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A study to assess the effectiveness of PTP on knowledge regarding oxytocin administration during labor among 4th years B.Sc nursing students

Vaishnavi[1], Sahana B S[1], M S Shena[1], Sr Stella V J[1], Honey Gundami[2]

[1] Third year GNM Nursing Students, Department of Obstetrics and Gynaecology, Athena School of Nursing, Mangalore, Karnataka, India

[2] Lecturer, Department of Obstetrics and Gynaecology, Athena College of Nursing, Mangalore, Karnataka, India

Abstract

Introduction: Induction of labor is the stimulation of uterine contractions before the onset of spontaneous labor. It is an obstetric intervention that should be used when elective birth will be beneficial to the mother and baby. Oxytocin is a neuro hormone that originates in the hypothalamus and is secreted by the posterior lobe of the pituitary gland. Synthetic oxytocin is the most commonly used drug for the induction of labor in viable pregnancy which is given through the IV route. Overdose of oxytocin, injudicious administration of the drug, poor maternal and foetus. Assessment results in serious maternal and fetus complications.

Objectives: Determine the level of knowledge regarding oxytocin administration during labor among nursing students as measured by structured knowledge questionnaire. Evaluate the effectiveness of planned teaching programme on oxytocin administration during labor as measured by gain in knowledge score. Find the association between pre-test knowledge score and selected demographic variables.

Methodology: Quasi experimental research approach was found to be appropriate to evaluate the effectiveness of planned teaching programme on oxytocin administration during labor among 4th year BSc nursing students. The sample consisted of 60, 4th year BSC nursing students. The sample was selected from B.Sc 4th year BSc nursing students from two selected nursing colleges using simple random sampling technique. The data was collected prior to and after administration of the planned teaching programme on oxytocin administration during labor. Post-test was conducted on the seventh day using the same tool.

Result: Distribution of nursing students according to their demographic characteristics shows that majority of the nursing students (83.33%) were in the age group of 20 years and most of the students (66.67%) belongs to nuclear family, and highest percentage (91.67%) of students received information related to oxytocin induction during labor from health professionals. Findings revealed that the mean pre-test knowledge score was 41.16% with mean and standard deviation of 12.35-2.63 whereas the post-test mean knowledge score was 73.83% with mean and standard deviation of 22.15 5,60. The difference between pre-test and post- test knowledge score was 32.69%.

Interpretation and conclusion: The present study revealed that Planned Teaching Programme has improved the knowledge of the B.Sc. nursing students regarding Oxytocin administration during labor. Therefore it was concluded that Planned Teaching Programme is highly effective in improving the knowledge of B.Sc. nursing students.

Keywords: PLLA tube, deformation, crystallization, WAXS and XD

Introduction

Childbirth is a special journey for every woman. Generation of women have travelled the same route but the journey is unique. Childbirth is most pleasurable event to the mother at the same time it is also a life-threatening event to her. Hence, ensuring safe childbirth is the responsibility of a maternity nurse by promoting and preserving the health of the mother and foetus from conception to childbirth. To ensure safe delivery, various measures have been used when needed to induce labor.

Uterine contractions are involuntary progressive contractile activity of the uterus, has been demonstrated throughout pregnancy. Most of the contractions are imperceptible to the pregnant women (Braxton-Hicks contractions), but towards the end of pregnancy they may achieve on a sporadic basic strength equivalent to those of early labor. Oxytocin is a nonpeptide found in pituitary extracts from mammals. It is mainly responsible for the uterine contractions. The concentration of oxytocin receptors increased in the myometrium of pregnant women. It stimulate uterine contraction by acting directly on the myometrium Oxytocin is distributed throughout the extracellular fluid. Small amounts of the drug probably reach the fetal circulation'.

Oxytocin has a plasma half-life of about 1 to 6 minutes which is decreased in late pregnancy and lactation. Following intravenous administration of oxytocin, uterine response occurs almost immediately and subsides within 1 hour. Following intramuscular injection of the drug, uterine response occurs within 3 to 5 minutes and persists for 2 to 3 hours. Its rapid removal from plasma is accomplished largely by the kidney and liver, only small amount are excreted in urine unchanged. Oxytocin is further released in large amount after distension of cervix and Uterus during labor, this facilitating birth. Induction of labor is the stimulation of uterine contractions.

Objectives

- Determine the level of knowledge regarding Oxytocin administration during labor among nursing students as measured by structured knowledge questionnaire.

- Evaluate the effectiveness of planned teaching program on oxytocin administration during labor as measured by gain in knowledge School.
- Find the association between pre-test knowledge score and selected demographic variables.

Methodology

The study design is schematically described as follows.

Table 1

Pre test	Treatment	Post test
O_1	X	O_2

O_1: Pre-test knowledge assessment of nursing students regarding oxytocin administration during labor.

X: Administration of planned teaching programme (PTP) on oxytocin administration during labor among nursing students.

O_2: Post test knowledge assessment of nursing students regarding oxytocin administration during labor.

The study was conducted in Athena College of Nursing of Mangalore. The College was selected for the study on the basis of:

- Geographical proximity
- Feasibility of conducting the study
- Availability of sample

In the present study the population consists of nursing students of 4th year BSC nursing in selected colleges at Mangalore. Simple random sampling technique was used to select the sample for the present study from the 4th year BSc nursing 60 nursing students were selected by simple random sampling to make a total of 60 samples.

Inclusion criteria for sampling

Nursing students who are:

1. Willing to participate in the study
2. Present at the time of data collection

Exclusion criteria for sampling

Nursing students who are, already exposed to teaching regarding oxytocin administration, during labor.

Data Collection

Prior permission was obtained from the concerned authority of the selected college at Mangalore keeping in mind the ethical aspect of research data was collected after informed consent of the sample. The respondents were assured of the anonymity and confidentiality of the information provided by them. The researcher has collected data from 60 Samples. pre-test was conducted on the first day followed by tur teaching Programme. lecturer cum discussion was the method of instruction. The duration of the session was one hour After 7 days a post test was conducted using the Same knowledge questionnaire to evaluate the effectiveness of planned teaching Programme. The analysis of the data has been planned to be made based on the objectives and hypotheses using descriptive and inferential statistics.

The data collected, tabulated, analyzed, interpreted and findings obtained were presented in the form of tables and figures represented under following sections.

Part 1: Description of demographic characteristics of nursing students.

Part II: Distribution of knowledge score of nursing students regarding oxytocin induction during labor.

Part III: Evaluation of effectiveness of planned teaching program on oxytocin induction during labor

Results

Part 1: Description of demographic characteristics of the sample

Deals with the distribution of participants according to their demographic characteristics. Collected data were analyzed using descriptive statistics and summarized in terms of frequency and percentage (table 2).

Table 2: Frequency and percentage distribution of samples according to their demographic variables. (n = 60)

Sl. No	Demographic variables	Frequency	Percentage
1	**Age (in years)**		
	a) 20	50	83.33
	b) 21	10	16.66
2	**Type of family**		
	a) Nuclear	40	66.67
	b) Joint	20	33.3
3	**Source**		
	a) Health Professional	50	83.33
	b) Others	10	16.66

Table 3: Description of area wise mean, SD, mean % of post- test knowledge scores.

Sl. No.	Knowledge area	Maximum Possible Score	Mean Score	SD	Mean percentage
1	Oxytocin induction during	20	14.1	3.8	70.05
2	Nurses responsibility during oxytocin administration	10	8.05	215	80.05
	TOTAL	30	22.15	5.60	73.83

Part II: Distribution of knowledge level of the nursing students regarding oxytocin induction during labor.

Section A: Pre-test knowledge level of the nursing students regarding oxytocin induction during labor.

Table 4: frequency and percentage distribution of pretest knowledge level of nursing students regarding oxytocin induction during labor. (n=60)

Pretest			
Score	**Grade**	**Frequency**	**Percentage**
0-10	Poor	17	28.33%
11-20	Average	43	71.67%
21-30	Good	0	0%

Section B: Post -test knowledge level of nursing students regarding oxytocin induction during labor.

Table 5: Frequency and percentage distribution of post-test knowledge level of nursing students regarding oxytocin induction during labor. (n=60)

Post test			
Score	**Grade**	**Frequency**	**Percentage**
0-10	Poor	0	0
11-20	Average	28	46.67
21-30	Good	32	53.33

Part III: Evaluation of effectiveness of PTP on oxytocin induction during labor.

Section A: Distribution of nursing students pre test and post test level of knowledge scores.

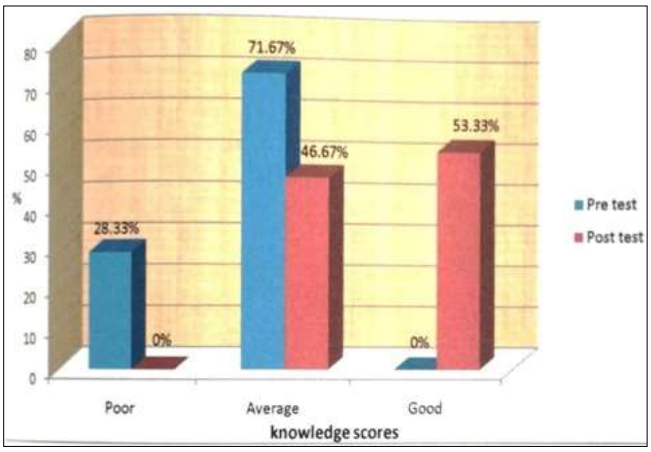

Fig 1: Multiple bar diagram showing percentage distribution of pre -test and post - test level of knowledge scores

Discussion

Part 1: Percentage wise distribution of adolescent girls according to their demographic variables.

Distribution of nursing students according to their demographic characteristic shows that majority of the nursing students (83.33%) were in the age group of 20 years Majority of the nursing students (66.67%) belongs to nuclear family, and highest percentage (83.33%) of nursing students received information from health professionals.

Part II: Analysis of pre-test knowledge of nursing students on oxytocin induction during labor.

Section A: Level of knowledge of nursing students regarding oxytocin induction during labor.

Assessment of nursing students' level of knowledge shows that highest percentage (71.67%) of the nursing students had average knowledge regarding oxytocin induction during labor. About 28.33% of nursing students had poor knowledge and none had good knowledge about oxytocin induction during labor.

The findings of the above study support with a descriptive study finding conducted in United Kingdom among 200 nursing students between the age group of 20 to 23 years to evaluate the current knowledge of the oxytocin induction during Labor. Results found that 65.3% students had poor knowledge and 34.8% students had a medium level of knowledge about the nurses responsibility during oxytocin 50 induction of labor."

Part III: Evaluation of effectiveness of PTP on oxytocin induction during labor Section A: Area wise effectiveness of planned teaching programme.

Comparison of area wise knowledge scores shows that the highest percentage of effectiveness (42%) was in the area of "Nurses responsibility during oxytocin administration", which had pre-test knowledge score of 38.5% and post -test knowledge score of 80.5% and Lowest effectiveness was observed in the area of induction during labor (28%) with pre-test knowledge post- test knowledge score of 42.5% and post- test knowledge score of 70.5%.

Area wise distribution of the knowledge scores of the nursing students revealed that an increase of32.69% was found in total mean knowledge score Overall findings revealed that the mean percentage (73,85%) of post-test knowledge score was more than the mean percentage (41 16%) of the pre-test knowledge score The effectiveness of PTP was observed in all area s suggesting data it was effective in increasing the knowledge of the nursing students regarding oxytocin induction during labor.

Conclusion

The following conclusions are made based on the above findings.

- In pre-test it has been found that majority of the nursing students had average knowledge
- After the intervention as PTP it has been found that there was gain in adequate knowledge, by reducing the poor knowledge category and increasing the average and good category.
- It Is evident that PTP was effective in improving the knowledge of nursing students regarding oxytocin induction during labor ($t=15.37$, $p<0.05$).
- There was significant association between pre-test knowledge score and selected demographic variable source of information whereas there is no significant association between pretest knowledge score and selected demographic variables age and type of family.

Conflicts of interest: None

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