ORIGINAL ARTICLE

PERINATAL MORTALITY IN BOOKED AND UN-BOOKED PAKISTANI MOTHERS

Hafsa Ajmal[1], Salman Said[2], Rehana Rahim[3]

[1]Molvi Ameer shah memorial hospital, Peshawar - Pakistan

[2]Department of Pediatrics, category D hospital Shahbaz Garhi, Mardan - Pakistan

[3]Department of Gynae/Obstetrics, Lady Reading hospital Peshawar - Pakistan

ABSTRACT

Objective: Perinatal mortality is a key parameter of the health services quality, provided to pregnant females and their babies. Perinatal mortality search finds out the status of quality of services, helps in determining the cause of perinatal deaths and how to reduce it in an institution. The study aims to detect the effect of antenatal booking on perinatal outcome as many women in this part of world do not get antenatal care due to various avoidable factors.

Methods: This descriptive cross sectional study was performed in Gynae/Obs department, Lady Reading Hospital, Peshawar from May 2016 to November 2016. In which a total of 165 patients were followed. After approval from hospital ethical committee, written consent was taken from all included mothers. After admission, detailed history and examination was done, to exclude confounding risk factors like diabetes mellitus, hypertension, antepartum hemorrhage and malpresentation. Base line investigations were done. Feotal cardiac activity was confirmed by ultra-sonography and monitored by cardiotocography. All the mothers were followed till delivery and baby was followed for a week. Number of still births and deaths in the first seven days of life in the two groups were determined.

Results: Mean age was 30 years with SD±1.27 in this study, the frequency of perinatal mortality was 6%, in which 23% patients were booked and 77% patients were un-booked.

Conclusion: Our study concludes that the frequency of perinatal mortality was 6%, in which 23% patients were booked and 77% patients un-booked.

Key Words: Perinatal mortality, Booked, un-booked mother, Cardiotocography

This article may be cited as: Ajmal H, Said S, Rahim R. Perinatal mortality in booked and un-booked Pakistani mothers. J Med Sci 2022 ;30(1):68-70

INTRODUCTION

Perinatal mortality is a key parameter of the health services quality provided to pregnant ladies and their babies. Perinatal mortality search finds out the status of quality of services, helps in determining the cause of perinatal deaths and how to reduce it in an institution. According to WHO, the number of perinatal deaths is more than 7.6 million, with 98% of these in less developed countries[1]. Perinatal mortality rates are used to assess the outcome of pregnancy and to monitor the quality of antenatal care (maternity and childbirth)[2]. One hundred and thirty million babies are born annually worldwide, 140 lac die in first twenty eight days of life, 3/4 of infant deaths occur in the first week and >1/4 in the first twenty four hours[3].

Correspondence
Dr. Salman Said
Department of Pediatrics, category D hospital Shahbaz Garhi, Mardan - Pakistan
Email: syedsalman1988@yahoo.com
Cell: +92-305-9103504
Date Received: 26-07-2021
Date Revised: 12-02-2022
Date Accepted: 03-03-2022

A case-control study involving 406 un-booked and 396 booked births, preterm delivery rate was half as likely in booked vs un-booked pregnancies, stillbirth rate was seven time more in unbooked vs booked pregnancies, low birth weight babies birth, was a third as likely in booked vs unbooked pregnancies. Biirth weight of 2.95 ± 0.53 kg in unbooked births while 3.08 ± 0.45 kg in booked births. Mean Apgar score at one and five minutes was much lower in un-booked births than booked births. Un-booked births are common and their birth effects can lead to high Morbidity and disability was high in unbooked births , thus leading to more infants deaths in developing countries. Providing better health facilities to mothers through the process of birth and to babies in early life and to all unbooked births results in good birth outcome[4].

A study (cohort) done to compare booked vs unbooked pregnancies, in term of maternal and feotal outcome, socio-economic demographics from September 2006 to march 2008 showed that preterm delivery rate was five time more (OR)=6.44, 94% (CI)= 2.24-18.50, p < 0.0002: low birth weight babies{<2500 g} were three time more (OR)=2.87, 94% (CI)=1.21-6.82, P <0.02: and postpartum hemorrhage was twice more (OR)=1.85, 94% (CI)

= 0.69-4.98, p = 0.3) [5]in unbooked patients. The study aims to detect the effect of antenatal booking on perinatal outcome as many women in this part of world do not get antenatal care due to various avoidable factors.

MATERIALS AND METHODS

The study was performed in Gynea/Obs department, Lady Reading Hospital, Peshawar from May 31, 2016 to November 31, 2016. Sample size was calculated through WHO Sample size calculator. A total of 165 mothers were included by taking prevalence of perinatal mortality 0.4%, confidence level 95% and margin of error 4.5%. This was a cross-sectional study (descriptive) and consecutive (non- probability) sampling technique was used. Patients included were having age 15 to 45 years, Primigravida, Laboring patient and Gestational age (>37 weeks) seen in Gynae department of this hospital. Patients with identifiable risk factors for perinatal mortality like Diabetes Mellitus, Hypertension, Antepartum hemorrhage, malpresentation and IUGR were excluded. All above conditions were confirmed on history and medical records.

After approval from hospital ethical committee, a consent was taken from all patients. After admission to the hospital, detailed history and examination was done to exclude confounding risk factors like diabetes mellitus, hypertension, antepartum haemorrhage and malpresentation. Base line investigations were done. Feotal cardiac activity was confirmed by ultra-sonography and monitored by cardiotocography. All the mothers were followed till delivery and baby was followed for a week. All the data was noted in form of a predesigned proforma. Number of still births and deaths in the first seven days of life in the two groups were determined. Data was analyzed using SPSS version 7 computer software programme. Quantitative variables like gestational age, mother age were described as mean and standard variables (SD). Categorical variables like booking, perinatal mortality, gravidity and labor was described in term of frequencies and percentages, results was tabulated. Perinatal mortality was stratified among patient age, gestational age and gravidity. Considering P ≤ 0.05 as significant post stratification chi square was used.

RESULTS

In this study, age distribution among 165 patients was analyzed as 33(20%) < 20 years, 73(44%) 21 to 30 years, 41(25%) 31 to 40 years, 18(11%) 41 to 50 years. Mean age was 30 years with SD ± 1.27. (See in Table No 1). Gestational age in 165 patients was analyzed as 127(77%) patients had POG range 37-39 weeks, while 38(23%) patients had POG range 40-42 weeks. Mean POG was 38 weeks with standard deviation ± 3.27. (See in Table No 2) All the women were Primigravida and were in active labor (Shown in table no 3, 4). Booking status among 165 patients was analyzed as 46(28%) patients were booked while 119 (72%) patients were un-booked (as shown in Table No 5). Frequency of perinatal mortality among 165 patients was analyzed as 10(6%) mother had perinatal mortality while 155 (94%) mother didn't had perinatal mortality. (As shown in Table No 6)

Frequency of perinatal mortality in booked and un-booked patients was analyzed as 3(23%) mother had perinatal mortality who were booked patients, on the other hand 7(77%) mother had perinatal mortality who were un-booked. (As shown in Table No 10). Stratification of perinatal mortality with respect to age, gestational age, gravida and booking status is given in Table No 7, 8,9,10.

Table 1: Maternal Age (N=165)

Age	Frequency	Percentage
< 20 years	33	20%
21-30 years	73	44%
31-40 years	41	25%
41-45 years	18	11%
Total	165	100%

30 with SD ± 1.27 was mean age

Table 2: Gestational Age (N=165)

POG	Frequency	Percentage
37-39 weeks	127	77%
40-42 weeks	38	23%
Total	165	100%

38 weeks with SD ± 3.27 was mean POG

Table 3: Genetic variations (SNP & Indel mutation) in the study population (n = 30)

Gravidity	Frequency	Percentage
Primi gravida	165	100%
Total	165	100%

Table 4: Labour (N = 165)

Labour	Frequency	Percentage
Yes	165	100%
No	00	100%
Total	165	100%

Table 5: Booking Status (N = 165)

Booking status	Frequency	Percentage
Booked	46	28%
Un booked	119	72%
Total	165	100%

Table 5: Booking Status (N = 165)

Perinatal Mortality	Frequency	Percentage
Yes	10	6%
No	155	94%
Total	165	100%

Table 5: Stratification of Perinatal Mortality W.R.T age Distribution (N = 165)

Perinatal Mortality	< 20 years	21-30 years	31-40 years	41-45 years	Total
Yes	2	4	3	1	10
No	31	69	38	17	155
Total	33	73	41	18	165

DISCUSSION

Perinatal mortality is a key parameter of the health services quality provided to pregnant ladies and their babies. Perinatal mortality search finds out the status of quality of services, helps in determining the cause of perinatal deaths and how to reduce it in an institution. According to WHO, the number of perinatal deaths is more than 7.6 million, with 98% of these in less developed countries[1]. Perinatal mortality rates are used to asses perinatal care quality and pregnancy outcome evaluate the outcome of pregnancy and monitor the quality of perinatal care[2].

In this study mean age was 30 years with SD±1.27, the frequency of perinatal mortality was 6% in which 23% patients were booked and 77% patients were un-booked. In another study, similar results were observed conducted by Sahoo S et al[5] in which perinatal mortality was (3.44%) in booked and (27.26%) in un-booked patients ($p<0.05$). A marked difference of intrauterine death was present between un-booked and booked mothers. In another study, similar results were observed conducted by Kalim D et al[6] in which 840 (42%) were un-booked and 1160 (58%) were booked out of 2000 antenatal patients. Instrumental delivery and emergency operative delivery rates were 3.6% and 8.89% in un-booked patients as compared to 2.3% and 4.15% in booked patients ($p<0.001$) respectively. Premature rupture of membranes, Pregnancy-induced hypertension and Anemia were observed in 90 (4.5%), 38 (1.9%) and 53 (2.65%) booked and 223 (11.15%), 109 (5.45%), 102 (5.1%) un-booked patients, respectively. Perinatal asphyxia, low Apgar score, low birth weight and sepsis were observed in 104 (5.2%), 43 (2.15%), 61 (3.05%) and 40 (2%) babies of booked mothers and 170 (8.5%), 76 (3.8%), 208 (10.4%) and 62 (3.1%) babies of un-booked mothers ($p<0.001$) respectively. Perinatal mortality rate was 1.65% (n=33) and 3.6% (n=72) in babies of booked and un-booked mothers respectively ($p<0.001$). Maternal mortality was zero. In another study, similar results were observed, conducted by Shamshad et al[7] in which 5412 deliveries with perinatal mortality of 9.2% occurred (498 deaths). In these patients, 88.7% un-booked and 11.2% were booked. Perinatal death rate was 9.4%, 44.9%, 39.95%, and 5.6% in patients under 20 years, under 30 years, under40 years and above 40 years respectively. There were 26.7%, 42.9%, 30.3% deaths in Primigravida, in multipara and in grand multipara respectively. Regarding pregnancy, 40.3% patients had pregnancy of 24 to 32 weeks, 31.7% had of 33 to 36 weeks and 28% had 37 to 42 weeks pregnancy. Regarding deaths, 21.8% were due to bleeding in pregnancy, 20.4% hypertensive disorders of pregnancy, 18% mechanical cause, 14.4% congenital anomalies, 12.8% neonatal causes, 5% maternal medical disorders and 5% unknown causes.

CONCLUSION

Our study concludes that the frequency of perinatal mortality was 6%, in which 23% patients were booked and 77% patients were un-booked.

REFERENCES

1. Kusiako T, Ronsmans C, Van der Pall L. Perinatal mortality attributable to complications of childbirth in Matlab, Bangladesh. Bull. World Health Organ2000:78(5): 621-7.
2. National Centre for health Statistics .www.cdc.gov/nchs(Acccessed on July 20,2011)
3. Jehan I, Harris H, Salat S, Zeb A, Mobeen N, Pasha O et al. Neonatal mortality, risk factors and causes: a prospective population-based cohort study in urban Pakistan. Bull. World Health Organ Feb 2009:87:130-138.
4. Osungbade KO, Ayinde OO. Birth outcomes among booked and unbooked women at a secondary health facility in southwest Nigeria: implications for strengthening perinatal health services. J Child Health Care. Dec 2011:15(4):320-8.
5. Sahoo S, Somani SR, Somani S, Sree KG, Babu PS. Obstetric & perinatal morbidity & mortality in booked & unbooked antenatal Patients. Ind J Bas App Med Resh.2015:4(3):510-517.
6. Kalim, Deeba. Frequency of maternal and perinatal complications among booked and un-booked antenatal women. Khyber Med Univ J. Oct-Dec 2015:7(4):174-179.
7. Shamshad. Perinatal mortality: an outcome of quality of perinatal care. Gomal J Med Scie. July-Dec 2010:8(2):166-171.

AKNOWLEDGMENT: We are thankful to the efforts of **Dr. Arsalan Said** for his contribution in the statistical calculations of this article

CONFLICT OF INTEREST: Authors declare no conflict of interest

GRANT SUPPORT AND FINANCIAL DISCLOSURE: NIL

AUTHOR'S CONTRIBUTION

Following authors have made substantial contributions to the manuscript as under

Ajmal H:	Conceived the idea, Literature review, Manuscript writing
RahimR:	Sample collection and Laboratory Work, Final approval of draft
Said S:	Sample collection, Bibliography

Authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.