Original Research Paper Medical Science

Directly Observed Procedural Skill (DOPS) Enhances Interns Competency in Performing Skills

PROF. K. SIVA PRAKASAM M.S., PROFESSOR, DEPARTMENT OF GENERAL SURGERY SRI MUTHUKUMARAN MEDICAL COLLEGE, HOSPITAL & RESEARCH INSTITUTE, CHENNAI – 87

DR. SRI LAKSHMI RAO M.S., ASSISTANT PROFESSOR, DEPARTMENT OF GENERAL SURGERY SRI MUTHUKUMARAN MEDICAL COLLEGE, HOSPITAL & RESEARCH INSTITUTE, CHENNAI – 87

DR. JAI VINOD KUMAR M.S., ASSISTANT PROFESSOR, DEPARTMENT OF GENERAL SURGERY SRI MUTHUKUMARAN MEDICAL COLLEGE, HOSPITAL & RESEARCH INSTITUTE, CHENNAI – 87

ABSTRACT

ASSESSMENT OF CLINICAL SKILLS FOR UNDERGRADUATES DURING THE TEACHING PROCESS HAS BEEN A VERY IMPORTANT ISSUE. CERTAIN PROCEDURES WHICH THE HOUSE SURGEONS (CRRI) ARE ALLOWED TO PERFORM DURING THEIR CLINICAL TRAINING NEED ADEQUATE SUPERVISION AND IN SPITE OF ALL OBSERVATIONS SOME MINOR PROCEDURES TOO CAN TURN OUT DISASTROUS IF THE REQUIRED SKILL HAS NOT PROPERLY INSTALLED IN THEM. URETHRAL CATHETERIZATION IS A SIMPLE PROCEDURE; IT CAN HAVE DEVASTATING CONSEQUENCES WHEN PERFORMED INCORRECTLY. THE CURRENT PROJECT WAS UNDERTAKEN TO ASSESS WHETHER DIRECTLY OBSERVED PROCEDURAL SKILL (DOPS) ENHANCES THE COMPETENCY OF THE MEDICAL INTERNS TO PERFORM THE URETHRAL CATHETERIZATION PROCEDURE CORRECTLY AND INDEPENDENTLY.

THE COMPETENCY OF 30 INTERNS WHO WERE POSTED IN GENERAL SURGERY IN PERFORMING A URETHRAL CATHETERIZATION WAS TESTED USING A MANNEQUIN. EACH INTERN WAS ASSESSED (PRE-TEST) USING A CHECK LIST. A PROTOCOL OF TRAINING WAS FRAMED WHICH INCLUDES DEMONSTRATION OF THE PROCEDURE ON THE MANNEQUIN IN SMALL GROUP. DIRECTLY OBSERVED PROCEDURAL SKILL (DOPS) ASSESSMENT (POST-TEST) WAS DONE FOR EACH INTERN SEPARATELY ON INDIVIDUAL PATIENT UNDER DIRECT SUPERVISION OF SKILLED GENERAL SURGEON.

THE RESULTS OF OUR PROJECT SHOWED THAT THERE IS A DEFINITE IMPROVEMENT IN THE COMPETENCY OF THE INTERNS IN PERFORMING URETHRAL CATHETERIZATION AFTER UNDERGOING THE DIRECTLY OBSERVED PROCEDURAL SKILL (DOPS) TRAINING PROGRAMME

KEYWORDS : DOPS, SKILLS LAB, WBA (WORKPLACE BASED ASSESSMENT)

Introduction

Sufficient teaching and assessing clinical skills in the undergraduate setting becomes more and more important.[1] Urethral Catheterization is one of the most common procedures performed in emergency department. Though it is a simple procedure, it can have devastating consequences when performed incorrectly with associated significant morbidity.[2] Medical students are taught about the skills for Urethral Catheterization during their final year MBBS but still very few intern graduates receive practical instructions in this regard,[3] despite their internship in medical and surgical departments. The current project was undertaken to assess whether Directly Observed Procedural Skill (DOPS) enhances the competency of the medical interns to perform the urethral catheterization procedure correctly and independently.

Methods:

The project was approved by the institutional ethical committee. Written consent was obtained from all the patients involved in the study and also from the interns who participated in this project. We included 30 interns posted in General Surgery rotation postings for 2 months. The competency of the interns in performing a urethral catheterization was tested using a mannequin and each intern was assessed (Pre-test) using a check list.(Figure 1) [4] A protocol of training was framed which includes a lecture including a video demonstration on urethral catheterization, a small group (6 students) demonstration of the procedure on the mannequin, a step by step live demonstration of urethral catheterization on a patient was conducted in small groups.[5]

Directly Observed Procedural Skill (DOPS) assessment (Post-test) was done for each intern separately on individual patient under direct supervision of skilled general surgeon. The pre-test and post-test scores were entered in excel sheets and analyzed for test of significance using software SPSS 20.

Results:

The mean scores of the pre-test were 3.3 and the mean scores of the post-test were 9.2. This overall mean scores shows a highly significant improvement in the post-test scores of all the interns compared to their pre-test scores (Table 1). Although both males and females showed highly significant improvement in post-test scores, further analysis revealed that the improvement in post-test score was more significant in the females (Figure 2).

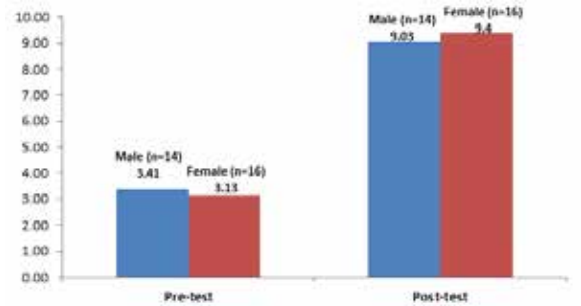
Figure 1: Performing the urethral catheterization in mannequin (pre-test)

Table 1: Comparison of the student's scores in the pre-test and post-test

	Pre-Test		Post-Test		Improvement		't'	d.f	significance 'p' value
	Mean	S.D	Mean	S.D	Mean	S.D			
Total (n=30)	3.3	0.9	9.2	1.0	5.9	1.2	28.193	29	p<0.001*

Results are expressed as mean and standard deviation of the total scores obtained in pre-test and post-test. Significance (p value) obtained using a paired 't' test. * Highly Significant.

Figure 2: Comparison of the level of improvement in post-test scores between the males and females



Conclusion:

The results of our project clearly shows that there is a definite improvement in the competency of the interns in performing urethral catheterization after undergoing the Directly Observed Procedural Skill (DOPS) training programme. In summary, this study shows that DOPS represent an efficient method in teaching clinical skills.[6]

Reference:

1. A Morris, J Hewitt, CM Roberts. Practical experience of using directly observed procedures, mini clinical evaluation examinations, and peer observation in pre- registration house officer (FY1) trainees. Postgrad Med J. 2006 Apr; 82(966): 285–288. doi:10.1136/pgmj.2005.040477 PMCID: PMC2579636
2. Carter H, Chan D: Section III: Basic Instrumentation and Cystoscopy. Edited by: Wein AJ, Kavoussi LR, Novick AC, Partic AW, Peters CA. 2007, Campbell-Walsh Urology, 161-70. 9
3. Thomas AZ, Giri SK, Meagher D, Creagh T: Avoidable Iatrogenic Complications of Urethral Catheterization and Inadequate Intern Training in a Tertiary-care Teaching Hospital. British Journal of Urology. 2009, 104: 1109-12.
4. GMC: Tomorrow's doctors. Outcomes and standards for undergraduate medical education. 2009,[http://www.gmc-uk.org/education/undergraduate/tomorrows_doctors.asp]
5. Bigot P, Rouprêt M, Orsat M, Benoist N, Larré S, Chautard D, et al: Evaluation of the practical skills of final year medical students: example of bladder catheterization. Prog Urol. 2008, 18 (2): 125-31. 10.1016/j.purol.2007.10.003.
6. Profanter C, Perathoner A. DOPS (Direct Observation of Procedural Skills) in undergraduate skills-lab: Does it work? Analysis of skills-performance and curricular side effects. GMS Z Med Ausbild. 2015 Oct 15;32(4):Doc45. doi: 10.3205/zma000987. eCollection 2015.