

PowerPoint versus Chalkboard Based Lectures in medical teaching: Evaluation of Their Impact on Medical Student's in Rajasthan.

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Abstract

Background- Medical education throughout the world is rapidly evolving and newer methods are being experimented to bring out better medical graduates who can cope up with the changes that are taking place in the medical field.

Methods- This cross-sectional study was conducted on 100 medical students who were in first MBBS were included in this study. A selected content based lecture was delivered in two different lecture halls at the same time.

Result- The comparison of marks obtained by the students using the two teaching aids. Significantly higher marks were obtained by students who were taught using chalkboard compared to those students who were taught using PPT. 55 % of the students preferred chalkboard whereas 45 % of the students preferred PPT.

Conclusion-The results of the present study suggest that chalkboard has the advantage of a better recall besides being the most preferred aid among medical students.

Keywords- Chalkboard, Lectures, PowerPoint.

Introduction

Medical education throughout the world is rapidly evolving and newer methods are being experimented to

bring out better medical graduates who can cope up with the changes that are taking place in the medical field.

Chalkboard aid is inexpensive; easy to clean and reuse, allows students to keep pace with the teacher and is not dependent on electricity. But it is time consuming; one cannot go back to what has been erased and is not so effective for large number of students. PPT has the advantage of using colors, fonts, diagrams and animation. Its disadvantage is that dim light causes loss of eye contact; note taking is difficult, has tendency to overload information and needs electricity.

Audiovisual aids (like PowerPoint (PPT)) help to illustrate pathway and mechanism diagrams and impart clarity to the lectures.

One viewpoint is that using PPT improves learning or comprehension whereas other viewpoint states that students remember about the same amount of material following PPT as they do following other media (such as overheads and blackboard). Some studies find that PPT actually impairs learning.¹ Hence several student feedback studies have been conducted in the past in the field of medical education. The superiority of PPT with respect to the traditional chalk and talk method has not been proven.

Materials and methods

This cross-sectional study was conducted on 100 medical students who were in first MBBS were included in this study. A selected content based lecture was delivered in two different lecture halls at the same time. The students were randomly divided into two groups based on odd/even roll numbers. Even roll numbers formed Group I and Odd roll numbers formed Group II. For Group I lecture was delivered using the chalkboard [n = 50] and for Group II using the PPT [n = 50]. The time allocated for the lecture in both groups was equal (1 hour). Immediately after the lecture a single multiple choice questions (MCQs) paper consisting of 10 questions was distributed and students were asked to attempt all the MCQs within the 10 minutes. Each question carried one mark. The marks obtained (out of 10) were calculated for each student. In addition there was one direct question on whether students would prefer PPT or blackboard for lectures. The preference of students for the teaching aids was evaluated in the form of percentages.

Results

Table No. 1: Comparison of Marks Obtained by the Students in the Two Groups

Parameters	Chalkboard (Mean ± SD)	Power point (Mean ± SD)	p-value
Mark obtained	8.12±0.80	7.60±01.14	<0.05

The comparison of marks obtained by the students using the two teaching aids. Significantly higher marks were obtained by students who were taught using chalkboard compared to those students who were taught using PPT.

55 % of the students preferred chalkboard whereas 45 % of the students preferred PPT.

Discussion

Medical education is a very wide area of study where so many departments collaborate together to teach the

undergraduates in order to produce good doctors to the society and this education is not immune to the changes in information technology that is rapidly evolving and slowly playing an important role, so also the methods of teaching have evolved and the mindset of learner is also changing, previously it was guru on whom the students were totally dependent for knowledge but nowadays just a click of button will give an abundant information.

Every lecture topic has some specific facts which the student should retain in his memory. These help them later to develop new knowledge. It is the duty of the teacher to emphasize these facts during the lecture. Use of teaching media plays an important role in this aspect. The type of media used will decide how much attention will be obtained during the lecture thereby influencing the knowledge retained.

In this study, it was observed that the short term retention of facts was less with PPT and hence students in PPT group obtained lower scores. Also more number of students preferred chalkboard (55%) over PPT (45%). The findings obtained may not be true for all subjects in medical curriculum. The preference of students for these two teaching aids may vary from subject to subject and also influenced by the commonest mode of teaching aid used in that department.

Several studies in the past have found chalkboard to be a better method of teaching. A questionnaire-based study carried out among 7th semester medical students in Delhi rated chalkboard as best in allowing interaction and helping recall.²

A study conducted by Banerjee et al. Nepal in 2008-2009 reported that chalkboard methodology was found to be the best (60%) followed by LCD Slides (20%).³

A study conducted in 2012 in Goa Medical College to evaluate the learning environment of undergraduate medical students included 387 students from different semesters. Most of the students (66.9%) thought

multimedia to be the most effective teaching tool followed by traditional blackboard.⁴

Conclusion

The results of the present study suggest that chalkboard has the advantage of a better recall besides being the most preferred aid among medical students.

References

1. Kosslyn SM, Kievit RA, Russell AG, Shephard JM. PowerPoint Presentation Flaws and Failures: A Psychological Analysis. *Front Psychol.* 2012 July 17;3:230.
2. Dhaliwal U. A prospective study of medical students' perspective of teaching-learning media: reiterating the importance of feedback. *J Indian Med Assoc.* 2007;105(11):621-3.
3. Banerjee I, Jauhari A C, Bista D, Johorey A C, Roy B, Sathian B. Medical Students View about the Integrated MBBS Course: A Questionnaire Based Cross-sectional Survey from a Medical College of Kathmandu Valley. *Nep J Epidemiol.* 2011;1(3):95-100.
4. D'souza D. Evaluation of undergraduate medical students learning environment in Goa: A cross sectional study. *Int J Med Res Health Sci.* 2013;2(3):357-62.