

# A comparative study to assess the knowledge and practice regarding prevention of puerperal sepsis among primigravida and multigravida mothers in selected hospital, Hisar, with a view to prepare an informational booklet

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**Abstract:** This study was conducted to compare the knowledge and practice regarding prevention of puerperal sepsis among 50 primigravida and 50 multigravida mothers at antenatal OPD of N.C. Jindal Hospital, Hisar, Haryana. A comparative survey research design with Convenient sampling technique was used to select the sample. Self structured knowledge questionnaire was used to assess the knowledge of mothers regarding prevention of puerperal sepsis and checklist was used to assess the practice of mothers regarding prevention of puerperal sepsis.

**Result:** The mean knowledge score (14.22) among primigravida mothers with that of mean knowledge score (18.54) among the multigravida mother. The mean practice score (10.78) among primigravida mothers with that of mean practice score (12.86) among the multigravida mother. The calculated P value (0.000) is significant at 0.001 level.

**Conclusion:** The study found that multigravida mothers had more knowledge and practice than primigravida mothers regarding prevention of puerperal sepsis.

**Key words:** Primigravida, Multigravida, Puerperal Sepsis, Knowledge, Practice, Comparison

## Introduction:

The postpartum period or puerperium is the Latin word puer, „child“ and parere, “ to bring forth” refers to the 6 week period after child birth, when the women is readjusting physiologically and psychosocially to motherhood. This is a time of maternal changes that are retrogressive means involution of the uterus and vagina and progressive means production of milk for lactation, restoration of normal menstrual cycle and beginning of a parenting role. Protecting a woman’s health as these changes occur is important for preserving her future child bearing function and for ensuring that, she is physically well enough to incorporate her new child into the family. This period is popularly termed the fourth trimester of pregnancy.

Wide range of infection can be life threatening, better postpartum care saves mother’s life. Puerperal sepsis is a bacterial infection that occurs following child birth. The diagnostic criteria require that the childbearing women have a temperature elevated over 100.4° F (38°C) on any two of the first 10 postpartum days after day one, or over 101.5° F (38.6° C) during the first 24 hours. Sepsis is a systemic inflammatory response to infection in which there is fever, tachycardia, and tachypnea. This syndrome is a common cause of death in critically ill patients. Sepsis is the leading cause of maternal death which is responsible for 35.3 % of maternal deaths. Sepsis cases are mostly concerned with improper use of aseptic technique which occurs during the birth of babies.

It occurs in 6-7% of all women who have had vaginal deliveries and twice as often in women who have had caesarean deliveries. Even today it is the one of the three leading causes of maternal deaths. Puerperal sepsis is a clinical infection of the genital tract that occurs within 42 days after abortion and childbirth. Infection may result from bacteria commonly found within the vagina or from the introduction of pathogens from outside the vagina. An episiotomy or lacerations of the vagina or cervix may open avenues for sepsis.

Puerperal sepsis is an infection of the genital tract during the first 6 weeks after delivery. Puerperal sepsis remains the most important cause of morbidity and mortality following childbirth. Puerperal sepsis contributes directly or indirectly to about one – third of all maternal deaths.

The risk factors for puerperal sepsis are malnutrition and anemia, low socio economic status, low host resistance, chronic debilitating illness, repeated vaginal examinations, traumatic operative vaginal delivery, retained bits of placental tissues and membranes, diabetes etc<sup>5,6</sup>.

Puerperal sepsis is a leading cause of maternal death, accounting for up to 16% of cases of mortality. Nowadays, despite scientific and technological advances in different knowledge areas, puerperal infections remain a big problem, due to its prevalence, morbidity and lethality. The WHO claims infection to be primary cause of 15% maternal mortality.

The diagnosis of puerperal infection is based on a maternal temperature elevation to 100.4° F (38°C) or higher on two successive postpartum days, not including the 24 hours after delivery. The most common infecting organisms are the numerous streptococcal and anaerobic organisms. Commonly the infection is complicated by medical disorders such as anemia, malnutrition and diabetes mellitus, obstetrics problems including premature rupture of membranes, a long and exhausting labour, operative births, hemorrhage and retention of the products of consumption increase the likelihood and severity of puerperal sepsis.

Government of India launched various health programmes to prevent maternal mortality and to improve the health status of mother such as National Rural health Mission and Janani Suraksha yojana, The Reproductive child health programme, Janani Suraksha yojana, Vandemataram scheme etc.

In India, maternal deaths from puerperal sepsis are accounting for approximately 15% of all maternal deaths. A sixteen years study from northern India found that sepsis was responsible for over 35% of maternal deaths and a study in southern India revealed that sepsis was a leading cause of maternal death responsible for 41.9% of deaths. Demographic and health survey shows that the majority of women do not receive a postnatal check-up and 14% of women who had a birth in the last 5 years reported very high fever in the postpartum period

### **Objectives of the Study:**

- Assess the level of knowledge and practice of primigravida and multigravida mother regarding prevention of puerperal sepsis.
- Compare the level of knowledge and practice of primigravida and multigravida mothers regarding prevention of puerperal sepsis.
- Find out the association between the knowledge and practice score of primigravida and multigravida others

regarding prevention of puerperal sepsis with selected demographic variables.

### **Hypothesis:**

**H<sub>1</sub>**:- There is significant difference between the knowledge and practice scores of primigravida and multigravida mothers regarding prevention of puerperal sepsis.

**H<sub>2</sub>**:- There is significant association between the knowledge and practice scores of primigravida and multigravida mothers with selected demographic variables.

### **Material and Methods:**

Comparative survey research design was used in the study to achieve the objectives of the study. The samples were collected by using convenient sampling technique. Self structured knowledge questionnaire was used to assess the knowledge of mothers regarding prevention of puerperal sepsis and checklist was used to assess the practice of mothers regarding prevention of puerperal sepsis.

### **Results and Discussion:**

#### **Section I: Frequency and percentage distribution of demographical variables**

The majority of primigravida mothers (50.00%) were in the age group of 21-25 years. 30% in age group of 26-30 years. 20% in age group of 31-35 years. No one primigravida mother in age group of above 35 years. In educational status majority of primigravida mothers (36%) were educated upto collegiate education and 36% were educated upto higher secondary school, 22% were educated upto high school, only 06% were educated upto primary school. In residence majority of primigravida mothers (58%) were from the rural area and 42% were from the urban area. In regard to the type of family, majority of primigravida mothers (54%) were from the nuclear family and 42% were from the joint family, 04% from the extended family. In occupation majority of the primigravida mothers (64%) were unemployed and 16% were Government employed, 12% were private employed, 08% were self employed. In type of diet majority of primigravida mothers (56%) were vegetarian and 28% were non-vegetarian, 16% were eggitarian.

In family income per month majority of the primigravida mothers (42%) were in the income group of Rs. 10,001-15,000 and 38% were in the income group of above Rs. 15,000, 16% were in the income group of below Rs. 5000. All (100%) had two doses of tetanus toxoid.

In term of source of health related information wise distribution, Majority of the primigravida mothers (48%) were having knowledge from mass media and 28% were having knowledge from friends and neighbours, 22% were having knowledge from family members, 02% were having knowledge from health personnel.

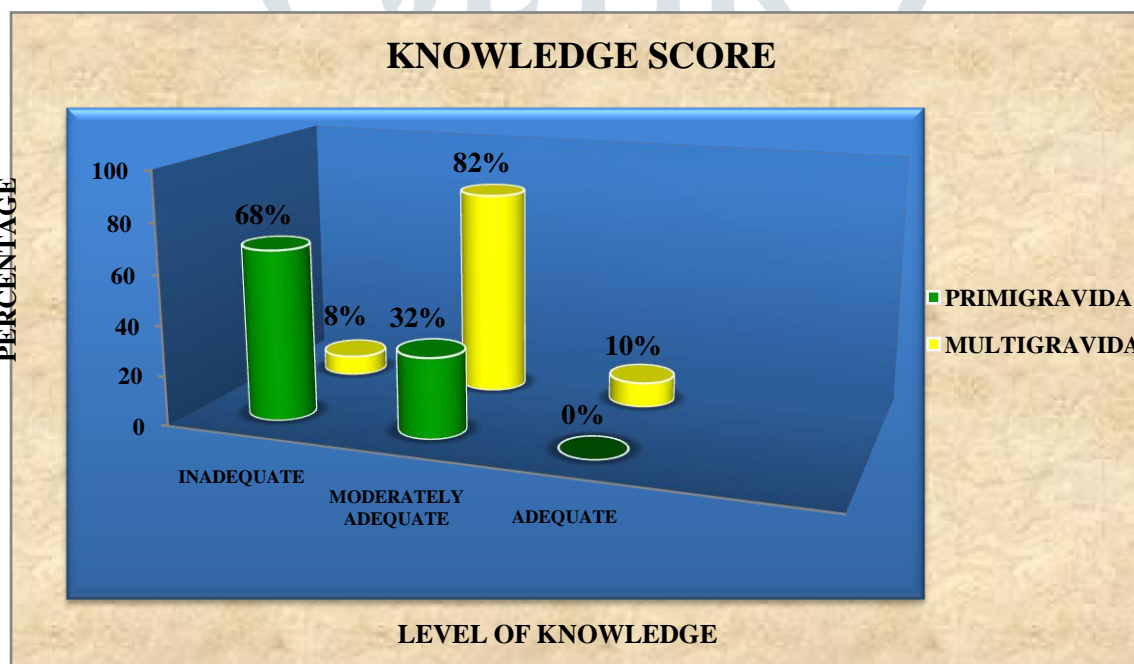
Majority of multigravida mothers (46%) were in the age group of 26-30 years. 30% in age group of 31-35 years. 24% in age group of 21-25 years. No one multigravida mother in age group of above 35 years. In educational status majority of multigravida mothers (32%) were educated upto higher secondary school and 32% were educated upto high school, 20% were educated upto collegiate education, only 16% were educated upto primary school. In residence majority of multigravida mothers (68%) were from the rural area and 32% were from the urban area. In regard to the type of family, majority of multigravida mothers (60%) were from the nuclear family and 40% were

from the joint family, no one multigravida mother from the extended family. In occupation majority of the multigravida mothers (80%) were unemployed and 14% were self employed, 06% were Government employed, no one multigravida mother was private employed. In type of diet majority of multigravida mothers (76%) were vegetarian and 18% were non-vegetarian, 06% were eggitarian.

In family income per month majority of the multigravida mothers (46%) were in the income group of Rs. 5,001-10,000 and 34% were in the income group of Rs.10,001-15,000, 16% were in the income group of above Rs. 15,000, 04% were in income group of below Rs. 5000. All (100%) had two doses of tetanus toxoid.

In term of source of health related information wise distribution, Majority of the multigravida mothers (46%) were having knowledge from friends and neighbours and 34% were having knowledge from mass media, 20% were having knowledge from family members, no one multigravida mother was having knowledge from health personnel.

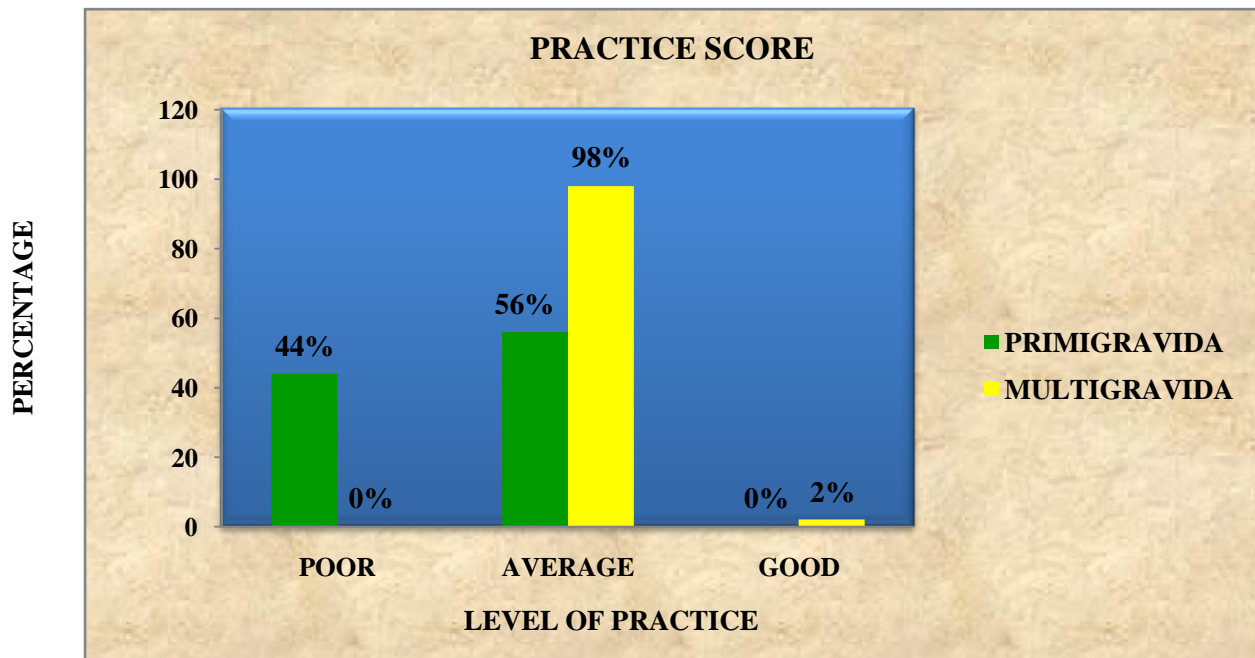
## Section II: Assess the level of knowledge and practice of primigravida and multigravida mothers regarding prevention of puerperal sepsis.



knowledge score of primigravida and multigravida mothers regarding prevention of puerperal sepsis

Majority primigravida mothers (68%) had inadequate knowledge regarding prevention of puerperal sepsis where as majority multigravida mothers (82%) had moderately adequate knowledge regarding prevention of puerperal sepsis. Primigravida mothers (32%) had moderately adequate knowledge and multigravida mothers (8%) had inadequate knowledge. No one primigravida mothers had adequate knowledge but multigravida mothers (10%) had adequate knowledge regarding prevention of puerperal sepsis.

**Analysis of practice score of primigravida and multigravida mothers regarding prevention of puerperal sepsis.**



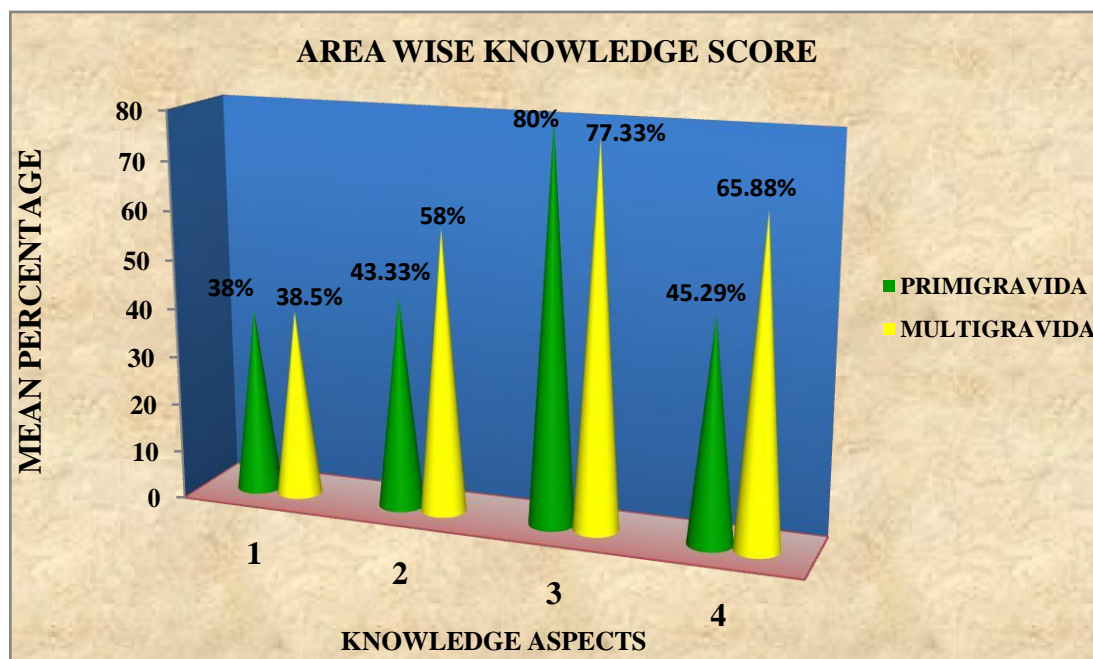
**Practice score of primigravida and multigravida mothers regarding prevention of puerperal sepsis**

The above given graph shows that majority of primigravida mothers (56%) had average practice regarding prevention of puerperal sepsis and multigravida mothers (98%) had average practice. Primigravida mothers (44%) had poor practice but no one multigravida mother had poor practice. No one primigravida mother had good practice but multigravida mothers (2%) had good practice.



### Section III: Assess area wise knowledge and practice score of primigravida and multigravida mothers regarding prevention of puerperal sepsis.

Area wise knowledge score of primigravida and multigravida mothers regarding prevention of puerperal sepsis



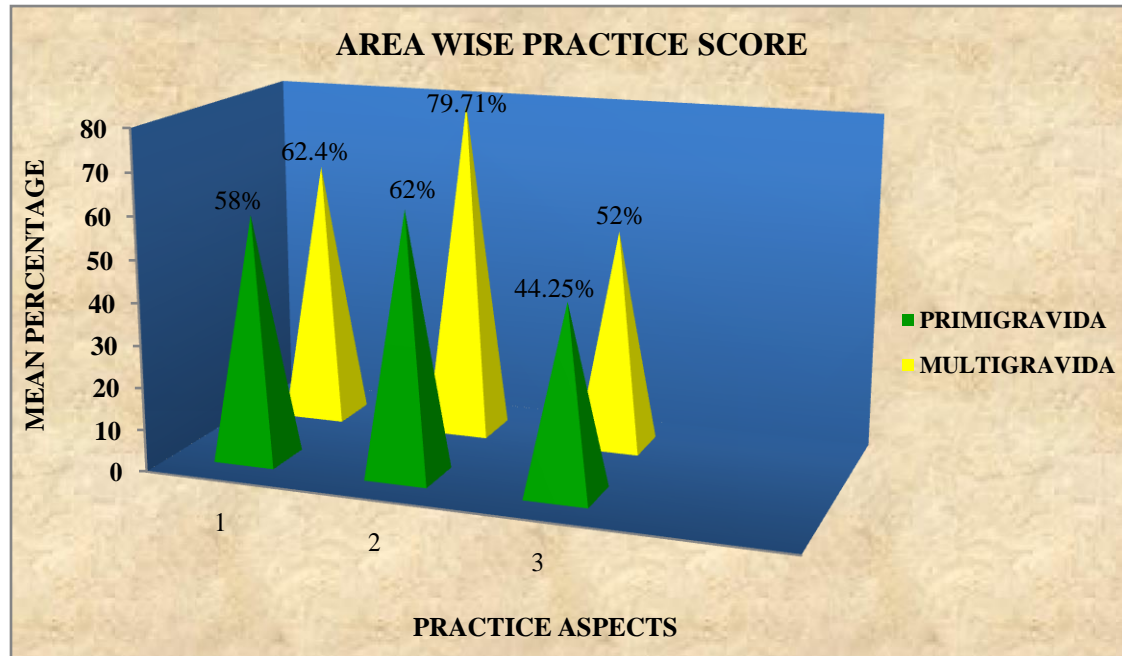
#### Distribution of mothers according to area wise knowledge score

The data presented in graph indicates that the lowest primigravida mothers mean percentage score (38%) was in the area of Introduction of puerperium period and puerperal sepsis. It represents that maximum knowledge deficit existed in this area followed by Risk factors, causes and clinical features of puerperal sepsis (43.33%), Mode of infection, mode of transmission of infection and sites of infection (80.00%) and Prevention and management of puerperal sepsis (45.29%) which is the minimum knowledge deficit area.

The data in graph further indicates that the multigravida mothers mean percentage knowledge scores in all content areas were higher than the primigravida mothers mean percentage knowledge scores except Mode of infection, mode of transmission of infection and sites of infection. The highest mean percentage gain (73.33%) was in the area of Mode of infection, mode of transmission of infection and sites of infection and lowest mean percentage gain was (38.50%) in the area of Introduction of puerperium period and puerperal sepsis. The multigravida mothers mean percentage knowledge scores (65.88%) in the area of Prevention and

management of puerperal sepsis is very higher than primigravida mothers mean percentage knowledge scores.

### Area wise practice score of primigravida and multigravida mothers regarding prevention of puerperal sepsis.



#### Distribution of mothers according to area wise Practice score

The data presented in graph indicates that the lowest primigravida mothers mean percentage score (44.25%) was in the area of Prevention of puerperal sepsis. It represents that maximum knowledge deficit existed in this area followed by Regarding diet and fluid during puerperium period (58%), Regarding personal hygiene and hygienic practices puerperium period (62.00%) which is the minimum knowledge deficit area.

The data in graph further indicates that the multigravida mothers mean percentage knowledge scores in all content areas were higher than the primigravida mothers mean percentage knowledge scores. The highest mean percentage gain (79.71%) was in the area of Regarding personal hygiene and hygienic practices puerperium period followed by Regarding diet and fluid during puerperium period (62.40%) and lowest mean percentage gain was (52%) in the area of Prevention of puerperal sepsis.

**Section IV: Compare the level of knowledge and practice among primigravida and multigravida mothers regarding prevention of puerperal sepsis.**

| GROUP               | KNOWLEDGE SCORE |       |    | Independent<br>'t' value | P value |
|---------------------|-----------------|-------|----|--------------------------|---------|
|                     | Mean            | SD    | df |                          |         |
| Primigravida (N=50) | 14.22           | 2.984 | 98 | 7.711                    | 0.000*  |
| Multigravida (N=50) | 18.54           | 2.604 |    |                          |         |

\*Significant

Table shows the mean knowledge score (14.22) among primigravida mothers with that of mean knowledge score (18.54) among the multigravida mother. The calculated P value (0.000) is significant at 0.001 level. Therefore it is concluded that there was a significant difference in knowledge level between primigravida and multigravida mothers regarding prevention of puerperal sepsis.

**Compare the practice among primigravida and multigravida mothers regarding prevention of puerperal sepsis.**

| GROUP               | PRACTICE SCORE |       |    | Independent<br>'t' value | P value |
|---------------------|----------------|-------|----|--------------------------|---------|
|                     | Mean           | SD    | Df |                          |         |
| Primigravida (n=50) | 10.78          | 1.693 | 98 | 7.061                    | 0.000*  |
| Multigravida (n=50) | 12.86          | 1.212 |    |                          |         |

\*Significant

Table shows the mean practice score (10.78) among primigravida mothers with that of mean practice score (12.86) among the multigravida mother. The calculated P value (0.000) is significant at 0.001 level. Therefore it is concluded that there was a significant difference in practice level among primigravida and multigravida mothers regarding prevention of puerperal sepsis.

**Section V: Association between the knowledge and practice score of primigravida and multigravida mothers regarding prevention of puerperal sepsis and demographical variables**

There was significant association between age, occupation, family income, previous health related information and knowledge score of primigravida mother regarding prevention of



puerperal sepsis at 0.05 level of significant. Therefore the research hypothesis, H<sub>2</sub> was accepted for these variables.

There was no significant association between education status, residence, type of family, diet and knowledge score of primigravida mother regarding prevention of puerperal sepsis at 0.05 level of significant. Therefore the research hypothesis, H<sub>2</sub> was rejected for these variables.

It was evidence that, there was significant association between age, occupation, family income, source of health related information and knowledge score of multigravida mothers regarding prevention of puerperal sepsis at 0.05 level of significant. Therefore the research hypothesis, H<sub>2</sub> was accepted for these variables.

There was no significant association between education status, residence, type of family, diet and knowledge score of primigravida mother regarding prevention of puerperal sepsis at 0.05 level of significant. Therefore the research hypothesis, H<sub>2</sub> was rejected for these variables.

There was significant association between primigravida mother's age and practice regarding prevention of puerperal sepsis is significant ( $P < 0.05$ ) where as no association between remaining demographical variables and practice regarding prevention of puerperal sepsis.

It was evidence that, there was no significant association between age, educational status, family income, occupation, residence, type of family, diet and knowledge score of primigravida mother regarding prevention of puerperal sepsis at 0.05 level of significant. Therefore the research hypothesis, H<sub>2</sub> was rejected for these variables.

### **Conclusion:**

From the above results, it was concluded that the Multigravida mothers had more knowledge than primigravida mothers regarding prevention of puerperal sepsis. And Multigravida mothers had good practice than primigravida mothers regarding prevention of puerperal sepsis.

### **Nursing Implications:**

The findings of the present study has implication in the field of the nursing education, nursing practice, nursing administration and nursing research.

#### **Nursing Education**

Nursing education should emphasize on preparation of informational booklet for nurses to gain knowledge and apply while in practice regarding prevention of puerperal sepsis.

Nursing faculty should be given in-service education to update their knowledge regarding pre care and further improve their skills and abilities in identifying the learning need of nursing students regarding prevention of puerperal sepsis.

#### **Nursing Practice**

Informational booklet regarding prevention of puerperal sepsis for the health service providers and professionals should be made as ongoing training programme in hospitals.

**Nursing Administration**

The administrator should take active initiative and develop practical informational booklet regarding prevention of puerperal sepsis and other infections in the hospital as well as in the community setting.

The nurse administrator should arrange training programmes with materials for nursing personnel regarding prevention of puerperal sepsis. It should be effective and helpful for nursing personnel.

**Nursing Research**

Research should be conducted on improvement of better practices of nursing care and development of good and effective policies to provide quality care to the clients in relation to prevention of puerperal sepsis.

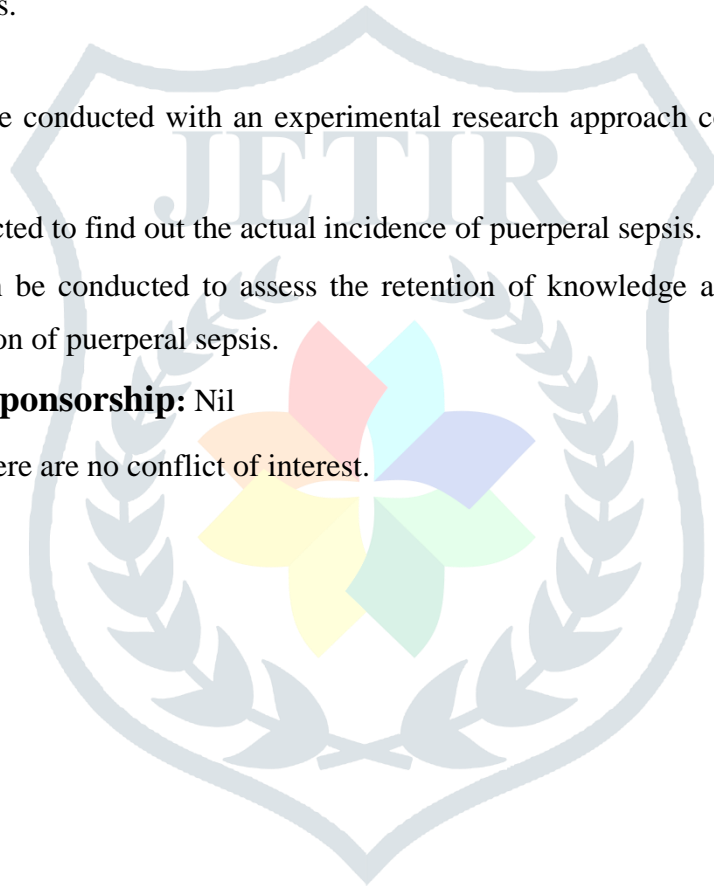
There is need to have research based evidence to prove the cost effectiveness of educating nurses regarding prevention of puerperal sepsis.

**RECOMMENDATIONS:**

- A similar study can be conducted with an experimental research approach considering pretest, post test control group design.
- A study can be conducted to find out the actual incidence of puerperal sepsis.
- A follow up study can be conducted to assess the retention of knowledge and practice of nursing personnel regarding prevention of puerperal sepsis.

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**Conflicts of interest:** There are no conflict of interest.



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