



CODEN [USA]: IAJ PBB

ISSN: 2349-7750

**INDO AMERICAN JOURNAL OF
PHARMACEUTICAL SCIENCES**<http://doi.org/10.5281/zenodo.2646596>Available online at: <http://www.iajps.com>

Research Article

**AN OBSERVATIONAL STUDY ON THE PUERPERAL SEPSIS
AND ITS ASSOCIATED RISK FACTORS**¹Dr Saba Waheed, ²Dr. Muhammad Tahir Iqbal, ³Dr Muhammad Atif Yasin¹WMO, Allied Hospital Faisalabad, ²Medical Officer, Service Institute of Medical Science (SIMS) Lahore, ³THQ Hospital Sabzazar.**Article Received:** February 2019**Accepted:** March 2019**Published:** April 2019**Abstract:**

Objective: The objective of this case study is to find out the anomalies due to PS (Puerperal Sepsis) and its associated risk factors.

Methodology: This is an observational research work and the duration of This study was from January 2018 to January 2019 at the department of gynecology Allied Hospital Faisalabad, Pakistan. In the duration of this study, all the females who gave birth in this hospital or referred to the same hospital within forty-two days after child birth suffering from PS detected by medical assessment were the part of this research work. Females suffering from other complications as fever, malaria & postpartum eclampsia were not the part of this research work. All the patients gave written willing. Registration of all the patient carried out on well-designed Performa. SPSS V.17 was in use for the collection and analysis of the collected information.

Results: Out of total 3316 admissions, 3.890% (n: 129) females were suffering from PS. Majority of the females 65.110% (n: 64) were of the age of thirty-one years or above, multiparous 78.290% (n: 101) & unbooked 75.96% (n: 98) patients. The most common factors of risk were not availability of membranes 83.720% (n: 108) and mismanaged referred patients will deliver in this very hospital 26.350% (n: 26). Morbidities were available in the patients of septicemia 27.130% (n: 35), and scattered intra-vascular coagulation present in 17.820% (n: 23) patients, while 8.52% (n: 11) females faced the taste of death.

Conclusion: The most common factors of risk were anemia; suboptimal hygiene of the patients as well as indecorous sterilization which caused the serious hazards to health such as septicemia, scattered intra-vascular coagulation & death of the patients.

Key Words: puerperal, sepsis, danger, methodology, problem, anomalies, intra-vascular coagulation, sterilization, deliver, septicemia, anemia.

Corresponding author:**Dr. Saba Waheed,**

WMO, Allied Hospital Faisalabad.

QR code



Please cite this article in press Saba Waheed et al., *An Observational Study on the Puerperal Sepsis and Its Associated Risk Factors.*, Indo Am. J. P. Sci, 2019; 06(04).

INTRODUCTION:

In accordance with the definitions of the WHO, PS is a genital tract infection happening at the time of labor or within forty-two days after the birth of the child. PS appears with high fever and other signs as pain in pelvic pain, foul smelling discharge from vagina & late decrease in the size of uterine [1]. A research work from Nigeria [2] reported that PS is the 2nd most important reason of mortality causing for 26.30% maternal deaths. There is an estimation of a report of world health organization that 358000 deaths of mothers are happening every year because of the complications in the birth of child & 15.0% deaths have association with the PS [3]. Dushyant D [4] in his case work stated that PS are the complications which are preventable which are main cause of mortality in the countries which are under the development. The common prompting factors of PS are anemia, long duration of labor, unsterilized handling & membranes rupture before time [5].

PS in the very frequent cause of mortality in the developing countries due to the infections acquired at the time of child birth. There is a need of the combination of development in the field of technology & medicines to decrease the infection rate for PS [6]. Issue of maternity are very special and they require special care. There is no excuse for any mistake in this regard. The application of the combination should be in action after detailed examination of the activity to tackle the problem and complication due to this disease [7]. Due to increasing maternal complications, a large amount of current case works are in progress to maintain the high awareness and skillfulness for the prevention of the infection from professionals but there is no recommendation for the effectual organizing of the professionals [8]. The safeties about the hygiene are very important according to the various research works on the same subjects and different campaigns in progress to increase the awareness [9, 10].

METHODOLOGY:

In total delivery patients, only 1229 females were the part of this research work. Empirical formula used for the calculation of the size of samples in which the

prevalence condition was 9.30% according to the health survey of Pakistan based on demography. Random sampling technique was in use for the selection of the samples. The patients got admission in the maternity wards, labor ward or OPT of emergency. The assessment of the patients carried out after getting the elaborated information & medical evaluation. These females found with PS or delivered child within forty-two days with the utilization of clinical assessment and associated interrogations as high temperature of body, distention of abdomen cavity, dehydration, whole picture of the blood, increase in the count of leukocyte, count of platelet, profile of coagulation, ultrasonography, collection of the uterine and females with other complications as constipation, pain in the back and chest pain.

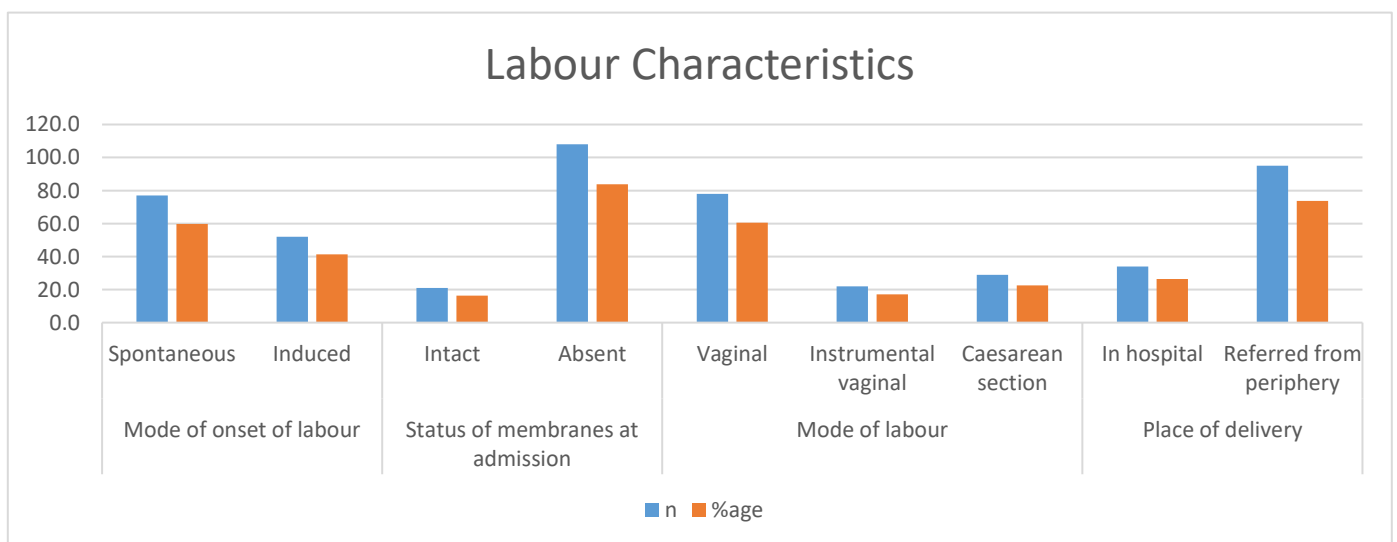
The patients suffering from any other infection as malaria & typhoid fever were not the part of this case study. The special designed Performa was in use for the collection of the information from the patients after getting their written willing. SPSS V.17 was in use for the analysis and collection of the concerned information. Chi square method was in use for the analysis of the qualitative information. P value < 0.050 considered as significant. The outcome stated in percentages, relative risks and P values.

RESULT:

Most of the females suffering from PS were above 30year of age 65.110% (n: 84), we also found a low percentage in other age groups. Greatly infected females were multiparous having five childbirths or above 78.290% (101), prim parous females were only 15.5% (n: 15). Common complication was present in unbooked patients 75.96% (n: 98), booked females were 24.03% (n: 31). We found spontaneous start of labor in 59.68% (n: 77) patients, induction of labor found in 41.31% (n: 52) females. About 83.72% (n: 108) patients were present with no membranes at the time of arrival, found with the history of liquor discharge for ten to sixteen hours. We found the spontaneous delivery through vagina in 60.46% (n: 78) patients. 17.05% (n: 22) females were in need of the instrumental involvement & 22.48% (n: 29) females got cesarean surgery (Table-1 & II).

| Socio demographic Characteristics | | Cases | | Relative Risk | Chi Squire Test | P value |
|-----------------------------------|------------------|-------|-------|---------------|-----------------|---------|
| | | n | %age | | | |
| Age (years) | Below 20 | 28 | 21.70 | - | 0.0798 | 0.500 |
| | 21-30 | 17 | 13.17 | - | | |
| | Above 30 | 84 | 65.11 | - | | |
| Parity | Primiparous | 20 | 15.50 | - | 0.0798 | 0.500 |
| | Para 1-4 | 8 | 6.20 | - | | |
| | Para 5 and above | 101 | 78.21 | - | | |
| Booking Status | Booked | 31 | 24.03 | 3.1612 | 69.5901 | 0.001 |
| | Unbooked | 98 | 75.96 | - | | |

| Labour characteristics: | | Cases | | Relative Risk | Chi Squire Test | P value |
|----------------------------------|----------------------|-------|--------|---------------|-----------------|---------|
| | | n | %age | | | |
| Mode of onset of labour | Spontaneous | 77.0 | 59.680 | 1.4807 | 9.690 | 0.0500 |
| | Induced | 52.0 | 41.310 | - | | |
| Status of membranes at admission | Intact | 21.0 | 16.270 | 0.1944 | 117.340 | 0.0010 |
| | Absent | 108.0 | 83.720 | - | | |
| Mode of labour | Vaginal | 78.0 | 60.460 | - | 80.837 | 0.0010 |
| | Instrumental vaginal | 22.0 | 17.050 | - | | |
| | Caesarean section | 29.0 | 22.480 | - | | |
| Place of delivery | In hospital | 34.0 | 26.350 | 2.7941 | 57.690 | 0.0010 |
| | Referred from | 95.0 | 73.640 | - | | |



The level of hemoglobin, the total count of leukocyte & swab culture on vagina as well as bacterial growth with their occurrence and percentage of the patients are available in Table-III.

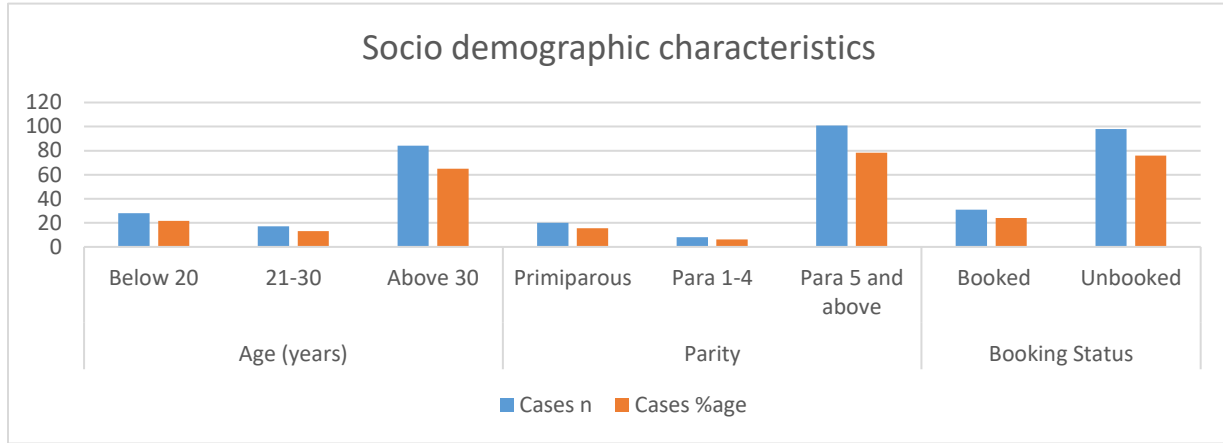
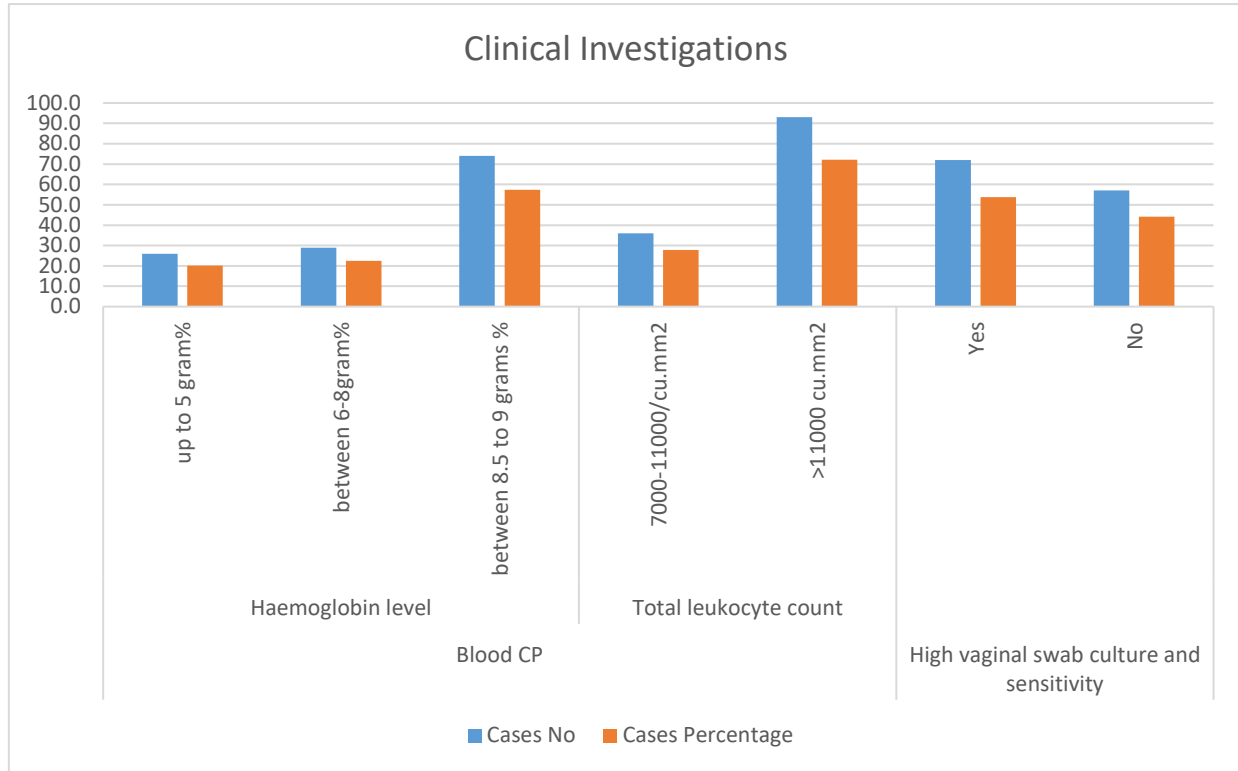


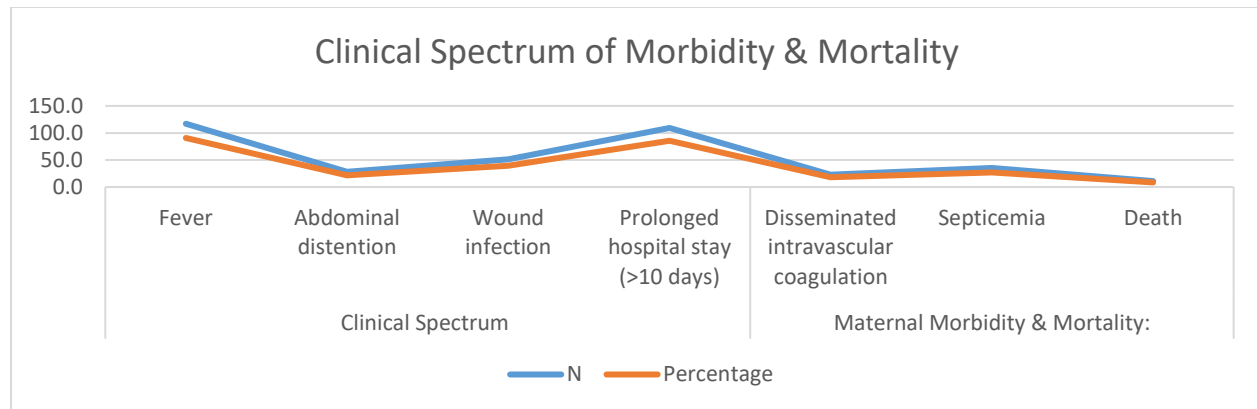
Table-III: Investigations (N= 129).

| Investigations | | Cases | | Relative Risk | Chi Square Test | P Value | |
|---|-----------------------|--------------------------|------------|---------------|-----------------|---------|--------|
| | | No | Percentage | | | | |
| Blood CP | Haemoglobin level | up to 5 gram% | 26.0 | 20.150 | 1.298 | - | 0.5000 |
| | | between 6-8gram% | 29.0 | 22.480 | - | - | - |
| | | between 8.5 to 9 grams % | 74.0 | 57.360 | - | - | - |
| | Total leukocyte count | 7000-11000/cu.mm2 | 36.0 | 27.900 | 2.583 | 50.372 | 0.0010 |
| | | >11000 cu.mm2 | 93.0 | 72.090 | - | - | - |
| High vaginal swab culture and sensitivity | Yes | 72.0 | 53.820 | 1.263 | 3.488 | 0.0500 | |
| | No | 57.0 | 44.180 | - | - | - | |



The most common signs of disease as fever, infection of the wound, distention of the abdomen cavity and stay in the hospital as well as serious morbidities are present with number of patients and their percentage in Table-IV.

| Table-IV: Clinical spectrum and maternal morbidity & mortality (N=129). | | | |
|--|--|-------|------------|
| Clinical Spectrum and Maternal Morbidity & Mortality | | N | Percentage |
| Clinical Spectrum | Fever | 117.0 | 90.690 |
| | Abdominal distention | 28.0 | 21.700 |
| | Wound infection | 51.0 | 39.530 |
| | Prolonged hospital stay (>10 days) | 109.0 | 85.820 |
| Maternal Morbidity & Mortality: | Disseminated intravascular coagulation | 23.0 | 17.820 |
| | Septicemia | 35.0 | 27.130 |
| | Death | 11.0 | 8.520 |



DISCUSSION:

In current case work, PS was highly in the females having more than 31 year of age 65.11% (n: 84), and unbooked multiparous females 78.29% (n: 101). In the third world countries, this is the ideal age group which suffers a lot of complications, this is due to poorness, less awareness & malnutrition. They usually initiate their pregnancy in poverty & have less hindrance to such type of infection. In recent case study, most of the patients referred from the other centers 73.64% (n: 95). Most of these females 83.72% (n: 108) found with lengthy separation of membranes at the time of their arrival, in such females 2nd stage of labor pain was also lengthy so the intervention rate of the 2nd stage was cesarean section in emergency 22.48% (n: 29), we also found high rate of instrumental delivery 17.05% (n: 22). Similar findings obtained by Shamshad [11] & other research works by Seale AC [12] and Hussein J [13].

High concerns of the professional of health care department have association with the control of these infections even it is under consideration in very developed countries of the world [14]. There is a tendency to use the facilities of the health to prevent these infections in the developed countries [15] which needs the implementation of the health programs in our country Pakistan. The measures for the control of such infections need awareness, qualification & different technologies [16]. The works are unable to state an established connection among the product of the hygiene & decrease in the development of infections [17]. The use of the antiseptic wash material at vagina is effectual but is not the sufficient proof to generalize the concept in the prevention of the infections [18]. There is a great requirement of the health qualification in our country to tackle the issue.

We found a high morbidity rate in this research from different diseases, same results are the outcome of many research works conducted in the country [19]. Late admissions are one of the great reason in high rate of mortality & morbidity. Bad practicing, poorly managed services of laboratories, poor water and sanitation system and unskillful staff are some of the reasons of increase in these infections in poor countries. The roles played by the managers are not specific which participate in the poor quality of the task [20, 21]. Proper use of antibiotics at the time of surgery decreases endometritis from 66% to 75% & also decreases the infection rate of the wound [22].

CONCLUSION:

The rate of the risk factors is very high which are preventable as hygiene, pregnancy care, poorness, less education, use of health facilities, no planning & delivery by unskilled persons. These all factors are threat to the life and there is requirement to fix them as early as possible.

REFERENCES:

1. Shamshad, Saadia Shamsher, Bushra Rauf. Puerperal Sepsis-Still a major threat for parturient. J Ayub Med Coll Abbotabad. 2010;22(3):18-22.
2. Hussein J, Walker L. Puerperal sepsis in low and middle income settings: Past, present and future in maternal and infant death: Chasing Millennium Development Goals Edited by kehoes, Neilson JP, Norman JE, London: RCOG Press; 2010:131-147.
3. Larson EL, Quiros D, Lin SX. Dissemination of CDC, S Hand Hygiene Guideline and impact on infection rates. Am J Infect Control. 2007;35(10):666-675.
4. Van Dillen J, Zwart J, Schutte J, Van Roosmalen J. Maternal Sepsis: epidemiology, etiology and

- outcome. *Curr Opin Infect Dis.* 2010;23(3):249-254.
5. BM Audu, UI Takai, M Buker. Trends in maternal mortality at university of Maiduguri teaching hospital, Maiduguri Nigeria-A five years' review. 2010;51(4):147-151.
 6. World Health Organization: Trends in maternal mortality 1990-2008. Estimates developed by WHO, UNICEF, UNFPA and World Bank, Geneva; 2010.
 7. Dushyaant D, Mahraj. Puerperal Pyrexia: A Review. Part 1. *Obstet Gynecol Surv.* 2007;62(6):393-399.
 8. Dare FO, Bako Au, EZechi OC. Puerperal Sepsis: a preventable postpartum complication. *Tropical Doctor.* 1998; 28:92-95.
 9. Hussein J, Mavalankar DV, Sharma S, D'Ambruoso L. A review of health system infection control measures in developing countries: What can be learned to reduce maternal mortality. *Global Health.* 2011; 7:14 doi 10.1186/1744-8603-7-14.
 10. Allhabe F, Buekens P, Bergel E, Belizan JM, Campbell MK, Moss N, et al. Guidelines Trial Group: A behavioral intervention to improve obstetrical care. *New Eng J Med.* 2008;358(18):1929-1940.
 11. Stone PW, Dick A, Pogorzelska M, Horan TC, Furuya EY, Larson E. Staffing and structure of infection prevention and control programs. *Am J Infect Control.* 2009;37(5):351-357.
 12. Allergranzi B, Stoor J, D'Ziekan G, Leotsakos A, Donaldson L, Pittet D. The first global patient safety challenge "clean care is safe care": From Launch to current progress and achievements. *J Hosp Infect.* 2007;65(Supple 2):115-123.
 13. Pittet D, Allergranzi B, Stoor J, Donaldson L. Clean care is safe care: The global patient safety challenge 2005-2006. *Int J Infect Dis.* 2006;10(6):419-424.
 14. Seale AC, M Waniki M, Newton CR, Berkley JA. Maternal and early onset neonatal bacterial sepsis: burden and strategies for prevention in Sub-Saharan Africa. *Lancet Infects Dis.* 2009; 9:428-438.
 15. Pittet D, Allergranzi B, Storr J, Nejad SB, Zieken GD, Leotsakos A, et al. Infection control as a Major World Health organization priority for developing countries. *J Hosp Infect.* 2008; 68:285-292.
 16. Smail FM, Gytén GM. Antibiotic prophylaxis versus no prophylaxis for preventing infection after cesarean section. *Cochrane Database Syst Rev.* 2010 Jan 20;(1):CD007482.
 17. Voss A. Health care associated infection. *BMJ.* 2009; 399:932.
 18. Stan Tonic C, Blanc AK, Croft T, Choi Y. Skilled care at birth in the developing World: Progress to date and strategies for expanding coverage. *J Biosocial Sci.* 2007;39(1):109-120.
 19. Back Man C, Zoutman DE, Marck PB. An integrative Review of the current evidence on the relationship between hand hygiene interventions and incidence of health care associated infections. *Am J Infect Control.* 2008; 36:333-348.
 20. TSU VD, Coffy PS. New and underutilized technologies to reduce mortality and morbidity: What progress have we made since Bellagip 2003? *BJOG.* 2009;116(2):247-256.
 21. Razia Iftikhar. A study of maternal mortality. *J Surg Pak. (Int.)* 2009;14(4):176-178.
 22. Shears P. Poverty and infection in the developing world: Health care-related infections and infection control in the tropics. *J Hosp Infect.* 2007;67(3):217-224.