Original Research

Assessment of Skills of Health Care Professionals Posted in Labour Room and Maternity OTs Based on OSCE (Objective Structured Clinical Examination) Using LaQshya Guidelines

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Abstract

Background: Present study attempts to assess the skills of staff including Doctors and nurses posted in labour room and maternity OTs based on OSCE (Objective Structured Clinical Examination) as mentioned in LaQshya guidelines in selected areas of Indore and Ujjain district (M.P) regarding the management of normal labour, the active management of third stage of labour, Newborn Resuscitation, management of PPH due to atonic uterus and management of eclampsia. Even in these parameters many sub-parameters were studied.

Materials and Methods: Pre designed semi structured Observation checklist for Health care providers regarding skill assessment of the staff based on OSCE guideline was used to assess Health care providers including Doctors, Staff nurses/ANMs, who are providing MCH services in LR (Labour room) and maternity OT of the selected hospitals of Indore and Ujjain district.

Results: Most of the manoeuvres were better performed by staff nurses posted in CHCs rather than those posted in PHCs. Breathing assessment of baby was lacking among staff nurses of both CHCs and PHCs and needed to be tackled with by a reorientation training of paramedical staff in critical care. Decision to transfer (is usually after Consultation with the in charge, hence it is usually the Medical officers prerogative) and bimanual compression/ aortic compression/condom tamponade to control bleeding was done exclusively by MOs.

Conclusion: OSCE helped to assess the skills of the staff of maternity wing in a comprehensive manner and was well appreciated by the staff. Such OSCE modules should be developed and regularly used and updated to assess the clinical skill of the staff in the maternity wing of any health centre or hospital.

Keywords: OSCE, LaQshya, Labour room, Maternity

Introduction

The Objective Structured Clinical Examination (OSCE) introduced by Haden and Gleeson, in 1975, has become a standard method of assessment in both undergraduate and postgraduate students.[1] The Government of India launched LaQshya programme

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in 2017 by the Ministry of Health and Family welfare (MoHFW, India) which aims at improving quality of care in labour room and maternity operation theatre so that every pregnant woman receives most appropriate care with dignity and respect, which is her fundamental right.[2]

One of the key features in these LaQshya guidelines is ensuring skill assessment of all staff of LR & Maternal OT through OSCE testing as per Dakshata guidelines for delivery of 'zero-defect' quality obstetric and newborn care.[2]

Present study attempts to assess the skills of staff including Doctors and nurses posted in labour room and maternity OTs based on OSCE as mentioned in LaQshya guideline in selected areas of Indore and Ujjain district (M.P) regarding the management of normal labour, the active management of third stage of labour, Newborn Resuscitation, management of Postpartum hemorrhage (PPH) due to atonic uterus and management of eclampsia. Even in these parameters many sub-parameters were studied.

Material and Methods

Study Site-Selected hospitals of Indore and Ujjain district of Madhya Pradesh

Study Design: Cross-Sectional Study

Duration of Study- Study was conducted one Year from date of approval from Institutional ethics committee for a period of 1yr from June 2020 to June 2021.

Study Population:

Health care providers including Doctors, Staff nurses/ANMs, who are providing MCH services in Labour room and maternity OT of the selected hospitals of Indore and Ujjain district.

Study tools

Pre designed semi structured Observation checklist for Health care providers regarding skill assessment of the staff based on OSCE guideline, based on Madhya Pradesh National Health Mission (NHM) LaQshya Labour room and maternity OT checklist.[3]

The investigation was started after receiving ethical approval from the institute. Written informed consent was obtained from all the participants. The data collected was coded appropriately on MS Excel spreadsheet. Data was checked for any potential errors. Statistical software was used for analyzing the data.

Findings

Skill assessment of healthcare professionals (HCPs) was done regarding the management of normal labour using OSCE. Responses of HCPs were recorded on Methods to control the birth of head & Steps adopted after the head has delivered. (Table 1)

Table 1: Assessment of skills of HCPs regarding the management of normal labour using OSCE: Methods to control the birth of head & Steps adopted after the head has delivered

S.No	Parameter Studied		Responses of HCPs			
			Yes		No	
			MOs* (N=25=100%)	Staff Nurses (N=25=100%)	MOs (N=25=100%)	Staff Nurses (N=25=100%)
1.			25 (100%)	25 (100%)	0(0%)	0(0%)
		Control the birth of the head with fingers of one hand to maintain flexion	25 (100%)	25 (100%)	0(0%)	0(0%)

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Methods to control the birth of head	Encourage the woman to make small pushes with contractions	Support the perineum with other hand using a clean pad	25 (100%)	25 (100%)	0(0%)	0(0%)
		Place hands on either side of baby's head and deliver anterior shoulder	25 (100%)	25 (100%)	0(0%)	0(0%)
		Deliver posterior shoulder once axillary crease is seen by guiding head in an upwards direction	25 (100%)	25 (100%)	0(0%)	0(0%)
		Once delivery complete, place the baby on the mother's abdomen	25 (100%)	25 (100%)	0(0%)	0(0%)
		Note time of birth, sex of baby on partograph	25(100%)	5(20%)	0 (00%)	20 (80%)

Skill assessment of HCPs was done regarding the active management of third stage of labour using OSCE. Responses of HCPs were recorded on Steps adopted during the third stage of labour. (Table 2)

Table 2: Assessment of skills of HCPs regarding the active management of third stage of labour using OSCE- Steps adopted during the third stage of labour

S.No	Parameters studied	Responses of HCPs			
		Yes		No	
		MOs* (N=25=100%)	Staff Nurses (N=25=100%)	MOs (N=25=100%)	Staff Nurses (N=25=100%)
1.	Ruling out another baby	25 (100%)	25 (100%)	0(0%)	0(0%)
2.	Administration of Uterotonic drug	25 (100%)	13 (52%)	0(0%)	12 (48%)
3.	Delivery of Placenta and membranes	25 (100%)	13 (52%)	0(0%)	12 (48%)
4.	Uterine massage	20 (80%)	13 (52%)	5(20%)	12 (48%)
5.	Examination of lower vagina and perineum	25 (100%)	25 (100%)	0(0%)	0(0%)

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6.	Examination of placenta, membranes and umbilical cord	20 (80%)	14 (56%)	5(20%)	11 (44%)
7.	Decontamination of instruments	25(100%)	24 (96%)	0 (0%)	1(4%)
8.	Decontamination of syringe and needle	25(100%)	24 (96%)	0 (0%)	1(4%)
9.	Disinfection of gloved hands	22 (88%)	21 (84%)	3(12%)	4(16%)
10.	Washing of hands	25 (100%)	25 (100%)	0(0%)	0(0%)

Skill assessment of HCPs was done regarding the newborn resuscitation using OSCE. Responses of HCPs were recorded on Steps adopted during the newborn resuscitation. (Table 3)

Table 3: Assessment of skills of HCPs regarding Newborn Resuscitation using OSCE- Steps adopted during newborn resuscitation

S.No	Parameters studied	Responses of HCPs			
		Yes		No	
		MOs* (N=25=100%)	Staff Nurses (N=25=100%)	MOs (N=25=100%)	Staff Nurses (N=25=100%)
1.	Arrangement of instruments and set up	25 (100%)	25 (100%)	0 (0%)	0(0%)
2.	Cord Clamping	25 (100%)	11 (44%)	0(0%)	14 (56%)
3.	Radiant warmer	25 (100%)	25 (100%)	0(0%)	0(0%)
4.	Head position	25 (100%)	13 (52%)	0(0%)	12 (48%)
5.	Airway clearance	25 (100%)	25 (100%)	0(0%)	0(0%)
6.	Stimulation by rubbing back	25 (100%)	14 (56%)	0(0%)	11 (44%)
7.	Head repositioning	25 (100%)	25 (100%)	0(0%)	0(0%)
8.	Breathing assessment of baby	25 (100%)	20 (80%)	0(0%)	5(20%)

Skill assessment of HCPs was done regarding the Management of PPH due to Atonic Uterus using OSCE. Responses of HCPs were recorded on Steps adopted during management of PPH due to Atonic Uterus. (Table 4)

Table 4: Assessment of skills of HCPs regarding Management of PPH due to Atonic Uterus using OSCE- Steps adopted during management of PPH due to Atonic Uterus

S.No	Parameters studied	Responses of HCPs			
		Yes		No	
		MOs* (N=25=100%)	Staff Nurses (N=25=100%)	MOs (N=25=100%)	Staff Nurses (N=25=100%)
1.	Uterine massage	20 (80%)	13 (52%)	5(20%)	12 (48%)
2.	Checking the bleeding	25 (100%)	25(100%)	0(0%)	0(0%)
3.	Placenta Inspection	20 (80%)	14 (56%)	5(20%)	11 (44%)
4.	Uterine tone and bleed recheck	20 (80%)	13 (52%)	5(20%)	12 (48%)
5.	Second dose of medication	25 (100%)	13 (52%)	0(0%)	12(48%)
6.	Uterine tone and bleed recheck	20 (80%)	13 (52%)	5(20%)	12 (48%)
7.	Urinary bladder emptying	25 (100%)	25 (100%)	0(0%)	0(0%)
8.	Measures to control bleeding, if any	25 (100%)	0(0%)	0(0%)	25 (100%)
9.	Decision to transfer	25 (100%)	0(0%)	0(0%)	25 (100%)
10.	Explanation to patient regarding need to transfer	25 (100%)	0(0%)	25 (100%)	0(0%)

Skill assessment of HCPs was done regarding the Management of Management of Eclampsia using OSCE. Responses of HCPs were recorded on Steps involved in management of eclampsia. (Table 5)

Table 5: Assessment of skills of HCPs regarding Management of Eclampsia using OSCE - Steps involved in management of eclampsia

S.No	Parameters studied	Responses of HCPs			
		Yes		No	
		MOs* (N=25=100%)	Staff Nurses (N=25=100%)	MOs (N=25=100%)	Staff Nurses (N=25=100%)
1.	Immediate step	25 (100%)	25 (100%)	0(0%)	0(0%)
2.	Positioning of woman	25 (100%)	25 (100%)	0(0%)	0(0%)
3.	Hand washing	25 (100%)	25 (100%)	0(0%)	0(0%)
4.	Preparation of magnesium sulphate	25 (100%)	13 (52%)	0(0%)	12 (48%)
5.	Administration of magnesium sulphate bolus	25 (100%)	13 (52%)	0(0%)	12 (48%)
6.	Disposal of used needles and gloves	25(100%)	1(4%)	0 (0%)	24 (96%)
7.	Administration of magnesium sulphate (next doses)	25 (100%)	13 (52%)	0(0%)	12(48%)
8.	Disposal of used needles and gloves	25(100%)	24 (96%)	0 (0%)	1(4%)
9.	Hand washing	25 (100%)	25 (100%)	0(0%)	0(0%)
10.	Record drug administration	0(0%)	25 (100%)	25 (100%)	0(0%)

Discussion

In this study as far as normal labour is concerned, 100% Medical Officers (MOs) and 100% (Staff nurses) posted in Labour room were skilful in all the sub-parameters. The sub-parameters studied in active management of the third stage of labour like ruling out another baby which was performed by 100% HCPs, administration of Uterotonic drug, 10 IU oxytocin IM or Misoprostol 3 tablets (600ug) orally, was done by 100% MOs but only by 52% Staff nurses. Controlled Cord Traction during contractions and delivery of the placenta and membranes and performing uterine massage was done by 100% MOs but only by 52% Staff nurses. It was a common finding that these manoeuvres were better performed by staff nurses posted in CHCs rather than those posted in PHCs. 100% MOs and Staff nurses examined the lower vagina and perineum whereas 80% MOs but only by 56% Staff nurses examined placenta, membranes and umbilical cord. 100% Medical Officers and 96%) staff nurses were doing decontamination of instruments, syringe and needle satisfactorily, however, Disinfection of gloved hands was done by 88% Medical Officers and 84% staff nurses.

The sub-parameters studied in newborn resuscitation including arrangement of instruments and set up including (a) Bag and masks, (b) Suction equipment, (c) Radiant warmer or other heat source, (d) Warm towel-2, (e) Clock with second hands, (f) Oxygen source, (g) Gloves, (h) Shoulder roll, (i) Cord tie/cord clamp, (j) Scissors, was done by 100% nursing staff. Although 100% MOs were aware of the arrangement of the instruments and set up, in most places nurses make arrangement of instruments. Cord Clamping (If baby is not breathing or crying, clamps and cuts the cord immediately) was done by 100% MOs and 44% staff nurses. Shifting the baby under the radiant warmer was done by 100% MOs

and 100% staff nurses respectively, Positioning the head with neck slightly extended using shoulder roll was done by 100% MOs and 52% staff nurses respectively, stimulation by rubbing back was done by 100% MOs and 56% staff nurses respectively. Breathing assessment of baby was done by 100% MOs and 80% staff nurse. It was clearly evident that this aspect of critical care was lacking among staff nurses of both CHCs and PHCs and needed to be tackled with by a reorientation training of paramedical staff in critical care.

The sub-parameters studied in management of PPH due to atonic uterus including Uterine massage, Inspection the placenta for completeness and any missing pieces and re-checking the tone of uterus and bleeding was done by 80% MOs and 56% staff nurses that too of CHCs mainly. Re-checking the tone of uterus and bleeding was done by 80% MOs and 52% staff nurses that too of CHCs. Decision to transfer (is usually after Consultation with the in charge, hence it is usually the Medical officers prerogative) and bimanual compression/aortic compression/ condom tamponade to control bleeding was done exclusively by MOs. An important observation in the steps of the management of eclampsia is the fact that in CHCs staff nurses were aware of the preparation and administration of magnesium sulphate; however in PHCs staff nurses did not know the process of preparation and administration of magnesium sulphate. 100% MOs and 52% staff nurses knew correctly the process of preparation and administration of magnesium sulphate.

In fact many studies have time and again highlighted the importance of OSCE especially its utility in maternity wing. For example, **Shadia A. Eldarir** et.al in her study in 2013, has concluded that OSCE can be used as an appropriate method in evaluation maternity nursing clinical skills because of various advantages such as improving students' clinical performance, preparing highly qualified and competent graduates, increasing decision making abilities and enhance teaching level. Similarly, **Alexander Omu et al** while using OSCE in the evaluation process in the department of Obstetrics and Gynaecology have concluded that based on examinees 'attitudes, OSCE may be a more appropriate choice for graduation examinations of compared to the conventional clinical examination, however they found it to be expensive in terms of manpower requirement.[4, 5]

Conclusion

OSCE helped to assess the skills of the staff of maternity wing in a comprehensive manner and was well appreciated by the staff. Such OSCE modules should be developed and regularly used and updated to assess the clinical skill of the staff in the maternity wing of any health centre or hospital.

Conflict of Interest: Nil

Source of funding: Self

Declaration of Ethical clearance: Taken from ethical committee of institute

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