To evaluate Direct Observation of Procedural Skills in OBGY

Dr Suchita Dabhadkar*, Dr Girija Wagh **, Dr Tushar Panchanadikar,**
Dr Savita Mehendale **,Dr Vivek Saoji***
*Assistant Professor, ** Professor, Department of OBGY, **Dean and prof Surgery,
Bharati Vidyapeeth Medical College, Pune, Maharashtra 411043

Abstracts: This interventional study was done in the Dept of OBGY of Bharati Vidyapeeth medical college, Pune, during Sept to Dec 2013. **Context of the study:** This educational research project was planned to introduce a formative structured assessment method for residents in OBGY and assess its impact on student learning. **Primary Objectives**:1) To design and conduct DOPS in Dept of OBGY, for second year postgraduate students.2) To assess impact on learning after 1 week of practice. **Methodology:** All participants were sensitized about the new assessment method: DOPS. Standard Operative Procedure for the core skill 'Female Genital Tract Examination' was prepared. A 5 point scale for DOPS Evaluation was designed, peer reviewed and piloted. DOPS was conducted by senior faculty members over 2 week's time frame. Students were reassessed using same checklist by same observer after one week. Feedback about the entire experience was taken from all participants. **Evaluation:** 1) Student DOPS scores before and after feedback and practice 2) Analysis of feedback from all participants. **Results and Conclusion:** All participating students and faculty members felt that DOPS is 100% relevant to the curriculum and feasible to accept as a regular formative assessment and learning tool for PG students in OBGY. Higher Patient satisfaction expressed during second session suggests that such an intervention will result in better clinical care in long run. [Dabhakar S NJIRM 2014; 5(3) :92-97]

Key Words: DOPS, OBGY residency, procedural skills.

Author for correspondence: Dr Suchita Dabhadkar ; Address Department of.Obstetrics and Gynaecology Bharati Vidyapeeth Medical College , Pune – 411043; Email – sdabhadkar9@gmail.com

Introduction: Postgraduate students in any faculty of health sciences need to acquire competency in various procedural skills during the course of their training.

Performing these procedures not only needs cognitive skills, but also skills in the psychomotor and affective domain, including communication skills. How to assess the level of competency in these procedural skills is the big question. Over the time it is accepted that direct observation of students is mandatory to ensure the quality of care provided by these trainees for the patient.[1]

Recent systematic review of literature on tools for direct Observation of health science students, residents and fellows by supervisors identified 55 existing tools.[1] Direct Observation of Procedural Skills is a tool designed for performance based assessment of clinical skills[1]. The trainees are directly observed and assessed with the help of a structured checklist while performing a clinical procedure on actual patients. At the end of the procedure, a verbal and written feedback is given to the trainee in a suitable, non threatening environment, to identify the areas of strength and areas that need improvement.

DOPS is an established method for assessment of clinical skills and is already a part of formal assessments in Royal College of Obstetrics & Gynecology, London.[2] We perceived that DOPS can also be used as a training tool and will have a great educational impact. If students are given a chance to practice the skills after being critically observed and given a structured objective constructive feedback about their performance, students will be able to improve their skills and feel more competent and confident in performing these tasks subsequently.

Context of the study: A postgraduate trainee in the Dept of OBGY, in our Medical College is expected to learn and perform different tasks at different levels of training. Typically after the period of observation for first two months, these trainees start performing various clinical procedures. They learn from various sources like near peers, lecturers and other staff members.

Currently, there is a lack of systematic, structured way of assessment of these skills acquired during the course. These students are assessed randomly through daily clinical rounds and their presentations in the Department. Unfortunately there is no scope for giving constructive, one to one feedback in these situations. Neither is there any formal assessment of the psychomotor skills. Direct Observation of Procedural Skills (DOPS) is one of the structured assessment methods which can address this gap in teaching learning program. Hence this educational research project was planned to implement DOPS for second year residents and assess its impact on student learning. The need of such an intervention was perceived after personal interviews of senior faculty members of the Department. Core basic skill 'female genital tract examination' was identified for this project.

Aim: To evaluate Direct Observation of Procedural Skills (DOPS) in OBGY for training and assessment of second year postgraduate students.

Objectives: **Primary Objectives**: 1) To design and conduct Direct Observation of Procedural skills in Dept of OBGY, for second year postgraduate students. (Module: Female genital tract examination). 2) To assess impact on learning by observing improvement in these skills after 1 week of practice.

Long Term Objectives: 1) To initiate similar modules to cover all areas of procedural skills in OBGY.2) To improve competency in procedural skills of OBGY Postgraduate students.

Materials and methods: Study Design: This educational project was done in the Dept of Obstetrics and Gynaecology of Bharati Vidyapeeth medical college, Pune, during Sept 2013 to Dec 2013.

It was an interventional study, assessing the impact of an educational intervention on the student learning. The feasibility and participant perception about the intervention - DOPS was also assessed.
Approval of Institution research and Ethics committee of Bharati Vidyapeeth was obtained before commencement of the study.

Study Participants: Second year postgraduate students in Dept of OBGY (No. of students- seven) Faculty from OBGY. Non- critically ill patients attending OPD for Gynaecological complaints.

Informed written consent: Informed written consent was taken from all participating students, patients and faculty members in the prescribed format.

Methodology: 1) All faculty members and postgraduate students from Dept of OBGY were sensitized about the new assessment method: Direct Observation of Procedural skills (DOPS) by conducting a lecture and video demonstration of the procedure.

2) Standard Operative Procedure for the core skill 'Female Genital Tract Examination' in different clinical situations was prepared by consensus in the Department.

3) A prevalidated scale showing different levels of competencies involved in this core skill was designed on a 5 point scale for DOPS Evaluation, peer reviewed and piloted.

4) Formats for taking feedback about the entire procedure from participating students, Faculty members and Patients were prepared.

5) First session of DOPS was conducted by senior faculty members in OPD and in ward one procedure room. All seven students were assessed on the same day. Five faculty members participated as observers. Three of us observed one student each and two of us observed two students each. Each assessment session took around 20 minutes followed by 10 minutes for observer feedback to the PG student.

6) DOPS structured checklist was shared with the students after feedback was over. Students were given an opportunity to practice the skills for minimum two weeks.

7) Students were reassessed using same checklist by same observer within next three weeks. Second session of DOPS was conducted as time permitted for the student and the respective faculty member.

8) Feedback about the entire experience was taken from participating students, faculty members and patients.

Evaluation:

1) Student DOPS scores before and after feedback and practice were used to assess improvement in competency of the PG students.

2) Analysis of feedback about this activity from all participants at the end of the session was used to evaluate this intervention.

Results: Students learning as reflected by DOPS score : Table 1 of results section shows overall DOPS scores of all 7 students for the two sessions.

Table 1: Actual DOPS scores:

Student no.	DOPS 1	DOPS 2
1	13/24*	18/27
2	8/24*	16/24
3	10/24*	15/24
4	14/24*	19/24
5	8/24*	14/24*
6	16/24	19/27
7	8/24*	15/24

*Denotes unsatisfactory performance

Table 2: Comparative DOPS scores of all participating students:

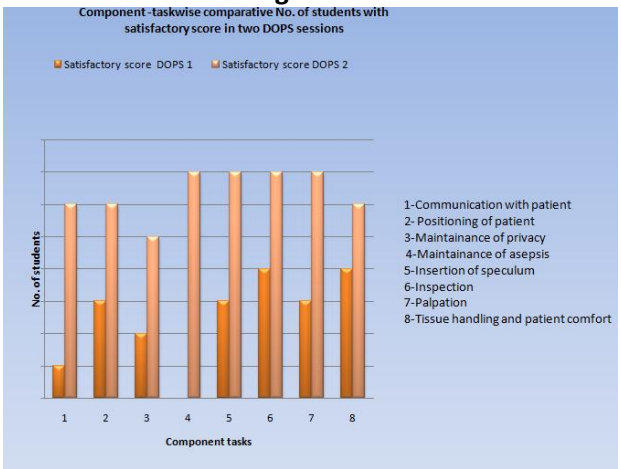
Scores	DOPS 1	DOPS 2
Unsatisfactory (<60%)	6	1
Satisfactory (> 60%)	1	6

The DOPS score sheet constituted basic 8 components and one additional extended examination. Basic score is given out of 24 and if the extended examination is essential for that particular case the total score is calculated out of 27.

Table 2 of results section shows overall grading considering 60% minimum score to be accepted as satisfactory score. To our surprise 6 out of 7 second year postgraduate students performed unsatisfactorily in the first DOPS. Five of these students moved to satisfactory performance in second DOPS. Students have definitely shown improvement in scores in second test.

Fig 1 of results section shows bar diagram of component task wise scores of all seven students for all essential 8 components in two DOPS sessions. X-axis shows the particular component task and y-axis shows no. of students performing satisfactorily for that task.

Figure 1:



First component was communication with patient. Only one student met with expectation in first DOPS session. Specific feedback was given to all students to improve communication, particularly to alleviate anxiety at the beginning and to convey their findings to patients is a proper, gentle manner at the end of the examination.

Second component was positioning of patient and third was maintenance of privacy of patient during examination. These points together address cognitive and affective domain of learning.

Pre-requisites for Female genital tract were fulfilled by only three students in first DOPS while six students performed satisfactorily in second DOPS.

None of the students could show satisfactory maintenance of asepsis, the fourth component task, in the first DOPS session. After receiving specific feedback from the faculty, 100% improvement in this part of the skill was observed in second DOPS session. This was phenomenal.

Insertion of speculum, Inspection and Palpation were the next three component tasks. These are

the technical points, talked about almost innumerable times daily by the students during their case presentations in the ward rounds. In spite of this only three out of seven students could include all essential points to be covered under this heading in first DOPS session. In second session the students were more aware about the psychomotor aspect and the points to be mentioned during examination.

This added to improvement in overall tissue handling by the student and patient comfort level during second DOPS session.

Evaluation of participant's feedback:

Students' perception: Analysis of student feedback forms showed that all of them liked the experience of participating in this new assessment method.

Opportunity to have a one to one verbal and written feedback from the faculty was said to be the strongest point in favor of this assessment method by all seven students.

Six of them commented that acting on the inputs from faculty and practicing by using the structured checklist helped them to score better in second DOPS. One student commented that she needed more time to practice with the checklist.

All of the seven students expressed the wish to include Direct Observation for other procedures like taking Pap smear, inserting IUCD, counseling patients, conducting labor, suturing of episiotomy, suturing of abdomen in Laparotomy etc.

All of them opined that they could perform female genital tract examination during second DOPS very methodically and in a illustrative way. They felt more confident and competent during second DOPS assessment.

Faculty Perception: There were four faculty members who participated as observers apart from principal investigator. Analysis of their feedback forms showed that they found excellent correlation between this assessment method and relevance to curriculum. All of them strongly agreed that this method was highly accepted and appreciated by the participating students. All of the students showed improvement in DOPS scores in second session. Faculty members expressed that students showed marked improvement in their attitudinal and communication skills. However one faculty member felt that it is difficult to implement since it involves a lot of work in defining the component tasks and preparing the checklist.

Strong points in favor of this method again unanimously turned out to be the structured checklist, opportunity to give immediate individual feedback and reassessment after practice.

Patients' perception: Analysis of patient feedback forms showed that examination by three out of seven students was reported to be slightly painful by the patients in first DOPS session. None of the patients complained about pain in second session. There were different set of patients during the two DOPS session.

None of the patients agreed that they were informed well about the examination procedure by the trainee doctor on first DOPS session. Whereas all of the next lot of patients agreed that they were well informed by the trainee doctor.

Three of the seven students got positive feedback about confidence from the patient in first DOPS. Whereas patients examined by all of the seven students in second session were happy about trainee doctor's confidence and said that if needed they will get examined from the same doctor in future.

Feed forward: All of the faculty members and participating students opined that Direct observation should become integral part of formative assessment in OBGY PG curriculum.

Three commonest amongst all of the procedures suggested by maximum participants were Pap smear collection, suturing of episiotomy and contraception counselling to be assessed by DOPS.

Discussion: During residency the postgraduate students acquire skills to progress from novice to expert. Professional competency develops by deliberately practicing the skills repetitively and carefully. Unfortunately these students are

randomly and infrequently observed by their seniors during clinical interaction with patients.[4] Without proper feedback and opportunity of implementing changes such random observations fail to address the student's learning needs and progress.[5] To bridge this gap we designed and introduced this assessment tool for direct observation as a part of clinical skills education and assessment. A very basic skill in OBGY curriculum 'Female Genital Tract Examination' was identified for this project.

In contrast to numerous tools developed there is a paucity of information regarding best practices to train raters to use them.[6] Faculty development for designing and executing this project was carried out by giving a didactic lecture on various assessment tools. A video demonstrating Direct Observation and giving feedback was shown to all participating members.

During this part of faculty development emphasis needs to be given on core principals of effective and timely feedback.[7] Importance of giving a specific, clear, objective verbal and written feedback in a safe and non-threatening atmosphere in a non judgmental manner has to be conveyed properly.

While giving verbal feedback to student, we had agreed to have learner's insight first and then start discussing the scores according to structured checklist. This helped in stimulating discussion and helped the student to identify his/her strength and weak areas. Students self assessment prior to feedback encourage them to have self reflection about their own knowledge, skills, attitude and feelings[6].

Our study demonstrated that acceptance of DOPS as a formative method of assessment is high amongst students as well as faculty members.

This experiment can be extended for number of other procedures that the students are supposed to learn during their tenure.

As shown in table 1and 2 of in spite of regular clinical presentations and ward rounds six out of seven student could not perform up to satisfaction in a very basic skill of OBGY PG curriculum in first DOPS. This was a learning point for us as faculty. We need to focus on behavioral aspect of the training in a structured way.

Regarding fourth component task, maintenance of asepsis none of the students performed upto satisfaction in first DOPS but all of them showed 100% improvement in second session of DOPS. This again clearly underlines the importance of direct observation. This behavioral change in students will directly benefit the patients. This will lead to more safe and effective care of patient.

We realized that direct structured observation improves the psychomotor part of procedural skill. Students show remarkable improvement in confidence and competence while conducting examination once they receive meaningful feedback after direct observation. This is evident from patient feedback analysis.

Limitation we felt during implementation of this project was time management. Preparation of checklist, validation of the same needs time commitment by the faculty. Once the background work is ready actual implementation of DOPS is not very resource intensive.

Conclusion: Previous studies have shown that DOPS is as reliable as other assessment tools available for direct observation like mini-CEX and multisource feedback.[3] Our project highlights the need for inclusion of such direct observation evaluation tools in training as well as formative assessment of postgraduate students in our department. This will benefit the students for better learning and performing the skills with more confidence and competence. This will ultimately lead to safe and effective patient care.

Acknowledgement: We acknowledge the OBGY faculty members who spent considerable time during designing and piloting of the checklist for female genital tract examination. Dr Taralekar, Dr Nimbargi, Dr Deshmukh had a lion's share in project execution. MET co-ordinator of our college Dr Ranjana Sahastrabudhhe gave valuable inputs in

designing feedback forms and analysis. Students participated eagerly in this project. In spite of it being voluntary none of them refused to participate. Last but not the least patients participated voluntarily and gave feedback enthusiastically.

References:

1. Kogan JR, Holmboe ES, Hauer KE:Tools for direct observation and assessment of clinical skills of medical trainees; a systematic review.(JAMA 2009 Sept 23,302(12):1316
2. Wragg A, Wade W, Fuller G et al.:Assessing the performance of specialist registrars.:clin Med, 2003;3(2):131-4
3. J R Wilkinson et al.: Implementing workplace-based assessment:Blackwell publishing Ltd2008, Medical Education 2008; 42:364-373
4. Howley LD.Wilson WG.2004 Direct Observation of students during clerkship rotations: A Multiyear descriptive study. Academic Medicine 79:276-280
5. Ericsson K,Krampe RT, Tesch-Romer C. 1993 The role of deliberate observation practice in the acquisition of expert performance.Psychol Review 100:363-406
6. Karen Hauer, Eric Holmboe, J Kogan 2011 Telve tips for implementing tools for direct observation of medical trainees' clinical skills during patient encounters :Medical Teacher 33:27-33
7. Van de Ridder JM, Stokking KM, Mcgaghie WC, Ten Cate OT. 2008.What is feedback in clinical education? Med Educ 42: 189-197
8. Norcini JJ.:Current perspectives in assessment: the assessment of performance at work. Med Educ, 2005; 39(9):880-9
9. Tunbridge M, Dickinson D, Swan P.: Outcomes of assessments of registrars in the medical specialities.Clinc Med,2004;4(1): 66-68
10. Rethans JJ, NorciniJJ, Baron-Maldonado M et al.: The relationship between competence and performance; implications for assessing practice performance. Med Educ, 2002; 36(10):901-9
11. Naeem N : Validity, reliability, feasibility, acceptability and educational impact of direct observation of procedural skills (DOPS). J Coll Physicians Surg Pak. 2013 Jan;23(1):77-82. doi: 01.2013/JCPSP.77821
12. Development and validation of a novel method for assessing competency in polypectomy: direct observation of polypectomy skills.[Gastrointest Endosc. 2011]

Conflict of interest: None
Funding: None