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RESEARCH ARTICLE

VIDEO DEMONSTRATION AS A SUPPLEMENTARY TOOL FOR UG TEACHING IN OBG CLINICS

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ABSTRACT:
INTRODUCTION: In the recent past, it has been observed that medical students are deficient in clinical skill. Several innovative educational interventions have been made by most of the medical colleges to strengthen the clinical skills of medical students during clinical postings, one such intervention is video demonstration of various clinical procedures. **OBJECTIVE:** The purpose of the study was to compare the effectiveness of two methods of small group teaching (1) demonstration of steps in the conduct of assisted breech delivery using the dummy pelvis (2) video demonstration based training for clinical skills acquisition of assisted breech delivery. **METHODOLOGY:** The study was conducted at Velammal Medical College Madurai among 30 students posted in department of OBG willing to participate in the study. The students were randomly divided into two groups, (Group I& II) of 15 each. A pre-test was conducted to assess the background knowledge of the students regarding the conduct of assisted breech delivery. Following which the Group I students had a demonstration of steps in the conduct of assisted breech delivery using the dummy pelvis and fetal skull and the Group II students had a video demonstration on the same day. The learning ability of students was assessed by conducting OSCE,held five days after teaching session. Performance of the students was tabulated and statistical significance was analyzed by independent sample test. **RESULTS:** In the Group I 6.66% and in Group II 26.66% were good performers ($p<0.05$). Below average were 13.33% in Group I and 6.66% in Group II. **CONCLUSION:** The students exposed to video demonstration performed better, so it can be considered as an additional tool for clinical teaching especially during their initial postings when the students are new to most of the procedures.

KEY WORDS: Clinical skill, assisted breech delivery, video demonstration, OSCE.

INTRODUCTION:

Medical students require training in order to perform clinical skills competently. Suboptimal performance of skills is associated with significant patient morbidity and mortality and increased healthcare costs [1, 2].

Dreyfus [3] noted that when people learn a skill, in order to reach competence, they need to learn to devise a plan or perspective that determines which of the elements of the skill must be treated as important and those that can be ignored.

Anderson proposed that three stages are involved in learning how to perform a skill [4]. These are the declarative stage, the knowledge compilation stage and the procedural stage. During the

declarative stage general problem solving is used to interpret new information in a way that helps the learner deal with the skill required. With time, knowledge is compiled into higher order productions that apply the knowledge and increase efficiency in dealing with the learning task. This is followed by the procedural stage in which knowledge is incorporated into the procedures for performing the skill.

Singley and Anderson proposed that exposure to the whole skill, for example via a demonstration, is most effective early on in learning a skill [5].

The use of videos to demonstrate skills on real patients also fits well with Peyton's 4 - step approach to teaching procedural and physical examination skills [6]. Peyton advocated silent demonstration first, followed by deconstruction, where the teacher demonstrates while explaining each step of the skill and then comprehension, where the teacher demonstrates while the learner describes the steps and then performance where the learner demonstrates while he or she describes the steps.

Viewed from an experiential learning perspective, videos can address the watching component of the "four step cyclical process" of experiential learning described by Kolb [7], the steps being "thinking, feeling, watching and doing". Kolb notes that experiential learning can begin at any of these four steps.

Michels et al. [8] found in a survey that 100% of British doctors involved in teaching clinical skills agreed that "in learning a clinical skill it is important to have demonstration (modeling)".

Vaginal breech deliveries occur, even in institutions with a policy of routine cesarean delivery for breech presentation, because of situation such as precipitous delivery, fetal anomaly or fetal death and mother's preference for vaginal delivery. Therefore it is essential for clinicians to maintain the skills of breech delivery. The ability to conduct assisted breech delivery is a basic requirement for all medical students. It is an important skill especially for doctors posted in the peripheral health centers where an obstetrician is not available to conduct deliveries. An attractive option for teaching conduct of assisted breech delivery may be with the use of video.

It is widely accepted that student motivation is a key element in learning process[9]. Video demonstration has been used off-line for many years to support student learning[10].Video demonstration is a powerful teaching and learning tool because it can influence knowledge, skill and attitude formation effectively. Making a video requires substantial preparation and the information delivered is more concise. It allows repetitive consistency in its deliverance of learning material, methodically covering the learning objectives without the danger of loss of specific learning points, or of students being taught by individuals with different level of expertise. Each student is more likely to receive the same teaching experience. A video also has the advantage that it can be distributed electronically via internet, replayed to reinforce learning and can also aid revision prior to medical examination.

As a result of reduced numbers of vaginal breech deliveries the medical students do not get an opportunity to witness or do not receive training in the skill set required for safe vaginal breech delivery. So we decided to select assisted breech delivery for video demonstration.

The purpose of the study was to compare the effectiveness of two methods of small group teaching (1) demonstration of steps in the conduct of assisted breech delivery using the dummy pelvis (2) video demonstration based training for clinical skills acquisition of assisted breech delivery by second clinical year students in Obstetrics and Gynecology.

METHODOLOGY

The study was conducted at Velammal Medical College Madurai on 30 students of second clinical year posted in the department of OBG.

A good quality instructional video demonstrating steps in the conduct of assisted breech delivery was developed.

Students posted in department of OBG willing to participate in the study were included in the study. The students were randomly divided into two groups, (Group I& II) of 15 each. A pre-test was conducted to assess the background knowledge of the students regarding the conduct of assisted breech delivery. Following which the Group I students had a demonstration of steps in the conduct of assisted breech delivery using the dummy pelvis and fetal skull and the Group II students had a video demonstration of steps in conduct of assisted breech delivery on the same day. The steps demonstrated were

- giving an episiotomy
- hands off technique
- baying of cord
- covering baby with warm towel
- keeping back anterior
- delivery of legs
- femoro pelvic grip
- delivery of shoulders
- supra pubic pressure
- delivery of after coming head-

a)Burnmarshall technique

b) Mauriceau- Smellie-Veit maneuver

The learning ability of students was assessed by conducting OSCE with a check list (Table-1) which was held five days after teaching session, each student was asked to demonstrate the ten steps in conduct of assisted breech delivery with dummy pelvis and skull. An OSCE type of assessment was selected for this study as it is practical to deliver and allow for standardization of conditions for student, facilitating comparisons between students.

Each step was given score of one and the students were assessed for total score of 10. The scores of individual students were tabulated.

Table 1- STUDENTS' PERFORMANCE IN VARIOUS STEPS OF OSCE

Sl No.	Variables	Group I performance (%)	Group II performance (%)
1	Giving an episiotomy	8(53.33)	9(60)
2	Hands off technique	9(60)	11(73.33)
3	Baying of cord	7(46.66)	6(40)
4	Covering baby with towel	8(53.33)	9(60)
5	Keeping back anterior	11(73.33)	12(80)
6	Delivery of legs	6(40)	9(60)
7	Femoro-pelvic grip	9(60)	12(80)
8	Delivery of shoulder	6(40)	9(60)
9	Supra pubic pressure	12(80)	12(80)
10	Delivery of after coming head	9(60)	10(66.66)

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TABLE 2- COMPARITIVE ANALYSIS OF BOTH GROUPS

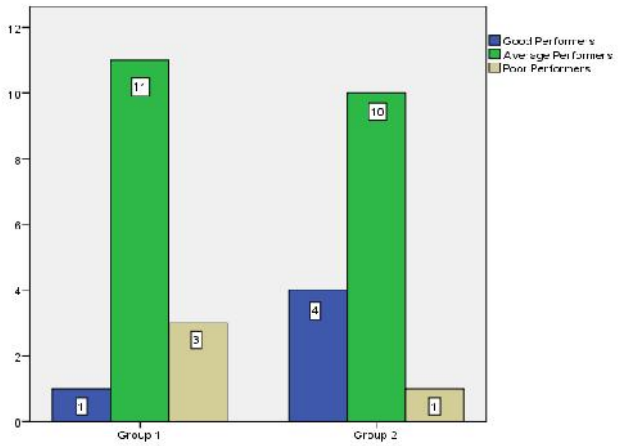
Performance	Group I	Group II
Good performers (=/>8)	**1(6.66%)**	**4(26.66%)**
Average performers (5-8)	**11(73.33%)**	**10(66.66%)**
Poor performers (<5)	**2(13.33%)**	**1(6.66%)**

Students scoring 8 or more were classified as good performers, those with scores between 5 & 7 as average performers and below 5 as poor performers.
The data were statistically analyzed using standardized statistical methods. An independent samples test was used to determine significance.

RESULTS

Thirty students participated in the study. This represents 20.68 % of the second clinical year students. The results for each step of OSCE are summarized in table:1. The total marks scored by students in Group I were 85(56.66%) out of 150 and group II was 99(66%) out of 150.
In the Group I 6.66% and in Group II 26.66% were good performers. Average performers were 73.33% in Group I and 66.66% in Group II. Below average were 13.33% in Group I and 6.66% in Group II. Using independent samples test the p value was <0.05 which is statistically significant.

	Group	N	Mean	Std. Deviation	Std. Error Mean
Marks	Group 1	15	5.67	1.633	0.422
	Group 2	15	6.60	1.242	**0.321**



PICTURE 1- BAR CHART COMPARING PERFORMANCE OF BOTH THE GROUPS

Statistics

		Group 1	Group 2
N	Valid	15	15
	Missing	0	0
Mean		5.67	6.60
Std. Error of Mean		0.422	0.321
Median		5	7
Mode		7	7
Std. Deviation		1.633	1.242
Variance		2.667	1.543
Minimum		2	4
Maximum		8	8
Sum		85	99

DISCUSSION:

The important purpose of the study was to explore the extent of transmission of information on clinical skills by video demonstration. Every effort was made to keep all other variables constant. The pretest results showed that none of the students had any clinical knowledge about the conduct of assisted breech delivery and it was totally new to the students. The study found that the students randomized to view the video demonstration of conduct of assisted breech delivery performed better in OSCE than those who were taught the same procedure using dummy pelvis and fetus. The Group II students performed most of the steps of the procedure better than the Group I students. The overall scores of 85(56.66%) obtained by Group I and 99(66%) by group II on recall of steps of the procedure as assessed by a questionnaire were higher than expected. The students scored better though they had no previous experience or clinical knowledge of assisted breech delivery. The score between 55- 67%, obtained by both the Groups on content retention after one session of teaching, underlines the importance of a structured approach to clinical teaching.

Videotaped demonstration of physical examination has been found to be more effective than a lecture illustrated with slides in providing clinical tuition[11]. Students seem to prefer learning by watching videos than by standard instructional methods[12].Video resources used in revision of a clinical skill may assist in maintaining competence at performing the skill over time. This has been shown for medical students performing female and male catheterization 3 months after learning the procedure[13] and for subcuticular suturing one week after learning the technique[14]. Video can also, by the fact that it can be viewed repeatedly without any further input of time from teaching staff, give students the opportunity to become familiar with an area in their own time and at their own pace[15].

The only disadvantage of video demonstration we found was lack of interaction between the students and the teacher.

CONCLUSION:

The students exposed to audio-visual methods performed better, so video demonstration can be used as a tool for clinical teaching especially during their initial postings when they are new to most of the procedures.

Conflict of interest – None

Ethics committee approval - obtained

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