

A Study to Assess the Effectiveness of Structured Teaching Programme on Level of Knowledge Regarding Prevention of Puerperal Infection among Postnatal Mothers in Selected Hospital Haridwar, Uttarakhand

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ABSTRACT

Background of the study: It is essential to educate the mothers properly to make them aware of the care before, during pregnancy and after delivery to prevent complications and reduce the maternal morbidity and mortality rate. **Objective:** This study aim to evaluate the awareness of prevention of puerperal infection among postnatal mothers. **Methods:** A pre-experimental study was conducted at Chainray Mhaila hospital Haridwar Uttarakhand, Purposive sampling technique was used to select the sample, one group pre-test post-test design was used for the study to accomplish the objectives. The sample consisted of 62 postnatal mothers. They were chosen by Purposive sampling technique. A structured knowledge questionnaire was used followed by structured teaching programme. **Results:** The study show that in pre test majority in participants 51(82%) had average knowledge in post test majority of participant 43(69%) had good level of knowledge .on comparing mean post test knowledge score (19.3 ± 3.86) was more than mean pre test knowledge score (11.6 ± 3.0) which calculated by paired z test (19.83) at $p < 0.05$ level of significance. **Conclusion:** This study shows that structured teaching programme was effective to enhance the knowledge of postnatal mother regarding prevention of puerperal infection.

KEYWORDS: Effectiveness, Structured Teaching Programme, Knowledge, Postnatal Mothers

1. INTRODUCTION

Mother is the name of god in the lips and hearts of little children.

(William Thackeray)

Pregnancy is a unique, exciting and joyous time in a woman's life, as it highlights the woman's amazing creative and nurturing powers while providing a bridge to the future. Pregnant woman needs to be responsible to support the health of her future child. The growing foetus depends entirely on its mother's healthy body. Consequently, pregnant women must take steps to remain as healthy and well-nourished as they possibly can. Pregnant women should take into account the many health care and lifestyle consideration.¹

The experience of labour is complex and subjective feeling. Several factors affect woman's perception of

labour making each experience unique. However as a consistent finding, labour pain is ranked high on the pain rating scales when compared to other painful life experiences.²

World Health Organization (WHO) provides the guidelines on postnatal care based on all available evidence. The guidelines focus on postnatal care of mothers and new-borns in places where resources are scarce and incomes are very low to afford advanced care and treatments.³

Postpartum infection could occur after delivery with caesarean or normal vaginal delivery, even during breast feeding. Psychological and physiological trauma to female body during labour can contribute to development of infections.⁴ According to world health organization; 2014, the postnatal period is the most

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vulnerable period for the mother and new born. Postnatal infection is the fourth direct leading cause of maternal death in Egypt.⁵ Local spread of colonized bacteria is the most common aetiology for infections known as postpartum infections or puerperal sepsis after delivery. Endometritis is the most common major complication occurring after caesarean section, with all incidence of 5-40%.⁶

A very large percentage of women giving birth receives antibiotics, during their accouchement. Routine prophylaxis is widely accepted for caesarean sections, which accounts for 20% to 25% of deliveries every year.⁷

During the 18th century, it took on epidemic proportions, particularly when home delivery practices changed to hospital deliveries, there was a total ignorance of asepsis.⁸ Developing countries accounts for approximately 70% maternal deaths caused by sepsis among other causes including; haemorrhage, hypertension disorders, unsafe abortion, and obstructed labour. Sepsis was the most frequent underlying cause of maternal morbidity and mortality in the 19th century, responsible for 50 % of all cases. Most of the maternal deaths in United States occur in Intensive Care Unit.⁹

Over half a million women die each year due to complications during pregnancy and child birth. At the Millennium Summit in 2000, states resolved to reduce maternal mortality by three quarters by the year 2015.¹⁰

Even in 21st century approximately 60,000 women die of pregnancy related causes each year, the majority of this occurring in developing countries. In UK, sepsis in the puerperium remains an important cause of maternal deaths. In India, maternal deaths from puerperal sepsis accounting for approximately 15% of all maternal deaths.¹¹

Research Statement

“A study to assess the effectiveness of Structured Teaching Programme on level of knowledge regarding prevention of puerperal infection among postnatal mothers in selected hospital Haridwar, Uttarakhand”

Objectives of the study

1. To assess the level of knowledge regarding prevention of puerperal infection among postnatal mothers.
2. To assess the effectiveness of Structured Teaching Programme on level of knowledge among postnatal mothers.
3. To find association between pre-test level of knowledge with their selected socio demographic variables.

Hypothesis

All hypothesis were tested at $p < 0.05$ level of significant

H₁: The mean post-test level of knowledge would be significantly higher than of their mean pre test level of knowledge.

H₂: There would be significant association between pre-test levels of knowledge with their selected demographic variables.

Operational Definitions

Effectiveness In this study the term refers to the impact of Structured Teaching Programme on aspect of prevention of puerperal infection among postnatal mothers measured by self - structured knowledge questionnaire.

Structured Teaching Programme- In this study the term refers to the systematically developed instructional programme, measured by Knowledge Questionnaire.

Knowledge - In this study the term refers to the understanding of Puerperal infection, its sign and symptoms, complications and prevention measured by knowledge Questionnaire.

Prevention- In this study, the term refers to all the activities carried out by postnatal mothers in order to avoid the occurrence of puerperal infections.

Postnatal Mothers In this study the term refers to the woman admitted in the postnatal wards after delivery in selected hospitals Haridwar, Uttarakhand.

Research Methodology

Research Approach: It involves the description of the plan to investigate the phenomena under the study in a structured (quantitative), unstructured (qualitative) or a combination of two methods. In this study the Quantitative research approach was considered to be the most appropriate, as the researcher aimed to assess Knowledge and awareness regarding prevention of puerperal infection among postnatal mothers.

Research Design: A research design is the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure. In this study Pre-experimental one group pre-test post-test design was adopted for the study.

Setting of the study: The setting is the location in which a study is concluded. There is a common setting for conducting research natural, partially controlled, and highly controlled. In this study was conducted in Chain Ray Government hospital Haridwar Uttarakhand.

Population

The Population is all elements (individuals, objects, or substances) that meet certain criteria for inclusion in the study.⁶⁵ Population under study were postnatal mothers attending postnatal O.P.D. and admitted in (In patient department) in selected hospital Haridwar.

Sample

The sample of this study were the post-natal mother, who were attending post natal OPD & (In patient department) Postnatal ward at selected hospital, Haridwar.

Sampling Technique

Sampling technique refers to the process of selecting a portion of the population to represent the entire population. The sample were selected through Purposive sampling technique.

Sample size

The sample size of the study was calculated by- $n = \frac{2sd^2 (za^2+z\beta)^2}{d^2}$

n = Sample size was present study which was 62 postnatal mothers, who fulfilled the selection criteria of the study.

SD = Standard deviation from previous study

Za^2 = Confidence interval (1.96)

d^2 = Difference between mean values

Criteria for selection of sample**Inclusion Criteria**

Postnatal mothers included in the study

- Postnatal mothers attending postnatal OPD and admitted in patient department at selected hospital Haridwar Uttarakhand.
- Who were both Primipara and Multipara
- Who were willing to participate in the research study
- Who were able to understand Hindi or English Language

Exclusion Criteria

Postnatal mother excluded from the study

- Who were not present at the time of data collection
- Who were having postnatal complication

Development of the Tool:

Structured Teaching Program arranged and Structured multiple choice questionnaire schedules was used to collect data on knowledge of Prevention of puerperal infection. The researcher develop two section in tool Section I - Socio Demographic variables. Section II – Structured Knowledge questionnaires.

Section I -Socio Demographic data

Socio demographic variables include personal detail Age of mother, number of Gravida, religion, area of

residence, types of family, occupation of mother, qualification status of mother, previous information, source of information, The tool had factual information so no scoring was awarded. Therefore descriptive statistics was used to interpret the data.

Section II -Structured Knowledge questionnaire

Structured knowledge questionnaire with the help of review of literature and guidance of expert area, the content include 9 socio demographic variables and structured knowledge questionnaires consisted of 30 questions to assess the level of knowledge on prevention of puerperal infection. It included with question on prevention and treatment regarding puerperal infection. Knowledge questionnaire have included 18 questions related to knowledge on puerperal infection, 3 questions on cause, 2 questions on sign and symptoms, 7 questions related to prevention of puerperal infection.

Scoring of tool

The correct response was gain score of one and incorrect response was gain score of zero. The level of Knowledge score was divided into 3 levels according to gained scores at pre- test level which were arbitrary scoring classified as Very Good level (24-30), Good score level (15-23), Average level (6-14).

Content Validity: To ensure the content validity, tool along with the objectives and criterion check list were give to 4 experts from nursing field, 1 experts from Doctorate in gynaecology department, They were requested to give their opinion and suggestions regarding relevance accuracy and appropriateness of content against structured knowledge questionnaire. It's relevance in present study and there was 100% agreement for the tool by the validates, Suggestions were incorporation in the tool after consultation with guide and co-guide, and 100% agreement achieved.

Language Validity: The developed tool was given to Hindi language expert for language correction and also English expert for translation and re-translation.

Reliability of the tool: To assess the reliability of the tool was administered to 20 postnatal mothers at Leelawati hospital, Haridwar, Uttarakhand, by split half method following Karl pearson coefficient correlation formula for reliability of structured knowledge questionnaires and it was found to be $r = 0.87$. It shows that the tool was highly reliable for final study.

Pilot study: Pilot study was conducted in CHC Bahadrabad Haridwar, Uttarakhand. The permission was obtained from the (CMS) of CHC Bahadrabad pilot study carried out on 7 postnatal mothers. The

result of the study shows the completeness applicable feasibility and reliability of the item.

Data Collection process: Data was collected in the month of May 2019 after taking the necessary administrative permission from the concerned authorities. On day 1st before giving structured knowledge questionnaire the purpose of the study was explained to the post-natal mothers with self-introduction. Pre-test questionnaire were given to the sample and time given 15- 20 minute for answering. It on same day structure teaching programme on prevention of puerperal infection was given for 45 minute. On 7th day the same structured knowledge questionnaire was provided to the samples and collected data was tabulated and analysis.

Section – A Socio-Demographic variable of study Subjects

Table no. 1- Frequency &percentage distribution of selected demographic variables

n = 62

S. No.	Demographic Data	Frequency	Percentage
1.	Age in Year		
	a. 19- 27	45	73%
	b. 28 -35	17	27%
2.	Number of Gravida		
	a. Primipara	35	56%
	b. Multipara	27	44%
3.	Religion		
	a. Hindu	48	77%
	b. Muslim	11	18%
	c. Christian	3	5%
4.	Qualification		
	a. Primary education	3	5%
	b. Matriculation	7	11%
	c. Intermediate	41	66%
	d. Graduate/Post graduate	11	18%
5.	Residence		
	a. Urban	36	58%
	b. Rural	26	42%
6.	Types of family		
	a. Nuclear	37	60%
	b. Joint	25	40%
7.	Occupation		
	a. Employed	7	11%
	b. Unemployed	55	89%
8.	Previous Knowledge		
	a. Yes	13	(21%)
	b. No	49	(79%)

Table no 1: Despite the frequency and percentage of characteristics which shows that majority of mothers 45(73%) were in the age group of 19- 27 year and remaining 17 (27%) were in the age group of 28-35 years. majority of the mothers were 35(56%) primipara, 27(44%) were Multipara, According to religion majority of the mothers 48(66%) were Hindu, followed by 11(18%) mothers belong to Muslim religion, 3(5%) were Christian, According to qualification 41(66%) mothers were studied till intermediate followed by 11(18%) graduate, 7(11%) studied matriculated, and 3(5%) mothers were having only primary education. Majority of mothers 36(58%) were belong to urban area, 26(42%) were belong to rural area, 37(60%) were living in nuclear family,

Analysis and interpretation

The analysis of data was organized according to the objectives and presented under the following sections

- **Section A** Socio-Demographic variable of study Participant.
- **Section B** percentile the knowledge of postnatal mothers pre-test and post-test
- **Section C** Effectiveness of Structured teaching programme regarding prevention of Puerperal infection among the postnatal mothers.
- **Section D** Association between Pre-test levels of knowledge with selected demographic Variables of the study participants.

25(40%) were living in joint family, According to occupation majority of the mothers 55(89%) were unemployed, 7(11%) were employed, 13(21%) were expose to the topic, 49(79%) were not expose to the topic.

Section B Percentile of pre-test and post-test knowledge score

Bar graph no- 1 Arbitrary scoring of Gained scores of pre and post-test level of knowledge n= 62

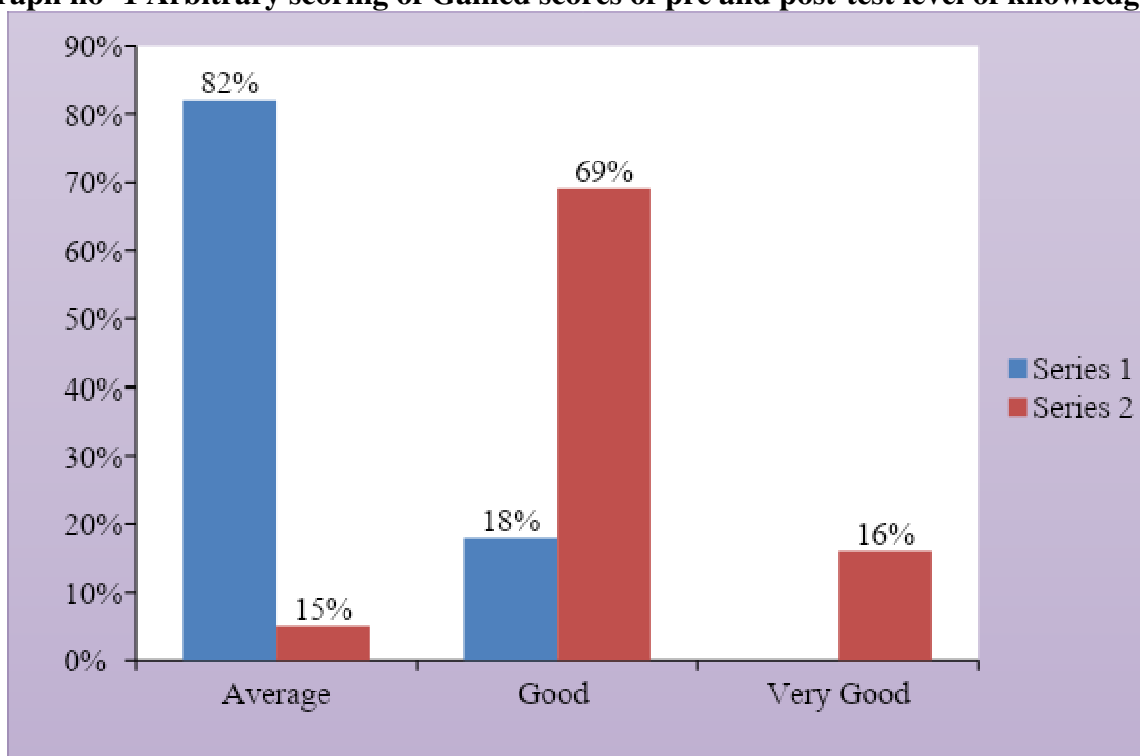


Table no:2 Depicts that, majority of the mothers of pre-test level of 51 (82%) mothers had average knowledge, 11 (18%) mothers had good level of knowledge and 0%mothers had very good knowledge. The post-test level 9(15%) mothers had average level of knowledge, 43 (69%) good level of knowledge and 10 (16%) mothers had very good level of knowledge.

Section – C Effectiveness of structured teaching program

Table 3: Mean± S.D and calculated value of knowledge score

Knowledge Score	Mean ± SD	Z Test Calculated value	Degree of freedom
Pre- Test group	11.6 ± 3.0	19.83**	61
Post-Test Group	19.3± 3.86		

Z₆₁ value = 1.667, Highly Significant**

Data presented in table no.3 depicts that the mean post test knowledge score (19.3± 3.86) was greater than the mean pre-test knowledge scores (11.6 ± 3.0) Hence the scores predicted the significant difference between the between mean post test score and mean pre test score was (7.7) and calculated paired “z” (**19.83**) value was greater than table value so the research hypothesis (H₁) was statistically accepted at p <0.05 level. From the above data it could be inferred that structured teaching program was found to be effective and it was improved the knowledge level of postnatal mothers regarding prevention of puerperal infection.

Section D Association with level of knowledge score with selected demographic Variables

Table No – 4

S. No	Demographic Variable	Below median	At above median	Calculated value
1.	Age in Years			0.488#
	19- 27 year	22	23	
	28 -35year	10	7	
2.	Number of Gravida			4.34#*
	Primi Gravida	14	21	
	Multi Para	18	9	
3.	Qualification			2.098@
	Primary / secondary	29	22	
	Graduate/Post Graduate	3	8	

4.	Residence			
	Urban	14	22	5.565#*
Rural	18	8		
5.	Types of family			2.574@
	Nuclear	16	21	
Joint	16	9		
6.	Occupation			0.799 #
	Employed	2	5	
Unemployed	30	25		
7.	Previous Knowledge			1.139#
	Yes	5	9	
No	37	24		

Chi square#, Yates@, level of significant*, not significant, df = 1 (3.84)

Table – 4 Based on the 3rd objectives use to chi square test and Yates to associated the level of knowledge and selected demographic variables the chi square value show that there is significant association between the level of knowledge and demographic variables (Number of Gravida, Area of residence) there for hypothesis H₂ has been accepted. There is no significant association between level of knowledge and other demographic variables (Age in Years, Qualification, Types of family, Occupation, previous knowledge). There for H₂ has been rejected.

Implications of study

Nursing Implications

Implications of the study emphasize to reduce maternal morbidity and mortality. There is need for health personnel to take active part in primary prevention of complications and diseases. This study suggested a need for importance to health education by health personal for the public, especially for prime postnatal mothers on prevention of puerperal infections.

Nursing Practices

Nursing practice has a direct, significant impact on human health. Nurses play vital role in imparting health services in all levels: prevention, promotion and treatment. Lack of mother's knowledge is one of the main causes of maternal morbidity and mortality, and it is necessary to educate them about preventive measures on puerperal infections. Thus knowledge will influence better practice and favorable attitude. The findings of the study indicates that, All health team members should be made aware of the need of observing, supervising, teaching and improving the knowledge and attitude of postnatal mothers on prevention of puerperal infections. The Planned education programme by health professionals should be made on an ongoing process in the OPDs, maternity wards, pediatric wards and in the community settings. Health education programmes must emphasize the early signs and symptoms of the common postpartum infections and stress the importance of seeking professional help immediately. The protocol for the management of puerperal infections must be available in every obstetric unit.

Nursing Education

The curriculum may be responsible for nurse's knowledge in the field of obstetrics, but the nurse

educators have the additional responsibility to update their knowledge. This can be done in collaboration with the nurse administrators by planning and conducting continuing prenatal education programmes for midwives.

Nursing education emphasizes that the health care system should pay more attention on training the nursing students so that the nurses themselves will become knowledgeable and can be of help to their own selves as well as to the others by importing health education by using various methods of educational technology.

Nursing Administration

Nursing administration plays a essential role in the supervision and management of nursing profession. Nurse as an administrator has a role in planning the policies for importing information to the target population. Institutions providing maternity services should review their policies and practices regarding prevention of puerperal infections. The nurse as an administrator should be necessarily involved in formulating policies for health education in hospitals as well as in community settings. The nurse administrator should plan and organize continuing postnatal education programmes for nursing personnel, which help the health personnel to update their knowledge and skill to provide quality nursing care.

Nursing Research

Research is a systematic attempt to obtain meaningful answers to phenomena or events through the application of scientific procedures. It is an objective, impartial, empirical and logical analysis and recording of controlled observations that may lead to the development of generalizations, principles or

theories, resulting to some extent in prediction and control of events that may be the consequences or causes of specific phenomena. The findings of the study serve as a basis for the professional and the student nurses to conduct further studies on prevention of puerperal infections. The study will motivate the initial researchers to conduct the same study on large scale, and the study will be a reference for the research scholars.

DISCUSSION

The purpose of the study was to assess the level of knowledge of postnatal mothers regarding puerperal infection. The study aimed to assess the effectiveness of structured teaching programme on prevention of puerperal infection. The findings of the study have been discussed based on the objectives and special analysis, a total 62 postnatal mothers were selected through non probability purposive sampling pre test was conducted by using a knowledge questionnaire, structured teaching programme was conducted by researcher. After seven days the post test was conducting by using same questionnaire. The findings of the study had been discussed with references to the objectives and hypotheses in the light of other studies conducted in same area.

CONCLUSION

The study concluded that structured teaching programme was statistically effective and it had improved the level of knowledge among postnatal mothers. If mothers have adequate knowledge in postnatal care, puerperal complications can be prevented. To achieve and maintain health is increasingly valued as an individual's responsibility. Enhanced learning needs, better knowledge and positive attitudes improve the self care practices of the individuals.

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