

Experience of Direct Observation of Procedural Skills By Postgraduate General Surgical Residents of Public and Private Sector Hospitals of Lahore

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Abstract

Objective: To evaluate the experience of DOPS in general surgical residents based on their perspective of its usefulness.

Method: This cross-sectional descriptive study was conducted over a period of two weeks among general surgery postgraduate residents (FCPS) of Lahore. Data was collected through a questionnaire having two responses. Each resident answered to one response at a time. Data was analyzed using SPSS 26.0.

Results: There were 189 residents in the sample. Most of the resident 156(82.5%) selected DOPS as useful tool of assessment while 33(17.4%) considered it not useful. In response 1 group Almost all residents 155(99.4%) considered DOPS a more practical assessment method having consensus that it helped them in improving skill and knowledge. However, Residents who disagreed DOPS improved their time management were 11(7.1%). Residents who do not have a freedom to choose a skill were 57(36.5%). Constructive feedback was not given in 26(16.7%) of residents. In response 02 group Assessor appointment was considered difficult by 32(97%) of residents. Feedback in 30(90%) residents was not given soon after DOPS. Residents who agreed that they do not have the prior orientation of DOPS were 32(97%). Most of the residents 69.9 % and 66.7% were assessed by Senior registrar of department in group 01 and group 02 respectively.

Conclusion: DOPS is a cost effective, feasible method of assessment with direct observation of trainee while performing a skill however constructive feedback should be given in time for improvement in future performance.

Keywords; DOPS (Direct Observation Procedural Skills), FCPS (Fellow of College of Physicians and Surgeons Pakistan).

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Introduction

Surgery is demanding and challenging field of medicine, many ambitious and hardworking students adopt it as a career. With all the charm there also comes the responsibility of safe clinical practice, a small mistake during a surgical procedure can lead to permanent

disability to the patients. Therefore, surgical training provided to a training surgeon is of utmost importance and must meet the highest defined standards. Postgraduate residents must be trained in a standardized way to gain the clinical competence.¹ Structured training programme was first started in Germany in 1880s and then introduced by Dr William S Halsted in United states of America. He proposed the Halstedian Model of surgical training with focused on standardized surgical training by mentorship and communication skills to address the complexity of increasing surgical procedures and training of surgeons. Halstedian Model is the foundation of current modern surgical learning.^{2,3}

Medical students in Pakistan after graduating from five year programme of MBBS are inducted in General

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Surgical training. College of Physicians and Surgeon of Pakistan (CPSP) enroll them in four year training programme of Fellow of College of Physicians and Surgeons (FCPS) in general surgery which comprises of supervised apprenticeship. General surgery residency is one of the most tough training for a postgraduate resident. During training the postgraduate residents are being assessed by conventional methods, MCQs, Short cases, long cases, e-log entries and intermediate module.⁴

In recent years CPSP has emphasize on conducting regular (DOPS) for formative assessment and feedback to improve the postgraduate training.⁵ DOPS was first introduced by the Royal College of Surgeons (Norcini & Mckinkley 2007) as work place based assessment tool and now it's a part of assessment of doctors in specialist training. It was specifically designed to assess the procedural skills of training doctors in real time situation in a single encounter with patient where assessor rate the performance of residents and gives immediate feedback and mentions their strengths and weaknesses for further improvement, which distinguishes it from other forms of assessment tools.⁶

Several studies showed both strengths & weaknesses of DOPS and its acceptance among teachers and residents. Major weaknesses documented are related to conducting DOPS and receiving feedback from assessor. There are several prime advantages as well, it is an assessment of performance in a real situation and constructive feedback is provided at the working place of residents.^{5,7} As Currently surgical practices of residents are un satisfactory and around 80% of residents do not receive productive feedback, it is very important to incorporate DOPS in surgical training of postgraduate resident for teaching of safe surgical skills through standardized assessment technique at workplace.⁸

It is need of time to develop a more standardized assessment programme to facilitate the surgical residents in Pakistan. As Minimal literature is available in Pakistan regarding DOPS and no prior local study was conducted among General Surgical residents, The Objective of this study is to evaluate the experience of DOPS in residents based on their perspective of its usefulness in assessment and improvement of procedural skills. Evidence collected through this study will be write to CPSP for further improvement in assessment of residents during training.

Material and Method

This cross sectional descriptive study was conducted

over two weeks period in general surgical departments of government and private hospitals in Lahore after approval from IRB . General surgery postgraduate residents of FCPS doing training in tertiary care government and private hospital were included in study. Sampling technique was non probability, convenient . Sample size of 189 postgraduate residents is calculated by Raosoft with margin of error 5% and Confidence level 95%⁴ Data collection was done using questionnaire. Pilot study was conducted on five postgraduate residents who faced no difficulty in completing it. Each registrar of surgical department within Lahore was contacted and asked to distribute the questionnaires to general surgical residents. The questionnaire was having two responses, Response 1 (DOPS as useful assessment tool) and response 2 (DOPS not useful tool for assessment), Each participant completed one response at one time. Residents rated response statements on a five-point Likert scale (1 strongly disagree to 5 strongly agree). Demographic data like gender, age, Grade of training (1st year , 2nd year, 3rd year, 4th year), Assessor Grade (Senior registrar, assistant professor, associate professor, professor, other) and number of DOPS attempted were recorded. The questionnaire was received back after completion in one week time. A follow-up call was made after one week to surgical registrar to follow non-responders. Consent and confidentiality of data was ensured. Data was entered and analysed using SPSS 26.0. Mean and standard deviation were calculated for quantitative variables. Frequency and percentage was used for qualitative variables.

Results

Participants were divided into two groups according to the response they completed. Response 01 was completed by residents who considered DOPS as useful activity. There were 12 questions for response 01. Total 156(82.2%) of residents completed it out of which 112(71.8%) were male and 44(28.2%) were female. There were 76.3% residents from government and 23.7% from private hospitals. Mean age of residents was 28.05 years. Table 01 is showing the results of response 01. Almost all residents 155(99.4%) considered DOPS a more practical assessment method and 152 (97.4%) residents thought its better than traditional assessment tools. All of the resident were having consensus that it helped them in improving skill and knowledge. However, Residents who disagreed that DOPS has improved their time management were 11(7.1%). Resi-

Table 1: Response/Group 01: Students who considered DOPS as useful assessment tool

Questions	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
	1	2	3	4	5
1 It is a more practical assessment of a skill on real patient	NR	NR	1(0.6%)	97(62.2)	58(37.2%)
2 It has evaluated my Ability to perform a skill in a standardized way	NR	2(1.3%)	11(7.1%)	78(50%)	65(41.7%)
3 It improves student-teacher relationship	NR	1(0.6%)	3(1.9%)	87(55.8%)	65(41.7%)
4 It improves the Time management while performing a skill	NR	11(7.1%)	32(20.5%)	76(48.7%)	37(23.7%)
5 I have complete freedom to choose a skill for DOPS	NR	57(36.5%)	53(34%)	40(25.6)	6(3.8%)
6 It will help me to pass my final fellowship exam	NR	NR	10(6.4%)	91(58.3%)	55(35.3%)
7 It Helped me in learning and improving my skill	NR	NR	NR	88(56.4%)	68(43.6%)
8 It provides constructive feedback about my own performance and understanding	NR	26(16.7%)	45(28.8%)	67(42.9%)	18(11.5%)
9 This exercise motivates me to perform better in residency	NR		7(4.5%)	100(64.1%)	49(31.4%)
10 It improved my confidence level	NR	2(1.3%)	13(8.3%)	94(60.3%)	47(30.1%)
11 It is more effective than traditional assessment method	NR		4(2.6%)	69(44.2%)	83(53.2%)
12 It helped me to identify my strengths and weaknesses	NR	1(0.6%)	1(0.6%)	54(34.6%)	100(64.1%)

NR ; No Response

Table 2: Response/Group 2: Residents who considered DOPS is not a useful method of Assessment

Questions	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
	1	2	3	4	5
1 It is not a true reflection of capability to perform a clinical skill	NR	2(6.1%)	4(12.1%)	23(69.7%)	4(12.1%)
2 It is difficult to arrange an appointment with consultant as assessor for DOPS	NR	NR	1(3%)	9(27.3%)	23(69.7%)
3 I have to spend extra time outside working hours due to busy roster	NR	3(9.1%)	2(6.1%)	14(42.4%)	14(42.4%)
4 It adversely affected my performance	NR	10(30.3%)	17(51.5%)	6(18.2%)	NR
5 Its Feedback was not given soon after completion of skill	NR	1(3%)	2(6.1%)	20(60.6%)	10(30.3%)
6 DOPS Future improvement box was not completed by assessor	NR	7(21.2%)	2(6.1%)	15(45.5%)	9(27.3%)
7 It is difficult to keep a record of DOPS	NR	NR	1(3%)	28(84.8%)	4(12.1%)
8 It was not seriously taken by assessor	NR	22(66.7%)	7(21.2%)	4(12.1%)	NR
9 It did not cover all important aspect of clinical practice	5(15.2%)	15(45.5%)	5(15.2%)	7(21.2%)	1(3%)
10 Its whole responsibility was put on resident for arranging DOPS	NR	2(6.1)	17(51.5%)	14(42.4%)	NR
11 I was not given the opportunity to put my own views	NR	NR	3(9.1%)	24(72.7%)	6(18.2%)
12 Performance depends on mental state of student at that particular time	NR	1(3%)	1(3%)	10(30.3%)	21(63.6%)
13 I had no prior orientation of it	NR	NR	1(3%)	10(30.3%)	22(66.7%)

dents who do not have a freedom to choose a skill to perform and assess by assessor were 57(36.5%). Constructive feedback was not given in 26(16.7%) of residents.

Response 02 was completed by residents who considered DOPS as not a useful tool of assessment. Response 02 was having 13 questions. Total 33(17.4%) residents completed this response. Mean age was 27.69, There were 23(69.7%) male and 10(30.3%) female. There were 28(84.8%) residents from government and 5(15.2%) from private hospitals. Table 02 is showing the results of response 02. Assessor appointment was considered difficult by 32(97%) of residents. Feedback in 30(90%) residents was not given after DOPS. Residents who agreed that they do not have the prior orientation of DOPS were 32(97%). Resident attempted only one DOPS were 29(18.6%) and 13(39.4) in group 01 and group 02 respectively. Most of the residents 69.9% and 66.7% were assessed by Senior registrar of department in group 01 and group 02 respectively .

Discussion

Traditional methods of assessment currently used by many institutes usually rely on testing just knowledge of students. Millers proposed his Pyramidal model for clinical competence with assessment of knowledge, application of knowledge, clinical skill competency, and clinical performance assessed by direct observation in real time scenario on top of pyramid. His model of competence covers all aspects of bloom taxonomy.⁹ With growing interest and number of residents in surgery it become obligatory for teaching faculty to equip their students with updated knowledge and skill. Formative assessment by DOPS can be a good source to evaluate them give them timely feedback and produce safe and skilled surgeons. DOPS promotes self reflective process during assessment for acquisition of knowledge.^{7,9} Now CPSP is also sensitizing supervisors to promote assessment of postgraduate residents by using work place based assessment tool like DOPS and Mini-Cex. DOPS is planned and structured in such a way that a particular skill should be performed by postgraduate resident in a standardized way according to the international guidelines.¹⁰

The study by Bazrafkan et al showed that DOPS can be used as effective method of assessment with 87.6% of student had acceptance of DOPS as useful method of assessment.¹¹ Morris et al. concluded that 70% of the participants of study labelled DOPS very useful in imp-

rovement in clinical skills.¹² Naina et al concluded that DOPS resulted in improvement of skill and confidence of residents.¹³ A study By Pofanter et al shows the DOPS is an effective tool for assessment without any financial burden. In our study 82.5% of total residents have considered it as a useful and practical method of assessment which is better than traditional methods of assessment like MCQs, Short case and long case. DOPS has positive effect in building their confidence and overall improvement in their practical skill performance. In a Study by P. Inamdar et al Assessor it was proposed that both assessor and resident should be present simultaneously for assessment of a skill so that constructive feedback can be given immediately after completion of task however , long duty hours of residents and busy schedule of consultants due to prolong operation lists and different working stations may hinder this process.¹⁴ In our study many resident had difficulty in time management and arranging an appointment with consultant for assessment of skill (DOPS). As DOPS includes examination of patient, taking consent, performing a skill for which there should be ample allocated time to complete the process. Residents inevitably needs adequate time which may be difficult in operation theatre while performing surgeries on different patients during a hectic day.¹⁵ In our study the residents who considered it as a useful activity 16.7% disagree and 28.8% remained neutral that constructive feedback led to improvement in skill. Resident who selected (DOPS) as not a useful tool 90.9% stated the delay in feedback after task and 72.8% also mentioned that improvement box was not filled by the assessor which means either the assessors were not being trained or they were occupied in multiple tasks while evaluating the residents during a busy schedule. Many of the residents 97% from this group also found it difficult to find appointment with assessor.

The strength of this study is that it is one of the first study conducted in Lahore among general surgical residents. Their experience of DOPS in perspective of its productivity as a useful tool was evaluated by knowing the reasons. Limitations of this study are smaller sample size limited to general surgical residents of Lahore. We have only collected experience of residents in this study, For better implication of DOPS as a part of regular assessment process assessor experience is also very important.

Conclusion

DOPS is a cost effective, feasible method of assessment

with direct observation of trainee while performing a skill and constructive feedback should be given in time for improvement in future skill performance. To make DOPS more useful for postgraduate residents, area of weakness should be addressed by supervisor, as this study clearly identifies the response of residents towards it. Availability of assessors and immediate constructive feedback are essence of DOPS. Schedule and availability of assessor should be maintained in accordance with timing of student assessment roster. Residents should have prior orientation of it so that they are knowing how to participate in assessment and improvement in performance of skill to provide optimal surgical care to their patients under supervision of their mentors.

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Authors Contribution

PMR: Conceptualization of Project

MTQ: Data Collection

MZT: Literature Search

PMR: Statistical Analysis

MTQ: Drafting, Revision

MZT: Writing of Manuscript