JETIR.ORG ISSN: 2349-5162 | ESTD Year : 2014 | Monthly Issue
JOURNAL OF EMERGING TECHNOLOGIES AND INNOVATIVE RESEARCH (JETIR)
An International Scholarly Open Access, Peer-reviewed, Refereed Journal

# Study on Assessment of Nurses' Knowledge Regarding Puerperal Sepsis at Selected Hospital in Dhaka City

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## ABSTRACT

Puerperal Sepsis is an infection of genital tract, which occurs at any time from just after rupture of membranes or time of labor and up to 42nd days from parturition. Puerperal sepsis has been a common pregnancy related problem, which could eventually lead to obstetric shock or even death. It found in Bangladesh and other countries of the world. However the present study has conducted to assess the level of Nurses' knowledge regarding puerperal sepsis, to identify the level of Nurses' knowledge regarding management of puerperal sepsis, to identify the level of Nurses' knowledge regarding Complications of puerperal sepsis and to find out the level of knowledge regarding prevention of puerperal sepsis. The study was a descriptive cross sectional. The study was conducted at Dhaka MedicalCollege Hospital, Sir Sal mullah Medical College Hospital, Dhaka community Medical College Hospital, Holy Family Red Crescent Medical College Hospital in Dhaka, division of Bangladesh will be selected for this study. Data were collected at Gynecological word of these hospitals. Selected Puerperal mothers who are admitted in Gynecology ward and nurses who are working in the selected hospital. Total 400 of participants were selected for this study. A purposive simple random sampling method was used for the study. Data were collected from primary and secondary sources. Primary Data were collected from the respondents of the study area. Secondary data were collected from secondary sources. From the result it was found that only 15% Nurses had prevention, treatment and management training on puerperal sepsis. Most of the Nurses had knowledge about causative organisms, signs and symptoms of puerperal sepsis. Few nurses had knowledge about investigations, complications and management of puerperal sepsis. There is need for awareness creation on puerperal sepsis followed by education of the community on hygiene especially post-partum mothers so as to prevent cases of infections in Bangladesh.

**Key words:** *Puerperal Sepsis, Nurses' Knowledge, Management, Sign, Symptoms, Complications, Assessment, Vaginal delivery, Organism, Investigation, Treatment.*

## INTRODUCTION

Puerperal sepsis is defined as infection of the genital tract occurring at any time between the rupture of membranes or the onset of labor, and the 42nd day postpartum, in which a fever (oral temperature 38.5°C or higher on any occasion) and 1 or more of the following signs and symptoms are present: Pelvic pain, Abnormal vaginal discharge, e.g. presence of pus, abnormal smell/foul odour of discharge, Sub-involution, i.e. delay in the rate of reduction of the size of the uterus (<2cm/day during the first 8 days) [The Global Health Network (GHN), 2014].Diagnosis, medical management and antimicrobial therapy for sepsis have significantly advanced. Despite this, puerperal sepsis remains an important cause of maternal mortality accounting for 10.7% of all maternal deaths annually worldwide (Say et al., 2014). In 2010, puerperal sepsis alone caused at least 75,000 maternal deaths, mostly in low-income countries. Studies from high-income countries report incidence of maternal morbidity due to sepsis of 0.1-0.6 per 1000 deliveries. The causative microorganisms are generally polymicrobial with beta-haemolytic streptococci group A (GAS) often being the cause of severe cases of puerperal fever. The single most important risk factor for postpartum infection seems to be caesarean section, and prophylactic antibiotics during the procedure substantially reduce the infection risk. Improvements in service provision as promoted through the Surviving Sepsis Campaign can reduce the overall risk of mortality and morbidity from maternal sepsis in high-income as well as in low-income countries (van Dillen, Zwart, Schutte, & van Roosmalen, 2010)(Aboyeji, Ijaiya et al., 2012).

In developing countries, most of the risk factors for development of puerperal sepsis exist and cases of puerperal sepsis have been reported. For example, In a hospital in Johannesburg, South Africa, out of 272 women who delivered via Caesarean section, 4 (1.5%) were readmitted with puerperal sepsis, and 30 (11.0%) with possible mild wound infection(Johnson, 2012), while in a rural hospital in Sudan in 2012, the incidence of puerperal sepsis was found to be very high. Out of 170 samples, 124 (72.9%) were pathogen-positive (Ahmed, Alsammani, & Ali, 2013). Here, in our own Uganda, a study conducted in Mbarara Regional Referral Hospital in 2016, showed that maternal sepsis contributed the largest proportion of maternal mortality. Direct causes of mortality accounted for 77.7 % while

indirect causes contributed 22.3 %. The most frequent cause of maternal mortality was puerperal sepsis (30.9 %) (Ngonzi et al., 2016).

## METHODOLOGY OF THE STUDY

**Study Design:** A descriptive type of cross sectional study was conducted to assess the level of nurses` knowledge regarding puerperal sepsis in selected hospital of Dhaka city.

**Study Area:** There are some selected hospitals in Dhaka city of Bangladesh. These are Dhaka Medical College Hospital, Sir Sal mullah Medical College Hospital, Dhaka Community Medical College Hospital, Holy Family Red Crescent Medical College Hospital in Dhaka division of Bangladesh were selected for this study. Data were collected at Gynecological word of these hospitals.

**Study population**: Selected Puerperal mothers who are admitted in Gynecology ward and nurses who were working in Dhaka Medical College Hospital, Sir Sal mullah Medical College Hospital, Dhaka Community Medical College Hospital, Holy Family Red Crescent Medical College Hospital of Dhaka.

**Population:** Total Nurses and female patients in this year April 2021 to June 2021 with the age of 18-65 come to these hospitals.

**Sample Size:** All the perspective of this study was Puerperium mothers who have been randomly selected between April 2021 to June 2021. Considering allowable error and non-response rate, some extra samples were taken over the calculated sample size for proper analysis and maximum validity. The total 400 of participants were selected for this study.

**Sampling Technique:** A purposive simple random sampling and the face to face interview was used to select the participants.

**Sources of Data:** Data were collected from primary and secondary sources.

**Sources of Primary Data:** Primary Data were collected from the respondents of the study area.

**Sources of Secondary Data:** Secondary Data were collected from Books, Research Reports, Journals, Magazines, Annual Reports of Bangladesh Bureau of Statistics (BBS), Annual Reports of Bangladesh Medical Research Council, Websites of Ministry of Health and Family Planning Welfare of Peoples Republic of Bangladesh, Internet etc.

**Tools for Data Collection:** Questionnaire was used for data collection. The questionnaire comprised four segments:

**Method of Data Collection:** Primary Data were collected by face to face interview with the respondents. Demographic characteristics of respondents.

A. Knowledge of participants regarding puerperal sepsis.
B. Practice of preventive measures of puerperal sepsis.
C. Management power.

The questionnaire was first written in English and then translates into Bengali for a better understanding. If there were any difficulties in understanding the questionnaire; the participants were explained about the study and data were collected by face to face interview. Secondary data were collected from reviewing of secondary sources.

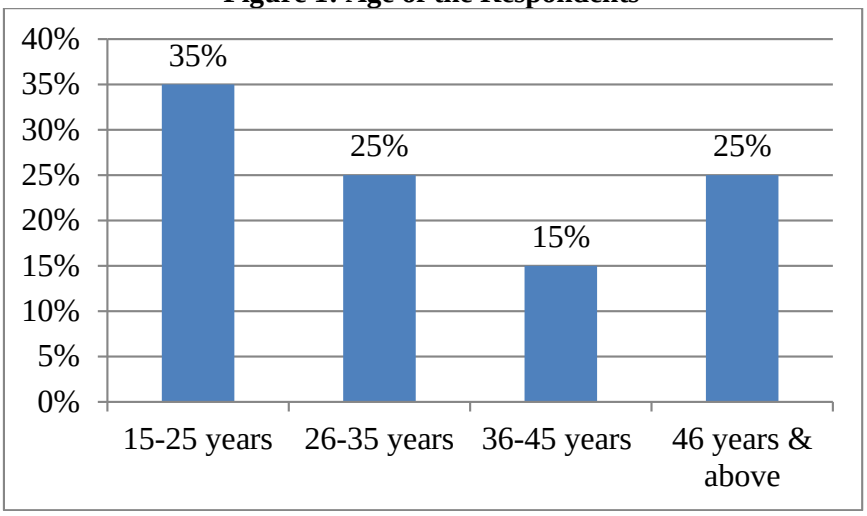
**Data Collection Tools/instruments:** The data were collected by semi-structured questionnaires and face to face interview.

**Data Collection**: At first explained the purpose of the study to the participants and their confidentiality would be maintained. Any doubts or questions the participants were clarified might have. The questionnaires were supplied among the participants and data were collected immediately thereafter.

**Data processing procedure:** All collected data were checked verified and edited by manually then processed by Microsoft Office Excel 2016 and translate to Statistical Package for the Social Sciences (SPSS) software.

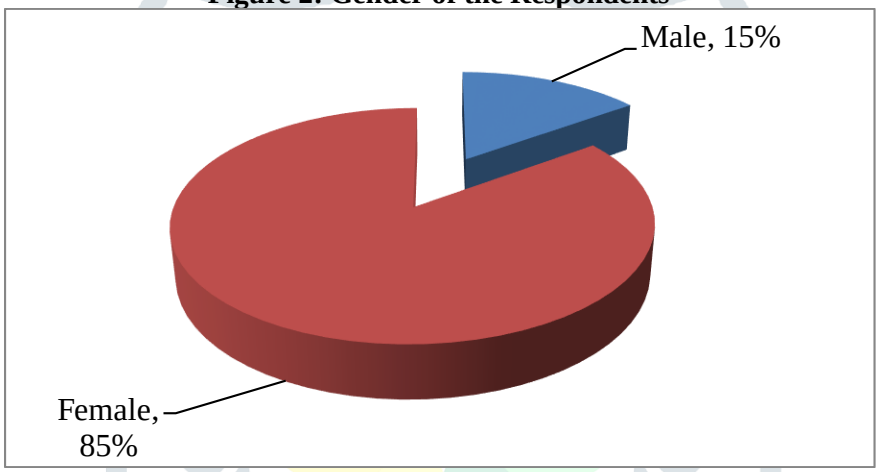
## RESULTS AND DISCUSSION

**Figure 1: Age of the Respondents**



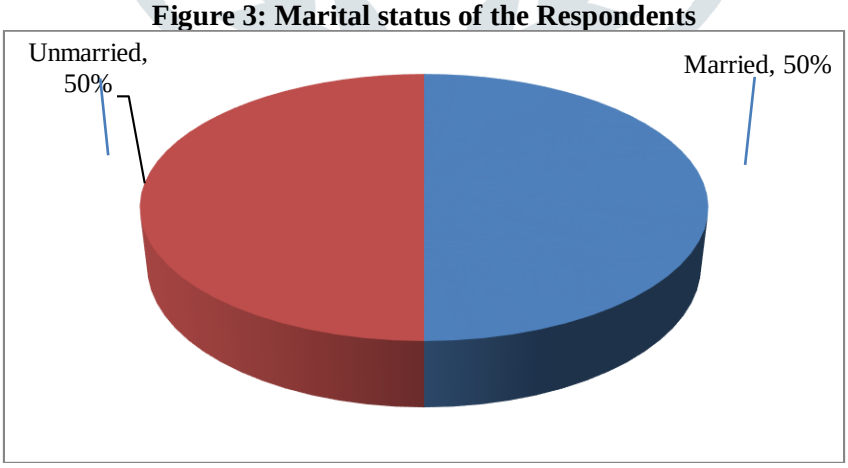

Age of the Respondents has shown in the above graph. From the result it was found that 35% respondents were age group 15-25 years which was maximum but only 15% respondents were age group 36-45 years which was minimum. On the other hand 25% respondents were age group 26-35 years and 25% respondents were age group 46 years and above.

**Figure 2: Gender of the Respondents**



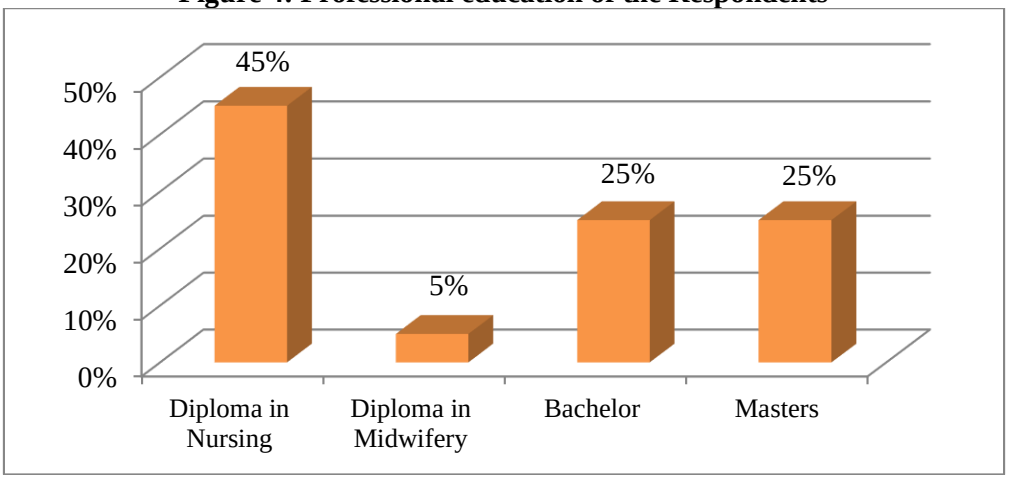

Gender of the Respondents has shown in the above graph. From the result it was found that 85% respondents were female and 15% respondents were male.

**Figure 3: Marital status of the Respondents**



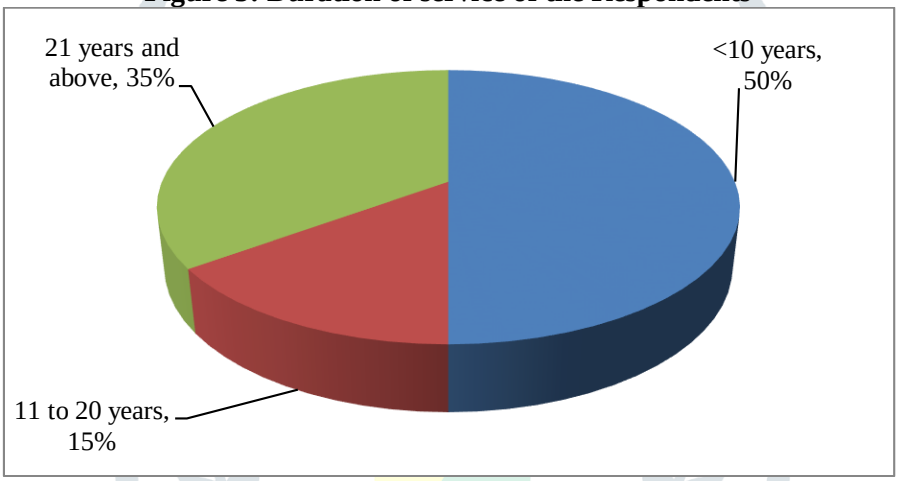

Marital status of the Respondents has shown in the above graph. From the result it was found that 50% respondents were married and 50% respondents were unmarried.

**Figure 4: Professional education of the Respondents**



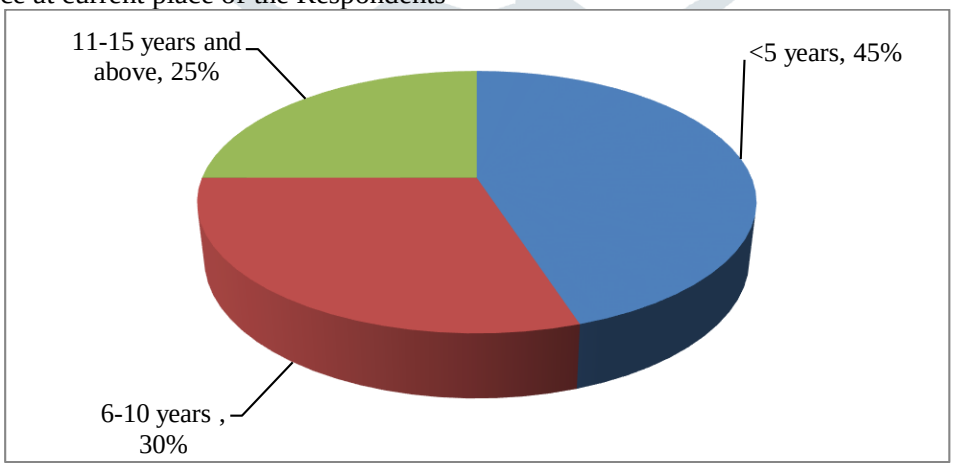

Professional education of the Respondents has shown in the above graph. From the result it was found that 45% respondents had Diploma in nursing degree which was maximum but only 5% respondents had Diploma in Midwifery degree which was minimum. On the other hand 25% respondents had Bachelor degree and 25% respondents had Masters Degree.

**Figure 5: Duration of service of the Respondents**



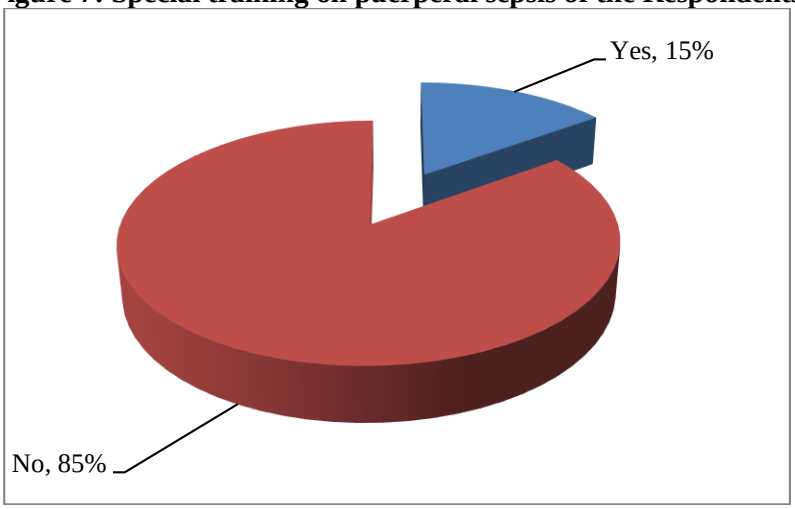

Duration of service of the Respondents has shown in the above graph. From the result it was found that 50% respondents had less than 10 years service duration which was maximum but only 15%respondents had 11 to 20 years service duration which was minimum. On the other hand 35% respondents had 21 years and above service duration.

Figure 6: Experience at current place of the Respondents



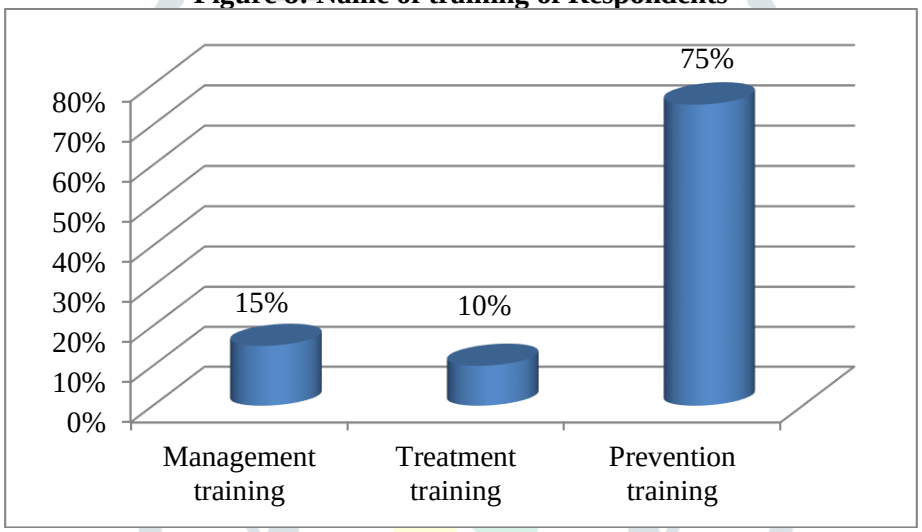

Experience at current place of the Respondents has shown in the above graph. From the result it was found that 45% respondents had less than 5 years experience at current place which was maximum but 25%respondents had 11 to 15 years experience at current place which was which was minimum. On the other hand 30% respondents had 6 to 10 years experience at current place.

**Figure 7: Special training on puerperal sepsis of the Respondents**



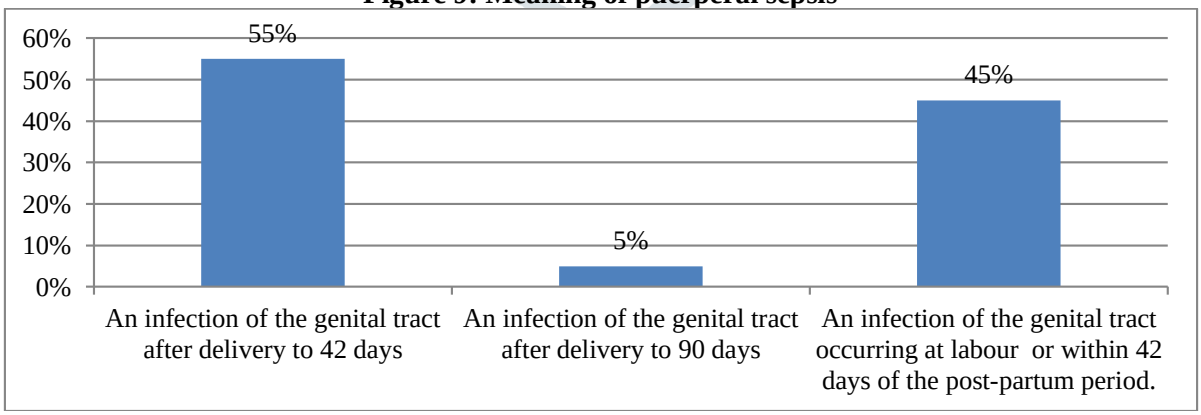

Special training on puerperal sepsis of the Respondents has shown in the above graph. From the result it was found that only 15% respondents had special training on puerperal sepsis and it is a matter of sorrow that 85% respondents had no special training on puerperal sepsis.

**Figure 8: Name of training of Respondents**



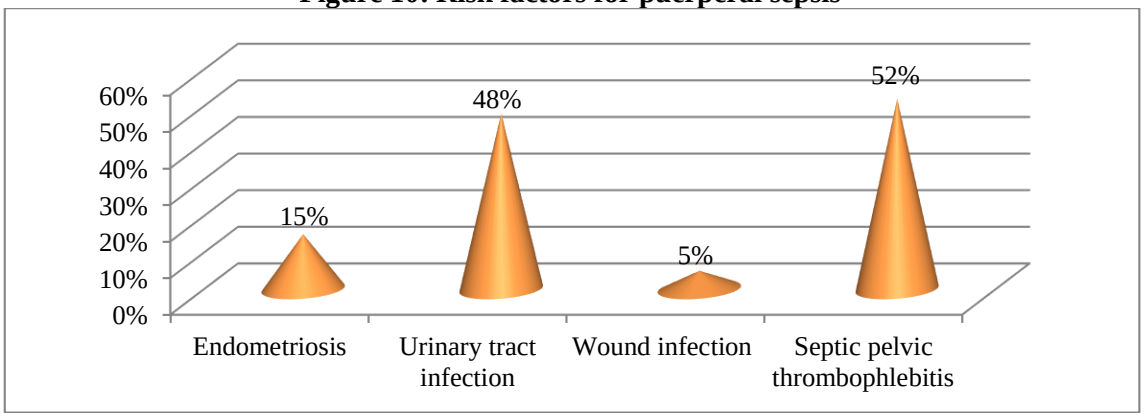

Name of training of Respondents has shown in the above graph. From the result it was found that 75% trained respondents had prevention training about puerperal sepsis which was maximum but only 10% trained respondents had treatment training about puerperal sepsis which was minimum. On the other hand 15% trained respondents had management training about puerperal sepsis.

**Figure 9: Meaning of puerperal sepsis**



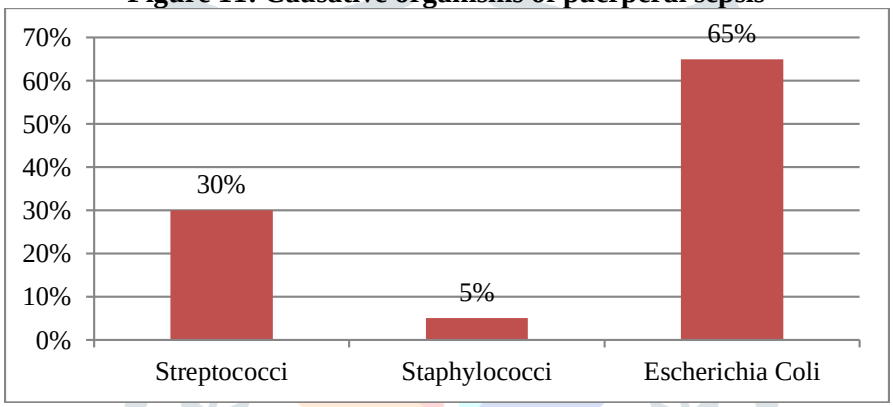

Meaning of puerperal sepsis has shown in the above graph. From the result it was found that 55% respondents replied that meaning of puerperal sepsis is infection of the genital tract after delivery to 42 days which was maximum but only 55% respondents replied that meaning of puerperal sepsis is infection of the genital tract after delivery to 90 days which was minimum. On the other hand 45% respondents replied that meaning of puerperal sepsis is An infection of the genital tract occurring at labour or within 42 days of the post-partum period.

**Figure 10: Risk factors for puerperal sepsis**



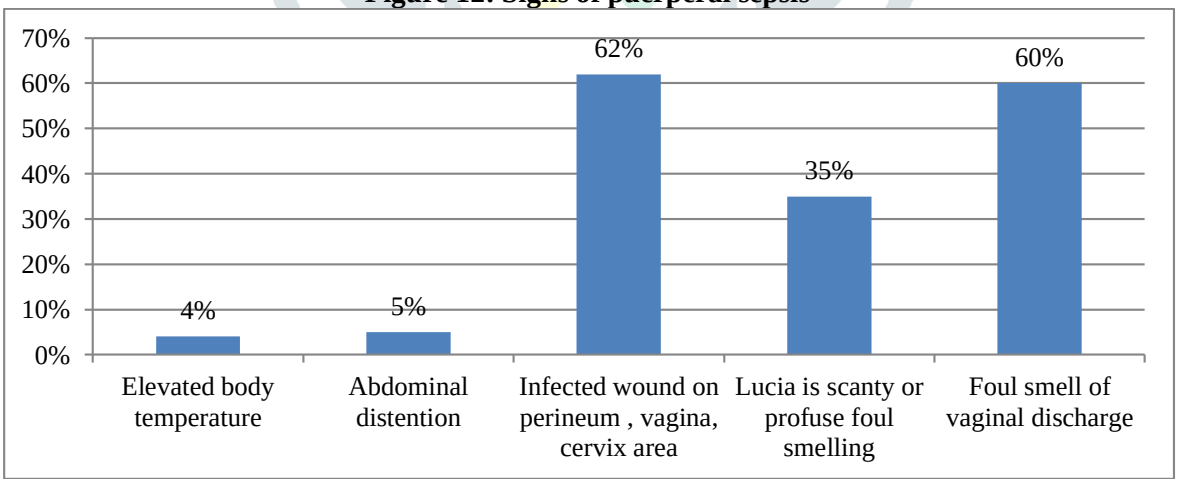

Rick factors for puerperal sepsis have shown in the above graph. From the result it was found that 52% respondents replied that septic pelvic thrombophlebitis is risk factors for puerperal sepsis which was maximum but only 5% respondents replied that wound infection is risk factors for puerperal sepsis which was minimum. On the other hand 48% respondents replied that urinary tract infection is risk factors for puerperal sepsis and 15% respondents replied that endometriosis is risk factors for puerperal sepsis.

**Figure 11: Causative organisms of puerperal sepsis**



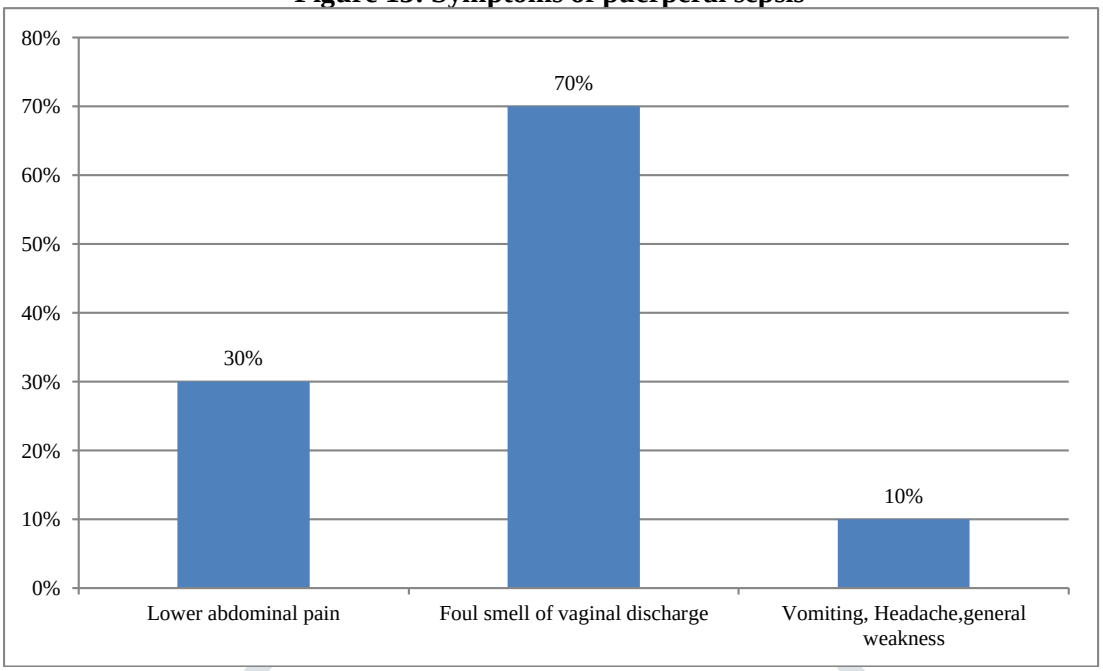

Causative Organisms of puerperal sepsis has shown in the above graph. From the result it was found that 65% respondents replied that *Escherichia coli* is the Causative organisms of puerperal sepsis which was maximum but only 5% respondents replied that *Staphylococci* is the Causative organisms of puerperal sepsis which was minimum. On the other hand 30% respondents replied that *Streptococci* is the Causative organisms of puerperal sepsis.

**Figure 12: Signs of puerperal sepsis**



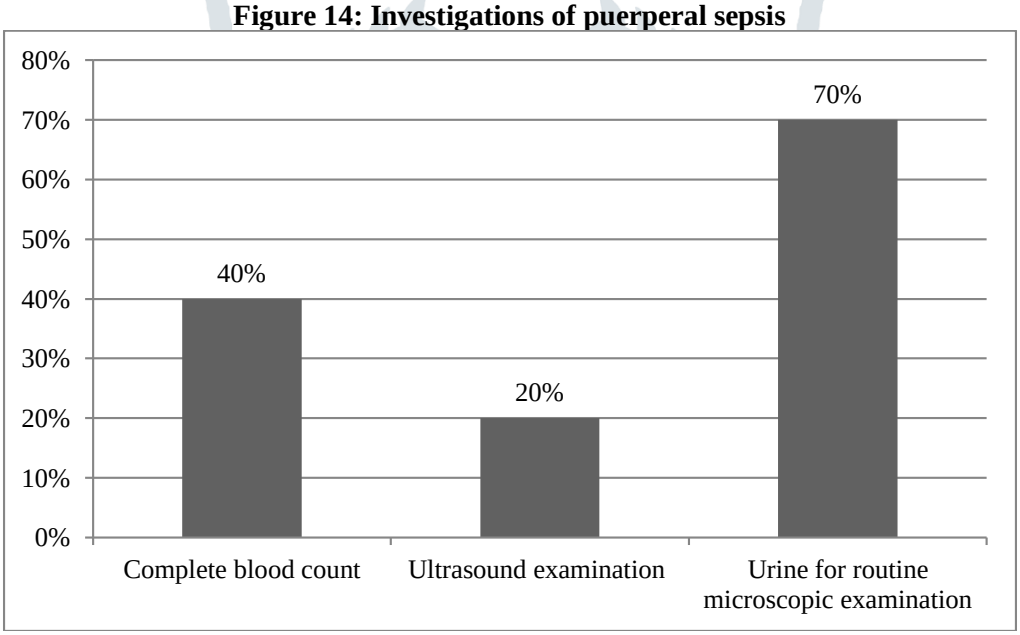

Signs of puerperal sepsis have shown in the above graph. From the result it was found that 62% respondents replied that Infected wound on perineum, vagina and cervix area is sign of puerperal sepsis which was maximum but 4% respondents replied that elevated body temperature is sign of puerperal sepsis which was minimum. On the other hand 60% respondents replied that Foul smell of vaginal discharge is sign of puerperal sepsis, 35% respondents replied that lucia is scanty or profuse foul smelling is sign of puerperal sepsis and 5% respondents replied that abdominal distention is sign of puerperal sepsis.

**Figure 13: Symptoms of puerperal sepsis**



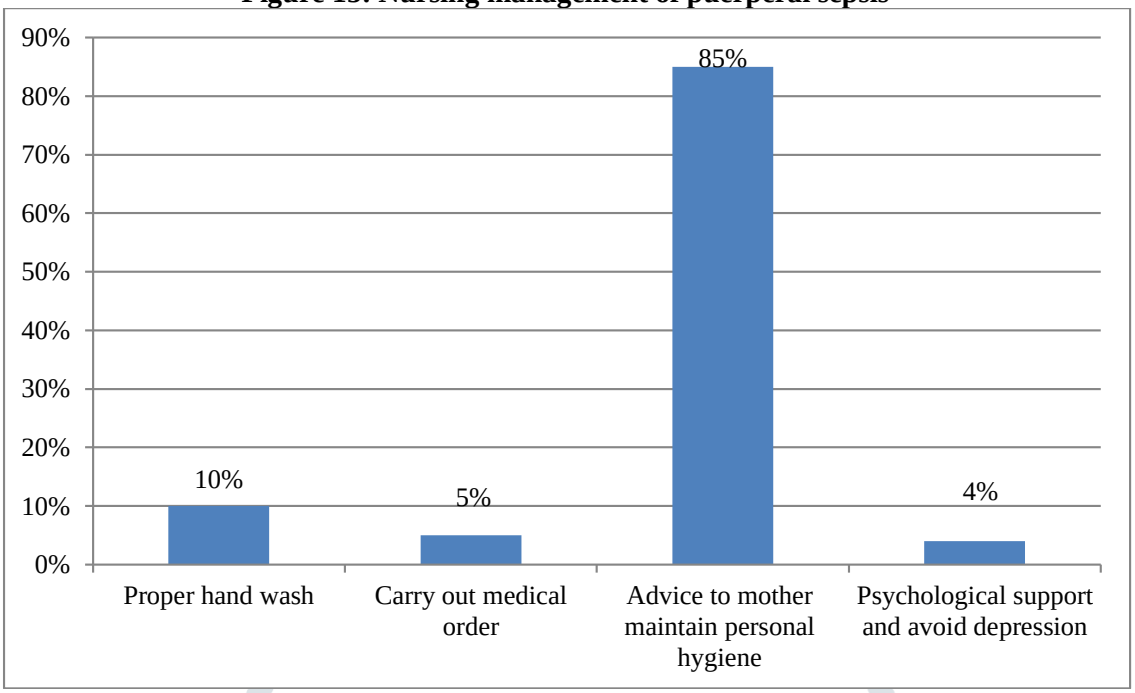

Symptoms of puerperal sepsis have shown in the above graph. From the result it was found that 70% respondents replied that Foul smell of vaginal discharge is symptoms of puerperal sepsis which was maximum but only 10% respondents replied that vomiting, headache, general weakness is symptoms of puerperal sepsis which was minimum. On the other hand 30% respondents replied that lower abdominal pain is symptoms of puerperal sepsis.

**Figure 14: Investigations of puerperal sepsis**



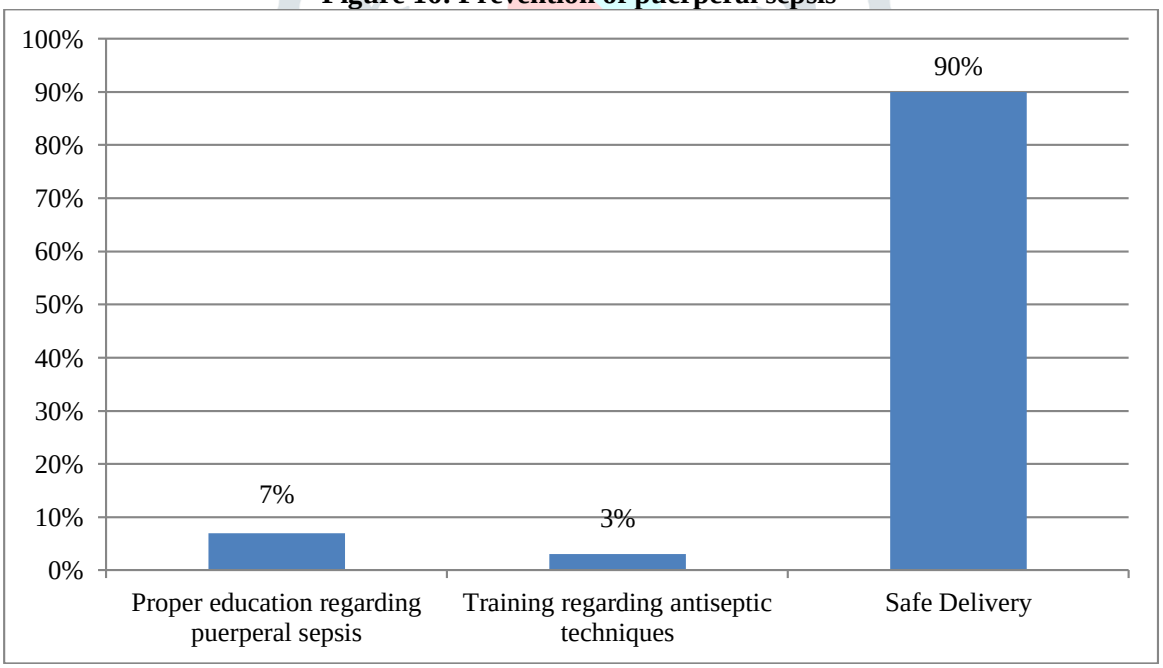

Investigations of puerperal sepsis have shown in the above graph. From the result it was found that 70% respondents replied that urine for routine microscopic examination is investigations of puerperal sepsis which was maximum, 20% respondents replied that ultrasound examination is investigations of puerperal sepsis which was minimum. On the other hand 40% respondents replied that complete blood count is investigations of puerperal sepsis.

**Figure 15: Nursing management of puerperal sepsis**



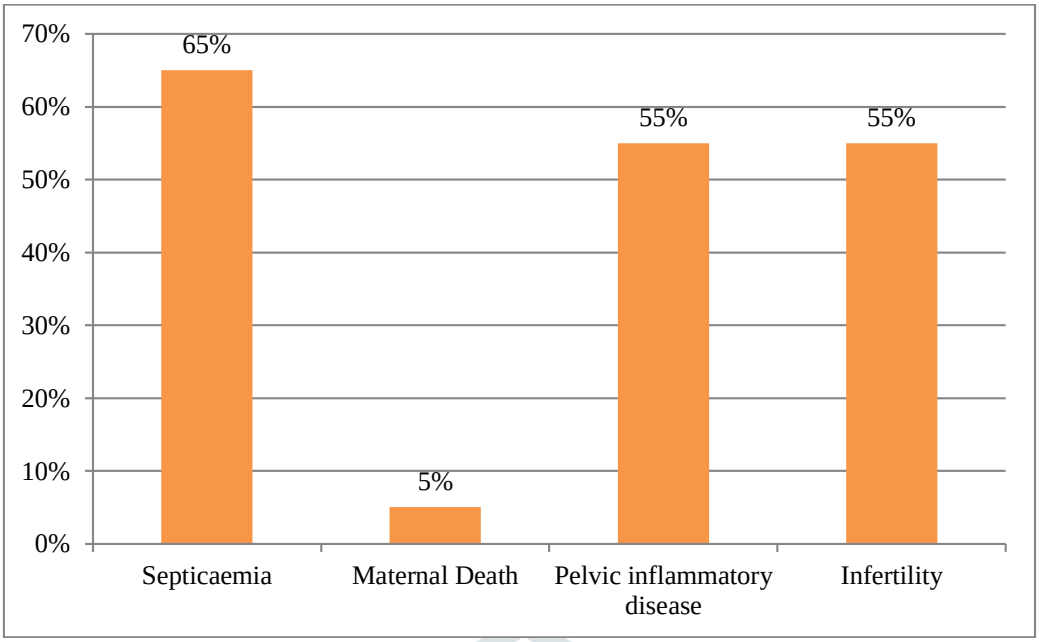

Nursing management of puerperal sepsis has shown in the above graph. From the result it was found that advice to mother maintain personal hygiene is nursing management of puerperal sepsis which was maximum but 4% respondents replied that psychological support and avoid depression is nursing management of puerperal sepsis which was minimum. On the other hand 10% respondents replied that proper hand wash is nursing management of puerperal sepsis and 5% respondents replied that carryout medical order is nursing management of puerperal sepsis.

**Figure 16: Prevention of puerperal sepsis**




Prevention of puerperal sepsis has shown in the above graph. From the result it was found that 90% respondents replied that, respondents replied that and respondents replied that safe delivery is prevention of puerperal sepsis which was maximum but only 3% respondents replied that 3% respondents replied that Training regarding antiseptic techniques is prevention of puerperal sepsis which was minimum. On the other hand 7% respondents replied that proper education regarding puerperal sepsis is prevention of puerperal sepsis.

**Figure 17: Complications of puerperal sepsis**




Complications of puerperal sepsis have shown in the above graph. From the result it was found that 65% respondents replied that septicaemia is complications of puerperal sepsis but 5% respondents replied that maternal death is complications of puerperal sepsis which was minimum. On the other hand 55% respondents replied that Pelvic inflammatory disease is complications of puerperal sepsis, 55% respondents replied that infertility is complications of puerperal sepsis.

## CONCLUSION

- There was a high number of house wives had lower parity level. The study concluded that if these groups had adequate education on the importance of personal hygiene and on Puerperal sepsis, occurrence of the infection would be minimal.
- Most of respondent did not have knowledge on the disease they were being treated for. The result indicates that in Bangladesh, there is strong need of health education and continuous work in all aspects for improvement of maternal health. The results of this study revealed that there is lack of a strategic approach for preventing and managing even in the health facilities in Bangladesh. Most of the patients after being treated of the infection still did not know the etiology and possible prevention practices of the infection
- Report from the study showed that most of the respondent had delivered in health care facilities. The study therefore concluded that hospital delivery its own without other services like hygiene awareness to mothers after delivery might not be very effective against puerperal sepsis. In addition, such infection is nosocomial; one can contract it in the health facility as a result of poor antiseptic practices.

### Assessments of risk factors

- Food availability was found to have a positive effect on duration of labour. Those with adequate food throughout their pregnancy period were found to experience short labour durations during delivery. This helped Reduces individual‘s vulnerability to infections. The low socio economic state of some women has left them incapable of acquiring food.
- Women that did not go for antenatal care services during pre-partum period are found to experience long labour durations during delivery. These women lack proper knowledge on how to plan for their birth and where to deliver. Most deliver at home through the assistance of dyma or local old women who might not have adequate skills on hygiene. They end up being victims of Puerperal sepsis.

## RECOMMENDATIONS

In view of the findings of this study the following recommendations can be made:

- There is need for awareness creation on Puerperal Sepsis followed by Education of the community on hygiene especially post-partum mothers so as to prevent cases of infections in Bangladesh. Community health workers and Health care staff should be holding frequent educational camps.
- The Ministry of Health and Family Planning and the Financial Authorities should consider funding the hospitals so as to create an enabling environment for the Facility to carry out awareness creation on Puerperal sepsis to their patients. This will help spread the knowledge to the community.
- The Government of Bangladesh should consider improving the infrastructure in the area; this includes building accessible roads and improving those that already exist. This will help the health care staff to access the community in creating Puerperal Sepsis awareness and advising them on good health seeking behaviors.
- There is a need to enlighten the community on the need for ANC (Antenatal Care) attendance, skilled attendant at delivery and hospital delivery under aseptic conditions and also maintaining high hygiene after delivery. Women need

to be encouraged more to utilize ANC services and during which hygiene and nutrition lessons are rolled out. Awareness creation on Puerperal Sepsis needs to be integrated among such services.

- Health care facilities should consider providing gloves for use during delivery the results of the present study are limited to only the hospital environment, the nature and extent of the impact of the disease in different settings like within the community could be different. A community based study on the same is recommended for further studies.

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