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ORIGINAL RESEARCH

DOPS: AN ENHANCED TOOL FOR SKILL LEARNING AMONG INTERNS IN GENERAL SURGERY

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ABSTRACT

Background: The goal of CBME is to train medical students to enable them to manage the essential needs of the society. There is a gap between learning and practicing. Among all WPAs, DOPS fills this gap by assessing in real scenarios. However, its use as a TLM for improving practical skills for Interns in our setting, needs further evaluation.

Methods: After IEC approval & Participants Consent, this study was conducted among 23 CRMIs posted in General Surgery Department during October 23 to December 23. Both faculties and CRMIs were first sensitized about DOPS. It was done for patients admitted in emergency and Surgery wards. Each procedure was done thrice, with an interval of 3 to 7 days. Feedback was obtained on a 3-point Likert scale with 4 questions and one open- ended question.

Results: All 23 participants initially were apprehensive, and performance was low. After facilitators feedback, they gradually improved as evident in the score table from 20 to 36.6, 21.1 to 37.9 & 19.3 to 37.1 respectively. Respect to patient's privacy and communication improved which gained better patient cooperation. Data was analysed using Descriptive and Inferential statistics (ANOVA & post- hoc Tukey test).

Conclusion: DOPS has improved overall performance of interns with 100% satisfaction. DOPS though an assessment method, can be used as a TLM which enhances the skill and Knowledge of basic procedures.

Keywords: DOPS, Interns, feedback, WPA

INTRODUCTION

The goal of Curriculum Based medical Education (CBME) is to produce an Indian Medical Graduate (IMG) with the requisite knowledge, skills, attitude, values, and compassion so that they are the PHYSICIAN OF FIRST CONTACT OF THE COMMUNITY. (1-5) At the end, a medical student should be competent enough to address the essential needs of the society in addition to passing written tests. There is a huge gap between what is learnt and what is practiced in the community. This is the grey area which is not assessed in our Traditional curriculum which is predominantly knowledge oriented.

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Figure 1: Millers's Pyramid

According to Miller's Pyramid (Figure 1), the highest level of learning is DOES, (4). Usually, a student stops at 'KNOWS HOW' level, but a CRMI must put what he has learnt to practise. This top level of Pyramid is the assessment of clinical competence, which is like their future professional status. There are many Workplaces based assessments (WPA) available. Of all the assessment methods, WPA is a very good tool for assessing the skills. DOPS is a structured and objective tool of WPA. Though this is a formative method of assessment, its use as a Teaching Learning Method for improving their practical skills in our setting, needs further evaluation.

Directly Observed Procedural Skills (DOPS) is a form of Work-place Based Assessment (WPA) done for postgraduates/Residents in many countries. The method is a surgical version of an assessment tool originally developed and evaluated by the UK Royal Colleges of Physicians (1).

DOPS is a criterion referenced assessment that evaluates cognitive, psychomotor, and affective domains of performing a procedure. This method was specifically designed to evaluate practical skills and provide feedback; it requires direct observation of an assistant during a procedure and coincides with evaluation in a written form. This method is particularly useful in evaluating the practical skills of the assistant objectively and systematically. In this method, observation of the assessor is documented in a checklist, and then the trainee is provided with a feedback based on objective findings (6, 7).

The method gives the trainees an opportunity to receive constructive feedback and directs their attention to the essential skills required to perform the procedure on the grounds that the evaluation is aimed to improve the performance and ask for a specific and on time feedback. They will keep it in their portfolio for final submission.

The major strengths of this evaluation method are (3):

- promoting practical skills of participants,
- providing feedback to participants,
- independence during assessment,
- great relevance to the courses and skills required,

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- acceptability of this approach by participants, and
- its formative nature.

Drawbacks of DOPS (3):

- stressful evaluation,
- time limitation,
- Bias between the assessors
- Inadequate manpower

This Study is aimed to' Evaluate The use of Assessment Tool, DOPS as a form of TLM (Teaching Learning Method) to assess the effectiveness, & Feasibility to improve the Psychomotor domain (Surgical Skill) of the CRMIs.

MATERIALS & METHOD

The study was conducted as a prospective observational study. After getting the approval from institutional ethical committee, this study was conducted among 23 Interns who were posted in the general surgery department during the period of October 23 to December23, after getting their consent.

As this method of assessment was new to both faculties & CRMIs, the procedure of DOPS was explained to them. First, a list of general surgery procedures for DOPS was prepared. These Are the Basic Procedures Which are the Certifiable Skills in General Medicine. (6)

All these Interns were already Sensitised about how to perform these procedures. Then, a structured list of items for each procedure & the rating scale in a standardised format was made ready.

RESULTS & DISCUSSION

Of the total 23 Interns, 12 were females & 11 males. 15 Interns have already completed General Medicine postings & 8 were Fresh Candidates. All students were initially apprehensive and the performance during the first time was relatively low. The performance or effectiveness (how well they perform) was assessed by observing them & also by the feedback obtained from the Interns & Faculties.

For Nasogastric tube insertion, the first-time scores were 20/45, which improved to 36.6. Most of the Interns found difficulty in explaining the procedure to the patient & also to the faculties before starting the procedure. Technically also they could not pass the tube beyond the mouth, and many required trying twice because of faulty neck position.

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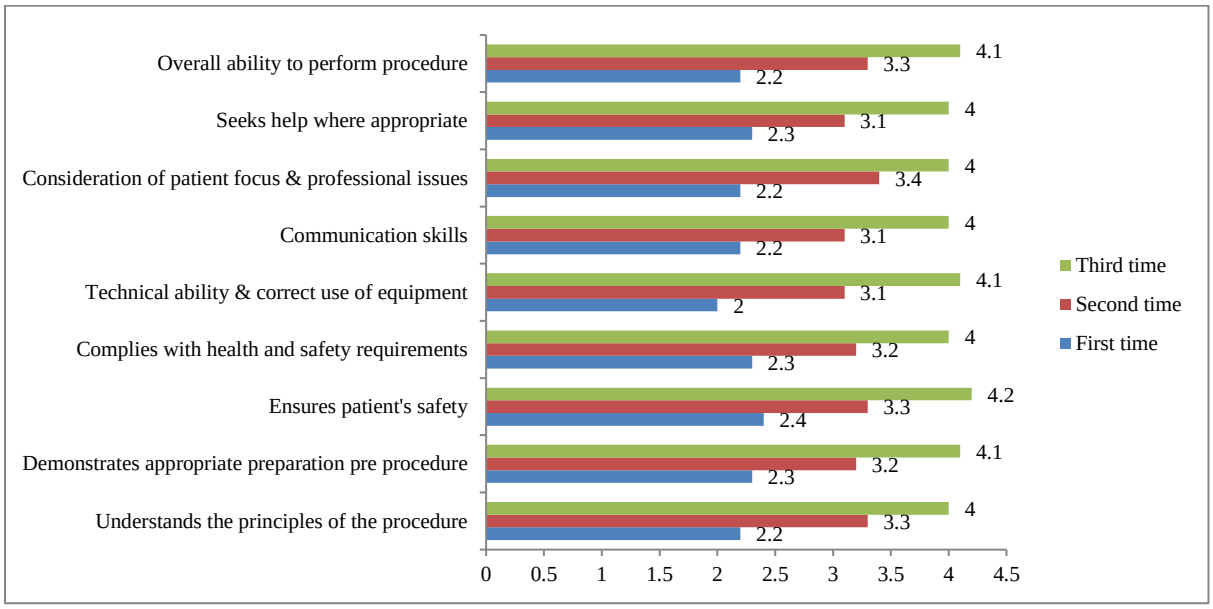

Figure 2: Nasogastric tube insertion

Table 1: Nasogastric tube insertion.

Nasogastric tube insertion	Time						ANOVA test P value	Post hoc Tukey test P value		
	First time		Second time		Third time					
	Mean	SD	Mean	SD	Mean	SD		1st vs 2nd	1st vs 3rd	2nd vs 3rd
Understands the principles of the procedure	2.2	.7	3.3	.5	4.0	.0	<0.001	<0.001	<0.001	<0.001
Demonstrates appropriate preparation pre procedure	2.3	.6	3.2	.4	4.1	.4	<0.001	<0.001	<0.001	<0.001
Ensures patient's safety	2.4	.6	3.3	.6	4.2	.4	<0.001	<0.001	<0.001	<0.001
Complies with health and safety requirements	2.3	.8	3.2	.7	4.0	.5	<0.001	<0.001	<0.001	<0.001
Technical ability & correct use of equipment	2.0	.6	3.1	.6	4.1	.5	<0.001	<0.001	<0.001	<0.001
Communication skills	2.2	.7	3.1	.5	4.0	.5	<0.001	<0.001	<0.001	<0.001
Consideration of patient focus & professional issues	2.2	.6	3.4	.5	4.0	.6	<0.001	<0.001	<0.001	<0.001
Seeks help where appropriate	2.3	.6	3.1	.7	4.0	.6	<0.001	<0.001	<0.001	<0.001
Overall ability to perform procedure	2.2	.4	3.3	.4	4.1	.3	<0.001	<0.001	<0.001	<0.001
Total score	20.0	3.7	28.9	3.2	36.6	2.4	<0.001	<0.001	<0.001	<0.001

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For catheterisation of the bladder, their initial scores were 21.1 which improved to 37.9. Most of the Interns struggled to identify the Urethra in female patients. They did not explain about the procedure to the patient & to the Assistant who is assessing. Few of them did not wait for local anaesthesia to act & some of them forgot to put back the Foreskin.

Table 2: Bladder catheterisation.

Bladder catheterisation	Time						ANOVA test P value	Post hoc Tukey test P value		
	First time		Second time		Third time					
	Mean	SD	Mean	SD	Mean	SD		1st vs 2nd	1st vs 3rd	2nd vs 3rd
Understands the principles of the procedure	2.5	.6	3.4	.5	4.2	.4	<0.001	<0.001	<0.001	<0.001
Demonstrates appropriate preparation pre procedure	2.3	.6	3.6	.5	4.1	.3	<0.001	<0.001	<0.001	0.001
Ensures patient's safety	2.4	.5	3.3	.6	4.4	.5	<0.001	<0.001	<0.001	<0.001
Complies with health and safety requirements	2.4	.5	3.3	.6	4.3	.4	<0.001	<0.001	<0.001	<0.001
Technical ability & correct use of equipment	2.2	.7	3.3	.6	4.3	.6	<0.001	<0.001	<0.001	<0.001
Communication skills	2.2	.8	3.3	.7	4.2	.5	<0.001	<0.001	<0.001	<0.001
Consideration of patient focus & professional issues	2.4	.6	3.5	.6	4.2	.5	<0.001	<0.001	<0.001	0.001
Seeks help where appropriate	2.2	.5	3.3	.6	4.1	.7	<0.001	<0.001	<0.001	<0.001
Overall ability to perform procedure	2.5	.6	3.5	.5	4.2	.5	<0.001	<0.001	<0.001	<0.001
Total score	21.1	4.0	30.6	3.8	37.9	3.1	<0.001	<0.001	<0.001	<0.001

Suturing was tough for them to begin with. All students showed remarkable improvement from 19.3 to 37.1. They were not confident all stages, their knowledge about the suture materials, tensile strength, choosing appropriate suture material was all limited. Their improvement at the end was remarkable.

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Table 3: Suturing

Suturing	Time						ANOVA test P value	Post hoc Tukey test P value		
	First time		Second time		Third time					
	Mean	SD	Mean	SD	Mean	SD		1st vs 2nd	1st vs 3rd	2nd vs 3rd
Understands the principles of the procedure	2.1	.6	3.2	.4	4.0	.0	<0.001	<0.001	<0.001	<0.001
Demonstrates appropriate preparation pre procedure	2.0	.6	3.2	.4	4.1	.3	<0.001	<0.001	<0.001	0.001
Ensures patient's safety	2.3	.6	3.4	.5	4.2	.7	<0.001	<0.001	<0.001	<0.001
Complies with health and safety requirements	2.0	.6	3.4	.6	4.0	.4	<0.001	<0.001	<0.001	0.002
Technical ability & correct use of equipment	2.1	.5	3.4	.7	4.0	.5	<0.001	<0.001	<0.001	0.002
Communication skills	2.0	.6	3.3	.6	4.2	.6	<0.001	<0.001	<0.001	<0.001
Consideration of patient focus & professional issues	2.3	.6	3.3	.8	4.3	.5	<0.001	<0.001	<0.001	0.001
Seeks help where appropriate	2.3	.8	3.4	.5	4.1	.5	<0.001	<0.001	<0.001	<0.001
Overall ability to perform procedure	2.2	.6	3.3	.5	4.2	.4	<0.001	<0.001	<0.001	<0.001
Total score	19.3	3.6	30.0	3.4	37.1	2.3	<0.001	<0.001	<0.001	<0.001

Many faculties were reluctant & initially not willing to conduct the DOPS. Later, they too participated actively. After facilitators feedback, they gradually improved and while performing again, they mastered the technique very well. They respected the patient's privacy & followed professional behaviours while performing all procedures. Communication also improved which gained better patient cooperation.

Time taken for DOPS & also the procedure gradually decreased from the first time till the third time. On an Average during the first time, it took around 20 minutes for NG Tube Insertion which reduced to 10 minutes at the third time. Feedback obtained from all of them showed that all Interns felt that this helped them improve a lot.

They said they were able to form a mental checklist of all the steps, recollect and do the procedure in an orderly way. Both Interns & the Faculties felt that they were able to identify the strengths & weakness, which focussed them to concentrate in that area.

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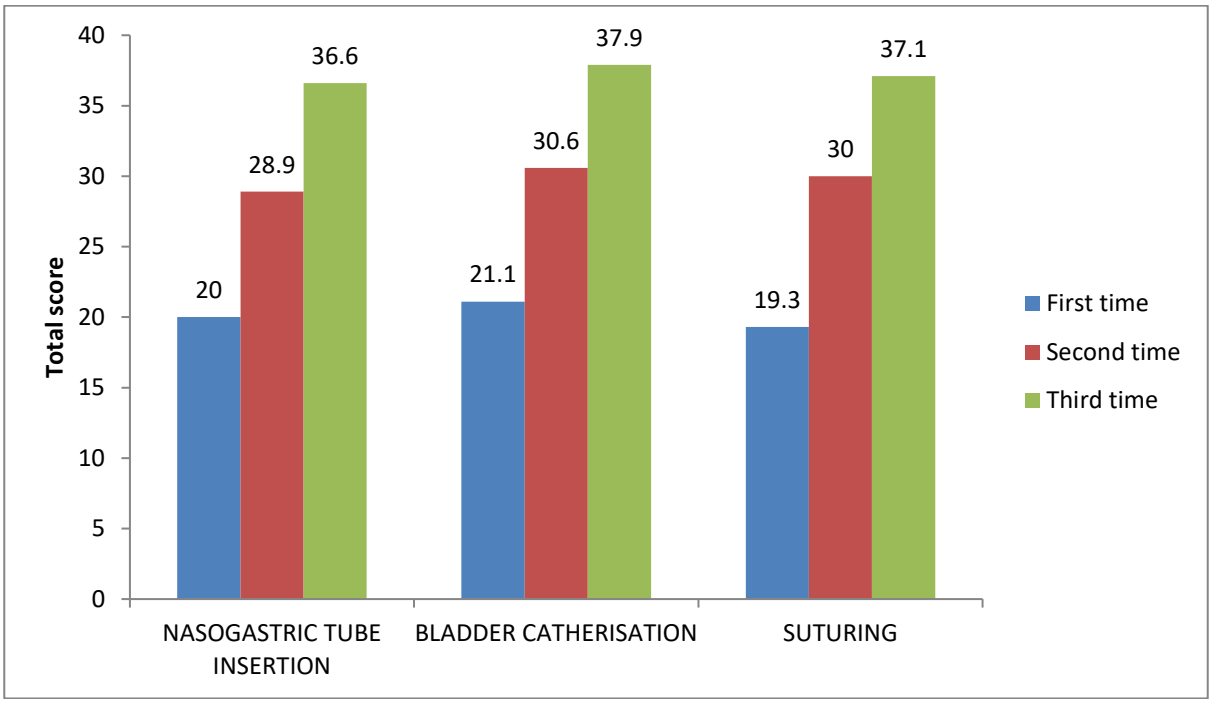

Figure 3: Total score comparison

Table 4: Feedback

Where you able to understand the explanation about how to perform DOPS?	N	%
Not much	0	0.0
Well	11	47.8
Very well	12	52.2
Was the time interval given to perform the procedure adequate?		
Not adequate	0	0.0
Just adequate	2	8.7
Adequate	21	91.3
How effective was this procedure in making you understand the concepts of those surgical procedures?		
Not useful	0	0.0
Just useful	1	4.3
Very useful	22	95.7
Has this DOPS improved your performance?		
Not much	0	0.0
Just enough	0	0.0
Very much	23	100.0

CONCLUSION

DOPS improved the overall performance of the interns with 100% satisfaction. DOPS though an assessment method, can also be used us a Teaching Learning method which enhances the skill & Knowledge of basic procedures among the interns.

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