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A Study to Assess the Effectiveness of Structured Teaching Programme Over Lecture Cum Demonstration in Improving Knowledge and Practice of Nursing Students on Antenatal Examination – A Comparative Study

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***Abstract*: Pregnancy is a time of many physiological changes. Pregnancy and childbirth are the two vital events in the life of women. During pregnancy women require special care because, it brings double health benefits, first to her as an adult member of the community and second to the product of her pregnancy. All human life in this planet is born of women. A woman in her role as a mother forms the backbone of the family. Childbirth is a biological function, which maintains the family continuum. Antenatal examination is the one of the most important aspects of antenatal care. While examination we can diagnose several health illnesses like anemia, jaundice, hypertension, heart disease, IUGR, malnutrition, renal diseases etc. Antenatal examination indirectly saves the lives of mothers and babies by promoting and establishing good health before childbirth and the early postnatal period. The pregnant women are not aware about antenatal visits, early registration and importance of institutional deliveries, because of lack of knowledge and accessibility. Nurses are the core personnel to provide information to the pregnant women. Different various methods of teaching on antenatal examination like structured teaching programme and lecture cum demonstration, which will increase the nursing student knowledge and practice in performing antenatal examination to pregnant women and will help them to early screen the high-risk pregnancy, in order to reduce maternal or infant morbidity and mortality. *Objectives:* 1. To assess the pre and post test knowledge and practice of structured teaching programme on antenatal examination among nursing students of selected college of nursing, Raigarh. 2. To assess the pre and post test knowledge and practice of lecture cum demonstration on antenatal examination among nursing students of selected college of nursing, Raigarh. 3. To find out comparison of post test knowledge and practice between structured teaching programme and lecture cum demonstration in improving knowledge and practice of nursing students on antenatal examination of selected college of nursing, Raigarh. 4. To find out the effectiveness of structured teaching programme over lecture cum demonstration in improving knowledge and practice of nursing students on antenatal examination of selected college of nursing, Raigarh. 5. To find out the association between pre-test score of knowledge and practice of structured teaching programme over lecture cum demonstration of nursing students on antenatal examination with selected Sociodemographic variables. *Material and methods:* A comparative research design was conducted among 60 nursing students of selected college of nursing, Raigarh, Chhattisgarh in November 2021. Where subjects were selected non probability purposive sampling technique. The tool was self-structured questionnaire for knowledge and self-structured checklist for practice. The tool was validated by experts. The data obtained were analyzed and interpreted in terms of objective and hypothesis. Descriptive and inferential statistics were used for data analysis the level of significance was at 0.05. *Results:* Major findings of these studies are out of 30 sample in experimental group A in relation overall analysis of pre and post test knowledge score on antenatal examination of nursing students in post test, majority of subjects 22 (73.33%) had excellent knowledge on antenatal examination. In relation overall analysis of pre and post test practice score on antenatal examination of nursing students in post test, majority of subjects 19 (63.33%) had excellent level of practice on antenatal examination. In out of 30 sample in experimental group B in relation overall analysis of pre and post test knowledge score on antenatal examination of nursing students, in post test, majority of subjects 23 (76.67%) had good knowledge on antenatal examination. In relation overall analysis of pre and post test practice score on antenatal examination of nursing students, in post test, majority of subjects 15 (50%) had excellent level of practice on antenatal examination.**

***Keywords*: Antenatal examination, assess, comparative, effectiveness, knowledge, lecture cum demonstration, nursing students, practice, structured teaching programme.**

1. Introduction

In most of the developed countries, pregnancies are planned, complications are few and outcomes are generally favourable for both mother and infant. Adverse outcomes are far more frequent in the developing world. The most severe adverse outcome of pregnancy is the death of the mother or her offspring. Adverse outcome of pregnancy could also be in the

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form of abortion, still birth, preterm birth, low birth weight and postnatal complications. National family health survey-4 (NFHS) 2015-16 In Chhattisgarh among all pregnancy related problem anemia is most common and life-threatening health issue. In Chhattisgarh estimate 83.9% of women get pregnant every year, among them 70-80% are having any grade of anemia like mild, moderate and severe. In Raigarh 91.7% registered pregnancies for which the mother received mother and child protection (MCP) card, 78.6% mother who had antenatal checkups in the 1st trimester, and 67.7% mother who had at least 4 antenatal care visits every year. It is estimated that there are 200 million pregnancies in the world, every year. WHO estimates that each year 51,500 women die, from maternal health causes. The country with highest estimated number of maternal deaths is India which is said to be 136,000 per year. Maternal Mortality Ratio (MMR) of India for the period 2016-18, as per the latest report of the national Sample Registration system (SRS) data is 113/100,000 live births, declining by 17 points, from 130/ 100,000 live births in 2014-16. This translates to 2,500 additional mothers saved annually in 2018 as compared to 2016. Total estimated annual maternal deaths declined from 33800 maternal deaths in 2016 to 26,437 deaths in 2018.A woman in India runs a 100 times greater risk of dying in pregnancy and child birth, when compared to a woman, in the developed world. In addition, millions of women and newborns suffer from pregnancy and birth related ill health. Thus, pregnancy related mortality continues to take a huge toll, on the lives of Indian women and newborn. Pregnancy may be complicated by a variety of disorders and conditions that can profoundly affect the women and her fetus. When these unexpected deviations or complications from the normal pregnancy occur, it can place severe burden on a women and her family. Regular antenatal checkups or antenatal examination beginning early in pregnancy undoubtedly prevent many ensuring problems. It contributes to timely diagnosis and treatment and enables women to form relationship with midwives, obstetricians and other health professionals who become involved with them in striving to achieve the best possible pregnancy outcomes. All pregnant women by virtue of their pregnant status face some level of maternal risk. Data suggest that around 40% of all pregnant women have to manage complications, which is potentially life threatening to mother and infant. The rationale for antenatal examination is that, it is essential to screen a predominantly healthy population to detect early signs of risk factors for disease, and provide timely interventions. Knowledge, practice, skill and awareness associated with pregnancy, can help the women to seek, maternal care services, at the right time thus reduce maternal morbidity and mortality. Antenatal examination provides specific evidence-based interventions for all women, carried out at certain critical times in the pregnancy. ANC also provides women and their families with appropriate information and advice for a healthy pregnancy, safe childbirth, and postnatal recovery, including care of the newborn, promotion of early, exclusive breastfeeding, and assistance with deciding on future pregnancies in order to improve pregnancy outcomes.

2. Material and Method

Comparative research design was utilized to assess the effectiveness of structured teaching programme over lecture cum demonstration in improving knowledge and practice of nursing students on antenatal examination in selected college of nursing, Raigarh (C.G.). Where subjects were selected non probability purposive sampling technique. An extensive review of literature was undertaken in various related concepts. The study adopted 'IMOGENE KING'S' Goal attainment theory. Target population was B.sc Nursing 4th year students. Purposive sampling technique was used to obtain 60 samples. The tool was self-structured questionnaire for knowledge and self-structured checklist for practice. The tool was validated by experts. A pilot study was conducted on 06/09/2021 to 09/09/2021 from 10 P.B.BSC Nursing students from P.G. College of nursing, Bhilai, (C.G.). In this study, the reliability of the tool in pre test (r= 0.84) and post test (r= 0.71) for knowledge and pre test (r=0.78) and post test (r= 0.94) for practice was found in Experimental group A (Structured teaching programme). and the tool in pre test (r- 0.77) and post test (r= 0.74) for knowledge and pretest (r= 0.91) and post test (r= 0.98) for practice was found in Experimental group B (Lecture cum demonstration). Main study was conducted in the month of November 2021. Data for main study was collected from the Career College of nursing, Raigarh (C.G.). The data obtained were analyzed and interpreted in terms of objective and hypothesis. Descriptive and inferential statistics were used for data analysis the level of significance was at 0.05, 0.01 and 0.001.

3. Results

1) Overall and area wise analysis of pre and post test knowledge and practice of structured teaching programme (Experimental group A)

The findings state in relation overall analysis out of 30 samples in the study population majority of subjects 22 (73.33%) had excellent knowledge and 19 (63.33%) had excellent level of practice on antenatal examination. In the assessment of area wise analysis of knowledge score majority of students improve their knowledge about area of General aspects mean score is 5.6 and mean score % is 93.33 and in Physiological changes during pregnancy mean score is 5.6 and mean score % is 93.33 and in the assessment of area wise analysis of practice score mean score is 15.83 and mean score % is 79.15 of practice.

2) Overall and area wise analysis of pre and post test knowledge and practice of lecture cum demonstration (Experimental group B)

The findings state in relation overall analysis out of 30 samples in the study population majority of subjects 23 (76.67%) had good knowledge and 15 (50%) had excellent level of practice on antenatal examination. In the assessment of area wise analysis of knowledge score majority of students improve their knowledge about Physiological changes during pregnancy mean score is 5.87 and mean score % is 97.83 and in the assessment of area wise analysis of practice score mean score is 15.17 and mean score % is 75.85.

3) Comparison of post test knowledge and practice between structured teaching programme and lecture cum demonstration

In relation to analysis of comparison between post test knowledge between structured teaching programme and lecture cum demonstration Experimental group A (structured teaching programme) majority of subjects 22(73.33%) had excellent and in Experimental group B (lecture cum demonstration) majority of subjects 23(76.67%) had good level of knowledge. In relation to analysis of comparison between post test practice Experimental group A (structured teaching programme) majority of subjects 19(63.33%) had excellent and in Experimental group B (lecture cum demonstration) majority of subjects 15(50%) had excellent practice level.

4) Effectiveness of structured teaching programme with knowledge and practice score

- In relation to analysis of effectiveness of structured teaching programme on knowledge regarding antenatal examination of nursing students that increase the knowledge score as calculated "t" value 51.93 is greater than table value 3.47 at p< 0.001 level of confidence, the data signifies that the structured teaching programme (Experimental group A) was very effective in term of gain in knowledge regarding antenatal examination.
- In relation to analysis of effectiveness of structured teaching programme on practice regarding antenatal examination of nursing students that increase the practice score as calculated "t" value 38.8 is greater than table value 3.47 at p<0.001 level of confidence, the data signifies that the structured teaching programme (Experimental group A) was very effective in term of gain in practice regarding antenatal examination.
- In relation to analysis of effectiveness of lecture cum demonstration on knowledge regarding antenatal examination of nursing students that increase the knowledge score as calculated "t" value 37.61 is greater than table value 3.47 at p<0.001, p<0.05 level of confidence, the data signifies that the lecture cum demonstration (Experimental group B) was very effective in term of gain in knowledge regarding antenatal examination.
- In relation to analysis of effectiveness of lecture cum demonstration on practice regarding antenatal examination of nursing students that increase the practice score as calculated "t" value 21.22 is greater than table value 3.47 at p<0.001 level of confidence, the data signifies that the lecture cum demonstration (Experimental group B) was very effective in term of gain in practice regarding antenatal examination.

5) Association between selected Sociodemographic variable of knowledge and practice score

- In relation to analysis of association between pre test score of knowledge of structured teaching programme (Experimental group A) with selected Sociodemographic variables, there is significant association between residences, family type, Mother occupation. As the calculated chi-square value is 11.33, 19.47 which is higher than the tabulated value 9.21, 13.81, 16.27 at the degree of freedom 2, 3 at P value less than 0.01, <0.001

Table 1
Overall comparison of post test knowledge between structured teaching programme (Experimental group A) and lecture cum demonstration (Experimental group B) (N=60)

GROUP	POST TEST							
	Excellent (46-60)		Good (31-45)		Average (16-30)		Poor (0-15)	
	Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
Experimental group A (Structured teaching programme)	22	73.33	8	26.67	-	-	-	-
Experimental group B (Lecture cum demonstration)	-	-	23	76.67	7	23.33	-	-

Table 2
Overall comparison of post test practice between structured teaching programme (Experimental group A) and lecture cum demonstration (Experimental group B) (N=60)

GROUP	POST TEST							
	Excellent (16-20)		Good (11-15)		Average (6-10)		Poor (0-5)	
	Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
Experimental group A (Structured teaching programme)	19	63.33	11	36.67	-	-	-	-
Experimental group B (Lecture cum demonstration)	15	50	14	46.67	1	3.33	-	-

Table 3
Effectiveness of the structured teaching programme (Experimental group A) with practice on antenatal examination (N=30)

Practice score (Group A)	Max Score	Mean	Mean%	SD	Mean difference (gain %)	Unpaired 't' value	Critical value	Inferences
PRE-TEST	20	4.2	21	2.31	11.63 (58.15%)	38.8	3.47	Highly significant
POST-TEST	20	15.83	79.15	1.84				

Table 4
Effectiveness of the lecture cum demonstration (Experimental group B) with practice on antenatal examination (N = 30)

Practice score (Group B)	Max Score	Mean	Mean%	SD	Mean difference (gain %)	Unpaired 't' value	Critical value	Inferences
PRE TEST	20	4.17	20.85	2.1	11	21.22	3.47	Highly significant
POST TEST	20	15.17	75.85	1.91				

- In relation to analysis of association between pre test score of knowledge of lecture cum demonstration (Experimental group B) with selected Sociodemographic variables, there is significant association between education of the mother. As the calculated chi-square value is 8.4 which is higher than the tabulated value 7.82, at the degree of freedom 3 at P value less than 0.05.

4. Discussion

In present study the overall analysis of pre and post test knowledge regarding antenatal examination among nursing students Experimental group A (structured teaching programme) majority of subjects 22 (73.33%) had excellent and 8 (26.67%) had good knowledge on antenatal examination. These above findings have been supported by the study conducted by (Sumol C. Abraham, 2014) who conducted a descriptive study among nursing students in South Korea to analyze the knowledge level regarding antenatal care. For this study, purposive sampling technique was used. The researcher used a structured questionnaire to students to assess the knowledge. The study revealed that overall knowledge of nursing students regarding antenatal care was very less. Most of the respondents 97 (80.83%) scored less than 45% that is they had low level knowledge, 19 (15.83%) had moderate knowledge with scores between 45-60% and only 4 (3.33%) respondents scored more than 60% i.e., high level of knowledge regarding Antenatal care.

Overall analysis of pre and post test knowledge regarding antenatal examination among nursing students Experimental group B (lecture cum demonstration) majority of subjects 23 (76.67%) had good and 7 (23.33%) had average knowledge on antenatal examination. The above finding has been supported by the study conducted by (Fungai Muzeya, 2013) who conducted a quantitative, descriptive, cross-sectional research to assess the knowledge, attitudes and practices of nurse-midwives related to obstetric care at ThabaTseka. The findings of the present study was consistent with the findings of Lesotho among 45 nurse-midwives. The findings revealed that nurse-midwives had mean knowledge score of 10.5 (80.7%) out of a possible 13 (Standard Deviation (SD) 1.31) on obstetric care issues. However, the majority of nurse-midwives (n=28, 62.2%) did not have knowledge on antenatal care. The mean scores on practice were 34.5 (86.2%) against a possible 40 (SD 5.43) for antenatal care, 39.2 (89%) against a possible of 44 (SD 4.66) and 22.4 (93.3%) against a possible of 24 (SD 2.18) for postnatal care.

5. Conclusion

On the basis of finding of the study, following conclusion was drawn:

- After intervention Experimental group A (structured teaching programme) in post test all students have excellent knowledge in the area of General aspects mean score is 5.6 and mean score % is 93.33 and Physiological changes during pregnancy mean score is 5.6 and mean score % is 93.33.and in post test all students have excellent level of practice mean score is 15.83 and mean score % is 79.15.
- After intervention Experimental group B (Lecture cum demonstration) in post test all students have good knowledge in the area of Physiological changes during pregnancy mean score is 1.53 and mean score % is 25.5. and in post test all students have excellent level of practice, mean score is 15.17 and mean score % is 75.85.
- After intervention in post test Experimental group A (structured teaching programme) majority of subjects 22(73.33%) had excellent, 8(26.67%) had good level of knowledge. While in Experimental group B (lecture cum demonstration) majority of subjects 23(76.67%) had good and had 7(23.33%) average level of knowledge. In post test Experimental group A (structured teaching programme) majority of subjects 19(63.33%) had excellent and 11(36.67%) had good practice. While in Experimental group B (lecture cum demonstration) majority of subjects 15(50%) had excellent, 14(46.67%) had good and 1(3.33%) had average practice level.
- This study was done to to evaluate the effectiveness of structured teaching programme over lecture cum demonstration in improving knowledge and practice of nursing students on antenatal examination. The result of this study showed that structured teaching programme and lecture cum demonstration is effective in improving knowledge and practice of nursing students on antenatal examination.
- There was significant association between residence, type of family, mother occupation in knowledge score, and no significant association in practice score between experimental group A. There was significant association between education of the mother in knowledge score and no significant association in practice score between experimental group B.

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