ANTENATAL BOOKING STATUS OF PREGNANT MOTHERS AND NEONATAL MORBIDITY AND MORTALITY AMONG NEONATES DELIVERED IN THE SHEIKH ZAYED HOSPITAL

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ABSTRACT

Background: Indicators of the poor state of health service are high perinatal mortality rates and it is relevant to determine the association between the booking status of mother and fetal end results.

Objective: To determine the risk factors of neonatal morbidity and mortality and effects of booking status of pregnant mothers.

Methodology: This cross sectional study was carried out from 15th October 2017 to 1st February 2018. A total of 300 study participants were selected randomly from obstetrics and gynecology department of the Sheikh Zayed Hospital, Rahim Yar Khan. All the sick persons admitted through emergency and outpatient department, who had delivered in the labor room, were included. A predesigned performa was used for data collection. The data included personal information i.e. booking status, age of both partners, education of both partners, residence, ethnicity, mode of delivery, parity, gestational age, history of any disease during pregnancy, history of use of birth spacing method, no of person at home, neonatal outcome. By using Statistical Package for Social Sciences (SPSS) version 16 all the data was analyzed.

Results: The mean age of patients was 26±7.5 years, parity was 1.6±2.2, gravida was 3±2.4, Gestational age was 37.9±2.2, and numbers of antenatal visits were 4±2.6. In this study, 98 (32.7%) were booked patients and 202 (67.3%) were unbooked patients. This study showed that 158 (52.6%) neonates were healthy, 74 (24.6%) had Asphyxia neonaturam, 5 (1.7%) had sepsis, 23 (7.6%) had MAS, 6 (2%) had congenital anomaly, 34 (11.3%) were dead. Results showed that among booked cases 54 (55.1%) children were healthy, 22 (22.4%) had ANN, 3 (3.1%) had sepsis, 4 (4.1%) had MAS, 5 (5.1%) had congenital anomaly, 10 (10.2%) died and among unbooked cases, 104 (51.5%) were healthy, 52 (25.7%) had ANN, 2 (1%) had sepsis,19 (9.4%) had MAS,1(0.5%) had congenital anomaly and 24 (11.8%) died (p=.01).

Conclusion: This study showed that only half of the neonates delivered at our tertiary care were healthy. Asphyxia neonatorum followed by meconium stained liquor, congenital anomalies and sepsis were most common outcomes, whereas, more neonates in with maternal unbooking status has poor outcome. The proper diagnosis, antenatal anticipation of high risk pregnancy is mandatory for the best outcome for neonates.

Keyword: Outcome, Neonates, ANN, Antenatal Care.

INTRODUCTION

The most vulnerable period for both mother and newborn is the time around delivery and the postnatal period.[1] Every year there are nearly two and half million stillbirths and alike number of neonatal deaths occur worldwide and the majority turn out during the time of delivery and in the early postpartum period.[2,3,4] During the last 25 years there have been noted considerable improvements in newborn and maternal outcomes in many countries.[3] In South Asia, Pakistan is among the countries where neonatal mortality rates and maternal mortality ratios (MMR) remain inert. The perinatal mortality rate of 75 per 1000 pregnancies was delineated by the Pakistan Demographic and Health Survey (PDHS) 2012-13 and the neonatal mortality rate of 55 per 1,000 live births.[4] There was a 19% curtailmentin infant mortality and 24% curtailmentin under-5 mortality in Pakistan, over the same time interval.[5] Pakistani women getting antenatal care still shockingly less in number, so cannot report for poor outcomes in Pakistan.[6-10] Among the countries having same poor peripartum outcome, there are descriptive risk factors for substandard maternal and neonatal outcomes. Overall national income per capita at the minimum double high in Pakistan, but maternal and neonatal end results are unsatisfactory than all the antecedent countries in sub-saharan Africa.[11-13]

Neonatal deaths worldwide are due to the infection, preterm delivery and birth asphyxia.[7-11] Widehypoxia of the fetus ("fresh stillbirth")[14-17] and newborn ("birth asphyxia") is approximated to deal with 23% of 4 million neonatal deaths and every

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year 26% of the 3.2 million stillbirths.[18-20]

In the Pakistan home delivery rates without medical supervision are high. It's a crucial risk factor for neonatal morbidity. In our country, extensive incomprehension, permeating myth, the poor state of health services, conventional faith and rituals and expensive medical service incline to make standard medicine and trust-based practice, possibly more famous than traditional obstetric exercise.[21-25]

The objective, of our study was to establish the association of the neonatal outcomes and the booking status of pregnant mothers in our area.

METHODOLOGY

This cross sectional study was carried out from 15th October 2017 to 1st February 2018. A total of 300 study participants were selected randomly from obstetrics and gynecology departments of the tertiary care hospital (Sheikh Zayed Hospital), where a large number of patients come from private clinics, government hospitals, periphery and other districts. The patients were received through outpatient department, emergency and who had delivered in the delivery room, were included. This was an observational study and ethical approval was sought from Institutional Review Board of institution and took consent from individual mothers.

Mothers who had minimum three antenatal care visits were labeled as booked patient and unbooked mothers included those who had no antenatal care at all for the whole pregnancy. A predesigned performa was used for data collection. By gaining information through the personal interview of selected mothers, all data was collected. The data included personal information i.e. booking status, age of both partners, residence, mode of delivery, gestational age, no. of antenatal visits, gravida, parity, abortion, indication of C-section, mode of delivery and neonatal outcome, like asphyxia, neonatorum, sepsis, MAS and death.

By using Statistical Package for Social Sciences (SPSS) version 16 the data was analyzed. Mean and standard deviation were used to calculate quantitative variables such as gestational age at delivery and by calculating frequency and percentages of qualitative variables such as preterm birth, cesarean section rate was presented. For the calculation of Statistical Significance the Chi-square test was used.

RESULTS

Table I shows that the mean age of patients was 26±7.5 years, mean age of husband was 30±6 years, parity was 1.6±2.2, gravida was 3±2.4, and gestational age was 37.9±2.2. This study showed that 98 (32.7%) were booked patients and 202(67.3%) were unbooked patients. In this study 158 (52.7%) lived in rural area,142 (47.3%) urban area. In this study 92 (30.7%) has delivered by SVD, 205 (68.3%) by c-section, 3 (1%) had instrumental delivery. This study shows that 14 (4.6%) has DM, 66 (22%) had HTN/Eclampsia, 72 (24%) had PROM, 10 (3.35%) had IUGR, 4 (1.3%) has kidney disease, 5 (1.7%) had liver disease, 3 (1%) has heart disease and 162 (54%) had no disease. This study shows that 26 (8.7%) used birth spacing methods and 273 (91.3%) didn't use any birth spacing methods. This study shows that 158 (52.6%) were healthy, 74 (24.6%) had ANN, 23 (7.6%) had MAS, 6 (2%) had congenital anomaly and 34 (11.3%) were dead.

Table II shows that among booked cases 54 (55.1%) children were healthy, 22 (22.4%) had ANN, 3 (3.1%) had sepsis, 4 (4.1%) has MAS, 5 (5.1%) had congenital anomaly and 10 (10.2%) were dead and among unbooked cases, 106 (52.5%) were healthy, 52 (25.7%) had ANN, 2 (1%) had sepsis,19 (8.5%) had MAS,1 (.5%) had congenital anomaly, and 24 (11.8%) were born dead (p=.01).

Table1: Descriptive statistics of study subjects

Variable	Value	Variable	Value
Age of patient (years)	26±7.5	No of antenatal visits	4±2.6
Husband age (years)	30±6	Monthly family income (PKR)(Median)	12000
Parity	1.6±2.2	Booking status — Booked	98 (32.7%)
		Booking status — Unbooked	202 (67.3%)
Gravida	3±2.4	Mode of delivery — C-Section	205 (68.3%)
		Mode of delivery — Instrumental	3 (1%)
Abortion	0.4±0.7	SVD	92 (30.7%)
		Gestational age	37.9±2.2

Table II: Neonatal outcome among booked and unbooked mothers. (n=300)

Booked		Unbooked	
Variable	Value	Variable	Value
Healthy	54 (55.1%)	Healthy	104 (51.5%)
ANN	22 (22.4%)	ANN	52 (25.7%)
Sepsis	3 (3.1%)	Sepsis	2 (1%)
MAS	4 (4.1%)	MAS	19 (9.4%)
Congenital anomaly	5 (5.1%)	Congenital anomaly	1 (0.5%)
Death	10 (10.2%)	Death	24 (11.8%)

DISCUSSION

This study was conducted to assess neonatal outcome among or unbooked mothers. Our study shows that the mean age of the patient was 26±7.5 years. The mean age of husband was 30±6 years. Rate of low birth weight, prematurity and newborn at the neonatal intensive care unit is high among aged women. Among adolescents and young mothers of 20–24 years of age, no increased risk for SGA was found.[10] It was concluded by a number of studies that relationship between adverse birth end results such as low birth weight and increased maternal age, parity is an effect modifier.[11,12,13]

The factors that influence the maternal outcome and neonatal outcome are low socio-economic status, lack of education, lack of antenatal care revealed by socio-demographic data of our study. Asphyxia risk may be increased by socio-economic factors that influencing care-seeking, access to health care services and maternal nutritional status, during the antenatal and intrapartum periods. The lower ascertained value of antenatal care and the lower implementation of maternity care routines is associated with low maternal educational status.[12] Moreover, maternal height is affected by ethnicity which may be a cause of high birth asphyxia risk.[13] Informed decisions about using health promotive and preventive services, such as attended delivery by trained health facility and antenatal care, are difficult for women due to poor economic status. Distance from the hospital too had an effect on outcomes where even booked mothers reached hospital in the late second stage of labor.[14] Our study shows that of C-section rate was high as compare to SVD and instrumental delivery. The Caesarean section rate of 5–15% to superlatively reduce neonatal and maternal mortality rates, is recommended by UN.[15]

Our study shows that most of the women are suffering from PROM and hypertension/Eclampsia. Pregnancies having history of PROM, the occurrence of IUI among those neonates is remarkably impacted by the gestational age, latency period and Apgar score within 5-minutes. With the time span of the latency period the incidence of other complications increases. Among this group of neonates prematurity is a significant morbidity contributor.[16] Among the leading cause of pregnancy-related neonatal and maternal mortality and morbidity, PIH is more significant.[17] Our study shows that most of the people don't use any birth spacing method. Low incidence of child mortality is associated with increase birth interval.[18] Family planning among women of reproductive age is likely to describe both a result of minimum undesirable pregnancies, the lower death rate related to abortion and the lower death rate directly related to obstetrics and associated with low rate of pregnancies.[19] The results of our study shows that 158 (52%) were healthy, 74 (24.6%) had ANN, sepsis 5 (1.7%), 6 (2%) had congenital anomaly, 34 (11.3%) were dead. According to this data ANN is more common morbidity among neonate. In a study by Tabassum, shows that Birth Asphyxia (47.69%), Preterm babies (18.90%), Sepsis (17.44%), Tetanus (1.35%), Meconium Aspiration Syndrome (MAS) (3.15%) and premature babies (5.17%) were the most common causes of admission to NICU.[20,26,27] In large number of hospital-based studies, maternal fever, prolonged rupture of membranes, pre-eclampsia, eclampsia, antepartum hemorrhage and obstructed labor have been associated with high rate of birth asphyxia.[21] Risk factors for sepsis such as low birth weight, premature membrane rupture, prematurity, poor intra and postpartum hygiene, maternal pyrexia, invasive medical procedures and hospital stay have been identified by previous studies.[22,28] Prolonged labor and early rupture increases the incidence of arising microorganisms from the birth canal into the amniotic sac which is a major cause of asphyxia as well as fetal compromise which oftenly causes sepsis.[23] Preterm birth in 34%, antepartum hemorrhage in 9% and intrapartum asphyxia in 21% were the most prevalent primary obstetric risk factors of neonatal mortality. The correlative consequences of these risk factors is considered in the dispersal of the final sources of neonatal death, birth asphyxia or hypoxia in 26%, infection in 23% and immaturity-related in 26%. These findings are compatible with WHO reports on the sources of neonatal mortality in evolving countries and also with other details from Pakistan.[10,11,12] Currently there has been arising a high searching for perinatal mortality data to be decentralized by geographic location, gender and socioeconomic status, to allow programmers to ameliorate resource monitoring and allotment.[24] Increased health-care coverage is important to significantly improve neonatal outcomes and perinatal outcomes without improved quality.[25]

Recent reports from Pakistan and other low-resource settings indicate that insufficient training, unsatisfactory care, low staff capability and a lack of stratagem, including medication and equipment, are all ingredients that subscribe to neonatal mortality.[26] According to our study there is high neonatal mortality and morbidity among unbooked mothers as compare to un-booked mothers. Due to delay in referral from other healthcare facilities, delay in the patients making a decision to seek care and delay in receiving medical care in our hospital setup, since the health facility were not free of cost, are all the factors that contribute substandard outcomes in unbooked mothers. Remarkable difference found among unbooked and booked cases in terms of the early neonatal death and IUD. In a previous study intrauterine fetal death was seen in 1% in booked cases and 5%in un-booked cases. Early neonatal death was seen in 5.4% in booked group and 11.8% in un-booked group.[27] The rate of perinatal death is higher in home delivery and 30.50% babies of un-booked mothers and 19.50% babies of booked mother had Apgar score <7 at one minute (p<0.002) while 12% babies of unbooked mothers and 5.50% babies of booked mothers had a Apgar score of <7 at five minute. It indicates that as compared to booked mothers, risk among babies of unbooked mothers to have birth asphyxia is 1.5 times more (p<0.002).[27,28]

CONCLUSION

This study showed that about half of the neonates delivered at our tertiary care have some disease and asphyxia neonatorum, followed by MAS and sepsis were common, whereas, one in ten neonates died unbooked status was associated with poor outcome in neonates. The proper diagnosis of antenatal anticipation of high risk pregnancy is mandatory for a good outcome of neonates.

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