DIFFERENT TEACHING AIDS AND PERCEPTION OF UNDER GRADUATE MEDICAL STUDENTS IN A TERTIARY CARE TEACHING INSTITUTION

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ABSTRACT

BACKGROUND

In this age of technology, the teaching-learning process is dependent on various teaching aids available in the classroom. Medical education is no exception. Feedback of students is vital in this regard. This study was done to assess the perception of 9th semester under graduate medical students regarding three different teaching aids (i.e. chalk & blackboard, overhead projector and power point presentation) during gynaecology lecture.

METHODS

The cross-sectional study was conducted in 2018 among undergraduate medical students of 9th semester, at the department of obstetrics & gynaecology in Calcutta National Medical College, Kolkata, West Bengal, India to evaluate the opinions regarding three teaching aids (black board, overhead projector and power point presentation) used during gynaecology lectures. Students' feedback was collected by administering pre-structured forced choice questionnaire after completion of fifteen classes with the three teaching aids.

RESULTS

Among the 143 respondent students, most of them preferred chalk and blackboard for better interaction between students & teacher (86.71%), better for taking notes during lecture (53.84%) and better for recall (72.02%) than other two teaching aids. They preferred power point presentation for better demonstration of clinical conditions (55.24%) & found it to be better for stress free listening (65.03%) than the other two teaching aids. Both chalk & blackboard and power point presentation were found to be almost equally effective for understanding and grasping content. Overhead projector was found to be most sleep inducing (64.33%) by the respondent students among all three teaching aids.

CONCLUSIONS

Chalk & black board is still the preferred teaching aid for students for overall understanding, grasping the content. But power point presentation is more effective for better listening and understanding clinical conditions. The role of overhead projector as teaching aid has reduced. So, using both chalk & black board and power point presentation during a lecture can be the best for medical students.

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BACKGROUND

As we all know that today's age is the age of science and technology. The teaching learning programmes have also been affected by it. The process of teaching - learning depends upon the different type of teaching aids available in the classroom. In recent years there has been increasing interest and growing concern regarding the role of learning environment in undergraduate medical education. Student's feedback can play vital role in this regard. A well-organized lecture still remains an effective way to integrate and organize information from multiple sources on complex topics.¹

While delivering lectures a teacher can use different teaching aids such as chalk & blackboard (BB), overhead projector (OHP) or power point (PPT) presentation. The students' learning depends on VAK, that is three forms of sensory modalities - visual, aural, and kinaesthetic (collectively VAK).² In view of this, the teachers should not reinforce their own preferences but should adopt the style that suits with each student's learning style.³ So, lectures can be supplemented with audio-visual aids for better illustrations, clarity and learning.⁴ Various studies have been conducted to assess the effectiveness of lectures using different teaching aids.⁵⁻⁸

This study was undertaken to assess students' perception towards lecture using chalk & black board (BB), overhead projector (OHP) and power point presentation (PPT) during gynaecology lectures among 9th semester medical students and to know students' preference of teaching aid for lecture.

METHODS

Cross sectional study was conducted in 2018 among undergraduate medical students of 9th semester, at the department of obstetrics & gynaecology in Calcutta National Medical College, Kolkata, West Bengal, India to evaluate the

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opinions regarding three teaching aids (Black board, overhead projector and power point presentation) used during gynaecology lectures.

Five gynaecology lectures were delivered by using chalk and black board (BB), five lectures were delivered by using overhead projector (OHP) and five lectures were taught with the help of power point presentation (PPT) using Meyer's principle.⁹ Lectures selected were of the same difficulty level.

Students' feedback was collected by administering pre-structured forced choice questionnaire. The questionnaire was based upon a review of literature and similar studies conducted elsewhere. This questionnaire, having seven questions was designed to take opinion from the students regarding advantages/ disadvantages of three different teaching aids (BB, OHP, PPT). The questionnaire had no references to identify the respondent by name or signature. These questionnaires were distributed by authors in the classrooms just after the completion of all fifteen classes.

Each student was requested to complete the questionnaire, the exercise was absolutely voluntary. Separate written consent was not taken as the consent was taken to be implied in the instances where filled questionnaires were returned. In instances where the questionnaires were not returned or returned unfilled, the students were considered as non-respondent.

We assessed students' perception regarding the three teaching aids with the following questions-

1. Which is best for listening and stress relevant?
2. Which is best for interaction between students and teachers?
3. Which is best for taking notes during lecture?
4. Which is best to understand and grasp the content?
5. Which is best to demonstrate clinical conditions?
6. Which is most sleep inducing?
7. Which is best for recall?

Justification for Sample Size

Sample size taken for convenience.

RESULTS

146 students attended the last class (Fifteenth class) and 143 students responded to the forced choice questionnaire (Table I).

The respondent students preferred chalk and blackboard for better interaction between students & teacher (86.71%), better for taking notes during lecture (53.84%) and better for recall (72.02%) than other two teaching aids. (Table I)

They preferred power point presentation for better demonstration of clinical conditions (55.24%) & as better for stress free listening (65.03%) than other two teaching aids. (Table I)

Both chalk & blackboard and power point presentation were found to be almost equally effective for understanding and grasping content. (Table I)

Overhead projector was found to be most sleep inducing (64.33%) by the respondent students among all three teaching aids. (Table I).

Parameter	Chalk and Black Board (BB)	Over-Head Projector (OHP)	Power Point Presentation (PPT)
Best for listening and stress relevant	20.27% (29)	14.68% (21)	65.03% (93)
Best for interaction between students and teachers	86.71% (124)	2.09% (3)	11.18% (16)
Best for taking notes during lecture	53.84% (77)	7.69% (11)	38.46% (55)
Best to understand and grasp the content	46.85% (67)	6.99% (10)	46.15% (66)
Best to demonstrate clinical conditions	39.16% (56)	5.59% (8)	55.24% (79)
Most sleep inducing	10.48% (15)	64.33% (92)	25.17% (36)
Best for recall	72.02% (103)	5.59% (8)	22.37% (32)
Table I. Preference for Teaching Aids to Various Parameters Among the Respondent (n=143)			

DISCUSSION

A lecture is usually delivered by an expert on the subject, but the lecturer may not be a good teacher and may face problem as there is so much material but the time is little. So a lecturer may dependent on teaching aids to engage students' attention, enhance communication and transmit complex ideas as the major limitation of a lecture is that the listener passively receives the material and feels bored and sleepy.¹⁰ A good and well organized lecture make the students understands, remember and reproduce well which improves the academic performance of students.¹¹

In our study, we used three different teaching aids to assess perception of undergraduate medical students. It was observed in this study that the students preferred chalk & black board for 'better interaction between students & teacher', 'better for taking notes during lecture' and 'better for recall' than other two teaching aids. We think that during use of chalk & black board, a teacher can walk freely across the room, make eye to eye contact with students, engage the learners actively and have control over whole class. This is difficult for a teacher when he/she is at the desk for overhead projector or power point presentation. Also in black board teaching, a teacher can flexibly put ideas & transmit the subject matter instantly from his/her mind which is interrelated to topic. This may be difficult during power point presentation as the subject matter is pre-programmed in the slides, so sometimes a teacher is unable to transfer more relevant ideas pertinent with the topic.

This study showed that the students preferred power point presentation for better demonstration of clinical conditions and as stress free listening to the subject matter. This result was observed because certain diagrams, images, videos and concepts were better perceived by using power point presentations and make a lecture interesting for listening.

Chalk & black board and power point presentation were found to be almost equally effective for overall understanding and grasping the content in our study.

Regarding teaching with overhead projections, it easily puts much information on one page/slide. When a large volume of information is presented in this manner, working memory capacity may be overloaded and making notes

becomes difficult.¹²

This could be one of the reasons why in our study the students did not prefer overhead projector, although this media share a few of the advantages of computer presentations such as proper illumination and better display of figures and graphics. 64.33% of the respondent students in our study marked overhead projector as sleep inducing.

CONCLUSIONS

Traditional chalk & black board is still the preferred teaching aid for students for overall understanding and grasping of content. But power point presentation is more effective for better listening and understanding clinical conditions. The role of overhead projector as a teaching aid has reduced. So, using a combination of chalk & black board and power point presentation during a lecture can be the best method for teaching medical students.

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