



ORIGINAL RESEARCH PAPER

Nursing

OSPE - A MANDATE TOOL TO EVALUATE THE IMPACT OF INDUCTION ON THE PERFORMANCE OF NEWLY RECRUITED NURSES

KEY WORDS:

| | |
|---------------------------------|---|
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INTRODUCTION

Traditional nursing education has relied on the treatment of real patients in actual clinical setting¹. But with rising number of nursing colleges with no proper parent hospital to practice, the clinical training on real patients has become obsolete. These new nurses are given traditional three to five days induction training on theoretical aspects like institutional policy and nursing care assuming that they have recently gained clinical knowledge. But their competency is usually not assessed on recruitment which becomes a patient safety factor later on. Hence, Objective Structured Practical Examination (OSPE) – a mandate tool was adopted to assess the impact of induction on the performance of newly recruited nurses

OBJECTIVES

- To find the distribution of the demographic variables
- To assess the level of performance among nurses before and after the induction
- To assess the difference in the performance before and after the induction

OPERATIONAL DEFINITION

- Objective Structured Practical Examination (OSPE) – It refers to a customized checklist made based on institution's standard operating procedures for nursing and adopted as evaluation tool.
- Induction – the education and training given on selected nursing procedures given by the trained/experienced nursing personnel
- Impact – It refers to difference in OSPE performance before and after induction
- Performance – It refers to the skills exhibited while performing the given nursing procedures
- Newly recruited nurses - It refers to newly recruited

nurses attending induction training

ASSUMPTION

- Adequate knowledge and appropriate practice ensures patient safety.

METHODOLOGY

- APPROACH: Evaluative approach
- DESIGN: Descriptive
- SETTING: Simulation lab
- POPULATION: Newly recruited nurses
- SAMPLE: Nurses attending induction
- SAMPLING TECHNIQUE: Purposive sampling
- SAMPLE SIZE: 25
- SAMPLING CRITERIA: **Inclusion criteria for nurses:** Nurses both male and female available on the induction day
- INSTRUMENTS AND TOOLS USED

Tool : Objective Structured Practical examination

- Section A: Demographic variable
- Section B: Structured Checklist on selected nursing procedures like admission, phlebotomy, insulin administration, preoperative education, intravenous injection administration, Immediate postoperative assessment, blood transfusion, catheter care

Scoring:

- **Section A – Demographic:** No scoring
- **Section B – OSPE:** The right practice was given score of 1. Score is converted into percentages. Interpretation is

Interpretation:

- 80.1 -100%: Excellent performance
- 60.1-80%: Good performance

- 40.1 -60%:Average performance
- <40%:Poor Performance

Content validity & Reliability: Checklist was prepared from the standard operating procedures for nursing.

ETHICAL CONSIDERATION

- Study was conducted after the approval of The Nursing Superintendent.
- Confidentiality of the performance was maintained.

DATA COLLECTION PLAN

- After obtaining permission from the nursing superintendent, all eligible nurses were informed about the assessment and training method
- Oral consent was obtained
- OSPE included 8 stations with scenarios and task on admission, phlebotomy, insulin administration, preoperative education, intravenous injection administration, Immediate postoperative assessment, blood transfusion, catheter care
- Pre induction OSPE was conducted giving 5 minutes for each station and was assessed using a checklist by two assessors
- Following the pre OSPE, planned structured training was given by trained / experienced personnel for the next two days on topics like admission , sample collection, medication administration, perioperative care, blood transfusion, hospital infection control practices
- On third day, Post induction OSPE was conducted giving 5 minutes for each station and was assessed using a checklist by two assessors

DATA ANALYSIS

- Data was stored in excel
- Descriptive statistics like percentage was used to analyse demographic variables and OSPE performance
- Descriptive statistics like mean was used to find the difference in OSPE performance before and after induction.

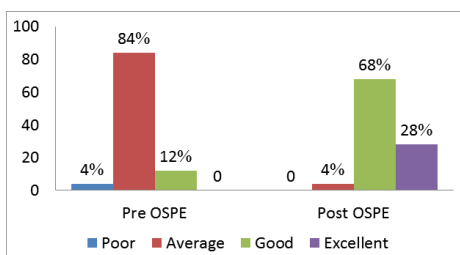
RESULTS

Table 1: The distribution of the demographic variables (N=25)

| S.No. | Demographic variables | n | % |
|-------|--------------------------------|----|----|
| 1 | Previous work experience | | |
| | Yes | 11 | 44 |
| | No | 14 | 56 |
| 2 | Induction | | |
| | Less than one month of joining | 10 | 40 |
| | One to three months of joining | 15 | 60 |
| 3 | Gender | | |
| | Male | 7 | 28 |
| | Female | 18 | 72 |

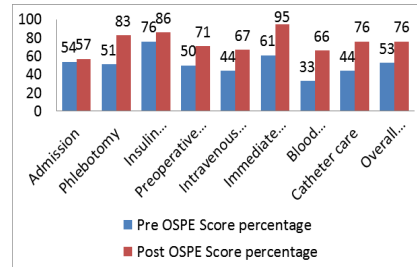
The findings shows that nearly half of the samples had no previous working experience (56%), 60% had induction after 1 – 3 months of joining and 72% were female nurses.

Figure 1: The Overall level of OSPE performance among nurses pre and post induction (N=25)



The above findings highlights the overall OSPE performance, in which 84% performed average and 12% performed good during pre induction OSPE whereas 68% performed good and 28% performed excellent during post induction OSPE.

Figure 2: The difference in the OSPE performance pre and post induction (N=25)



The above finding shows that the mean OSPE score percentage is 53% during pre-induction and 76% during post-induction. There is 23% difference in the mean OSPE score percentage before and after induction. Statistically, no analyses was done on the impact of induction on OSPE performance before and after induction

DISCUSSION

The above findings shows that nearly half of the samples had no previous working experience (56%), 60% had induction after 1 – 3 months of joining and 72% were female nurses. This makes it necessary for the induction to create a real good teaching experience for the new nurses since they lack in previous work experience and induction been given before they go in patient care.

The above findings also highlights the overall OSPE performance, in which 84% performed average and 12% performed good during pre induction OSPE whereas 68% performed good and 28% performed excellent during post induction OSPE.

The mean OSPE score percentage is 53% during pre-induction and 76% during post-induction. There is 23% difference in the mean OSPE score percentage before and after induction. Statistically, no analyses was done on the impact of induction on OSPE performance before and after induction

Similarly a study by Flurry M et al on **Nurse training with simulation: an innovative approach to teach complex microsurgery patient care** showed Average test score of 72% during pre-course and 92% during post-course. Six-month follow-up test score average was 88%.²

Another study on **Operating Room Team Training with Simulation: A Systematic Review** by Robertson JM identified 10 published articles describing simulation-based OR team-training programs focused on non technical skills like communication, teamwork, leadership, and situation awareness.³

The findings highlighted a definitive improvement and a positive impact of the induction on the post OSPE.

The exercise also helped to notice the hidden competencies like interpretation of task, observations, handling equipments, identification of instruments, procedure skills, communication, prioritization, time management, critical thinking.

The assessors felt OSPE to be rapid, non-variable, standard, individualized competency assessment method for better evaluation of nurses at induction and as well as evaluation of other nurses for periodic appraisal assessment.

CONCLUSION

The trainees felt alert, practical and appropriate way of assessment of their learnt skills. The hands on experience made them know their efficiency and enhance their skills wherever they lacked.

This method also like any other has its own limitations like trainees' stress, assessors' bias, and coordinator's challenges in organization'. But still OSPE is a best evaluative method than the subjective pretest and posttest which is mostly answered by intuition.

Although these are positive steps, we believe that much remains to be done to make OSPE as a regular assessment and feedback process, and thus meaningful to learners, appropriate guide to evaluators and ultimately safe to the patients. Thus, embedding OSPE as a mandate tool is challenging but helps in making nurses competent².

ANNEXURE

Section A: Demographic variable – Gender, previous work experience and date of induction

Section B:

Station 1:

Scenario: Mrs.A, 60 year old female accompanied by her husband is admitted to surgery ward with complaints of abdominal pain and loss of appetite.

Task: Kindly admit the patient

Station 2:

Scenario: Dr.S orders for blood investigations like total blood counts, PT, RBS, electrolytes for patient Mrs.A

Task: Collect blood sample for the above investigations

Station 3:

Scenario: Mrs.A is a diabetic and is on insulin therapy. Dr.S orders Inj. Actrapid 6US/C.

Task: Administer insulin injection

Station 4:

Scenario: Mrs.A is posted electively for hernia repair.

Task: Explain preoperative preparation and fill the checklist

Station 5:

Scenario: Mrs.A is on the surgery table and need to receive surgical prophylaxis

Task: Administer Inj. Cefazolin 1gm IV stat dose

Station 6:

Scenario: Mrs.A is received postoperatively to ward after hernia repair surgery

Task: Perform initial post operative assessment and document

Station 7:

Scenario: Mrs.A has Hb of 5 gm/dl postoperatively. There is order for blood transfusion and blood is connected. Patient starts to develop reaction.

Task: Write the pre, during & post transfusion care by nurses

Station 8:

Scenario: Mrs.A didn't void postoperatively and was catheterized.

Task: Perform perineal and catheter care

INSTRUMENT – OSPE CHECKLIST

| S.No. | Admission | Phlebotomy | Insulin administration |
|-------|----------------|--------------------|------------------------|
| 1 | Greets patient | Checks order sheet | Checks order sheet |

| | | | |
|----|---|---|--------------------------------------|
| 2 | Makes her sit | Verifies patient with tag and order sheet | Verifies patient with tag |
| 3 | Ties tag | Collects all articles | Collects all articles |
| 4 | Gives visitor pass to patient/relative | Palpates vein | Ensures food is present |
| 5 | Collects history-present complaints, comorbidities, medications, previous admission & surgery, allergies, payment | Uses mackintosh | Performs hand hygiene |
| 6 | Performs assessment – vital signs, pain score, falls risk, pressure sore, aspiration risk | Performs hand hygiene | Makes insulin warm |
| 7 | Educates patient-belongings, visitors time, cleanliness of unit, waste segregation | Wears gloves | Checks label on the insulin |
| 8 | Orientation- ward & hospital | Ties tourniquet (appropriately) | Wipes the insulin with spirit cotton |
| 9 | Documents – TPR sheet, nurses record, Assessment form | Cleans the site with spirit | Loads 6 units of Actrapid |
| 10 | | Fixes vaccutainer needle to holder | Keeps in tray |
| 11 | | Punctures vein at 30 degree with bevel up | Cleans the site |
| 12 | | Collects blood in order | Pinches the subcutaneous fat |
| 13 | | Inversions done | Gives the injection |
| 14 | | Releases tourniquet | Does not massage the site |

| S.No. | Intravenous injection | Immediate postoperative monitoring | Preoperative education |
|-------|----------------------------------|------------------------------------|----------------------------|
| 1 | Checks order | Checks vital signs | Surgery |
| 2 | Identifies right patient | Level of consciousness | Nil per oral |
| 3 | Assess line for thrombophlebitis | Air entry | Bath |
| 4 | Perform hand hygiene | Back for any skin peel/burns | Nail cutting & nail polish |
| 5 | Check medicine for expiry | Surgery site for oozing | Skin preparation |
| 6 | Open vial and dilutes with water | IV line patency | PAC |
| 7 | Loads in 5 ml syringe | Wound drain | Premedication |
| 8 | Places in tray | Limb movement | Test dose of antibiotics |
| 9 | Loads 5 ml of flush | Voiding/bladder retention | Preoperative exercises |
| 10 | Disposes the sharp immediately | Vomiting | Dentures |

| | | | |
|----|------------------------------------|-------------|---------------------|
| 11 | Presses on the catheter | Pain score | Jewels |
| 12 | Removes the hub | Positioning | Post operative room |
| 13 | Places in the tray | NPO status | Post operative pain |
| 14 | Cleans the port with spirit cotton | | Visitors control |

| S.No. | Blood transfusion | Catheter care | |
|-------|--|---|--|
| 1 | Pre transfusion vitals | Explain patient | |
| 2 | Checking bag for expiry, blood group, typing, name, number | Collect article | |
| 3 | Monitoring vitals during transfusion | Wash hands | |
| 4 | Drip rate | Provide privacy | |
| 5 | Monitoring for fever, chills, urticaria, angiodema | Position patient | |
| 6 | Stop transfusion | Assemble all articles | |
| 7 | Flush 100ml saline through the line with new IV set | Wear gloves | |
| 8 | Give drugs like hydrocort/avil as ordered | Clean perineum with soap and water | |
| 9 | Take sample for blood/urine myoglobin | Clean catheter from tip towards uro bag | |
| 10 | Return blood bag & reaction form to blood bank | Secure catheter to thigh | |
| 11 | Document the incident | Empty uro bag | |
| 12 | | Document | |
| 13 | | | |
| 14 | | | |

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