Original Article

A Study to Assess the Effectiveness of Self Instructional Module (SIM) For the Staff Nurses on Management of Woman during Oxytocin Induction in K D J Hospital in Gwalior (M.P)

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Abstract

Safe motherhood can only become a reality when labor room team keep themselves abreast with the latest management protocols and dedicate themselves in the care of the parturient and retain the right of practicing midwifery. Improvement in knowledge, skills and practice for the labour room team is highly imperative. Objectives of the study were to assess the knowledge of nurses on the management of woman during oxytocin induction as measured by a structured knowledge questionnaire and the effectiveness of self-instructional module on the management of woman during oxytocin induction in terms of gain in knowledge score and to find the association between post-test knowledge score and selected variables. One Group Pretest Posttest design was used to assess 60 samples selected by non-probability convenient sampling technique. The pretest questionnaire was administrated and a SIM was distributed. The staff nurses were instructed to read the SIM and posttest was done of 7th day of pretest. The data collected was analyzed using descriptive and inferential statistics. In data analysis it was found that the SIM was effective in improving the staff nurses management of labour induced woman during oxytocin induction.

Keywords: effectiveness, staff nurses, self-instructional module, oxytocin.

INTRODUCTION

Induction of labour is the artificial initiation of uterine contraction prior to their spontaneous onset leading to progressive dilatation and effacement of the cervix and to delivery. Oxytocin titration is the common method of labour induction. The incidence of labour induction ranges between 3% and 25% and it reflects the confidence of the obstetrician in assessing gestational age and monitoring pregnancy and its complications..The role of oxytocin in induction and augmentation of labour is a frequent issue in perinatal malpractice litigation. According to the risk management literature more than 50% of all the medical legal settlement awards are for perinatal cases with 40 to 50% of the cases being related to the management of oxytocin. Oxytocin use was perceived to be a modern delivery practice providing a fast and easy labour. Its use in India has been considered part of the larger issue of the biomedicalisation of births and has raised questions about the implications that modern medical technologies acquire in different contexts.

The nurses are always at the bed side of labouring women who make oxytocin titration decisions based on their nursing assessment. Those decisions must be based on a sound knowledge of the pharmacologic properties. decisions must be based on a sound knowledge of the pharmacologic properties of oxytocin, the physiology of uterine contractions, response of the woman and foetus to contractions and also aware of the standards and practice guidelines of care that govern their actions during induction /augmentation.

NEED FOR THE STUDY

It is knowledge that has enabled humanity to make progress in life. It is knowledge which ensures success in any profession or vocation. 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.

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 . 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.

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.

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

STATEMENT OF THE PROBLEM

A study to assess the effectiveness of self instructional module (SIM) for the staff nurses on management of woman during oxytocin induction in K D J hospital in Gwalior (M.P).

OBJECTIVES OF THE STUDY

1. To assess the knowledge of nurses on the management of woman during oxytocin induction as measured by a structured knowledge questionnaire.

2. To find the effectiveness of self-instructional module on the management of woman during oxytocin induction in terms of gain in knowledge score.

3. To find the association between post-test knowledge score and selected variables.

ASSUMPTIONS

1. The nurses usually function according to the policy of the institution or labour room.

2. The nurses have some knowledge about oxytocin induction.

3. Every teaching material has the capacity for improving the knowledge of an individual.

HYPOTHESES

All hypotheses will be tested at 0.05 level of significance.

H1: The mean post test knowledge score of staff nurses completing the SIM will be significantly higher than the mean pre test knowledge score.

H2: There will be significant association between knowledge of staff nurses with selected variables.

VARIABLES:

1. Independent variable-Self instructional module

2. Dependent variable-Knowledge of nurses regarding management of woman during oxytocin induction.

LIMITATION OF THE STUDY

1. Nursing staff working selected hospital K D J hospital Gwalior.

2. Nursing staff available during the study period and willing to participate in the study.

3. Know to read and write English.

CONCEPTUAL FRAMEWORK

The present study is to assess the knowledge of staff nurses on management of woman during oxytocin induction in a selected hospital of Bharatpur. The conceptual framework of the present study was developed by the investigator based on general system's theory with input, process, output and feedback. This theory was introduced by Callister Roy.

REVIEW OF LITERATURE

The review of literature bridges the gap between the problem statement and the research subject, problems and lays a foundation for the research plan. For easy understanding of readers, the literature is organised and presented under the following headings: Physiology of contractions, Oxytocin regimen (high and low dose), Pharmacology of oxytocin, Nurses responsibility during oxytocin induction, Adverse effects of oxytocin, Perinatal patient safety and Effectiveness of SIM in nursing practice.

Lazor L.E. 2005 was conducted a study in which included 900 women who received oxytocin for induction and reported less hyper stimulation, less foetal distress and no significant difference in caesarean sections or length of labour with a low dose regimen. A comparative study was done on 2 protocols(traditional and new protocol).A sample of 110 consecutive post term pregnant women with a Bishop's score =4 and no contraindications for oxytocin induction of labour into two groups, which are similar in age, parity and gestational age. Group A underwent the traditional protocol (2.5mU/min for start and increasing steps of 2.5mU/min by 15 min intervals up to a maximum dose of 40mU/min), while group B received the new protocol(5mU/minfor start and increasing steps of 5mU/min by 45 min intervals up to a maximum dose of 40mU/min).Efficacy and complications were compared.($p<0.05$).The new protocol did not increase the risk of foetal and maternal complications and concluded that application of 45 min intervals which is the time required by oxytocin to reach a steady plasma level and state and accelerated more than the traditional protocol.

Goetz L 2001 was conducted a study to assess the oxytocin dose and the risk of uterine rupture in trial of labour after caesarean and it was determined that patients who experienced uterus rupture before are more possible to experience uterus hyper stimulation. For this reason oxytocin should not be applied or applied with an attentive follow up in a patient who has a rupture history.

METHODOLOGY

RESEARCH APPROACH

An evaluative research has been adopted for the study that involves finding out how well a programme, practice, procedure or policy is working. The main goal is to assess or evaluate the success of a programme .

RESEARCH DESIGN

The research design is the researcher's overall plan for addressing a research question including specification for enhancing the integrity of the study. Pre experimental i.e., one group pre-test post-test design was adopted for the study. The pre-test was carried out for assessing the knowledge of staff nurses on management of woman during oxytocin induction and SIM was administered on the first day. Post-test was conducted on the seventh day following the pre-test. The design did not include any control group. The research design is presented as follows:-

Subjects	Pre-test	Treatment	Post-test
Staff nurses working in the OBG unit	O_1	X	O_2

Figure 1: The schematic representation of one group pre-test post-test design

O1: Administration of structured knowledge questionnaire for assessing knowledge of the staff nurses working in labour room and OBG unit.

X: Administration of SIM for staff nurses on management of woman during oxytocin induction.

O2: Administration of same structured knowledge questionnaire assessing knowledge of the staff nurses working in labour room and OBG unit.

SETTING OF THE STUDY

The study was conducted in K D J hospital Gwalior has a well-equipped Maternity ward with 70 beds and a well-equipped labour room. On an average, 800 deliveries take place per month.

VARIABLES UNDER STUDY

Variables are qualities, properties or characteristics of persons, things or situations that change or vary.

Two types of variables were identified in this study.

- Dependent variables
- Independent variable

INDEPENDENT VARIABLES

Independent variable is the variable that stands alone and does not depend on any other.

- Self instructional module on management of woman during oxytocin induction

DEPENDENT VARIABLES

Dependent variable is the variable the researcher is interested in understanding explaining or predicting.

- Knowledge of nurses

POPULATION

The target population in this study included the staff nurses working in the OBG unit of a selected hospital and size of the population consisted of 60 staff nurses.

SAMPLE AND SAMPLING TECHNIQUES

The study included the staff nurses those are available. So convenient sampling technique was used.

SAMPLE & SAMPLE SIZE

The sample for the current study consisted of 60 staff nurses of K D J hospital Gwalior.

SAMPLING TECHNIQUE

Convenient sampling also called accidental sampling uses participants who are easily accessible to research and who meet the criteria of the study. For this study convenient sampling was used.

DESCRIPTION OF THE FINAL TOOL :

The final tool consisted of :

Tool I: Baseline Performa: It consisted of 6 items for obtaining information regarding age, professional qualification, and current designation, duration of experience in OBG unit and duration of experience in labour room, additional qualification. The subjects placed a tick (√) mark or wrote the response against the column provided.

Tool II: Structured knowledge questionnaire on management of woman during oxytocin induction for staff nurses.

Thirty two items were multiple choice questions and all the items had only one correct answer . The total score was 32 and minimum score was 0.

The score was categorised arbitrarily as follows:-

SCORE	PERCENTAGE (%)	GRADE
0-8	25	POOR
9-16	50	AVERAGE
17-24	75	GOOD
25-32	100	VERY GOOD

CONTENT VALIDITY

The tool was submitted to 6 experts in the field of obstetrics and gynaecology both medical and nursing experts along with objectives of the study, blueprint of the tool and criteria rating scale. They were asked to give their opinions and suggestions about the content of the tool. There was 100% agreement on all the items of Tool I, Tool II.

RELIABILITY OF THE TOOL

The reliability of the tool was established by using the data collected from 6 staff nurses from a selected hospital in Dholpur. Split half method was used to measure the internal consistency of the structured knowledge questionnaire. The reliability co-efficient of the tool was calculated using spearman's Brown formula it was found to be 0.83, which indicated that the tool-II (structured knowledge questionnaire) was reliable.

DEVELOPMENT OF SELF INSTRUCTIONAL MODULE (SIM)

The SIM was developed for the staff nurse on management of woman during oxytocin induction. It was prepared based on review of literature and discussion with experts. The steps involved in the development of SIM were : Review of literature and discussion with experts, preparation of the first draft of SIM, content validity of SIM and preparation of final draft of SIM

DATA COLLECTION PROCESS

The final data collection was done in K D J hospital Gwalior. The data collection period extended from 01-03-18 to 16-03-18. Formal written permission was obtained from the administrators of the hospital prior to data collection. Concerned Nursing supervisor and ward sisters were informed of the purpose of the study and their cooperation was obtained. An informed written consent was obtained from the subjects after explaining the purposes of the study and confidentiality of the study was assured.

The total population of 60 (staff nurses) was included in the study. Informed consent was taken from the subjects prior to the procedure. The subjects were administered baseline Performa and structured knowledge questionnaire.

PLAN FOR DATA ANALYSIS

Analysis is the systematic organization and synthesis of research data and the testing of research hypothesis using these data. The data obtained will be analyzed using both descriptive and inferential statistics based on the objectives and hypothesis of the study.

ANALYSIS AND INTERPRETATION OF DATA

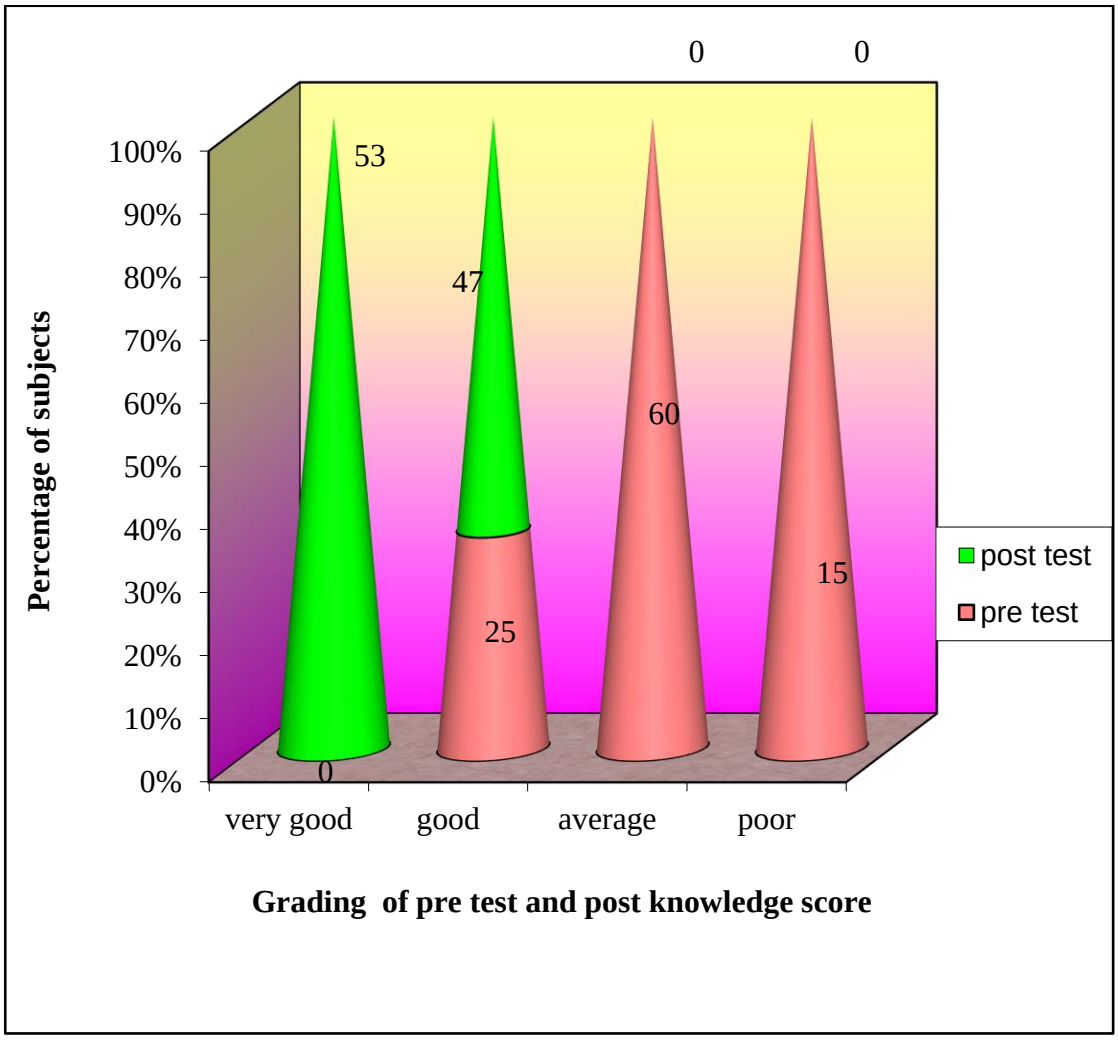
Distribution of sample according to their pretest and post test knowledge score.

Table 1 (a) Frequency, cumulative frequency and percentage distribution of pre and post knowledge score of staff nurses.

Knowledge score	Pre test			Post test		
	F	%	Ltcf	f	%	Ltcf
5-8	9	15	9	--	--	--
9-12	14	23.3	23	--	--	--
13-16	22	36.7	45	--	--	--
17-20	9	15	54	8	13.3	8
21-24	6	10	60	20	33.4	28
25-28	--	--	--	18	30	46
29-32	--	--	--	14	23.3	60

Maximum score=32

This section deals with analysis and interpretation of the data to evaluate the effectiveness of SIM on management of woman during oxytocin induction for staff nurse in terms of knowledge gained Data regarding pre and post test knowledge score were analyzed using frequency and percentages are presented in table 1 (a).



MAJOR FINDINGS OF THE STUDY

I - Base line Performa

Majority of the subjects (70%) were in the age group of 21-25 years. Most of the subjects completed GNM (66.7%) and B.Sc. (N) (25%).Only 4 out of 60 respondents were ward in charges and 6 among them was supervisor and 50 were staff nurses. Majority of the subjects (40%) had an experience of 6months -1 year and only 16 had above 3 years of experience in OBG unit. Majority of the subjects (66.7%) had an experience of less than 1 year and only 20 respondents had above 1 year of experience in labour.

Section II- Distribution of sample according to their pretest and post test knowledge score.

Majority of the respondents (53%) had very good knowledge score(25-32) in the post test as compared to the pre test where the majority (60%) had average knowledge(9-16). Data collected prior to administration of SIM, reflected that most of the nurse had a score (36.7%) between 13-16, only 9 respondents between 17–20 and 6 above 20 in the pre test.

Following the intervention (SIM) there was a marked increase in knowledge scores obtained by nurses. Majority of the nurses (33.4%) had scored 21-24. In the post test none of the staff nurse had score below 17. On comparing the pre test score with the post test scores it was found that all the staff nurses scored higher in the post test than the pre test. In the post-test 53% of the respondents fell in the category of very good, 47% in good category and none in the average and poor category. The study

showed that there is a significant difference between the pre test- post test knowledge score. Hence it can be inferred that SIM was effective in increasing the knowledge of staff nurses regarding management of woman during oxytocin induction

Section III- Effectiveness of SIM on management of woman during oxytocin induction in terms of gain in knowledge score

Mean of pretest 13.96, Mean of posttest 25.33. Mean% of posttest higher than pretest i.e. 42.21 post test and only 23.26 in pretest. It is evident that calculated't' value (t59 =23.604) was greater than table value (t59 at 5% level = 2.00). Hence null hypotheses was rejected at 0.05 level of significance. The mean difference between pre test and post test knowledge score was a true difference and not a chance. This indicates that SIM was significantly effective in increasing the knowledge of staff nurses. Hence H1 excepted.

Section IV- Association between post test knowledge score of staff nurses and selected variables is professional and clinical experience in labour room. Hence, H2 excepted.

NURSING IMPLICATIONS

Nursing education

Nursing education should focus attention in teaching students regarding the care of woman during oxytocin induction. An effective education or guidance to nursing students will have better impact and will enhance their knowledge and skill towards care of woman during oxytocin induction. The nurse should be well prepared with adequate knowledge and the curriculum should emphasize on students regarding management of woman during oxytocin induction.

Nursing administration

Nursing administration may use the study findings to improve the quality of patient care. The nursing personnel in various health care settings should be given in service education and continuing education about the various aspects which the nurse will come across. Encourage the nurses to attend short-term courses and upgrade their knowledge.

Nursing practice

The nurse has a key role in health care delivery system mainly emphasize on primary prevention. Primary prevention includes health promotion

Nursing research

There is an extensive need to develop information materials the based on nurse's needs. A study can be undertaken to identify the problems encountered by the nurse during oxytocin induction in order to build positive practice environment.

RECOMMENDATIONS

1. The study can be replicated on a larger sample.

2. A study can be conducted to assess the woman's knowledge and practice regarding oxytocin induction.

3. A similar study can be conducted using other strategies like PTP, booklets.

4. A comparative study can be done using various teaching strategies on management of woman during oxytocin induction

5. An exploratory study can be done to find out the problems encountered during oxytocin induction.

6. A similar study can be conducted in 2 different hospitals to find out the differential practices followed by nurses during oxytocin induction.

7. A similar study can be done according to asses the area of knowledge.

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