

Causes and Management of Puerperal Sepsis: The Health Personnel View Point

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Abstract: This study was carried out to throw light on the causes and management of puerperal sepsis from the health personnel's view point in Nnamdi Azikiwe University Teaching Hospital Nnewi, Anambra State. Four objectives and corresponding research questions were posed to guide the findings. Descriptive research design was used and data was collected using questionnaire. The population size was 60 health personnel. Responses were presented in tables, bar charts and pie chart. Findings showed that poor attendance to antenatal clinic, non-adherence to asepsis during delivery/ prolonged rupture of membrane, retain products of conception as well as anaemia in pregnancy are the major predisposing factors to puerperal sepsis. Findings also showed that the management of puerperal sepsis involves a multidisciplinary collaboration for a better prognosis.

Key words: Puerperal • Sepsis • Health • Personnel

INTRODUCTION

Historically, puerperal sepsis has been a common pregnancy-related condition, which could eventually lead to obstetric shock or even death. During the 18th century, it took on epidemic proportions, particularly when home delivery practice changed to delivery lying-in hospital, as there still was a total ignorance of asepsis [1].

Barbara [2] defined puerperal sepsis as infection of the genital tract following childbirth. Puerperal sepsis as the name implies, is an infected condition of a lying in patient, incident to the delivery of a child [3] They further stated that the sepsis must be transmitted from outside to the inside. The requisites for this infection according to them must include an open or absorbing surface through which the infection passes.

Diane *et al.* [4] defined puerperal sepsis as infection of the genital tract following child birth; still a major cause of maternal death whereas it is undetected and / or untreated. According to World Health Organization [5] puerperal sepsis is defined as infection of the genital tract occurring at any time between the rupture of membranes or labor and the 42nd day post partum in which 2 or more of the following are present: pelvic pains, fever (that is oral temperature 38.5°C or higher on any occasion, abnormal vaginal discharge (example presence of pus),

abnormal smell or foul odour of discharge, delay in the rate of reduction of the size of the uterus (less than 2 cm per day during the first 8 days). As with other obstetric morbidities, the definitions of puerperal sepsis vary from one study to another, which makes their comparability difficult. Moreover, hospital based studies are not a reliable source of data for developing countries, because many women do not have access to health facilities, for many reason: geographical distance, financial constraints, cultural beliefs:- sometimes they have to ask for admission from their husbands to go to hospitals, thus the population delivery in hospital may not be representative for the general obstetric population. Self reported maternal morbidity tends to over-estimate the incidence of conditions under study and the results very much depend on the sensitivity and specificity of the instrument. Several attempts have been made to validate the results of self reported maternal morbidity and some of them compared the results from interviewing women shortly after hospital-delivery with hospital-case notes. Another problem may be that most post partum infections take place after hospital discharge, which is usually 24 hours after delivery, therefore in the absence of post natal follow-up as is the case in many developing countries, many cases of puerperal infections can go undiagnosed and unreported [6].

Methodology

Research Design: The study was a descriptive survey design that aimed at identifying the causes and management of puerperal sepsis from the health personnel's view point in post natal ward of Nnamdi Azikiwe University Teaching Hospital Nnewi, Anambra State.

Target Population: The target population for this study were health personnel working in post natal ward of Nnamdi Azikiwe University Teaching Hospital Nnewi, Anambra State.

Sample and Sampling Technique: The total number of health personnel used for this study was sixty (60). No sampling technique was used since the population is handy enough to study.

Method of Data Collection: Questionnaire was the only instrument used for collection of data. A total of fourteen (14) questions were constructed which was designed to obtain information in order to answer the research questions and achieve the purpose of the study.

Method of Data Collection: The questionnaire was given to the 60 respondents on two consecutive days. The researcher also collected them back on the same day it was issued, no loss was made.

Method of Data Analysis: The questionnaire was collected and analyzed using Statistical Package for Social (SPSS version 14) and one way ANOVA was also used to certain the level of significant at $p > 0.005$.

Ethical Consideration: The researcher applied the principle of voluntary participation and confidentiality in this study. The principle of voluntary participation was to ensure that the respondents were not forced to participate in this study.

RESULTS

Sixty questionnaires were distributed and same number collected. The results of the analysis was presented in tables, figures, bar charts and pie chart according to the research questions following tallying and grouping of the responses as well as percentages calculation.

Table 1: Age Distribution of the respondents

Age (years)	Frequency	Percentage (%)
18-27	10	17
28-37	15	25
38-47	30	50
48 and above	5	8
Total	60	100

Table 2: Sex of the respondents

Sex	Frequency	Percentage (%)
Male	25	42
Female	35	58
Total	60	100

Table 3: Educational Qualification of the Respondents

Educational qualification	No of Respondents	Percentage (%)
Obstetrician/Gynaecologist (OandG)	20	33
General Practitioner	10	17
Registered Nurse	-	-
Registered Nurse /Midwife	20	33
Medical Laboratory Officer	10	17
Total	60	100

Table 4: Show the response on whether puerperal sepsis is caused by invasion of the genital tract by pathogenic organism following child birth or abortion?

Response	Frequency	Percentage (%)
Yes	60	100
No	-	-
Total	60	100

Table 5: Is Puerperal sepsis mainly seen among the unbooked mothers

Responses	Frequency	Percentage (%)
Yes	50	83
No	10	17
Total	60	100

Table 6: What are the most common predisposing factor (s) to puerperal sepsis?

Responses	Frequency	Percentage (%)
Anaemia in pregnancy	7	12
Non-adherence to asepsis during delivery/ prolonged rupture of membrane	30	50
Frequent vaginal examination during labour	3	5
Obstructed/prolonged labour	3	5
Caesarean section	2	3
Retained products of conception	15	25
Total	60	100

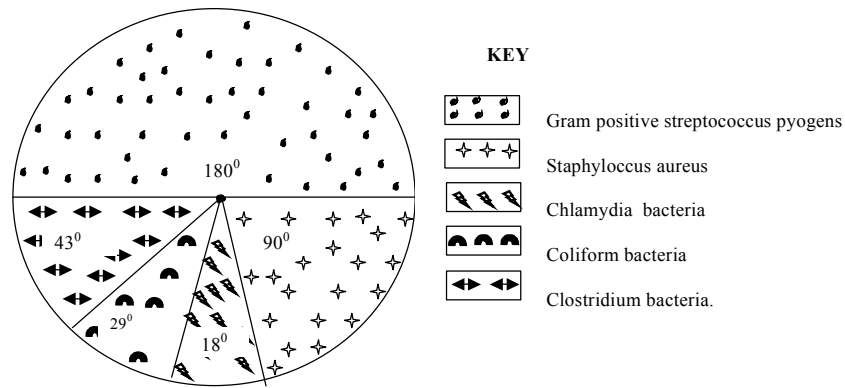


Fig. 1: Response on the causative organism of puerperal sepsis

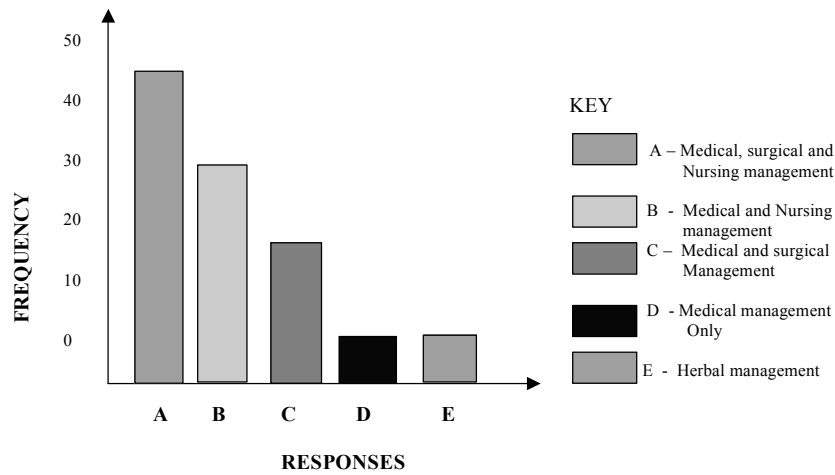


Fig 2: The bar showing the classification of puerperal management

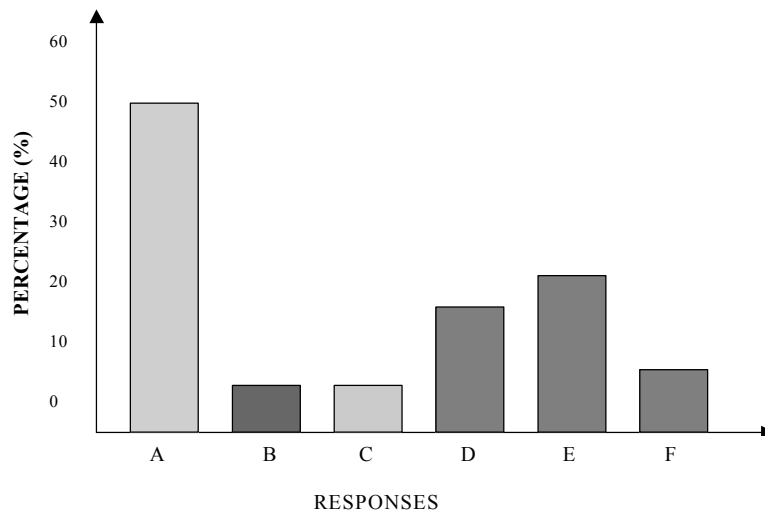


Fig. 3: What are the measures for preventing puerperal sepsis

KEY: A= careful attention to aseptic procedures during delivery, B= prophylactic use of antibiotics prior to caesarean section, C= use of partograph for every woman in labour, D= Use of therapeutic antibiotics in cases of prolonged ruptured of membrane or obstructed/prolonged labour, E= Taking adequate nutritive diet/ supplements especially those rich in protein and vitamins during pregnancy and F= Efficient referral system

From Table 9 above, 12% of the respondents said anemia in pregnancy is the most common predisposing factor to puerperal sepsis, 50% said is non adherence to asepsis during delivery/ prolonged rupture of membrane, 5% said is frequent vaginal examination, 5% said is obstructed/prolonged labour, 3% said is caesarean section, while 25% said is retained products of conception

Fig. 2 shows the various response on the management of the puerperal sepsis, about 50% of the respondents said that management of classified into medical and nursing, 17% said is classified into medical and surgical while non said is classified into medical management only and herbal management respectively.

DISCUSSION

The analysis of data on the causes of puerperal sepsis are shown in Fig. 1, a total of 50% of the respondents said that it is caused by gram positive *Streptococcus pyogens*, 25% said is *Staphylococcus aureus*, 12% said is *Coliform* bacteria, 8% said is *clostridium tetani* and 5% said is *Chlamydia*. The result of the study show that, the most common bacteria implicated in the causes of puerperal sepsis was gram positive bacteria known as *streptococcus pyogens*. This agrees with the research conducted by Dare *et al.* [7] which stated that gram-positive *streptococcus pyogens* is the commonest bacteria causing puerperal sepsis giving an incidence of 81.2% in his research work.

Table 5 shows the responses on the type of patient that are likely to be a victim of puerperal sepsis, it was found that a total of 83% of the respondents said that puerperal sepsis is commonly seen among the unbooked mothers, the unbooked mothers are those expected mother who officially not register for the health facilities in the hospital or those who do not attend antenatal clinic in the hospital, they either patronised quacks or not visit health facilities at all. The result here is in support of the finding of Jolly *et al.* [8] which stated that the incidence of puerperal sepsis was trigger among the unbooked patients (8.7%) than among the booked patient (1.9%).

Views on the predisposing factors are shown (Table 6), finding shows that a total of 50% of the respondents said that non adherence to aseptic condition delivery/prolonged rupture of membrane is the commonest predisposing factor to puerperal sepsis. Some respondents settled for retained products of conception, anaemia in pregnancy, frequent vaginal examination during labour, obstructed/prolonged labour and caesarean section.

In a related study, Dare *et al.* [9] reported in their research that premature rupture of membrane and non-adherence to aseptic conditions during delivery was the commonest predisposing factor to puerperal sepsis, he gave an estimate of 85.7%, from this correlation one can be truly sure that aseptic condition is a key factor in prevent puerperal sepsis.

Contrary to the above finding, a research on the similar subject while conducting his study in U.S.A, it was concluded that about 3 women die from puerperal sepsis for every 100, 000 deliveries and that, the single most important risk factor being caesarean section not aseptic condition [10]. In a similar development Yokoe [11] in his study opined that the rate of puerperal sepsis is higher in women who have undergone caesarean section (7.4%) than in women who had vaginal delivery (5.5%).

Fig. 2 shows the various methods used in management of puerperal sepsis. It was discovered that 100% of the respondents said that management of puerperal sepsis involves a multi-disciplinary collaboration. It was also discovered that a total of 50% of the respondent classified the management of puerperal sepsis into medical, surgical and nursing management, 33% classified it into medical and nursing management, 17% classified it into medical and surgical management, none classified into medical management only and none also classified it into herbal management. This findings correspond with the findings from the study carried in Ethiopia which reported that 20 out of 40 patients who were diagnosed of having puerperal sepsis with retained products of conception had evacuation of the uterus performed on them despite the good nursing care and antibiotic therapy.

On the methods to prevent puerperal sepsis, the responses are shown in Fig. 3. It was found out that 100% of the respondents said that puerperal sepsis can be prevented. it was also discovered that 50% of the respondents said that puerperal sepsis can be prevented through careful attention to antiseptic procedures during delivery, 22% said it can be prevented through consumption of adequate nutritive diet/supplements, especially those rich in protein and vitamins during pregnancy, 17% said is through use of therapeutic antibiotics in cases of prolonged rupture of membrane or obstructed/prolonged labour, 5% said is through use of partograph for every woman in labour, 3% said is through prophylactic use of antibiotics prior to caesarean section and 3% also said is through efficient referral system.

The results here agreed with the study carried out by Water Stone *et al.* [12] said about Semmelweis documentation in 1847 on reduction in mortality due to puerperal sepsis from 3-11% as a result of the introduction of scrubbing protocols with chlorine solution before every physical examination. Green *et al.* [13] also reported in their research that adequate nutritive diet/supplements, especially vitamins A and D helps in prevention of puerperal sepsis giving an incidence of 1.1% in vitamin treated cases and 4.7% in the control cases.

It was concluded that management of puerperal sepsis involves a multidisciplinary collaboration for a better prognosis.

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