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Research Article

A study on the feedback of the second professional MBBS students of Jawaharlal Nehru Institute of Medical Sciences, Manipur, India on the teaching - learning methodologies in pharmacology

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ABSTRACT

Background: Pharmacology is an important subject of MBBS course. The teaching- learning materials, methodologies and the way of learning needs updating according to the ever-changing and ever expanding subject. Then the students can write good and correct prescriptions for rational use of drugs.

Methods: The study is a cross sectional study which will be conducted among the second professional MBBS students within six months.

Results: Out of 102 students, 94 students expressed that the pharmacology is their favourite subject which will help in the rational prescription of the drugs in future. Therefore, teaching and learning of pharmacology may be started as soon as possible and the teaching should be more emphasized on problem solving exercise. Most of the students opined to study the subject with recent advance findings throughout the MBBS course so that they can choose the specific drugs for the particular diseases during the clinical practice.

Conclusions: Periodically assessing the activities of the students during the teaching-learning period and also the performance of the students during the examinations is mandatory.

Keywords: Pharmacology, Integrated teaching, Interacting lectures, Problem based teaching, Continuing medical education

INTRODUCTION

Pharmacology is an important branch of medical science which keeps on changing with findings of pharmacokinetics (PKN), pharmacodynamics (PDN), adverse effects (ADR), etc.

This subject requires various teaching-learning methodologies like didactic lectures, use of audio-visual aids, videos, computer simulated animal experiments, prescription writing, case-problem oriented teaching etc. So that students become familiar with the drug nomenclatures, PKN, PDN and ADRs and the rational use of drugs for various diseases. The methodologies of teaching learning that the Department follows need to be assessed periodically so as to improve the methods of teaching. Therefore, the student feedback along with perception of the teaching-learning of the students

represents the primary means for the programmers/teachers to assess the quality of their methodologies of teaching with merits and demerits.⁵

The objective of this study was to assess the likes and dislikes of the students about the present teaching learning methodologies and also to find out the good teaching learning methods for the rapidly updating subject.

METHODS

The study is a cross sectional study which will be conducted among the second professional MBBS students within six months. They are briefed about the aims and objectives of the study. The informed verbal consent is taken and thereafter the students are asked to fill up pre-validated and anonymous questionnaires.⁶

The inclusion and exclusion criteria are

Students present on the day of conducting the study, students who consent to fill up questionnaire, students who returned the questionnaire after responding; and students absent on the day of conducting the study, students who refused to fill the questionnaire, students who did not return the questionnaire.

The sample size and sampling is the universal coverage and census method. Then there is the statistical analysis with the available data by using counts, percentages and frequencies. The approval of the institutional ethical committee approval is also obtained.

RESULTS

There are 24 questionnaires (5 questions - yes/no type; 15 questions - multiple choice type; 2 questions - serialising the preference type; 2 questions - comment /opinion type) by examining the response/answer to/of the questionnaires the following results are found.

Out of 102 students, 94 students expressed that the Pharmacology is their favourite subject which will help in the rational prescription of the drugs in future. Therefore, teaching and learning of pharmacology may be started as soon as possible and the teaching should be more emphasized on problem solving exercise. Most of the students opined to study the subject with recent advance findings throughout the MBBS course so that they can choose the specific drugs for the particular diseases during the clinical practice.

Only 64.6% of students regarded that pharmacology is an interesting, useful and compulsory subject as when compared with other subjects. Without the knowledge of Pharmacology the students cannot become a full-fledged doctor and also cannot write good and rationalised prescription. Therefore the duration of study should not be less than 2 years.

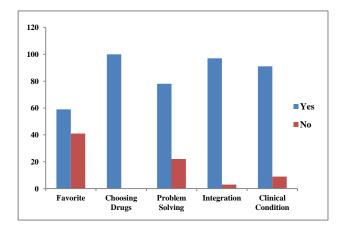


Figure 1: Opinion on subject.

Only 96.9% of students expressed their desire on learning in the methods of integration (91.1%) with other subjects particularly on simultaneous and horizontal methods by giving emphasis on problem solving exercise (77.8%) rather than on didactic lectures (2.5) (Figure 1).

Students opined the usefulness of the present teaching-learning methodologies - didactic lectures (2.5%), A-V aided lectures (32.1%), demonstration and tutorial (9.9%), interactive lectures (38.3%) experimentation (17.3%). They also expressed about the usefulness of the additional methodologies-group discussion (22.1), seminar (16.3%), case base learning (36.0%), quiz (12.8%), and tutorial (12.8%) (Figure 2).

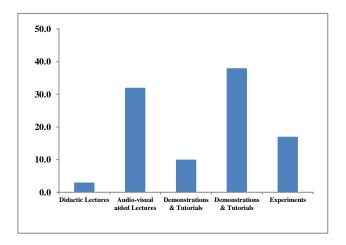


Figure 2: Teaching methods.

Students answered about the interest in practical teaching as such prescription writing (11.5%), clinical exercise (27.6%), drug interaction (23.0%), experimental graphs (5.7%), pharmacy exercises (1.1%) animal experiments (31.0%). Further the student opined about practical teaching may be useful in future as such - prescription writing (13.4%), clinical exercise (37.8%), drug interaction (46.3%), pharmacy exercise (2.4%) (Figure 3).

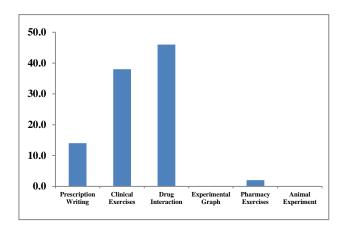


Figure 3: Usefulness of the subject in future.

Students wished to have the method of evaluation of their performances during the examination in the form of combination of written and viva voce (78.9%), viva (3.2%), midterm test exam (5.3%), class test (8.4%) (Figure 4).

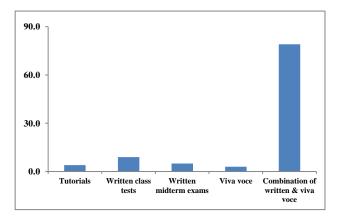


Figure 4: Evaluation methods.

Most of the students wanted to study pharmacology by reading regularly good standard text book (50.6%) having good explanation with good examples and illustrations for understanding the topics with the supplementation of good class notes (22.8%) (Figure 5).

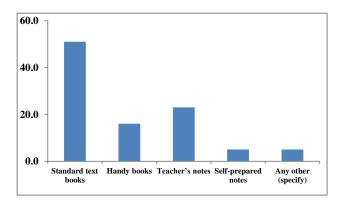


Figure 5: Study materials.

Students who expressed their desire in teaching-learning methodologies are interactive lectures (38.3%), case base learning (36%), discussion in class (43.8%), and practice with animal experiment (31.0%).

As there is introduction of many new drugs in the market by the MNCs and many old drugs are withdrawn from the market on the basis of ADRs/ADEs by the drug controlling authority, the teaching - learning of pharmacology will be an important subject in the CME (continuing medical education). Therefore, the percentage of students who like to have orientation course (46.1%) and drug interactions (46.2%), personal interaction with the pharmacologists (36.4%) are also analysed.

The students desire to learn general pharmacology first so that they can understand the individual chapters like ANS, CVS followed by autacoids, CNS etc. and lastly the chemotherapy. The topics are serialised by the students according to their interest, choice or best order of learning and teaching - general pharmacology (86%); ANS, diuretics, CVS (84%); autacoids, CNS, respiratory system, GIT, chemotherapy (82%); endocrinology (80%). The comment of the students on the quality of a good teacher is to make the student to understand the topic with clinical examples having extensive interactions on clinical based problems. The methodology of teaching - learning desired by the students is based on short topic with more discussion, tutorial type, examination oriented questions and answers with demonstration on experiments. Over and above the teaching learning will be supported there with seminars, regular part completion tests.

DISCUSSION

The teaching learning of pharmacology and the application of the knowledge gained during the learning of pharmacology will be very much helpful in practice in future. Otherwise there will be irrational use of drugs during the practice of medicine. The importance of this subject is well accepted by the majority of the students who mentioned pharmacology as their favourite subject and also agreed that the knowledge of pharmacology is essential for future practice. The present result on the feed-back of the students supported the findings of Tikoo D et al and Deo SK.^{6,7} Students wish to learn the topics in the following orders general pharmacology, ANS, CVS, chemotherapy because the knowledge of the topics is essential in future and the least favourite topics are autacoids, GIT, respiratory, diuretics which are mandatory.4 Therefore, more efforts are required to make the latter topics interesting for the students.

Interactive lectures with active two way communication was the most preferred and interesting way of learning pharmacology. Student preferred hand-outs of the topics to be distributed beforehand so that they could read and come prepared in the class. It again supported the findings of Tikoo D et al.⁵ This will increase the communication between the teacher and students, and retention of the subject matter to the student. Many students want to discuss the case reports along with the routine pharmacology teaching. This support the findings of Sawhney V et al.⁶⁻⁸

Students feel that prescription writing, clinical exercises, drug interactions which were taught to them during practical class of pharmacology are very important as these enhance their clinical skill. Over and above these, the CME/orientation course along with recent advance will be very much essential after the second professional course. The findings of a few experts on medical education indicate that the orientation training/class in clinical pharmacology is mandatory during the internship period so that the intern doctors can write prescription on rational use of drugs. The present study support findings. Regular test, viva voce and tutorial help students to learn pharmacology and retain the knowledge of the subject better. Inclusion of MCQ in the teaching learning will

help the student in PG entrance examination as a part of written test was suggested by the students. ¹⁰ As the students expressed the standard textbook as their important learning material in place of the lecture and class notes, teachers shall prepare lecture and class note exclusively to the points of examination and understanding.

CONCLUSION

Teachers of pharmacology may change the methodologies of teaching and accordingly insist the students to change the method of learning also because the subject is ever changing and ever expanding.

Therefore, regular feedback about the teaching learning methodologies of the teachers and assessment of the performance of the students is mandatory in the interest of the learners and teachers.

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Ethical approval: The study was approved by the

Institutional Ethics Committee

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