

# COMPARATIVE STUDY ON THE EFFECTIVENESS OF POWER POINT PRESENTATIONS, OVERHEAD PROJECTORS, CHALK AND BOARD ADOPTED DURING MEDICAL TEACHING IN PHYSIOLOGY FROM STUDENTS PERSPECTIVE.

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## Abstract :

Lecture is the most common form of teaching adopted in medical education and effective lectures are supported by audio visual aids to enhance student learning and to create interest among them.

**Objective:** This study has been done to determine whether using power point or other media are superior forms of delivering lectures over the traditional chalk board talk or use of transparencies and Over Head Projector(OHP) in physiology.

**Methodology:** Our study was done on 300 undergraduate medical students including 1<sup>st</sup> and 2<sup>nd</sup> MBBS.

**Results:** In our study, 65% of students feel that power point is more effective in terms of legibility, visibility and structure and 20 % of the students preferred power point presentations in combinations with black board teaching.

**Conclusion:** Use of power point in medical teaching is more enjoyable and effective to the students as well as teachers.

**Key words:** Audiovisual aids, Lectures, medical education, power point presentation

**Introduction:** Lectures can be traced from as early as 5<sup>th</sup> century BC and in medieval times adopted for teaching. Lectures were the most common form of teaching and lecture is still the most common form of teaching employed in medical education. Lecture therefore has its advantages, otherwise this form of teaching would have ceased.

Mc Leish 1976 claims that lecture is undoubtedly the most economical method by which an individual can present a personalized and continuous argument, the general frame work for understanding the fundamentals of particular subjects and involving the audience<sup>(1)</sup>.

When the students enter the medical colleges or any other professional course, it is almost inevitable that they experience lectures irrespective of the subject they choose. As the number of students entering these courses is large and limited number of academics, it is often impossible with small group classes to cover the syllabus. As Walton (1972) notes, the lecture is here to stay, so it is imperative that it should be made as effective teaching method as

possible.<sup>(2)</sup>

Effective lectures are supported by audiovisual aids such as black board, use of transparencies and power point<sup>(3,4)</sup> in medical teaching has become common with the purpose to enhance students learning and sustain interest in the topic. Various studies are conducted to compare the effectiveness of lectures using power point or other media in comparison to the lectures using chalk and board. Bartsch and Cobern (2003) in their study found that students preferred power point over the use of OHP but in some instances the content of power point distracted students and they performed less well in tests when compared with a control group<sup>(5)</sup>.

## Aims and objectives:

- This study has been done to determine whether using power point or other media are superior forms of delivering lectures over the traditional chalk board talk or use of transparencies and Over Head Projector(OHP) in physiology.
- To assess the view of medical students acceptance and preferences of methodology of teaching.

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**Materials and methods:** The study was done on undergraduate medical students of first and second year at Kamineni Academy of medical sciences and research centre, Hyderabad. A feedback questionnaire was prepared and given to the students regarding the effectiveness of various teaching tools like power point, OHP and chalk and board at the end of lecture. Lectures were given by the same lecturer using different media on pancreas and diabetes mellitus. The same topic was taken for both I and II MBBS students as the topic was important for both the undergraduate students. The students were instructed to give the feedback based on their experience without revealing their identity. The students were invited to give comments/ suggestions if any. The strength of undergraduate medical students of first and second year is 150 students each.

**Results :** The filled in questionnaires were analyzed statistically and the following results are interpreted. Analysis of data statistically by Pearson Chi-square test showed preference of power point over other methods by the students.

Majority ie; 65% of students feel that power point is more effective in terms of legibility, visibility and structure and these students recommend power point for medical teaching. Power point makes them actively participate and involve in class. These students say that the total amount of text on a slide is clear and satisfactory in power point and it gives sufficient time to read and copy the text. 97% of students say that use of animations and images in power point helps them to understand the concept and subject better. A significant positive correlation was obtained between medical education and use of power point in medical teaching ( $p < 0.05$ ).

Most of the students feel that using of transparencies and over head projectors is boring compared to chalk and board and only 1% of students are in favour of OHP whereas 25% say that chalk and board gives sufficient time to read and copy the text.

Twenty percent of students suggested that chalk and board should also be used in medical teaching along with power point for better understanding. However, 44% of students said that power point should completely replace ancient methods of teaching like chalk and board and OHP. Total no. of undergraduate medical students participated in the study were 300

**Table 1: Table showing percentage of students in favour of different audio visual aids in medical teaching**

Serial No.	Audio visual aid	No. of students	Percentage(%)
3	OHP	3	1
4	Power point in combination with black board	60	20
1	Power point	195	65
2	Black board	42	14

### Discussion

During lectures, both the visual and auditory senses are used to absorb information and here assistance in the form of visual aids is useful.<sup>(6)</sup>

In our study, majority 65 % of the students preferred power point presentations and 20 % of the students preferred power point presentations in combinations with black board teaching during lectures as diagrams, flow charts can be explained in a better way using power point. Graphics, video clips and animations can be added for better understanding and even can be linked to internet. It provides a better quality of text and can be modified and updated and Creates interest among students whereas black board teaching provided better interaction between the teacher and the student because of its natural slow pace and it gives ample time to take down the notes.

These results are similar to the study done by Giri P A et al<sup>(7)</sup> who found that use of combination of audiovisual aids was more appreciated by undergraduate medical students. In another study done by Kumar et al<sup>(8)</sup> also found that 50% of the students showed a preference for the use of combination of audiovisual aids during didactic lectures. Results in our study are also consistent with the results of the study done by Mohan L et al<sup>(9)</sup> reporting majority of students in their study group preferred mixed A-V aids especially for understanding a particular topic.

Ninty nine percentage of the students feel OHP is boring and taking down notes is difficult and problem of visibility and legibility if the hand writing is not good, faulty focusing and it becomes a burden over the students.<sup>(10)</sup> 25% of the students say that use of only traditional black board teaching is boring.

Only 4 % of students did not prefer power point as they feel that they become passive observers than active participants.

**Conclusion:** In present scenario with availability of advanced multimedia, use of power point in medical teaching is more enjoyable and effective to the students as well as teachers. Based on this study we can say that power point has positive impact on lectures and it enhances the skill of the lecturer if used properly.

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