dosage calculation		
3	Drugs used in Pregnancy		
4	Case discussion		
5	Trade names of emergency drugs		
6	IV Fluid selection & Precautions		
7	Animal experiments		

Results and Discussion:

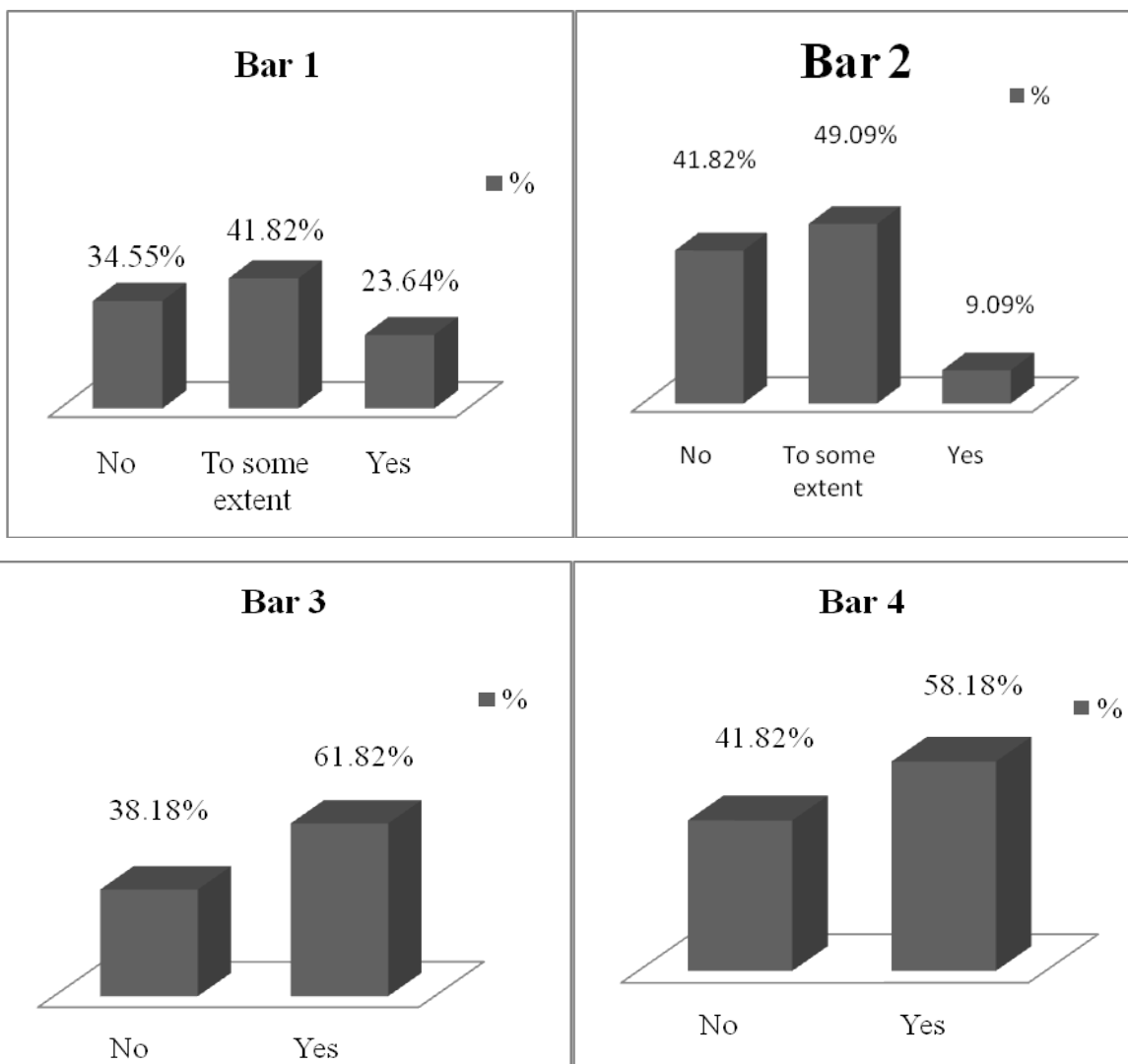
42% of the participants opined that the present pharmacology practical curriculum is adequate and useful for good clinical practice only to some extent, 34% say no and only 24% say yes. [Bar 1].49% opined that the knowledge gained in pharmacy practicals is helpful to them in patient care. Only 9% say yes but 42% of participants say that the knowledge gained is not useful in patient care. [Bar 2] Majority of the participants opined that dispensing pharmacy practical should be removed from the curriculum and replaced with something else. [Bar 3] 58% of participants find experimental pharmacology not interesting and not useful in understanding the

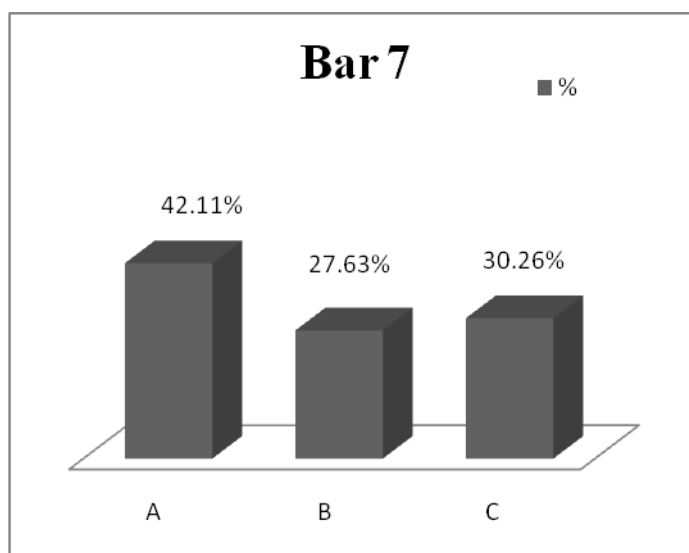
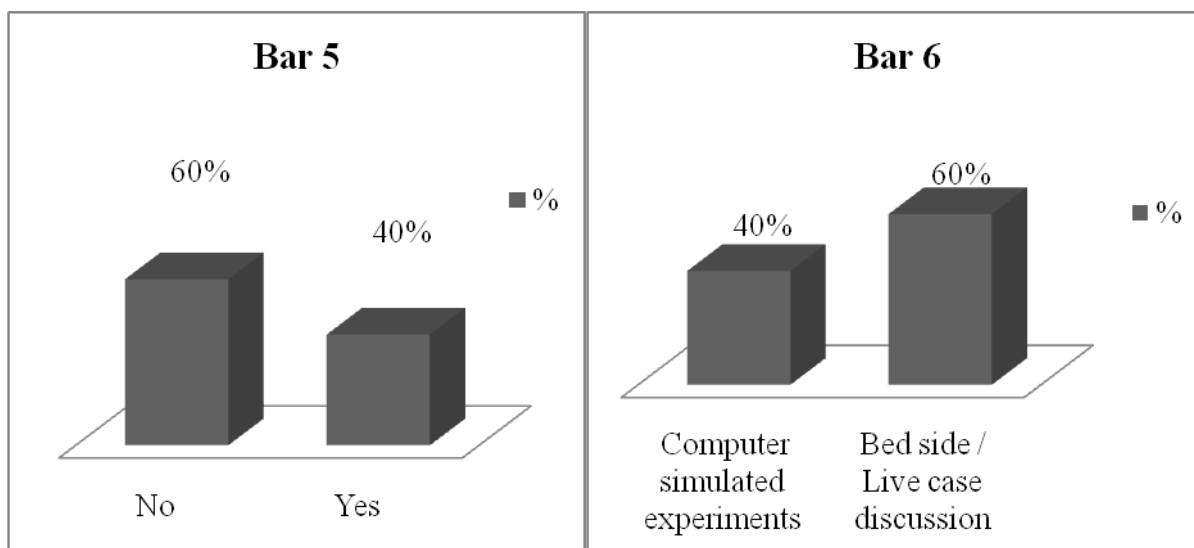
pharmacology.[Bar 4] 60% participants opined that banning of animal studies in medical college does not affect the student's understanding of the pharmacology. [Bar 5] 60% participants expressed that Bed side or Live case discussions are better alternatives to present practicals.40% students opined that Computer simulated experiments are better alternatives.[Bar 6] 42% participants say that dose calculation , routes of drug administration / brand names of drugs should be emphasized more in practicals that would be helpful in patient care where as 28 to 30 % say that adverse drug reactions and emergency medicine should be emphasized more in practicals that would be helpful in patient care.[Bar 7]Various opinions were given for the implementation of the following exercises to regular pharmacology practicals. [Table 1]

Table 1 – Newer exercises to be Implemented

SL.NO	NAME OF THE EXERCISE	YES	NO
1	Use of emergency drugs	94.54%	5.45%
2	Dosage calculation	89.09%	10.90%
3	Drugs used in Pregnancy	90.91%	9.09%
4	Case discussion	90.91%	9.09%
5	Trade names of emergency drugs	80%	20%
6	IV Fluid selection & Precautions	96.36%	3.64%
7	Animal experiments	41.82%	58.18%

BAR DIAGRAMS





Pharmacology is a basic and applied science that forms the back bone of rational therapeutics. The existing practical curricula, both experimental pharmacology and dispensing pharmacy, have become inadequate in preparing the medical students for clinical practice [4]. In view of this, this study was conducted to identify areas where useful practical exercises in Pharmacology can be introduced by obtaining opinion of Internees who are going to practice in future. They would also know their current difficulties in clinical practice and hence, can easily identify the pharmacological skills which would remove these difficulties. Experimental Pharmacology involves testing of drugs on small animals – mice, rats, guinea pigs, rabbits and frogs. Either the whole animal or one of its isolated organs / tissues is utilized for this purpose. There is an urgent need for rethinking on the continued use of these experiments. [3] Animal experiments were not

favoured by the majority. A full pledged basic doctor with knowledge of handling routine common diseases and emergency conditions and therapeutic skills is the main purpose of the undergraduate medical curriculum. The practical training to be imparted should be relevant to achieve the above goals. Even though some of the experts prefer animal experiments, the rules and regulations put forth by the CPCSEA made it difficult in continuing with them as a part of practical training. Earlier studies suggest that video clippings of live experiments can be an alternative for the animal experiments [9]. So the present curriculum should be replaced with some new exercises. Use of emergency drugs, drugs used in pregnancy and I.V fluid selection and precautions has got high support from the participants. Participants felt that exercises on dosage calculation, routes of drug administration and pharmacovigilance are more important and helpful for

good patient care. In a previous study, students expressed their opinion favoring case studies and treatment [10]. One study [11] has confirmed the declining support for the animal experiments. They suggested Algorithms based on evidence based clinical practice studies and also emergency medicine which should be covered by the new practical exercises. Key scientific concepts and information with a sound scientific base should be introduced first then gradually to the more clinically applied knowledge. There is need to train students about the critical evaluation of drug promotion. Teaching about pharmacoeconomics, pharmacogenomics and pharmacovigilance are useful [12] The results of our study shows that most of the participants 80 to 96 % are in favor of introducing newer exercises like Use of emergency drugs, Dosage calculation, Drugs used in Pregnancy, Case discussion ,Trade names of emergency drugs, Intravenous fluid selection and Precautions.

CONCLUSION

Present pharmacology practical curriculum was not relevant for clinical practice. This study has identified the practical pharmacology exercises which will be useful for improving one's clinical practice. These exercises will be more dynamic, novel, interesting and interactive. Skills required for therapeutic reasoning and prescribing should be addressed and taught in a structured way. Thus our study supports the view that there is a need to introduce radical changes in the practical pharmacology curriculum which imparts the practical knowledge for the doctors of tomorrow to render better health service. The importance of research methodology and Pharmaco-economics should be high lightened to the undergraduates during their stay in pharmacology.

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