

Reinventing overhead projector to enhance small group skill learning process.

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Abstract

Introduction : Clinical skill development is an essential component in medical education. Clinical skills can be best taught using the four step approach.

Objectives :

- Reutilizing outdated overhead projector to teach the skill of Cu T insertion.
- Create awareness about the use of overhead projector for effective small group skill learning.

Methodology : 30 final year MBBS students posted in the family planning unit at the obstetrics and gynaecology department were included in this comparative study and were taught Cu T insertion by traditional methods and using overhead projector.

Results : Better skill acquisition with statistically significant difference was noted follows teaching by overhead projector Students perception on different aspects of teaching was significantly positive for four step approach.

Conclusion : Overhead projector can still be used for skill teaching. Simple clinical aids and the four step approach constitute an effective and efficient teaching method.

Key Words : Overhead projector, clinical skill learning, four step approach.

Introduction :

Medical education in India is gaining momentum. Medical educational projects and more research is going on to improve medical educational technologies. Use of audiovisual aids aims at improving the teaching learning process.

There are many “must to know” clinical skills which need to be mastered by students. At times, it becomes difficult for live demonstration of certain procedures like Copper containing intrauterine device (Cu T) insertion even to a small group of 30 students. More crowding of students could be embarrassing to the patient.

So, use of appropriate teaching aids in the clinical setting to teach clinical skills will enhance student learning, making it more interactive, interesting, retainable and recollectable over a period of time.

It is stated that if we teach today as we were taught yesterday, we rob our children of tomorrow¹. Use of teaching learning aids have revolutionized medical teaching. The overhead projector being one of these aids was once a common fixture in the class rooms, but today

they are slowly fading away, as they are being replaced by digital computers and LCD projectors.

With creative ideas and innovation, overhead projectors can be put back into action to teach some of the skills and this study is designed to teach Cu T insertion technique to MBBS students. This aid is simple to use, easily available and cost effective. Image is projected for easy visualization by the small group of students. Teaching is more effective as it allows direct interaction between the teacher and the students.

India suffers from population explosion and family planning methods are made popular in our country. One of the family planning methods being Cu T, every graduating medical student should be competent with Cu T insertion technique.

Feedback from students revealed that the traditional way of teaching this procedure in small group teaching classes was not enough to maintain interest and enthusiasm among the students. We tried innovating teaching learning experience using a model of uterus on an overhead projector to show CuT insertion steps using

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the four step approach.

Teaching certain complex procedures like Cu T insertion which is a “must to know skill” as per the university curriculum can be very taxing to many clinicians. Teaching a skill involves knowledge, skill demonstration and communication. The four step approach to teach clinical skills includes demonstration, deconstruction, comprehension and performance which will help the medical teacher to teach better and the learner can vocalize the steps and provide repetition to reinforce the learning and correct mistakes at the time of performance^{2,3}.

By adopting the four step approach, the student who was “consciously incompetent (realizing they can't do it) gets transformed to “consciously competent”(being able to do it with great thought). This will definitely be a lifetime memorable experience for the student⁴.

The goal of this article is to show that the use of simple teaching materials in the clinical setting will enhance student learning process.

Objectives :

1. Reutilizing outdated overhead projector to teach the skill of Cu T insertion.
2. Raise awareness about the use of overhead projector for effective small group skill learning.

Methodology :

This study was conducted in the students seminar room at the Obstetrics and Gynaecology department, S S Institute of Medical Sciences and Research Centre, Davangere. A clinical based comparative study was conducted. An expressed consent was taken from all the students who were willing to participate in this study. A total of 30 final year MBBS students, in Obstetrics and gynaecology department under family planning clinical postings were included in the study.

Day one, the students were taught Cu T insertion procedure using the traditional approach. The second day each student was asked to demonstrate the steps of Cu T insertion technique. Structured marker checklists were used for assessment purpose as a part of formative evaluation.

On the third day, students were taught Cu T insertion technique, using overhead projector(Fig. 1) and the four step approach in teaching clinical skills. A simple model of the uterus(cut section) made out of low cost thermocol stuck with glue on to a transparency sheet was projected on the screen using the overhead projector and the procedure was demonstrated, deconstructed, comprehended and performed by the teacher and students were allowed to perform the same in the class. Students performed the psychomotor skill at the end of

the session with confidence facing the audience.

After the session, reassessment of all the students was done by the teacher using the same checklists. Pre and post performance scores were analyzed using the Students paired t test. Participants were encouraged to give feedback of their learning experience .Institutional ethical clearance was obtained for the study.

Results :

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	before	1.4667	30	.50742	.09264
	after	2.8667	30	.34575	.06312

Paired Samples Test

		T	df	Sig. (2-tailed)
Pair 1	before - after	-12.339	29	.000

There is no significant difference in the results obtained before and after the students performances. The results of the paired “t” test shows that the null hypothesis is rejected at 1% level of significance. Therefore it is concluded that there is significant improvement in the after scores of the students performances.

Discussion :

Use of audio visual aids in medical education helps in better understanding of clinical skills.

We could not find any similar studies online for comparison purpose. In the present study teaching Cu T insertion to students was made simple using the four step approach on an overhead projector and all the students (100%) were extremely satisfied with their performance and liked this new method of teaching.

Similar results were shown by Parmar in their double blinded RCT, students perceptions also was satisfactory. Barelli has shown that teaching skills like intubation or chest compression techniques to students in the emergency department was never so easy after the four step approach was put into use⁵⁻⁷.

Use of an overhead projector in this study has made a significant difference in teaching the skill which otherwise is a blind procedure. Shah has rightly mentioned that overhead projector is a versatile teaching tool⁸. Naqvi, Baxi, Seth in their study on student perceptions towards teaching aids, showed that use of overhead projector for theory lectures, had least student attention span^{1,9,10}. Sangili in her analysis found that the students attitude was that the overhead projector is an outdated, unclear, unattractive and boring teaching aid¹¹.

Thermocol model used in this study made learning easy for students. Ralhan¹² in their study quote that medical teachers need to focus on effective teaching skills to motivate student learning process coupled with personal satisfaction.

Such exciting and innovative teaching learning sessions bring in personal satisfaction of being an effective teacher and a better medical educator¹³.

Fig. 1 : Cu T insertion taught using OHP



Conclusion :

Medical teachers must continue to strive to improve how to teach skills and to embrace newer methods of teaching. Demonstration of Cu T insertion technique with an overhead projector will ensure students a systematic and effective learning. Simple use of teaching materials in the clinical setting will enhance student learning. Overhead projector may be put into reuse and it

is no more an outdated audiovisual aid, innovation and creativity of a teacher can rejuvenate this instrument.

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