

TEACHING OPHTHALMIC SURGICAL PROCEDURE (Small incision cataract surgery) WITH THE HELP OF A-V AIDS FOR FOURTH YEAR BAMS STUDENTS

Mrs. Nilakshi Shekhar Pradhan

Professor, Shalakyatantra Dept.

Sumatibhai Shah Ayurved Mahavidyalaya, Hadapsar, Pune-28, Maharashtra, India

Email: docspradhan@gmail.com

ABSTRACT

In ophthalmology, nearly all the surgical procedures are microscopic. Those students who came to observe these surgeries in their postings/clinical had difficulty to visualize and understand each step of the process. This paper is an attempt to focus on adaptation of new technologies available for better understanding of the topics in syllabus. In the present study the students were subjected to AV (Audio visual) aids for better understanding of the microscopic surgery –SICS-Small Incision Cataract Surgery. They were taught the procedure with its detailed landmarks and events with the help of AV aids (ppt) on a large screen. After this sensitization they were subjected to the microscopic surgery which was then better understood and perceived. Thus, adaptation of newer techniques is the need of the hour to develop better understanding of the topic in the students.

Keywords: SICS-Small Incision Cataract Surgery, Surgery, A.V. aids, Cataract.

INTRODUCTION

Use of Audio visual material in day to day teaching learning process is gaining importance and popularity amongst students in higher education. Audio visual material must be seen in their relationship to teaching as a whole and to the learning process as a whole, until the teacher understand the relationship between audio visual material and teaching learning process¹.

AV aids are supplementary devices by which the teacher, through the utilization of more than one sensory channel is able to clarify, establish and correlate concepts, interpretation and appreciation. This concept was put forth first by McKean and Roberts. AV materials help the process of learning that is motivation, classification and stimulation. AV aids are multisensory materials which motivate and stimulate the individual. It makes dynamic

learning experience more concrete, realistic and clear. These AV aids appeal to the senses of the student and quicken learning facilities for clear understanding. It helps in saving energy and time of both the teachers and students. It provides near realistic experience. It arouses interest and motivation in students to learn^{2,3,4}.

Innovative teaching learning methods are always welcomed by students like playing animations of surgical videos, inclusion of cartoons in power point, live demonstration of surgeries, photographs of different diseases, etc. Successful AV presentation will ensure students satisfaction, practical outcome and reduced lack of concentration of students during lectures.

There are many teaching learning methods for better understanding of the subject. Surgical procedure steps, understanding can be improved by visualization. Availability of good surgical videos ensures students subject understanding. Techsavvy generation, Practice of surgery is also evolving with integration of multimedia technologies. Hence multimedia tools can be incorporated in teaching and learning as well.

Hence we chose this project of surgical video as an effective AV aid in improving understanding of the surgical procedure of cataract surgery for IVth year BAMS students.

NEED OF THE STUDY-

In didactic method of teaching students have problem of understand the steps of operative procedure in sequential manner. Use of audio-visual aids is preferred as they are considered as 85% of whole teaching and learning⁵. They keep the individual learner focused on what is

being taught by the teacher in the classroom session. Audio-visual aids make a lesson or a lecture more interesting and a memorable experience not only for students but for teachers as well. They play a vibrant role in focusing the attention of individual student towards the teacher or the topic. Human being's five senses are the doorway for effective learning, especially seeing, hearing and touching brings maximum knowledge for the individual.

Audio-visual aids are most effective tools for developing flawless communication and interaction between student and content as well as student and teacher. These aids not only help to save the time of teacher but also help in developing and arousing curiosity, creativity & motivation. It emphasizes on the comprehension of knowledge and concept as well as keeps working on developing sound foundations for higher and further studies.

Some commonly known pros of using audio-visual aids are expressed in opinions of following scholars: Helps in comprehension by bringing the child in a direct contact with the concept and how it actually works in real life situations (Kinder, 1959). Conceptualizing is clearer and concrete as the use of audiovisual aids appeals, activates and utilizes the five senses of individual student. While use of audio-visual aids provide freedom to the students i.e. students discuss, comment and express their opinion which they cannot while a typical teacher lecture is in progress; at the same time this discussion helps them in developing language other than mother tongue, gaining confidence by probing and showing tolerance to opposite opinions. Using audio-visual aids improves teachers' performance by saving

time and energy (Brown, Lewis and Harclerod 1985)^{7, 8, 9}.

MATERIAL AND METHODS:

Proper consent was taken from the patient on which Cataract surgery was done and video recording of the same procedure was done.

While recording the video of cataract surgery, Audio information of the same procedure was recorded.

There was one group of 30 students of IV year BAMS of Sumatibhai Shah Ayurved Mahavidyalaya, Hadapsar, Pune-28.

First the surgical procedure of cataract surgery by didactic method to group of 30 students was taught. Then 10 Marks MCQ regarding the treatment and Likert questionnaire¹⁰ (10 questions) feedback from students was taken.

After one month the same surgical procedure to the same group of 30 students by AV aid (video of surgical procedure of cataract surgery) was shown. Then 10 marks MCQ and Likert questionnaire (10 questions) feedback from students was taken. Then statistical analysis was done of both these methods using Mann Whitney U test and Unpaired t-test.

OBSERVATIONS AND RESULTS:

All the observations of MCQ marks and Likert questionnaire feedback were recorded and proper statistical method was applied in both methods. Then analysis of the differences of both these methods was done and result was drawn.

Likert Scale

Summary Statistics:

Table 1: [Rank table of the groups]

	Group	N	Mean Rank	Sum of Ranks
Likert	Didactic Method	30	18.30	549.00
	Audio Visual	30	42.70	1281.00
	Total	60		

Table 2: [Median of the scores of the students]

	Group	N	Median	Mann Whitney U	P-Value
Likert Scale	Didactic Method	30	3.00	84.00	0.000
	Audio Visual	30	4.00		
	Total	60			

For comparison between two methods we have used Mann Whitney U test, since data was on ordinal scale. From above table we can observe that P-Value is less than 0.05 hence we conclude that there is significant difference

in two methods. Further we can observe that median value for audio visual method is more hence it is more effective than Didactic Method.

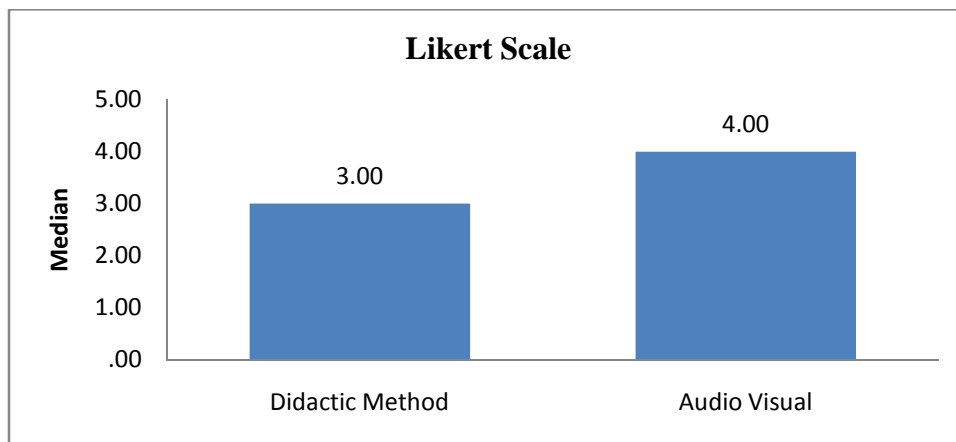


Figure 1: Comparison of median scores of both groups

Table 3: [MCQ Score]

Group	N	Mean	SD	SE	t-Value	DF	P-Value
Didactic Method	30	4.40	1.59	0.29	-8.241	58	0.000
Audio Visual	30	7.70	1.51	0.28			

For comparison between two methods we have used unpaired t-test, since data was quantitative. From above table we can observe that P-Value is less than 0.05 hence we conclude

that there is significant difference in two methods. Further we can observe that mean value for audio visual method is more hence it is more effective than Didactic Method.

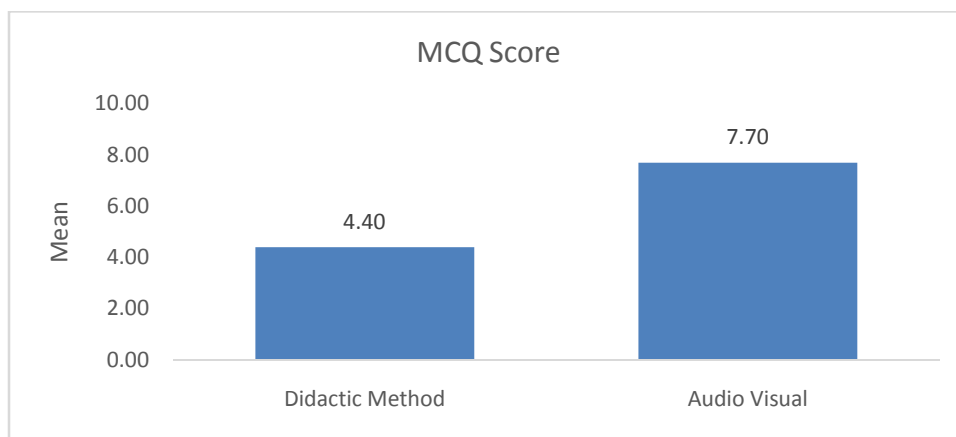


Figure 2: Comparison of scores of both the groups

DISCUSSION

There was only one group of 30 students of IVth year BAMS. After teaching the procedure by didactic method likert scale feedback was as follows. 10 students score was poor. 12 stu-

dents score was fair. 8 students score was good. There was no student for excellent score.

This same group was taught the procedure by Audio visual method and likert scale feedback

was as follows. There was no student in poor score and 2 students in fair score. 12 students score was good. 7 students score was very

good. 9 students score was excellent. It means highest students, 16 students (about 50%) score was very good.

Table 4: [Marks of students]

Marks Obtained by students	Number of students	Didactic method	Number of students After A-V presentation
01	1		-
02	2		-
03	7		-
04	5		-
05	7		2
06	5		5
07	3		7
08	-		7
09	-		4
10	-		5
	-		
	-		
Total	30		30

CONCLUSION

From the above statistical analysis we can conclude that use of video recording as an effective Audio visual aid in improving understanding of the surgical procedure of cataract surgery for IVth year BAMS students than the conventional didactic method.

REFERENCES

- Greenhough T., Computer assisted learning in undergraduate medical education, 2001, BMJ (Clinical research ed.).322.40-4.
- Kelly M., C. Lyng, M. Mcgrath and C. Cannon, Amultimethod study to determine the effectiveness of and students attitudes to online instructional videos for teaching clinical nursery skills, 2009, Neurts education today, 29, 292-300.
- Mir M. A., R. J. Marshall, R. W. Evans, R. Hall and H. L. Duthie, Comparison between videotape and personal teaching as methods of communicating clinical skills to medical students, 1984 British medical journal. 289. 31-34.
- Napholz L. and R. McCause, Interactive video instructions increases efficacy in cognitive learning in a Baccalaureate nursery education programme, 1984, computers in nursery.12.149-153.
- Reznick R. K. and H. MacRae, Medical education-teaching surgical skills-challenges in the world, 2006, New England journal of medicine, 355.2664-2669.
- www.websurge.com;accessed on 2/1/2017 at 12:30pm
- www.youtube.com;accessed on 2/1/2017 at 1:00pm
- www.adromaudiovisualaids.com;accessed on 22/12/2016 at 2;00pm
- Likert R., A technique for the measurement of attitude, Archives of psychology,

vol. 22 140, 1932, 55.;accessed on
15/12/2016 at 4:00pm

ANNEXURE-III

LIKERT SCALE FEEDBACK FORM

Likert Scale questionnaire.

Circle the correct numeric response to each question.

Scale: Poor=1, Fair=2, Good=3, Very good=4, Excellent=5.

- | | | | | | |
|---|---|---|---|---|---|
| 1. Question: Overall I understand the Procedure | 1 | 2 | 3 | 4 | 5 |
| 2. Question: I recall the procedure | 1 | 2 | 3 | 4 | 5 |
| 3. Question: I understand the procedure sequentially | 1 | 2 | 3 | 4 | 5 |
| 4. Question: I can concentrate while teaching the procedure | 1 | 2 | 3 | 4 | 5 |
| 5. Question: I take interest while teaching the procedure | 1 | 2 | 3 | 4 | 5 |
| 6. Question: Overall performance in MCQ exam. After teaching | 1 | 2 | 3 | 4 | 5 |
| 7. Question: I have confidence to retain it for a long time | 1 | 2 | 3 | 4 | 5 |
| 8. Question: I like this teaching technique | 1 | 2 | 3 | 4 | 5 |
| 9. Question: This teaching technique is useful in theory and practical exam. | 1 | 2 | 3 | 4 | 5 |
| 10. Question: How teacher taught the procedure | 1 | 2 | 3 | 4 | 5 |
| 11. Question: Interaction of the teacher with the students while teaching the procedure | 1 | 2 | 3 | 4 | 5 |
| 12. Question: For future discussion it is useful technique | 1 | 2 | 3 | 4 | 5 |
| 13. Question: Materials used for teaching the procedure | 1 | 2 | 3 | 4 | 5 |
| 14. Question: Expression power of the teaching the procedure | 1 | 2 | 3 | 4 | 5 |
| 15. Question: Overall performance of the teaching technique | 1 | 2 | 3 | 4 | 5 |

ANNEXURE-IV

Time: 10Min.

Marks: 10.

MCQ PAPER

- For capsular hexis.....solution is used.
1) Spirit 2) Methylene blue 3) NS 4) Trypan blue.
- Which type of incision is taken during surgery.....
1) Biplanar 2) Triplanar 3) both 4) None
- What is the position of IOL after implantation
1) Capsular Bag 2) Sulcus 3) Anterior chamber 4) Posterior segment.

4. Which instrument is used to remove the viscomet after surgery.
1) IV set 2) Simcoe canula 3) Syringe 4) Phacotips.
5. Anterior chamber is maintained with the help of.....during surgery
1) Viscomet 2) Trypan blue 3) Air bubble 4)All
6. Type of capsulotomy done is.....
1) anterior 2) posterior 3) lateral 4) antero-posterior
7. Hydrodissection is done with....
1) Viscomet 2) RL 3) NS 4) Crescent
8. For incision on sclera.....instrument is used.
1) Crescent 2) Keratome 3) Side port 4) MVR
9. Block given is.....
1) Retrobulbar 2) Peribulbar 3) Subtenon 4) Suprabulbar
10. Essential instrument used in AC entry is.....
1) Crescent 2) Keratome 3) Side port 4) MVR

Source of Support: Nil
Conflict Of Interest: None Declared

How to cite this URL: Mrs. Nilakshi Shekhar Pradhan:
Teaching Ophthalmic Surgical Procedure (Small Incision
Cataract Surgery) With The Help Of A-V Aids For Fourth
Year Bams Students. International Ayurvedic Medical
Journal {online} 2017 {cited May, 2017} Available from:
http://www.iamj.in/posts/images/upload/1408_1414.pdf