

# Comparison of the effectiveness of lecture based teaching i.e. by power point presentation versus chalk-board method to the dental students: a student's perspective.

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**Abstract- Introduction:** Lectures are the most common teaching methods used in medical and dental education. Didactic lectures are perceived by the students as the least effective method yet are regarded as the most effective teaching learning tool as the students can be actively engaged. Teaching methods that encourage self-directed learning can be effective in delivering core knowledge leading to increased learning. Problem based learning has been introduced as an active way of learning but it has some obstacles in developing countries where the intake is huge with minimum resources. **Method:** This study was done in Pharmacology subject on two batches of second year BDS students. Both the batches were taught half of the systems by illustrated method i.e. power point (PPT) and the other half by routine chalkboard. Questionnaire was used to compare the effectiveness of the teaching and marks of both the batches were compared. **Result:** According to students perspective, the PPT based lectures : Increased their attention to the subject, effective mode of learning and increased their attention span as different animations and diagrams can be shown which are more clear and figure and animation shown retain in their brain for a longer time. Teacher can give more time to the students and engage them actively rather than writing on the board. Lecture on black board: are effective way of teaching as the teacher is writing the theory and linking the subject . It is difficult for the teacher to depict or draw diagrams on the board as he/she may not be good in drawing. **Conclusion:** Thus, Lecture by chalk and board method was preferred by students for Pharmacology subject. But for diagrams and animations showing the mechanism of action, Power point is the clear cut choice.

**Index Terms-** Lectures, Power point Presentation, Chalkboard

## I. INTRODUCTION

Conventionally, Pharmacology, which is the backbone of therapeutics is taught by didactic lectures by chalk on black-board. But with advancement in technology, chalk and board (CB)

method has been replaced with power point(PPT) lectures. Figures and animations are shown to make the lectures interesting, which are otherwise very monotonous. Didactic lectures are perceived by the students as the least effective method, yet involving students actively within the lecture, are regarded as the most effective teaching learning tool as the students are actively engaged<sup>1</sup>. Teaching methods that encourage self-directed learning (SDL) can be effective in delivering core knowledge leading to increased learning. Problem based learning (PBL) has been introduced as an active way of learning but it has some obstacles in developing countries where the intake is huge with minimum resources. But due to lack of faculty and the COVID prevailing in the country, problem-based teaching is difficult to be carried out especially in dental colleges. There is always a debate over the effective method of teaching<sup>2</sup> to the students.

## II. AIM

The aim of this study was done to compare the role and effectiveness of chalk and board method versus power point presentation as a method of delivering a lecture in Pharmacology.

## III. MATERIAL AND METHODS

This study was done in the subject of Pharmacology on two batches of second year BDS students, half of the systems was taught by illustrated method i.e. PPT and the other half by routine blackboard .

Questionnaire was used to compare the effectiveness of the teaching and marks of both the batches were compared. Written informed consent was taken from the students. Students were asked to fill a questionnaire (Table:1) about their perception about these two methods of lecture delivery. Marks (for formative and summative assessment) were compared and statistically analysed.

**Table: 1 Questionnaire used in the study**

1. Which mode of teaching was preferred by you.
2. The clarity of diagrams was better by which method
3. The lectures were organised and structural.
4. The lecture content was clear.
5. The lecture content was understandable and better pronounced
6. You could take my notes and diagram.
7. Integration of text with figures was better.
8. Overall satisfaction and effectiveness of the lecture
9. Any other comment

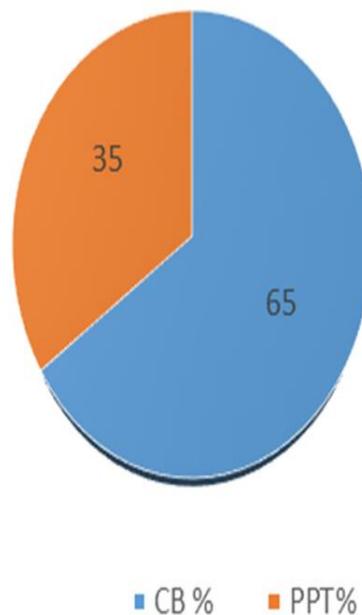
#### IV. RESULTS

55 students of second year BDS students of two batches were enrolled for the study. They gave consent to participate in the study. 65 percent of the student preferred the chalk board (CB) method of teaching (Figure:1).

- According to the student's perspective the lecture on black board:
  - They are more effective way of teaching as the teacher is writing the theory and linking the subject (60%) .

- Take down notes. (69%) (table:1)
- Teacher can clarify the point better
- It is difficult for the teacher to depict or draw diagrams on the board as he/she may not be good in making the diagram.
- According to the students the power point (PPT) presentation based lectures were:
  - Well organized (55%) (Fig:1)
  - Increased their attention to the subject.
  - Effective mode of learning and
  - Increased their attention span as different animations and diagrams can be shown which are clearer (65%) and those figure and animation retain better in their brain.
  - Teacher can give more time to the students (55%) and engage them actively rather than writing on the board
  - The major disadvantages were: the rooms had to be darkened, teacher in some lectures went fast, so could not take notes.
- The marks obtained by the students in both method of teaching for formative and summative assessment were not statistically significant.

Fig: 1 Percentage of students preferred mode of teaching



<b>Table:2: Showing Percentage effectiveness of the lectures by Chalk Board Method and Power point Method (n=55)</b>			
S.No	Items of the questionnaire	Percentage effectiveness of lecture by chalk-board (CB) method	Percentage effectiveness of lecture by Power point (PPT)Presentation method
1.	Mode of teaching preferred	65	35
2.	The clarity of diagram was better by which method	35	65
3.	The lectures were organised and structural	45	55
4.	The lecture content was clear.	55	45
5.	The lecture contents was understandable and better pronounced	51	49
6.	You could take my notes and diagram.	69	31
7.	Integration of text with figures was better.	60	40
8.	Interaction of the student with teacher was better	55	45
8.	Overall satisfaction and effectiveness of the lecture	57	43

## V. DISCUSSION

Pharmacology is the basic backbone of clinical subjects and very essential subject. Various methods of teaching include chalk and board, power point presentations, case and problem-based teaching, seminars, tutorials etc<sup>3</sup>. There always remain controversy and debate which mode of teaching is to be preferred for the students.

For the students' case and problem-based learning combined with chalk-board and PPT is essential, as they will be shown the cases and clinical presentation of the diseases. This will help them think analytically and manage the patients and make them clinically skilled in writing the prescriptions for common diseases in second year of their education. This will be useful to the students and to the society in general.

The results of our study are similar to the study<sup>4</sup> done in biochemistry subject in which they concluded that the chalk and board teaching is beneficial and increased better understanding of the subject. In another study<sup>3</sup> comparing different methods of teaching concluded combination of chalk-board and PPT is beneficial tool for teaching and learning instead of them individually. In contrast another study<sup>2</sup> done in anatomy subject showed clear cut preference for PPT based lectures to CB teaching. This difference may be due to the subject and done on a greater number of students and our study was done in a smaller number of students. PPT in anatomy subject is highly effective to teach students imaging anatomy including surface marking and gross and morbid anatomy.

## VI. CONCLUSION

Thus, the present study, emphasise the role and effectiveness of lecture by chalk and board method and power point presentation as a method of delivering lecture in the subject of Pharmacology.

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