



# Perceptions and Feedback of Undergraduate Medical Students About the Teaching and Learning Process in Pharmacology - A Question Based Study

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## Abstract

**Background:** The medical undergraduate students are taught about the pathogenesis, diagnosis and pharmacotherapy of the disease in the second year of their teaching and training as per curriculum. The periodical reviewing of the teaching learning methods is very important for improvement. **Purpose:** To analyze the effectiveness of teaching learning methodology being followed in pharmacology subject by taking feedbacks and suggestions from the students in the form of questionnaires. **Material and Methods:** 150 undergraduate medical students appearing for their second professional examination were asked to fill up structured pre-validated proforma as feedback questionnaire related to the methods of teaching being followed in Pharmacology Department of Govt. Medical College, Jammu. Statistical analysis of the data was carried out using Microsoft Excel and presented as proportion. **Results:** All the students enrolled in the study responded to every question and gave multiple feedbacks. More than three fourth students believed that pharmacology is an interesting subject and correct knowledge of the subject is helping them in clinics and better prescription writing. 59.33% students strongly agreed with power point presentation as the most useful teaching method. Integrated teaching and case-based learning has been suggested as highly significant (86%) method to improve teaching learning whereas group discussion and inclusion of multiple-choice questions (MCQs) in the examination has been advocated by 83.33% and 80.66% students respectively. **Conclusion:** Power point presentation over didactic lectures, group discussion and MCQs over conventional examination methods and clinically oriented lectures were the preference of the students.

## Key Words

Medical undergraduates, Perception, Teaching evaluation, Pharmacology subject

## Introduction

Second professional year in the medical undergraduate is the pedestal where the students start attending clinics. It is very important to have idea regarding student's interest as well as perception regarding any subject. Expertise use different teaching methodology to improve learning and skills in medical students. In the last two decades, the importance of teaching evaluation has been emphasized in higher and professional education. The

most common sources of evaluation data have been students, peers and teachers themselves (1).

Student's perceptions of the educational milieu can be a basis for implementing modifications to improve education standard in medical profession periodically. It also makes possible to assess and modify the educational environment. Few data addressing student's perceptions

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Manuscript Received: 25 July 2020; Revision Accepted: 21 October 2020;

Published Online First: 15 March 2021

Open Access at: <https://www.jkscience.org/>

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**Cite this article as:** Kumar R, Bhat NK. Perceptions and feedback of undergraduate medical students about the teaching and learning process in pharmacology - a question based study. JK Science 2021;23(1):24-27.



about teaching evaluations are available from developing countries. Present study was carried out to evaluate student's perception and feedback regarding different teaching methodologies in pharmacology in a tertiary care teaching hospital.

The Aims and Objectives of the study were to assess the effectiveness of teaching learning methodology being currently followed in pharmacology using student's feedback, to analyze the assessment mode being followed in the examination, and to analyze the student's suggestions for improving teaching and learning.

### Material and Methods

After obtaining the approval of the institutional ethics committee (IEC/2018/589/IC, dated 22.10.2018), a cross sectional survey was carried out among second professional MBBS students in Govt. Medical College, Jammu during the academic year 2018 -2019. Informed verbal consent was taken from them before collection of data. All 150 students agreed to participate in the study after completion of 18 month teaching and training.

Preliminary survey was done for the utility of the pretested pre-validated questionnaire prepared for the study purpose for ten subjects. Based on the feedback, the said questionnaire was validated and standardized. The students were asked to tick the best option for all the questions and express their opinion freely. Suggestions in the form of responses to open ended questions were also received from them. All data was subjected to descriptive analysis using Microsoft Excel and presented as proportion.

### Results

All the students enrolled in the study responded to every question and were considered while analyzing the results. As evident from *Table 1*, 41.33% (n=62) strongly agreed whereas 52% (n=78) agreed that pharmacology is an interesting subject. 68% (n=102) strongly believes and 28.66% (n=43) believes that integration of pharmacology teaching with clinics will help in better prescription writing. 11.33% (n=17) students have shown their desire to do postgraduation in pharmacology. 70% (n=105) students believe that knowledge of pharmacology is very helpful in clinical posting.

The perception and feedback regarding teaching methodology is shown in *Table 2*. 59.33% (n=89) students agree with power point presentation as the most useful teaching method where as 40.66% (n=61) have shown their choice for didactic lectures. *Table 3* shows the students feedback about quality of teaching where 31.33% (n=47) students strongly agreed whereas 53.33% (n=80) agreed that the teaching of clinical correlation is done in pharmacology and they are very much clear to the explanation given in the class to clarify the subject. 44.66% (n=67) students agreed that useful teaching material like photographs are displayed in relation to content of lectures.

As evident from *Table 4*, integrated teaching and case-based learning has been suggested as highly significant (86%; n=129) method to improve teaching learning whereas group discussion and inclusion of multiple-choice questions (MCQs) in the examination has been advocated by 83.33% (n=125) and 80.66% (n=121) students

**Table 1: Showing Results of Feedback and Perception Taken in Send-Up Examination from 150 Students of 2<sup>nd</sup> MBBS, Govt. Medical College, Jammu, India, 2019**

Question or perception about subject	Strongly agree	Agree	Disagree	Strongly disagree	No comments
Interesting subject	62	78	-	1	9
Knowledge of pharmacology helps in clinical posting	105	42	-	-	3
Integration of pharmacology teaching with clinics will help in better prescription writing	102	43	-	-	5
Willing to do postgraduation in pharmacology	4	13	29	18	86

**Table 2: Showing Feedback and Perception About Most Useful Teaching Method (n=150)**

Most useful teaching method	Strongly agree	Agree	Disagree	Strongly disagree	No comments
Didactic lectures	54	7	-	-	-
PowerPoint presentation	78	11	-	-	-

**Table 3: Showing Feedback and Perception About Quality of Teaching and Mode of Assessment (n=150)**

Quality of teaching	Strongly agree	Agree	Disagree	Strongly disagree	No comments
Teaching of clinical correlation is being done in pharmacology and clarity of the subject is satisfied	47	80	3	3	17
Lectures and demonstrations are suitably taken to develop interest in the subject	41	66	5	6	32
Useful teaching material like photographs are displayed in relation to content of lectures	67	60	2	3	18
Encourage teacher student communication	16	13	85	14	22
Written examinations serve the purpose to make you aware of your grasp of the subject	70	60	4	4	12
Viva voce examination helps you to improve your subject knowledge and application skills	66	68	3	1	12

**Table 4: Showing Feedback for Improving Teaching and Learning in Pharmacology (n=150)**

Opinion about changes recommended	Excess	Adequate	Inadequate
Number of lectures	23	123	4
Duration of lectures	16	129	5
	Agree	Disagree	No comments
Introduce integrated teaching methods	129	-	21
Introduce case-based learning	129	2	19
Introduce group discussions	125	4	21
Inclusion of MCQs in the examination	121	9	20

respectively. The results clearly indicates that students have given multiple feedbacks while answering some questions.

### Discussion

It has been stated that learning is enhanced by feedback and this is true not only for students but also for the teaching faculty (1,2). It is also very convenient, inexpensive and easy to obtain. The present study was conducted at tertiary care teaching hospital at Jammu. The feedback taken in the send up examination made us aware of the student's perception in teaching and learning pharmacology.

All 150 (100%) students of second professional MBBS enrolled in the study responded to the questionnaire, while in the study of Anand *et al.* (3), and Quadri *et al.* (4), 99% and 96.09% students responded to the questionnaires respectively. With respect to the subject perception, more than three fourth students believed that pharmacology is an interesting subject. They stated that correct knowledge of the subject is helping them in clinical posting and integrated teaching is most effective method to understand the subject thoroughly. Similar results were observed in the study carried out by Goyal *et al.* (5) who

observed that integrated methods of teaching could be useful and time saving. The results are also in accordance with the study carried out by Kate *et al.* (6) who has mentioned that integrated teaching improves the clinical skills of the students by correlating the relationship between the diagnosis and final outcome of the disease.

With respect to the teaching methodology, more number of students (59.33%) agreed power point presentation the effective teaching method as compared to didactic lecture (40.66%). The reason behind this may be the longer duration of lectures as compared to attention span of the students (7). The results corroborate with the study of Quadri *et al.* (4) and Shah *et al.* (8) in which teaching by power point presentation was observed better as compared to didactic lecture. The studies carried out by Chavan *et al.* (9), Bhowmick *et al.* (10) and Dash *et al.* (11) perceived the use of both blackboard and audio-visual aids in teaching methodology. In another study conducted by Goyal *et al.* (5), 95% students suggested the judicious use of audio-visual aids and conventional methods of teaching should be complemented with power-point presentation.

In present study, more than two third students agreed that the teaching in pharmacology is clinically oriented



and important points of the subject are highlighted and useful teaching material like pictures are displayed for the clarification of the contents of lectures. The results are inconsistent with the observations of Anand *et al.* (3), where majority of the students were not satisfied with the clinical correlation of the subject teaching and methods used to explain the contents of the lecture. 56.66% students disagreed that they are encouraged for teacher student communications. Majority of the students, 86.66% and 89.33% respectively, agreed that written examination and viva-voce are the best mode of assessment. They stated that the written examinations serve the purpose to make them aware of their grasp of the subject and viva-voce is important to improve their subject knowledge and application skills.

Students have given their suggestions for improving teaching standard. Majority of the students are satisfied with the number and duration of lectures, 82% and 86%, respectively and these are in accordance with the observations of Nagar *et al.* (12). More than two third felt the strong need for introduction of integrated teaching, case-based discussion, group discussion and multiple-choice questions (MCQs) in the curriculum. Suggestions for inclusion of MCQs in written examination was given in National consultative meeting on review of pharmacology curriculum (13). These results are also consistent with the studies carried out by Goyal *et al.* (5) and Shah *et al.* (8). One student suggested for teaching in local language and lectures should be more clinically oriented and interactive so that teaching learning can be improvised.

### Conclusion

The current study established the power point presentation as better teaching learning method than didactic lectures. Further, endorsed group discussion and MCQs based examination mode to be inculcated in the current examination format and the lectures which are clinically oriented and interactive were the student's preference.

### Acknowledgement

We sincerely thanks to the students of second professional MBBS, academic year 2018-2019 for their cooperation and participation in this project.

### Financial Support and Sponsorship

Nil.

### Conflicts of Interest

There are no conflicts of interest.

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