Effectiveness of self-instructional module (SIM) on practices of staff nurses regarding management of woman during oxytocin induction in a selected hospital in Gwalior

Tanima Verma[1], Suman Lata[2], Sarita Dubey[3],

1,2,3 Clininal Instructot, KGMU Institute of Nursing,

Introduction

Nurses can remain up to date with current developments maintain their competence and meet the standards of nursing practice. Technical and scientific advances in health services and increasing consumer demand for these services increase the need for application.[1]

The growth of science and technology has given rise to rapid advancement in the field of medical and nursing sciences as well as in the nursing care. As the standard and expectation of care rise, it becomes increasingly evident that competent and efficient care cannot be delivered unless the professionals get advanced knowledge in specific fields.[2]

Nurses who care for pregnant and laboring women are faced with an increasingly frequent use of pharmaceutical agents which facilitate initiation of labour. The choice of the drug, administration, side effects and complications varies. Knowledge about uterine physiology helps the nurse to understand the action of these agents.[3]

Nurses cannot defer responsibility for poor outcomes related to oxytocin administration to physician's orders and must take accountability for their own actions during induction. It is the nurse at the bedside who titrates the oxytocin based on the uterine activity, labour progress and fetal status. In order to assure that their nursing assessments are accurate and their nursing interventions appropriate, nurses must continually update their knowledge and understand the standards guiding their practice.[4]

In addition nurses need to know the legal ramifications of their actions and understand their role in activating a chain of command. Decisions made by nurses during the induction/augmentation process must be based on sound physiological principles and be supported by the literature and national standards.[5]

Nurses and physicians shared the common goal of a healthy mother and baby but did not always agree on methods to achieve that goal. Two clinical situations critical to patient safety (fetal assessment and oxytocin administration) were frequent areas of disagreement and sources of mutual frustration, often leading to less optimal teamwork. This study concluded that interdisciplinary communication and team work could be improved to promote safer care environment during labor and birth.[6]

A study was conducted to evaluate the effectiveness of a need based self instructional learning package on the care of patients undergoing haemodialysis for the nursing personnel. The findings indicated that the self instructional learning package was effective in increasing the practice and knowledge of nursing personnel.[7]

During clinical experience the investigator had observed that the staff nurse's knowledge and practice was inadequate regarding the management of women during oxytocin induction. In order to update the knowledge and practice of the staff nurses, the investigator felt the need to develop a self instructional module on management of woman during oxytocin induction.[8]

Material & Method/Methdology

the research approach used in present stuidy was quasi experimental, pre-test post test group design.The sample in this study included the staff nurses working in the OBG unit of a selected hospital and size of the population consisted of 40 staff nurses included technique total enumeration sampling technique

from J.H.Medical College Hospital, Gwalior. The data regarding practices of staff nurses was collected through self filled checklist.

The reliability of the tool was established by using the data collected from 10 staff nurses from a selected hospital in Gwalior. Reliability of the self assessment checklist. The reliability of the self assessment checklist was found out by Kendall's tau method (96.3%) and Spearman's rho method (0.984) which indicated that the tool –III was reliable.

Results

Distribution of initiatives of nurses before oxytocin application in the pre-test and post-test practice.

N=15

Applications	Pre test		Post test	
	f	%	f	%
Whether woman is informed				
-informed	15	100	15	100
-not informed	0	0	0	0
Vital signs every hour				
Blood pressure				
-checked	12	79.2	15	100
-not checked	3	20	0	0
Pulse				
-checked	8	52.8	14	92.4
-not checked	7	46.2	1	6.6
Respiration				
-checked	4	26.4	14	92.4
-not checked	11	72.6	1	6.6
Contraction stress test(CST)				
-applied	11	72.6	15	100
-not applied	4	26.4	0	0
FHS evaluation				
-applied	13	85.8	9	59.4
-not applied	2	13.2	6	39.6
Vaginal examination				
-applied	9	59.4	14	92.4
-not applied	6	39.6	1	6.6
Abdominal examination or Leopold's maneuver				
-applied	6	39.6	12	79.2
-not applied	9	59.4	3	20
Informed consent				
-obtained	9	59.4	14	92.4
-not obtained	6	39.6	1	6.6
Dilution and mixing prior to administration				
-performed	13	85.8	15	100
-not performed	2	13.2	0	0

The data in table depicts the distribution of initiatives of nurses before oxytocin application in pre-test

and post-test practice.

When distribution among attempts of staff nurses before oxytocin application, it was determined that a high percentage like 100% declared that woman is informed, checked the BP in pretest(79.2%) and the post-test(100%), checked pulse in pre-test(52.8%) and post-test(92.4%), checked the respiration in the pretest(26.4%)and post-test(92.4 %) of woman, Contraction stress test(CST) was done in pre-test(72.6%)and post test(100%), FHS evaluation was done in pre-test(85.8%) and post-test(59.4%), Vaginal examination was performed in pre-test(59.4%)and post-test(92.4%), Abdominal examination/Leopold maneuver was performed pretest(39.6%)and post test(79.2%), Informed consent in pretest (59.4%) and post-test(92.4%),Dilution and mixing prior to administration in pre-test (85.8%) and post test(100%).

Distribution of initiatives of nurses during oxytocin application. in the pre-test and post-test practice.

N=15

Applications	Pre test		Post test	
	f	**%**	**f**	**%**
Intake and output -performed -not performed	0 15	0 100	10 5	66 33
Infusion rate(every half hourly) -performed -not performed	13 2	85.8 13.2	15 0	100 0
Frequency and duration of contraction. -performed -not performed	14 1	92.4 6.6	14 1	92.4 6.6
Finger tip palpation -performed -not performed	8 7	52.8 46.2	13 2	85.8 13.2
Uterine resting tone -checked -not checked	6 10	39.6 66	10 5	66 33
Uterine hyperstimulation -aware -not aware	13 2	85.8 13.2	14 1	92.4 6.6
Progress of labour -informed -not informed	13 2	85.8 13.2	13 2	85.8 13.2
FHS before and after contractions -performed -not performed	10 5	66 33	15 0	100 0
Continuous monitoring -performed -not performed	12 3	79.2 20	13 2	85.8 13.2
Appropriate drug calculation prior to induction -performed -not performed	14 1	92.4 6.6	14 1	92.4 6.6

The data in table 6 depicts the distribution of initiatives of nurses during oxytocin application in pre-test and post-test practice.

When distribution among attempts of staff nurses during oxytocin application, it was determined that a low percentage (0%) declared that intake and output was not assessed in the pretest and 66% had performed in the post test, monitored infusion rate every half hourly in pretest (85.8%) and the post-test(100%),assessed the frequency and duration of contraction in pre-test(92.4%) and post-test(92.4%), performed finger tip palpation to assess tonus of the uterus in the pretest(52.8%)and post-test(85.8%) of woman, uterine resting tone was checked in pre-test(39.6%)and post test(66%),aware of uterine hyper stimulation in pre-test(85.8%) and post-test(92.4%), Progress of labour was informed in pre-test(85.8%)and post-test(85.8% FHS before and after contractions was performed in the pretest(66%)and post test(100%), Continuous monitoring during active management of labour was performed in pretest(79.2%) and post-test(85.8%), Appropriate drug calculation prior to induction was performed in pre-test (92.4%) and post test(92.4%).

Distribution of initiatives of nurses after oxytocin application in the pre-test and post-test practice.

N=15

Applications	Pre test		Post test	
	f	%	f	%
Record of activities and baseline data in monitor strip -performed -not performed	7 8	46.2 52.8	10 5	66 33
Record assessment findings prior and during induction -performed -not performed	7 8	46.2 52.8	14 1	92.4 6.6
Record infusion rate in drops/mt and ml/hr -performed -not performed	10 5	66 33	13 2	85.8 13.2

The data in table depicts the distribution of initiatives of nurses after oxytocin application in pre-test and post-test practice .

When distribution among attempts of staff nurses after oxytocin application, it was determined that recording of activities and baseline data in monitor strip was performed in the pretest (46.2%)and the post-test(66%), recorded the assessment findings prior and during induction in pre-test(46.2%) and post-test(92.4%), recorded infusion rate in drops/mt and ml/hr in the pretest(52.8%)and post-test(85.8%) .

Grading of performance in the pre and post test practice score of staff nurses.

N =15

Grading of performance	Pre test		Post test	
	f	%	f	%
Good	2	13.3	13	86.7
Satisfactory	10	66.7	2	13.3
Poor	3	20	--	--

Effectiveness of SIM on management of woman during oxytocin induction in terms of gain in knowledge score.

There is no significant difference between the mean pre test and post test knowledge score of staff nurses before and after receiving SIM on the management of woman during oxytocin induction. There is no significant difference between the mean pre and post test practice score of staff nurses who received SIM on management of woman during oxytocin induction.

Association between pre test practice score of staff nurses and selected variables.

N=15

Duration of labour room experience	Satisfactory	Good	Total	'p' value
<6 months	3	2	5	0.8
>6 months	6	4	10	
Duration of clinical experience				
1-3 years	8	4	12	0.29
>3 years	1	2	3	
Age of staff nurses				
<30 years	9	4	13	0.14
>30years	0	2	2	
Professional qualification				
GNM	6	6	12	0.006*
BSc(N)	3	0	3	

*= Significant

Wilcoxon's signed rank sum test was computed to test the hypothesis. Table shows that there is no association between duration of labour room experience of staff nurses and pre test practice score at 0.05 level of significance (p=0.8). Therefore null hypothesis is accepted and the research hypothesis is rejected. There is no association between duration of clinical experience of staff nurses and pre test practice score at 0.05 level of significance (p=0.29). Therefore null hypothesis is accepted and the research hypothesis is rejected. There is no association between age of staff nurses and pre test practice score at 0.05 level of significance (p=0.14). Therefore null hypothesis is accepted and a research hypothesis is rejected. There is association between professional qualification of staff nurses and pre test practice score at 0.05 level of significance (p=0.006). Therefore null hypothesis is rejected and a research hypothesis is accepted.

DISCUSSION

When distribution among attempts of staff nurses after oxytocin application, it was determined that recording of activities and baseline data in monitor strip was performed in the pretest (46.2%)and the post-test(66%), recorded the assessment findings prior and during induction in pre-test(46.2%) and post-test(92.4%), recorded infusion rate in drops/mt and ml/hr in the pretest(52.8%)and post-test(85.8%) . The findings are consistent with other studies. Wilcoxon's signed rank sum test was used to find out the significance of difference between the pre and post test practice score of staff nurses. The data presented in table 6 show that the 'T' value in all the three areas is significant at 0.05 level. Hence it can be inferred that SIM was effective in improving the practice of staff nurses regarding management of woman during oxytocin induction. It is evident that calculated T value for activities to be performed was less than 0(T=-120<0) and the T value for the activities to be not performed was less than 0(T=-105<0).The mean difference between pre test and post test practice score was a true difference and not a chance. Hence the null hypothesis is rejected and research

hypothesis is accepted. This indicates that SIM was significantly effective in improving the practice of staff nurses.

CONCLUSION

Women stimulated with oxytocin are at increased risk of poor outcomes because both the main indication of stimulation, slow labour progression and oxytocin stimulation itself are associated with harmful health outcomes. It also suggests that continuous supportive care provided to women in labour results in several beneficial health effects.

The nurse must fully understand the pharmacology, side effects and potential complications for any uterotonins, uterotropins or tocolytics administered to childbearing woman.

The nurse has a key　role in health care delivery system mainly emphasize on primary prevention. Primary prevention includes health promotion. One of the methods of health promotion is by health education. In the clinical area the nurse will have direct contact with woman receiving oxytocin, so she needs to have abreast knowledge and also techniques to be used during management of woman during oxytocin induction.

BIBLIOGRAPHY

1. Clayworth S. The nurse's role during oxytocin induction administration. Maternal and Child nursing 2000; 25 (2):80-5.

2. Manojlovich M. Predictors of Professional Nursing Practice Behaviors in Hospital settings. Nursing Research 2005; 54 (1):41-7.

3. Durodola A, Kuti O, Orji EO, Ogunniyi SO. Rate of increase in oxytocin dose on the outcome of labour induction. International Journal of Gynecology and Obstetrics 2005; 90: 107-11.

4. Payton RG, Brucker MC. Drugs and uterine motility. JOGNN 1999; 28:628-38.

5. Knox GE, Simpson KR. Common areas of litigation related to care during labour and birth: Recommendations to promote patient safety and decrease exposure. Journal of Perinatal and Neonatal Nursing 2003; 17(1):110-125.

6. Simpson KR. James DC, Knox GE. Nurse physician communication during labour and birth: implications for patient safety. JOGNN 2006; 35(4):547-56.