

**Research article**

**Assessment of Clinical Examination Skills in Surgical Postgraduate Residents in Surgical O.P.D. in Rural Medical College**

**Shaikh M H\***, Baviskar P K, Shah B A, Apturkar DK, Jorwekar G J, Kotalwar S B and Syed A A

*Department of Surgery. Rural Medical College. Pravara Institute of Medical Sciences, Deemed University, Loni. Taluka- Rahata .Dist- Ahmednagar. Maharashtra (India) Pin 413736*

**\*Correspondence Info:**

Dr . Meena Hussain Shaikh,

Department of Surgery.

Rural Medical College. Pravara Institute of Medical Sciences, Deemed University,

Loni. Taluka- Rahata .Dist- Ahmednagar. Maharashtra (India) Pin 413736

E-mail - [drmeena15@yahoo.com](mailto:drmeena15@yahoo.com)

**Abstract**

**Introduction:** Surgical postgraduate residents face to examine lot of patients in the surgical OPD in a limited time. So they depend on investigations without applying their knowledge and clinical examination skill to arrive at provisional diagnosis. The common methods of assessing the students are written examination and faculty and resident summation rating. In the summative rating, the students do not receive feedback as regards their clinical skills and so their validity is doubtful. OSCEs are reliable and valid clinical assessment but are expensive and time consuming.

**Ideal approach:** Surgical postgraduate residents should take the history in detail and do the clinical examination properly. They should develop a thought process to utilize these findings to come to the provisional diagnosis and use limited investigations to reinforce their diagnosis. The feasible tool which promotes observation of resident's clinical skill is essential. This is achieved by Mini-CEX. American Board of Internal medicine (ABIM) developed Mini-CEX for the assessment of clinical skills of residents.

**Aim:** Use of 'Mini-CEX' is one good way to achieve this goal.

**Objectives:** To improve the clinical examination skill in postgraduate surgical residents. They should utilize the investigative tools to reinforce their diagnosis by examination of the patient as a whole.

**Innovation:** To achieve this goal, the use of 'Mini-CEX' was implemented.

**Material and Methods:** 1. Preproject questionnaire. 2. Implementation. 3. Interval feedback. 4. Assessment.

**Method:** Mini-CEX

**Results:** The use of "Mini-CEX" in surgical post graduate residents in Surgery OPD has positively contributed in achieving objectives of developing thought process to reach provisional diagnosis by utilizing history and clinical examination.

**Keywords:** Mini-CEX. Clinical examination, Assessment

**1. Introduction**

Research study on formative assessment suggested that formative assessment and feedback are power tools to change the student's behaviour. The feedback in the form of numerical marks is not beneficial to the students. The narrative and specific feedback helps them. Assessment of Clinical Examination Skills has a very important role in health professions education. Resident working during crowded surgical OPD finds difficult to arrive at provisional diagnosis. So they rush to the investigations instead of using their clinical examination skills. It is important to empower them to improve their clinical examination skills. This can be achieved by implementation of 'Mini CEX'. Mini CEX appears to be an authentic assessment of student's performance. It helps trainee to improve their clinical examination skills. Mini CEX has the unique combination of assessment and feedback. In this project implementation of Mini CEX was done in four sessions. The study was conducted in the surgical O.P.D. of PRH. Loni. The observations and results were noted.<sup>1</sup>

**1.1 Ideal Approach**

Surgical postgraduate residents should examine the patient attending the surgical OPD as whole.

They should arrive at the diagnosis on the clinical evaluation of the patients.

They should become lifelong learners.

**1.2 Innovation**

Implementation of Mini-CEX was adapted to achieve this goal. This provides the innovative approach compared to the traditional T-L methods.

**1.3 What is "Mini-Clinical Evaluation Exercise" (Mini-CEX)?**

The Mini Clinical Evaluation Exercise (Mini-CEX) is a method for simultaneously assessing the clinical skills of trainees and offering them feedback on their performance. It is a simple modification of traditional oral examination.

**Key steps of the Mini-CEX- Total time required was 20 minutes.**

- Evaluation by direct observation and using standard check list and rating form. 5min.
- Constructive one on one feedback.
- Positive feedback followed by some focus constructive feedback. 10min.
- Specific feedback.
- Feedback is given in writing.
- After agreeing on specific educational plan the trainee and assessor sign on the form. 5min.
- The rating was done by global rating form.

## 2. Material and Methods

### 2.1 Method

1. Assessment was done by Mini-CEX which is formative assessment of student's performance and feedback.

#### A) Evaluation plan

- Assessment plan
- Preproject questionnaire from the faculty and surgical postgraduate residents.
- The Mini CEX method was introduced to the surgical faculty members and surgical chief residents (accessors) and postgraduate residents (trainees) in the form of lecture and video.
- Training was given to the accessors about how to use the checklist and the rating form.
- Demonstration of the clinical examination in the real life patients.
- Interval feedback was taken from the accessor and the trainees.

#### B) Supports

- Permission of HOD, and principle, rural medical College & Hospital, Loni.
- Approval from the Ethical Committee

#### C) Resource Gathering

- Surgical faculty members.
- 1<sup>st</sup> and 2<sup>nd</sup> year surgical post graduate residents.
- Preparation of checklist and rating form for Mini-CEX evaluation.  
Peer review of documents.
- Consent of 1st and 2nd year surgical post graduate residents.

**Table No.1: Preproject Resident Questionnaire**

Sr. No.	QUESTION	1	2	3	4	5
1	Resident, while working in crowded OPD, sometimes faces a difficulty in reaching provisional diagnosis.					
2	In crowded OPD sometimes residents tend to take only brief history and carry out brief clinical examination.					
3	In crowded OPD residents tend to send patient for investigations without doing clinical examination					
4	Investigations are used as primary tool to arrive at diagnosis.					

1-Strongly Agree. 2-Agree.3-Neitheragree nor disagree.4-Disagree.5-Strongly disagree.

**Table No. 2: Preproject Faculty Questionnaire**

Sr. No.	QUESTION	1	2	3	4	5
1	Resident, while working in crowded OPD, sometimes face a difficulty in reaching provisional diagnosis.					
2	In crowded OPD sometimes residents tend to take only brief history and carry out brief clinical examination.					
3	In crowded OPD residents tend to send patient for investigations without doing clinical examination					
4	Investigations are used as primary tool to arrive at diagnosis.					

1-Strongly Agree. 2-Agree.3-Neither agree nor disagree.4-Disagree.5- Strongly

#### Process objectives

- Each 1st and 2nd year surgical post graduate residents should attend the scheduled program.
- Each 1st and 2nd year surgical post graduate residents should be able to show the clinical examination skills.

#### Plan of implementation

- 11 surgical faculty members and 4 chief residents participated voluntarily in the project.
- Sessions were conducted from July to december2013.
- 16 sessions were spread over 4 months-4 days/month for 2 hrs.
- Sessions were conducted in the surgical O.P.D. PRH, Loni.
- Information for the examiner.

#### Steps

##### Evaluation by direct observation and using standard check list and rating form.

- Constructive one on one feedback.
- Positive feedback followed by some focus constructive feedback. 10min.( Images 2).
- Specific feedback.
- This is only possible if direct observation of clinical examination is done by accessor.
- Students learn during feedback and given chance to clarify. (Images3).
- Feedback is given in writing.
- After agreeing on specific educational plan the trainee and accessor sign on the form.
- The rating was done by global rating form.
- Rating was as-No 1 to 3-not satisfactory. No.4 to 6-satisfactory. No.7 to 9 – excellent.

5 min. (Figure 1.)

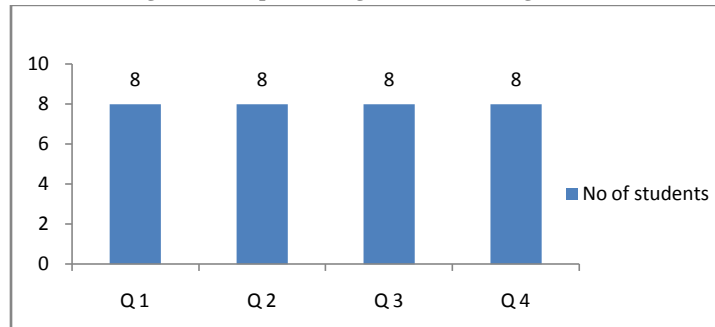
5min. (Figure 4.).



- All accessors agreed that while working in the crowded OPD, sometimes they face difficulty in reaching provisional diagnosis.
- All agreed that residents are using investigations as primary tool to arrive at diagnosis.

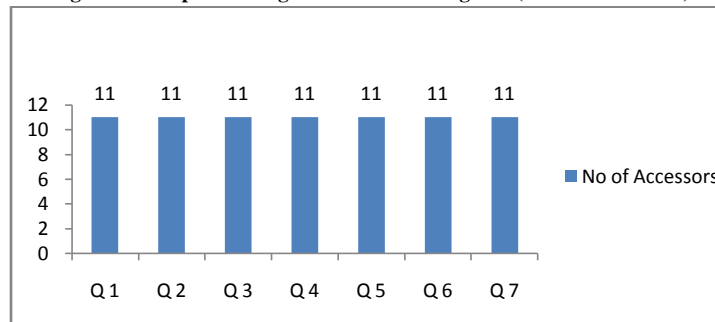
Interval feedback was done by questionnaire to accessor and students.

**Figure 3: Graph Showing No. of students agreed (Interval Feedback)**



- All the residents agreed that this is different method. They are comfortable with this method in OPD. This method helped them to improve their clinical skill, knowledge. All like to continue this method in future.

**Figure 4: Graph Showing No. of Accessors agreed (Interval feedback)**



- All agreed that they are comfortable with this method. They also agreed that Mini-CEX is different and should be included as an assessment in internal assessment.

## 4. Results

The use of formal assessment method Mini-CEX in surgical postgraduate residents in ambulatory setup of surgery OPD has positively contributed in achieving objectives of developing thought process to reach provisional diagnosis by utilizing history and clinical examination. The commitment part is to encourage them to read more and to increase their contact time and interaction with the patients.

## 5. Discussion

- The present project was carried out from July to December 2013. 16 sessions were spread over 4 months-4 days/month for 2 hrs.
- Sessions were conducted in the surgical O.P.D. PRH, Loni.

The Mini Clinical Evaluation Exercise (Mini-CEX) is a method for simultaneously assessing the clinical skills of trainees and offering them feedback on their performance. It is a simple modification of traditional oral examination.<sup>2</sup>

It was first introduced by the American Board of Internal Medicine in 1905 for the assessment of postgraduates.<sup>3</sup> Mini-CEX assessed the trainee on the seven core skills:

1- Medical interviewing. 2-Physical examination. 3-Professionalism. 4-Clinical judgement. 5-Counselling. 6-Organisation. 7-Efficiency and overall clinical competence.

A global rating is given on a 9 point scale, where 1-3 is unsatisfactory, 4-6 is satisfactory and 7-9 is superior performance. To attain reasonable reliability 6-8 encounters/ year were assessed. In the present project 6 encounters were assessed. The Mini-CEX combines the prove and improve functions of assessment by not only grading the performance of the trainees but also offering them a developmental feedback based on direct observation by accessors.<sup>4</sup> Enough evidence has accumulated to show that mini-CEX is a valid, reliable and acceptable method of assessing clinical competence. It takes such assessment to a higher level in terms Millers pyramid by assessing the trainee in real life situation.<sup>5</sup> De Lima *et al* reported that Mini-CEX develops intrinsic interest and self regulating strategies in the residents for their clinical skills.

## 6. Conclusion

Mini-CEX is a reliable, valid and acceptable method of formal assessment.

It helps the surgical postgraduate residents to improve in their clinical skill to examine the abdomen.

It empowers the residents to arrive at the diagnosis on their clinical skill with minimum relevant investigations.

## References

1. Elisabeth AM Pelgrim, Anneke WM Kramer, Henk GA Mokkink and Cees PM Van der Vleuten: Quality of written narrative feedback and Reflection in a modified mini-clinical evaluation Exercise: an observational Study: Pelgrim *et al. BMC Medical Education* 2012, 12:97.
2. Tejinder Singh, John J Norcini. The Mini-Clinical Evaluation Exercise (Mini-CEX).In: Tejinder Singh, Anshu: Principles of Assessment in medical education. 1<sup>st</sup> edition: 2012: 157.
3. Kogan JR, Bellini LM, Shea JA. Implementation of the Mini-CEX to Evaluate Medical Students' Clinical Skills. *Acad Med.* 2002; 77(11):1156-1157.
4. Naveed Yousuf: Mini clinical evaluation exercise: validity and feasibility evidences in *literature: Education in Medicine Journal* 2012;4(1). DOI:10.5959/eimj.v4i1.8.
5. De Lima AA, Barrero C, Baratta S, Costa YC, *et al.* Validity, reliability, feasibility and satisfaction of the Mini-Clinical Evaluation Exercise for cardiology residency training. *Medical Teacher.* 2007; 29:785-790.