

## PERCEPTION OF PHARMACOLOGY TEACHING METHODS AMONG SECOND YEAR UNDERGRADUATE STUDENTS TOWARDS BETTER LEARNING

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### ABSTRACT

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#### BACKGROUND

Student's feedback is an excellent indicator for the success of any teaching methodology followed in a department. Problem-based learning (PBL) is a well-established method for facilitating the learning of basic science concepts in the context of real cases.

#### AIM

This study is aimed to evaluate the perception of second year MBBS students towards teaching methods.

#### MATERIALS AND METHODS

Second year medical students were requested to fill the 8 questionnaires which were used to evaluate the student's preference on PBL (Problem Based Learning) vs. LBL (Literature Based Learning) methods after obtaining Institutional Ethics Committee (IEC) permission. The data was expressed in percentages using Microsoft excel.

#### RESULTS

Out of 100 MBBS II students; 37% were aware of PBL; 58% students were interested towards PBL; and 49%, 65%, 53% and 21% opined better understanding, analytical approach, syllabus covered and present lecture practices with respect to PBL method respectively. 53% preferred concurrent use of both LBL and PBL for better clarification.

#### CONCLUSION

The present study has enlightened us to know the students' preference regarding pharmacology teaching and preferred PBL over LBL & both methods to go side by side. It is definitely helpful in resetting the undergraduate pharmacology teaching patterns involving the traditional literature methods into more productive problem simulated cases.

#### KEYWORDS

Perception, Teaching methods, Problem Based Learning, Literature Based Learning, Teaching Methods.

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**INTRODUCTION:** Traditional didactic lecture method does not meet the challenges & expectations of the present generation. Students are passive learners in teacher centred Lecture methods, thus the needs of the students and progress in the healthcare profession cannot be fulfilled. Problem Based Learning (PBL) promotes integration of both, pharmacological knowledge & clinical context in relevance to the situation.<sup>1</sup> PBL was for the first time in 1969s, McMaster University Medical School implemented it as an integrated teaching method. PBL involves teaching and learning in

small groups using a real-life problem case to trigger both the thinking and learning process. Therefore, PBL represents a major shift from the traditional teacher-centred instruction to learner-centred learning.<sup>2</sup>

The problem serves as a strong stimulus for students to identify the parameters required to learn, understand or solve the problem on their own.<sup>3</sup> We all know that Pharmacology is one of the core subjects in medical sciences and it is difficult to treat the diseases without its knowledge. Traditional method involves lecturing as the most common teaching method in the medical education.<sup>4</sup> Traditional pharmacology teaching has focused more on drug knowledge, instead practical skills in prescribing in the clinical situations.<sup>5</sup>

The PBL strategy can encourage to develop transferable skills, such as critical thinking skills, problem-solving skills and teamwork skills.<sup>6</sup> At present, most of the teachers in medical colleges in India stress on factual teaching rather

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than facilitated teaching.<sup>7</sup> So there is an absolute need to encourage the knowledge (of pharmacology) application for self-directed learning with real-life scenarios. There are many advantages of PBL that it: is adaptable/flexible, accommodates linguistic diversity, encourages intellectual involvement both for students and teachers, promotes self-directed learning skills, engages students in meaningful learning, results in deeper understanding and longer retention, transforms the student's role from passive to active.<sup>8</sup>

Since there is a lacuna of PBL at present. Hence introduction of PBL will be an innovative effort in this regard. The globalization of PBL has important cross cultural implications. Therefore the present study will evaluate the perception of Pharmacology teaching methods among 2nd year medical undergraduates.

**AIMS & OBJECTIVES:** This study aimed to evaluate the perception of second year MBBS students studying in Bidar Institute of Medical Sciences, Bidar, teaching methods and to identify the strengths and weaknesses in the current teaching methodology in pharmacology using feedback.

**MATERIALS AND METHODS:** A questionnaire was designed and finalised after obtaining IEC permission. A hundred second-year medical students (2012-13) of Bidar Institute of Medical Sciences, Bidar were included after taking the consent & requested to fill the 8 questionnaires, used to evaluate the student's preference and feedback on PBL (problem based learning) vs. LBL (literature based learning) methods.

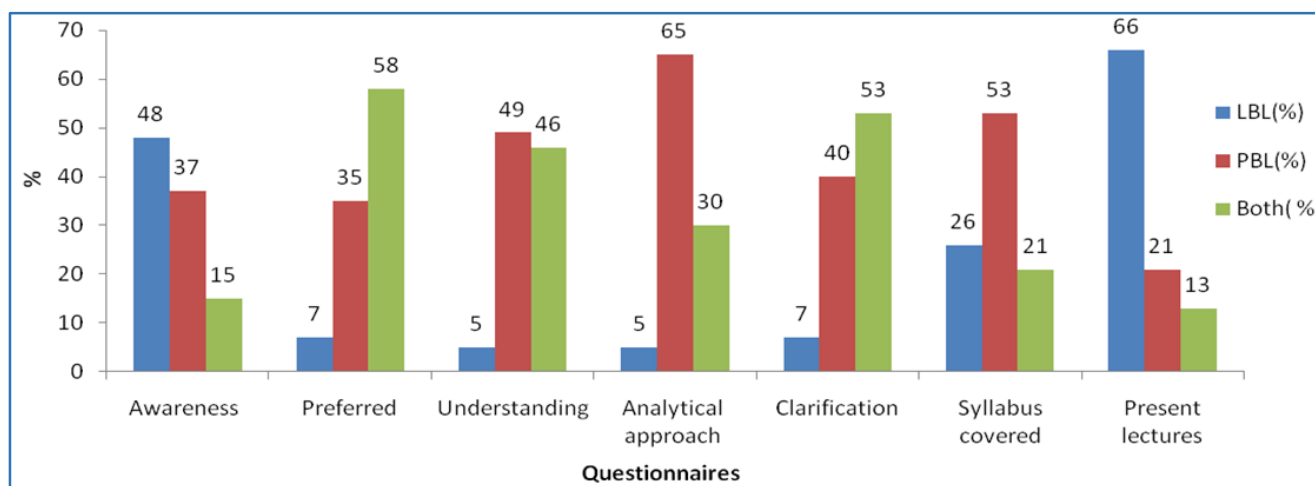
**STATISTICAL ANALYSIS:** The completeness of questionnaire was checked; data were expressed in percentages & graphs using Microsoft Excel.

**RESULTS:**

Sl. No.	Questionnaires	Responses		
		LBL (%)	PBL (%)	Both (%)
A.	Teaching methods you were aware of previously & followed in school?	48	37	15
B.	Which of the following teaching methods liked by you?	7	35	58
C.	Which of the following teaching methods in your opinion leads to better subject understanding?	5	49	46
D.	Which of the following teaching methods in your opinion leads to better analytical approach towards problem?	5	65	30
E.	Which of the following teaching methods in your opinion leads to more clarification of concepts in medical studies?	7	40	53
F.	Do you think that sufficient syllabus as per university requirement is covered through PBL sessions?	26	53	21
G.	Are you satisfied with the present scenario where lectures are concurrent/ parallel with PBL?	66	21	13
H.	Is PBL discussed with real cases available in bedside (Yes/No)	Yes %		No %
		0		100

**Table 1: Gender: Males=62 & Females=38**

(%-Percentage)



**Fig. 1**

**DISCUSSION:** PBL, an innovative self-directed learning can be acceptable as an alternative to the LBL.

It is known that success of PBL is due to multidimensional approach to problems which not only elevate the students learning process but also the tutor/mentor performance.<sup>9</sup> Starting problem-solving process in small groups with well-assisted mentors identifies the central issue in the case, for giving a right stimulus to extract the answering skills and to have an exact blueprint to solve them.<sup>10</sup> PBL engages students to involve in active learning, results in clear understanding and recalling which in turn promotes self-directed learning skills both among students and teachers because of its flexibility, encourages intellectual involvement.<sup>8</sup>

It transforms the student's attitude from passive to active, enhances the interactive skills, with an advantage of exposing to the independent responsibility for learning as well as ability to work in group.<sup>8</sup>

Indeed, these kind of methods help the upcoming doctors in coping up vast information and transferring the key skills in solving cases through rational prescription, delivering appropriate drug and disease-related information in a meaningful way to patients.<sup>11</sup>

The problem solving group functions under the guidance of subject experts who can draw solutions from the literature and practice, group members engage in questioning, revising and entertaining various views of the issues they uncovered within the case. These processes are critical for connecting possible solutions to the problem and evaluating the solutions.<sup>12</sup>

In our study only 37% were aware about PBL from their college days itself. Only a small percentage knows about the PBL which has to be made awareness in others who don't know how the PBL activities conducted. About 58% preferred both methods to be taught parallel. This imparts the importance of LBL where it can be synchronized with the PBL, so that lecture sessions can be more interesting and gathers more information.

Our study results were similar to Al-Dress et al,<sup>13</sup> Bijli Nanda et al<sup>14</sup> studies with respect to understanding, acquisition of knowledge, reasoning skills, satisfaction towards concept clarification. 49% of the students said including PBL in curriculum helps in better understanding of the basic medical sciences which is not so easy to understand through traditional teaching methods. 65% said PBL could increase their knowledge, so that they can have analyze the problem in arriving at solution. 53% preferred both LBL & PBL for better clarification of the concepts, once they know the concepts, it can be applied anywhere in the life time.

Our study showed that majority of the syllabus in curriculum covered through university are only by LBL (53%) and through PBL was only 26%, it need few changes in curriculum to be made in future, so that both LBL & PBL will go hand in hand for the benefit of both students & facilitators. Because including only LBL or replacing it entirely with PBL will not be the good idea. In Al-Dress et

al<sup>13</sup> 78.5% did not agree with the substitution of lectures by PBL.

In present study with respect to the decision making skills i.e., the analytical approach towards problem, students preferred PBL (65%) which was more when compared to Al-Naggar RA et al<sup>15</sup> which was 44.9%.

And discussing the subjects involving the real bedside scenarios can be more innovative in arousing the student's interest, curiosity and confidence through training both the faculty members, students and revising the syllabus more towards PBL can more fruitful in medical education, which are lacking at present.

Hence from the above evidence, we can opt PBL as an alternative way to traditional LBL. When the students start taking the real cases bedside which involve diagnosing and prescribing the treatment to the patients, they may quickly able to acquire the problem handling skills if they have gone through the PBL before during 1<sup>st</sup> and 2<sup>nd</sup> phase.

**CONCLUSION:** Students preferred PBL over LBL, but opined combining both methods lead to better understanding. During PBL, students develop problem solving skills; formulate evidence-based decisions and communication skills all of which are abilities essential to achieving core competencies. PBL will be a better alternative to the traditional LBL to satisfy these needs. Initial investment in terms of efforts, cost, training of human resources in PBL, time, etc. will be really useful in a long run to the University policy makers, administrators, faculty and of course to the students.

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