

## Perceptions and suggestions of second year medical professional students of deemed health university about their teaching and learning process in pharmacology: an analytical study

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### ABSTRACT

**Background:** The teaching learning process in 2<sup>nd</sup> year medical professional course is crucial. Learning in the 2<sup>nd</sup> year medical students acts as a foundation on which a process of becoming a good professional is resting. Pharmacology is a medical science that forms a backbone of the medical profession as drugs form the corner stone of therapy in human diseases. So, in order to assess the strength of the pharmacology curriculum and students' learning experience, collection of the students' feedback is important so that necessary reforms can be implemented for the betterment of teaching/learning of the subject. Objective of this questionnaire based study was conducted to determine the perceptions of 2<sup>nd</sup> year medical professional students about various aspects of their teaching and learning, in order to make teaching more effective and enable students to learn better.

**Methods:** This was a questionnaire based analytical study. The first part of the questionnaire contains respondent's general information. The second part of the questionnaire was in multiple choices format with a space for suggestions/remarks. The response was reviewed and analysis was done.

**Results:** Out of total 180 students, 111 were able to complete the survey. Out of them 2 were not filled the first part of the questionnaire (respondent's general information). Out of 109 duly filled questionnaires 43 were males and 66 females and the mean age of the students was 20 years. Majority of the students found Pharmacology to be the most relevant and useful subject in further profession and future. About teaching learning media in understanding the subject in theory class majority of students preferred combination of chalk and board as well as power point presentation (PPT). Regarding the reforms to be made in the curriculum, majority of the students opined that group discussions should be introduced. Regarding preparation for annual university exams most of students felt class tests were useful.

**Conclusions:** This study has helped us in knowing the student preferences regarding pharmacology teaching and its outcomes would be helpful in modifying undergraduate pharmacology teaching pattern.

**Keywords:** Pharmacology, Feedback, Teaching, Learning, Perception

### INTRODUCTION

The teaching learning process in 2<sup>nd</sup> year medical professional course is crucial; because this is the time the students are taught about patho-physiological concepts of diseases and their treatment and come across patients in the clinics. In short, learning in the 2<sup>nd</sup> year professional students acts as a foundation on which a process of becoming a good professional is resting. Moreover, the curriculum and trends in medical education are changing rapidly. Needs of students are changing and role of educators is being redefined at the same time. One has to

keep pace with the ever changing needs of the students and changing trends. So, if the needs of the students are considered while carrying out teaching, the process of teaching-learning can be made effective. So, we tried to find out the gaps, if any, by taking students' feedback, in the 2<sup>nd</sup> professional medical students about their teaching and learning process in our subject (pharmacology) and sought suggestions from them for strengthening teaching and learning of pharmacology.

Pharmacology is a medical science that forms a backbone of the medical profession as drugs form the corner stone

of therapy in human diseases. Therefore, it is of utmost importance to describe the pharmacological basis of therapeutics in order to maximize the benefits and minimize the risks of drugs to the recipients.<sup>1</sup> The primary objective of teaching pharmacology is to enable undergraduate students to take rational therapeutic decisions in clinical practice.<sup>2</sup> Pharmacology is a crucial discipline for medical students who are going to be future doctors. It is important that medical students appreciate Pharmacological principles and are able to apply them in the practice of medicine.<sup>3</sup>

There is a growing awareness that learner's views of their educational experiences are valuable in assessing the effectiveness of courses and teaching methods.<sup>4</sup> Furthermore, reviewing the teaching program at regular intervals and modifications in the methodologies of imparting knowledge is a must. So, in order to assess the strength of the pharmacology curriculum and students' learning experience, collection of the students' feedback is important so that necessary reforms can be implemented for the betterment of teaching/learning of the subject.

The objective of this questionnaire based study was conducted to determine the perceptions of 2<sup>nd</sup> year medical professional students about various aspects of their teaching and learning, in order to make teaching more effective and enable students to learn better. Suggestions in the form of responses to open ended questions were also received from them.

## **METHODS**

A questionnaire is said to be standardized when each respondent is to be exposed to the same questions and the same system of coding responses. The aim here is to try to ensure that differences in response to questions can be interpreted as reflecting differences among respondents, rather than differences in the processes that produced the answers.<sup>5-7</sup>

Standardized questionnaires are often used in the field of educational planning to collect information about various aspects of school systems. The main way of collecting this information is by asking people questions-either through oral interviews (face to face or telephone), or by self-administered questionnaires, or by using some combination of these two methods.<sup>8-10</sup>

Study conducted in department of pharmacology, Yenepoya Medical College, Yenepoya University, Mangalore.

The time period of this study period 01/10/2015-30/10/2015. And the design of this study was questionnaire based analytical study. The participants of this study was 2<sup>nd</sup> year medical (MBBS) students of Yenepoya Medical College affiliated to Yenepoya University, Mangalore, Karnataka, India.

The sample of this study was taken MBBS- 180 students who are currently in 2<sup>nd</sup> year.

## **Methodology**

A structured validated questionnaire consisting of 13 questions having 2-5 options with a space for suggestions/remarks was developed from the previous studies that assessed the feedback of second year medical students on teaching learning methodology and evaluation methods in pharmacology.<sup>11,12</sup> After getting approval from the institutional ethics committee (IEC) the questionnaire forms were distributed to the 2<sup>nd</sup> year medical students. Participation in the study was voluntary. Informed consent was taken from the students prior to the study. Students were asked to tick/mark the options whichever they feel most appropriate and also asked to be truthful and unbiased in answering the questions and give remarks and suggestions in the related questions. Sufficient time (10-15 minutes) was given to the students to complete questionnaire. The completed questionnaires were collected and analysed.

## **Inclusion criteria**

2<sup>nd</sup> year medical (MBBS) students of Yenepoya Medical College affiliated to Yenepoya University, Mangalore, Karnataka, India.

## **Exclusion criteria**

Not willing to participate or to give the consent.

## **Analysis**

The results were expressed as percentage response from the total as 100%.

## **RESULTS**

Out of total 180 students, 111 were able to complete the survey. Out of them 2 were not filled the first part of the questionnaire (respondent's general information). Out of 109 duly filled questionnaires 43 were males and 66 females and the mean age of the students was 20 years.

38% of the students found forensic medicine to be the most interesting subject in 2<sup>nd</sup> year followed by pathology (24%), pharmacology (22%) and microbiology (5%). 71% of students opined that they know about pharmacology before it was introduced to them in 2<sup>nd</sup> year, whereas 29% students said that they don't know Pharmacology before it was introduced to them in 2<sup>nd</sup> year MBBS. Regarding their opinion about pharmacology 39% expressed that the subject is very useful and interesting and 33% students expressed that pharmacology is useful but boring, 25% of them opined that the subject is interesting but cramming. 49% of students felt that pharmacology practical's were most interesting followed by lectures (20%), integrated teaching (16%) and tutorials (9%). About studying

pharmacology 34% of the students prefer reading lecture notes and text books combined together, 17% prefer own notes after referring lecture notes, text books, seniors' notes, etc. But most of the students (48%) preferred text book only. Regarding pattern of study in pharmacology 32% said that it was regular because of tests/viva/tutorials.

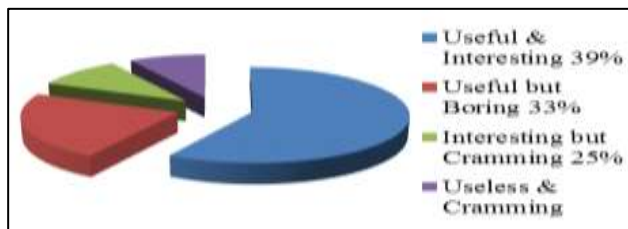


Figure 1: Opinion about pharmacology.

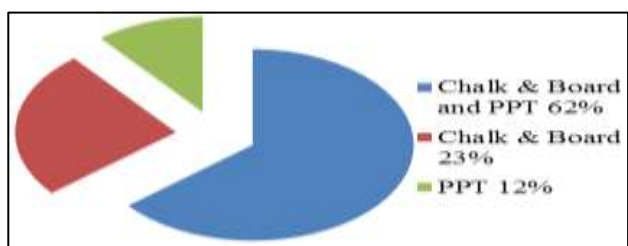


Figure 2: Teaching learning media.

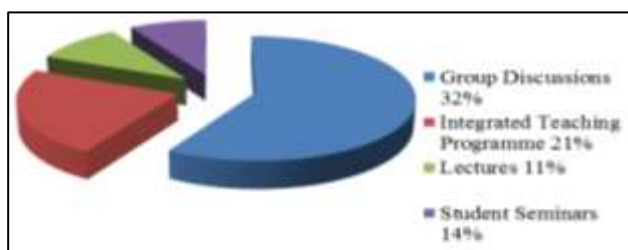


Figure 3: Reforms to be made in curriculum.

The students who study only for final exams are also 32%. The students who study pharmacology regularly for gaining more knowledge are 24%, only 12% students are regular because of interest in it. Regarding rating of pharmacology lectures 82% students opined that some are interesting and some are boring, where as 7% of students said that always interesting and 7% expressed as always boring. About teaching learning media in understanding the subject in theory class 62% students preferred combination of both chalk and board as well as power point presentation (PPT), whereas 23% students preferred conventional chalk and board and 12% students preferred power point presentation (PPT). Regarding practical's in pharmacology 79% students opined that combination of pharmacy practical and clinically oriented exercises were helpful, where as 6% students opined only pharmacy practical's and 10% students opined only clinically oriented exercises. Regarding the reforms to be made in the curriculum, 32% students opined that group

discussions should be introduced, 21% students suggested that more integrated teaching programs should be used. Increase in number of lectures suggested by 11% of students, where as 14% asked for inclusion of more Student seminars. Regarding evaluation methods for examination in pharmacology 41% of students felt that it should be in written examination only, 19% of students felt that it should be MCQ test only, where as 19% agreed for persisting type. Regarding preparation for annual university exams 57% of students felt class tests were most useful, followed by internal assessment (19%), assignments (11%) and tutorials (3%). Regarding rating of pharmacology in comparison to other II MBBS subjects, 82% of students opined that pharmacology is most relevant and useful subject in further profession and future.

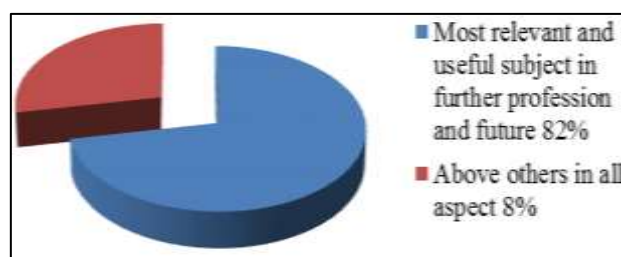


Figure 4: Rating of pharmacology in comparison to other 2<sup>nd</sup> year subjects.

About 8% opined that pharmacology is above others in all respects.

## DISCUSSION

Pharmacology is a subject which has to be learned thoroughly in order to treat the patients. It serves as a foundation stone for clinical practice. Majority of the students endorsed of Pharmacology being their favourite subject in basic sciences and that the knowledge of the subject would help them in choosing drugs rationally in future practice as suggested by Theo that undergraduate training should lay the foundation for choosing and prescribing drugs rationally.<sup>13</sup> Feedback (bilateral) is an essential component of medical education and a powerful tool which if used correctly can give wonderful results, however there are certain recommended techniques which can be used for this to be effective and useful.<sup>14</sup>

Majority of the students found Pharmacology to be the most relevant and useful subject in further profession and future. About teaching learning media in understanding the subject in theory class majority of students preferred combination of chalk and board as well as power point presentation (PPT). Regarding the reforms to be made in the curriculum, majority of the students opined that group discussions should be introduced. Regarding preparation for annual university exams most of students felt class tests were useful.

## CONCLUSIONS

Pharmacology in medical science is an ever changing subject. It is accepted that reviewing the teaching and evaluation methods by feedback from students and modifications of methodologies accordingly is very important for the undergraduate teaching. Attempts have been made all over India to make the teaching of Pharmacology more interesting and relevant and students' feedback represents the primary means used by most programs to assess their methodology. This study has helped us in knowing the student preferences regarding pharmacology teaching and its outcomes would be helpful in modifying undergraduate pharmacology teaching pattern.

## Recommendations

Change is a universal phenomenon and medical education is no exception in this regard, which is facing a paradigm shift from what it was 1-2 decades back, due to multiple reasons. Traditionally teachers have played the active role and the students as passive listeners, but now the focus is shifting from the teacher centred to learner oriented approach. One should keep exploring the innovations and modify his approach of teaching, keeping in view the needs of his students. However, such pedagogic shift from traditional approach to a need-based approach requires a fundamental change of the roles and commitments of educators, planners and policymakers.

## ACKNOWLEDGEMENTS

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*Ethical approval: The study was approved by the Institutional Ethics Committee*

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## Perceptions and suggestions of 2<sup>nd</sup> year medical professional students of Deemed Health University about their teaching and learning process in pharmacology: an analytical study

Age:

Faculty:

Sex:

Year:

1. Which is the most interesting subject in 2<sup>nd</sup> year?
  - a. Pharmacology
  - b. Microbiology
  - c. Pathology
  - d. Forensic medicine
  - e. Any other (specify)-----
2. Did you know about pharmacology subject before it was introduced to you in 2<sup>nd</sup> year
  - a. Yes
  - b. No
3. What is your opinion about Pharmacology?
  - a. Useful but boring
  - b. Useful and interesting
  - c. Interesting but cramming
  - d. Useless and cramming
  - e. Any other (specify) -----
4. Which of the following was most interesting?
  - a. Lectures
  - b. Pharmacology practical's
  - c. Tutorials
  - d. Integrated teaching
  - e. Any other (specify) -----
5. From where did you prefer studying Pharmacology?
  - a. Lecture notes only
  - b. Text books only
  - c. Lecture notes and text books combined,
  - d. Own notes after referring lecture notes, text books, seniors' notes, etc.
  - e. Any other (specify) -----
6. What is your pattern of study in Pharmacology?
  - a. Regular because of interest in it
  - b. Regular because of tests/ viva/ tutorials
  - c. Regular for gaining more knowledge
  - d. Shall study only for final exams
- e. Any other (specify) -----
7. How do you rate Pharmacology lectures?
  - a. Always boring
  - b. Some interesting, some boring
  - c. Always interesting
  - d. Any other (specify) -----
8. Which of the following teaching learning media do you think will be helpful in understanding the subject in theory class?
  - a. Chalk and board
  - b. Power point presentation (PPT)
  - c. Combination of both
  - d. Any other (specify)-----
9. Practical's in Pharmacology should be
  - a. Only pharmacy practicals
  - b. Only clinically oriented exercises
  - c. Combination of pharmacy practical and clinically oriented exercises.
  - d. Any other (specify) -----
10. Would you like any of the following reforms to be made?
  - a. Include more Student seminar
  - b. Include more lecture classes
  - c. Introduce Group Discussions
  - d. Include more integrated teaching programmes
  - e. Any other (Specify) -----
11. How do you rate evaluation methods for examination in pharmacology?
  - a. MCQ test only
  - b. Written examination only
  - c. Viva voce only
  - d. Persisting type
  - e. Any other (Specify) -----

12. Which of the following is most useful in preparing annual university exams?
- a. Class tests
  - b. Tutorials
  - c. Assignments
  - d. Internal assessment
  - e. Any other (Specify) -----
13. How do you rate Pharmacology in comparison to other 2<sup>nd</sup> year subjects?
- a. Useless, not important
  - b. Most relevant and useful subject in further profession and future
  - c. Above others in all respects
  - d. Any other (Specify) -----