

End of Paediatric Posting Assessment of Medical Interns at a Teaching hospital from Coastal Karnataka

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Abstract

Introduction: Internship is very a critical period of a medical undergraduate education during which student evolves into a doctor. The objectives of this study were to assess the interns at the end of their paediatric postings. **Materials and Methods.** Interns knowledge and skills were assessed at the end of their postings in the must know areas. Assessment was conducted by the trained faculty and interns were given the orientation about it. Method of assessment included OSCE, simulation based using standardized patients and computer based model driven simulators. Feedback was given to the students immediately at the end of their exam **Results:** Total 202 interns participated in the exam over the period of two years. New-borns assessment was done more frequently (22.7%) and interpretation of investigations was less frequently assessed (7.9%). Rest of other stations was assessed almost at the equal proportion. Highest score was observed in vaccines section (7.5) and lowest score was seen in procedures assessment (5.5). **Conclusion.** Interns were found to be weaker in procedural, communication and clinical scenario judgement skills which will help us in planning future training of the Interns.

Key words: Clinical rotatory internship, paediatrics, assessment

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Introduction

Medical internship is the period where students are expected to learn additional skills, recognize emergency situations and enable them to become practice as primary care doctors. But there is a gradual decline in the overall competency level of interns¹.

Given the vast diversity of medical institutions in the country offering medical education of variable standards, one common exam national exit exam (NEXT) is being proposed for undergraduates, which is opined to bring the quality and maintain the standard². Though the guidelines are not very clear yet, the practical component is being planned to conduct after the internship which can significantly change the outlook towards practical learning during internship.

In our institute we initiated the clinical skill assessment examinations for interns to encourage them to learn the essential

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clinical skills including communication and procedural skills along with the knowledge component during the internship period. Though there are many studies focusing on improvement of clinical competencies, at the post graduate trainee levels in paediatrics³ limited literature is available on effective internship learning and assessment. So this study is being undertaken to know the performance of interns in the must know areas at the end of their postings.

Material and Methods

This was a Cross sectional study. Clinical skill assessment exam was started for interns in our Institute of Ynepoya Medical College affiliated to Ynepoya deemed to be University as per the norms of our university from April 2015. At the end of the paediatric posting, that is at the end of one month, interns were assessed for their skills and knowledge. Students were given prior information regarding the date of examination. Interns were given orientation in the beginning of the postings about the essential skills and the basic knowledge that they are supposed to learn during their rotation. Method of assessment included OSCE, simulation based using standardized patients and computer based model driven simulators⁴. Even the faculty were trained for the OSCE exam through basic medical education workshop and through separate training sessions for simulation lab usage. The MEU members and subject experts (by the senior faculties within the department) performed design and content validation of the stations. Examination stations with the structured check lists were designed by the one person who was in charge of the intern's clinical skill assessment examinations and the other faculty were briefed about it for the objective assessments. It was both a formative and summative assessment which was done both at the end of the paediatric postings and at the end of their internship. Students were given the extension if they failed in the assessment.

The skills assessed for Interns were as per the recommendations of the MCI regulations for graduate medical education⁵. These included:-New-born Resuscitation, Paediatric Emergency (Case Scenario), Vaccine administration, Drug Administration, Common diagnostic/therapeutic Procedures, Interpretation of Common Investigations, Clinical examination skills and Communication skills.

The procedures assessed included nebulisation, insertion of naso-gastric tube, Montoux test. Skills and knowledge related to method of administration, storage and common side effects of certain vaccines like BCG, Hepatitis B, OPV, IPV, DPT and MMR were assessed.

Similar line of assessment was done for commonly used drugs like adrenaline, paracetamol, ORS, frusemide and certain antibiotics for their dose, route and use in the paediatric clinical scenarios.

Clinical scenarios included the assessment of dehydration, shock and its management, calculation of maintenance IV fluids, snake bite and identification of SAM. Due to the availability of simulation lab, it was easy for us to mimic the scenarios.

Examination skills included blood pressure measurement, systemic examination and anthropometric measurements. Counselling skills included counselling the mother with febrile seizures child, breast feeding and counselling the mother for phototherapy. New-born stations concentrated on basic new-born care, neonatal resuscitation and assessment and management of common neonatal problems

Feedback was given to the students immediately at the end of their assessment. Feedback was taken from the faculty members based on 5 point Likert scale (level of agreement). The data was entered in the excel sheet and analysed with SPSS software version 22. Approval from the institutional ethical committee was obtained which granted us the waiver of informed consent from the study participants.

Results

Total 202 interns participated in the exit exam. It was started in the year April 2015 and continued for more than of two years till date. Those interns who could not attend on the date were given rescheduled date.

Duration of the each session was about 5 min. Table 1 gives the details of the assessment.

Table 1: Details of the Examinations (n=202)

Focus area assessed	Number (percentage)
Vaccines	24 (11.8%)
Drugs	21 (10.3%)
Communication skills	25 (12.3%)
Procedures	24 (11.8%)
Examination skills	21 (10.3%)
Clinical scenarios and judgement	25 (12.3%)
Newborn	46 (22.7%)
Investigations	16 (7.9%)

New-borns section was assessed maximum and interpretation of investigations was less frequently assessed. Rest of other stations were assessed almost at the equal proportion.

Table 2: Details of Scoring in Exit Exam (Out Of 10)

Focus Area	Mean Score	Range
Vaccines	7.5	4-10
Drugs	6.25	3-10
Communication skills	6	2-9
Procedures	5.5	2-9
Examination skill	7	5-10
Clinical scenarios and judgement	6	1-10
New born	6.5	2-9
Investigations	6.5	3.5-8

Highest score was observed in vaccines section and lowest score was seen in procedures assessment.

Feedback was taken from all the faculty members regarding clinical posting assessment of interns and the details are given below (Table 3). Overall agreement percentage observed was 74.9% (score 4 or above on 5 point likert scale on level of agreement). Highest level of agreement was seen for the assessment of communication skills which was found to be satisfactory.

Table 3: Feedback taken from the faculty regarding the end posting evaluation of interns (n=9)

Feedback	Agree (%)
Assessment should be done for all the interns. Compulsory	77.7%
This exam is helping them to improve their knowledge and skills.	66.6%
Conduction of exam was smooth	66.6%
Communication skills assessment is satisfactory.	88.8%

Discussion

Research continues to document serious deficiencies in clinical skill among students and interns of medical colleges. Traditionally log book recording and monitoring has been used as tool but level of scrutiny varies. Newer methods of assessment have been developed focusing on various skills among which we used OSCE and simulation based assessment. Objective Structured Clinical Examinations (OSCEs) have been used by medical schools as it is a precise, objective, and reproducible allowing uniform testing of students for a wide range of clinical skill⁶.

Study done by Short et al, on 106 interns where they found out that OSCE exam resulted in statistically significant improvement in all core competencies like patient care, medical knowledge, practice-based learning and improvement, interpersonal and communication skills, professionalism, and systems-based practice⁷.

In our study 66.6% of our faculty agreed that clinical assessment is helping them to improve their knowledge and skills.

In a study done by Ben et al, noted that the implementation of the modified-OSCEs at their institution has been one of the tools responsible for paediatrics residents performance improvement and students also stated that experiences was very much educational⁸ though in our study feedback from the students was not taken.

Pelly et al identified the important gaps in the knowledge and skills of graduating medical students in Canada regarding vaccines indications, contraindications, adverse events, safety and patient interaction⁹. But in our study highest scoring was observed in the vaccine section. Doing the reassessment regarding vaccination at the internship makes it obligatory for the students to learn the more practical and technical aspects like method of administration and storage.

In a study done Gloria et al, they opined that the feasibility of the continuous implementation of a system should be taken into account from the beginning of the project since the resources available such as human and material may be limited¹⁰. We also agree with the same as it requires lot of efforts and time to prepare the stations and coordination among faculty members.

In a study done by Sharma et al, it was found that almost 50% of the interns practiced and learned skills because of the assessment and whatever the interns practice or learns, the skill must be assessed based on their learning objectives as defined in the log book¹¹.

Undergraduate medical education in India is lacking in doctor-patient communication skills¹². So assessing the communication skill during internship will also help us to give them the constructive feedback and gives scope for improvement.

Different methods of assessment have also been used like Mini- clinical evaluation exercise (mini-CEX examination) by Balamurugan et al for interns and concluded that there is a lot of potential for improvement of students with respect to clinical skills¹³. Morris et. al., systematically reviewed the literature to identify and grade tools used for the end point assessment of procedural skills (e.g., phlebotomy, IV cannulation, suturing) competence in medical students prior to certification and they concluded that there is a need to develop standardized tools with proven reliability and validity for assessment of procedural skills competence at the end of medical training. Medicine graduates must

have comparable levels of procedural skills acquisition entering the clinical workforce irrespective of the country of training¹⁴.

So, intern's examination at the end of their postings helped in skill orientation training during their postings and which in turn led to the improved performance of students in overall clinical care of the patients.

Conclusion

Interns were found to be weaker in procedural, communication and clinical scenario judgement skills which will help us in planning future training of the Interns.

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