

Portfolio Learning - An Observational Study Conducted among Post Graduates Students to Assess Feasibility in a Government College Setting

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Abstract: *The assessment and feedback process for postgraduate medical students remains a challenge, especially in government medical colleges with limited resources and high clinical workloads. This study aimed to evaluate the feasibility and effectiveness of portfolio-based learning among postgraduate students in General Surgery and Pediatrics at a rural government medical college. Over a two-month period, a structured portfolio was introduced, including Mini-Clinical Evaluation Exercises (miniCEX), Direct Observation of Procedural Skills (DOPS), assignments, journal club activities, and multisource feedback. A total of 42 students participated, documenting their learning through reflective writing and receiving feedback from mentors, peers, seniors, patients, and paramedical staff. Statistical analysis of the outcomes showed high feasibility and satisfaction with the portfolio approach, with 88% of students reporting improved clinical competency. While challenges such as limited time and the need for more robust feedback mechanisms were noted, the study highlights the potential of structured portfolio learning to enhance clinical skills and self-directed learning in postgraduate training.*

Keywords: Portfolio learning in medical education, postgraduate medical education, Assessment of learning it comes in medical education, portfolio assessment in graduate medical education

1. Introduction

Assessment and feedback to the medical students is always challenging. The National Medical Commission has proposed a formative assessment for Indian Medical Graduate in their under graduate curriculum but no such proposal is given for the post graduate students though it is very essential. In a government college setting the clinical case load is very high but the resources are limited hence proper assessment, feedback and documentation is not always feasible.

Since there is no structured assessment and feedback available till date, the post graduate are not fully aware of their learning process and clinical skill acquisition. In order to implement the new CBME curriculum for post graduate students a structured program for assessment and feedback has to be developed. [1,2,3]

Objectives

- 1) To assess the feasibility of portfolio learning among post graduates students in a government medical college located in a rural area.
- 2) To assess the satisfaction of post graduate students in acquiring clinical competencies.

2. Methodology

Study center: Govt. Villupuram Medical College Hospital, Villupuram.

Study Design: Observational study

Study period: 2months from 1st May 2022 to 30th June 2022

Sample size for quantitative studies: 30

Target population: Post graduates in Govt. Villupuram Medical College Hospital.

Selection Criteria:

Inclusion Criteria:

- Post graduates in General Surgery.
- Post graduates in Pediatrics.

Exclusion Criteria:

- Under graduates.
- Specialty posted post graduates.
- Post graduates and DNB graduates posted from other colleges.

Brief Procedure

After getting IRB approval from the institution the study was started all post graduate students were presented the portfolio booklet. The portfolio booklet that is made up of general information of the post graduates, 2 miniCEX assessment form, 2 DOPS assessment form, 5 reflection writing template for assignment topics, 2 feedback template for journal club and multisource feedback form to be obtained from peers, seniors, patients, paramedical team and is given to the all the first- and second-year post graduates of general surgery and pediatrics. The students are briefed about the portfolio booklet and explained about the learning they are going to undergo during the study period. The post graduates will be presenting at least 2 clinical case to the faculties present in the concern department and assessed in miniCEX form. 2 DOPS session (surgical suturing and hand knot for surgery post graduates and newborn resuscitation and securing IV access in neonate for pediatric post graduates) were given and assessment done prior and after by OSATS for the DOPS session and feedback given. 5 assignment topics as chosen by their mentors are asked to learn as apart of self-directed learning. All are given the module for SDL for the learning activity and document in the booklet and reflection writing on the learning process is asked to documented, no of words used by the post graduates for reflective writing is calculated. Each postgraduate is asked to get a 2 feedbacks form for 2 journal club activity they undergo during the study period. And finally, the postgraduates are asked to get a multisource feedback for the study period of two months from the peers, their seniors, patients and paramedical staff.

All the mentors of the postgraduate students were sensitized about the study and are requested to guide their mentees in their need and also asked to assess and give feedback

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whenever needed. After the learning period each student is given a questionnaire with 5 sets of questions after their learning period to reflect their experience on the method of learning. Students' responses are analyzed with SPSS software and statistical significance is obtained.

Statistical Analysis

Statistical analysis will be done using SPSS-27 (Statistical Package for Social Sciences) software. It would be used to enter and analyze data. The Quantitative variables were expressed as mean +/- standard deviation (S.D), whereas qualitative data was presented by frequency and percentages.

Student's responses are analyzed with SPSS software and statistical significance is obtained.

3. Results

General information

Totally 42 students participated in the study process.

General surgery – 30

Paediatrics- 12

First year- 16

Second year- 16

Third year- 10

Portfolio content	Average no completed	Task achieved	Usefulness		Feasibility			recommend for juniors
			very usefull	Usefull to some extent	very much feasible	some extend feasible	not feasible	
MiniCEX	1.64	No	85.7% (36)	14.2% (6)	92.8% (39)	4.76% (2)	2.38% (1)	97.6% (41)
DOPS (OSATS)	2	yes	95.2% (40)	4.76% (2)	71.4% (30)	21.4% (9)	7.14% (7)	95.2% (40)
Assignment	5	yes	78.5% (33)	19.04% (8)	90.47% (38)	4.76% (2)	4.76% (2)	90.47 (38)
Journal club	1.57	No	88.09% (37)	11.9% (5)	92.8% (39)	7.14% (3)	0	97.6% (41)
Multi source feed back	3.35	No	61.9% (26)	35.7% (15)	26.6% (12)	47.6% (20)	23.8% (10)	64.2% (27)
Overall port folio learning			95.2% (40)	4.76% (2)	54.76% (23)	35.7% (15)	9.5% (4)	95.2% (40)

MiniCEX assessment:

Total no of students: 42

Total no of clinical case presented :69

Average: 1.64

MiniCEX assessment done by

Professor: 12

Associate professor: 25

Asst professor:20

Senior resident:12

88.09% yes (37)

11.90% don't know (5)

4. Discussion

This pilot project was done during the period of 2 months among the postgraduates of general surgery and pediatrics. The post graduates carried out this portfolio learning that include five components assessed during the period, that include miniCEX, DOPS, assignment, journal club and multisource feedback. The component includes all the domains of learning.

DOPS(OSATS):

Total no of students: 42

Total no of DOPS session: 84

Average: 2

Assignment:

Total no of students: 42

Total no of assignments:210

Average:5

Reflection writing received :140

Less than 5 words: 87

5 to 10 words:42

More than 10 words:11

Student's clinical skill is evaluated by miniCEX on an average every student performed 1.64 cases compared to 4 by undergraduates in the previous study (1). Students actively participated in clinical presentation which is usually not their routine for postgraduates first and second year. Students are assessed by different faculties present in the department to prevent the biased assessment (1). miniCEX is one of the best tool for assessing clinical skill (2) included in the portfolio evidence.

Journal club:

No of journal assessment received: 66

Average:1.57

Teaching procedural skills is important on the aspect of post graduate training. Previously postgraduates end to learn from their seniors or observing faculties. DOPS is the best method to teach skill for the beginners and assessing is bit more challenging. OSATS is the structured method of assessing technical skills. (3) in our study all the postgraduates completed their task of completing the DOPS session assigned to them as opposed to only 57.61% in the previous study.(1).

Multisource feedback:

Peer feedback: 100% (42)

Senior post graduate feedback: 100% (42)

Patient feedback: 64.2% (27)

Paramedical feedback: 71.4% (30)

Assignment is part of self-directed learning where post graduates are given a specific topic and asked to learn and document the learning .at the end of the learning process they are asked to write a reflective writing about the learning process. No of words to describe learning in reflective writing is documented. Its understood that students who enjoyed and learnt a lot use more words to describe the learning. (4) All

Overall portfolio learning:

95.2% recommend for juniors (40)

4.76% don't know about it (2)

Satisfaction with the accomplishment of clinical competency:

students completed the task of writing five assignment that show very much feasibility of this learning process

Journal club activity is assigned as 2 per post graduates. On an average every pg has attended 1.57 that is some extent feasible in their hectic routine activities. Journal club activity is one of the best tool to improve their evidence based medicine practice particularly among the post graduates that will be helpful for them in their thesis preparation and research work in future. (5)

Multisource feedback serves as best tool for work place based assessment for assessing professional competencies (6). Feedback from peer, seniors, patients and paramedical staff is not 100% feasible to obtain. Particularly paramedical staff keep on changing every shift difficult to get feedback. And patient also not oriented in giving proper feedback and student also reluctant to get feedback from patients that leads to reduced no of students achieving their target.

Baring few lacuna almost all the post graduates completed the portfolio learning in the stipulated time. 88% of the pg are satisfied by their portfolio learning process compared to 97% in the previous study (1).its due to that fact that it was done for under graduates so most of them able to complete the study. But in post graduates apart from their routine activities the documentation in portfolio is bit difficult to cope up with. More over this study design is intended for 2 months only we can relax the time frame in postgraduates as they are going to be in our department through out for 3 yrs this tool is going to be valid and most effective if the time frame is relaxed and all postgraduates are asked to follow it as routine in their curriculum.

5. Limitations

- Time frame is too short
- A larger sample size has to be included
- The previous academic scores for the post graduate students were not compared with the outcome of the study
- Student's satisfaction has to be assessed by a qualitative study

6. Summary

Most of the post graduates completed the task of maintaining the portfolio in the prescribed time and they were satisfactory about the learning.

Portfolio learning for postgraduates even in limited resources set up like government institutions is feasible.

Following a structured portfolio learning for post graduate students, acquisition of clinical competencies can be achieved.

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