Original Article

Overview of obstetric patients and their outcome in a tertiary hospital of Bangladesh

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ABSTRACT

Background: *In developing countries like Bangladesh major population lives in rural areas, lacking access to essential obstetric facilities. Timely referral can reduce maternal morbidity and avoid maternal death in many instances. However lack of structured referral system is a major hurdle that delays proper management of such cases. The objective of the study was to review the pattern of obstetric cases admitted in our hospital, to study the clinical course and management of women during the hospital stay and to study the maternal and perinatal outcomes in terms of live birth or still birth, intra uterine fetal death and neonatal admission.*

Methods: *It is a retrospective observational study conducted in the department of Obstetrics and Gynaecology, BIRDEM General Hospital, Dhaka, from July 2018 to June 2019, including2880 obstetric cases admitted in the hospital. Detailed history of the patients were taken, frequency of each disease was calculated separately. Management of the patient and mode of delivery were noted. Fetal outcome parameters like live or still birth and intra uterine fetal death were noted.*

Results: *Among 3953 admitted patients, obstetric cases were 2880 (73%).Maximum number of patients were booked cases(84.09%) and 75% were from urban area. The patients were in the age group from 18 to 40 years,32% were primigravida and 68% were multi gravida. Majority of our admitted patients had either diabetes mellitus or gestational diabetes mellitus, 58.19% and 23.95% respectively. Common co morbidities and obstetric complications were hypertensive disorder of pregnancy, anaemia, premature rupture of membrane, oligohydramnios and fetal growth restriction. Among the 2084 delivered cases were delivered by ceasarean section (86.42%) 13.53% were delivered vaginally. Commonest indication for cesarean delivery was history of previous cesarean section.*

Conclusion: *Wide spectrum of complicated obstetric cases were admitted to our tertiary care hospital. Many complicated patients were referred from different centers for special management. But delayed referral sometimes could not help properly and also resulted in a high number of cesarean section.*

Key words: *Obstetric patients, outcome overview.*

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INTRODUCTION

Pregnancy and child birth are physiological processes and a woman is the only person, who come across a number of health related problems when pregnant and it can also lead to death. Majority of these deaths occur in the developing countries, where integrated health care system is not well organized.[1,2] Over the centuries, anaemia, eclampsia and haemorrhagic shock have killed millions of pregnant women and is still continuing to do so. The key factors contributing to the adverse maternal outcomes are lack of trained birth attendants, lack of education and low status of women in society, poor families, financial dependency and delay in seeking

medical treatment.[3] In developing countries like Bangladesh majority of the population live in rural areas, lacking access to essential obstetric facilities. Due to lack of awareness and absence of regular antenatal care, the critically ill patients are referred late and sometimes in moribund conditions with multiple organ damage.

The referral system is an essential component of any health care system which is particularly important in pregnancy and child birth for providing access to essential obstetric care.[4] Timely referral and early intervention in high risk and complicated obstetric cases can reduce perinatal morbidity and mortality. However, lack of structured referral system is a major hurdle that delays proper management of such cases.

Bangladesh Institute of Research and Rehabilitation in Diabetes, Endocrine and Metabolic Disorders (BIRDEM) General Hospital is a tertiary care hospital, located in Dhaka, the Capital of Bangladesh, which receives and manages a wide spectrum of complicated obstetric cases that are referred from different centers all over the country. This study was done to review the epidemiology of obstetric cases, to study the clinical course and management of women during the hospital stay and to study the maternal and perinatal outcomes in terms of live birth or still birth, intra-uterine fetal death and neonatal admission.

METHODS

The present study was a retrospective observational study conducted at the Department of Obstetrics and Gynaecology of BIRDEM General Hospital in Dhaka, Bangladesh from July 2018 to June 2019. Study participants were 2880 obstetric cases admitted in the hospital, some were on regular ante-natal check-up at BIRDEM and some were referred from various centers of Dhaka city and also from several other districts.

Data regarding demographic characteristics, clinical presentation and physical examination findings were recorded from hospital sheets. Frequency of each disease was calculated separately. Patients' demographics and medical history, which included age, economical status, education and parity were recorded. Investigation reports like complete blood count, urine routine and microscopic examination (RME) and ultrasonography as well as case specific investigation reports were noted. Management of the patient and mode of delivery were recorded. Fetal outcome parameters like abortion, live or still birth, intra uterine fetal death, APGAR score at 5 minutes, neonatal admission and mortalities were noted. Any maternal morbidity or mortality was also noted. All data were collected and compiled.

RESULTS

Total admission during the study period was 3953 including 2880 (73%) obstetric cases, which constituted the study participants. Maximum number of patients (2422, 84.1%) were on regular ante-natal visits at BIRDEM General Hospital and 468 (15.9%) cases were referred from rural and urban areas. Our admitted patients were mostly (75%) from urban area and 25% were from rural area. Age of the patients was between 18 and 40 years. Primigravida were 32% and multigravida patients were 68%. Most of the patients had one or more than one comorbidity along with pregnancy (Table I).

Table I Distribution of obstetric cases according to associated disorder(N = 2880)

Disorder	Frequency	Percentage
Hypertensive disorder of pregnancy*	407	14.13%
Eclampsia	1	0.24%
Preeclampsia	120	29.48%
Gestational hypertension	118	28.99%
Essential hypertension	168	41.27%
Anaemia*	174	6.04%
Iron deficiency anaemia	172	98.85%
Hb E trait	2	1.15%
Urinary tract infection	81	2.81%
Bronchial asthma	74	2.56%
Hypothyroidism	24	0.83%
Gastroenteritis	10	0.34%
Heart disease	7	0.24%
Jaundice	4	0.13%
Chronic renal disease	1	0.03%

* Percentages of sub categories are calculated according to parent category

Many of the cases were admitted with one or more obstetric complications (Table II).

Table II Distribution of obstetric cases according to obstetric complications (N = 2880)

Obstetric complication	Frequency	Percentage
Premature rupture of membrane	198	6.87%
Oligohydramnios	123	4.27%
Fetal growth restriction	84	2.91%
Polyhydramnios	78	2.70%
Rh negative mother	69	2.39%
False labour pain	68	2.36%
Elderly primigravida	64	2.22%
Multiple pregnancy	64	2.22%
Postdated pregnancy	32	1.11%
Antepartum haemorrhage*	31	1.07%
Placenta praevia	28	90.32%
Abruption placentae	3	9.68%
Intrauterine death	29	1.01%
Preterm labour	28	0.97%
Malpresentation*	24	0.83%
Breech presentation	22	91.66%
Transverse lie	2	8.34%
Congenital anomaly of the baby	7	0.24%

* Percentages of sub categories are calculated according to parent category

Some of the patients (27.64%) were discharged undelivered after recovery from cause of admission after conservative management and among the delivered cases most were delivered by Cesarean section (Table III). The most common indication for cesarean section was history of previous cesarean section. Others are shown in Table IV.

Table III Distribution of cases according to pattern of management (N = 2880)

Pattern	Frequency	Percentage
Delivered*	2084	72.36%
Cesarean section	1801	86.42%
Vaginal delivery	282	13.53%
Vaginal birth after cesarean	1	0.04%
Discharged undelivered	796	27.64%

* Percentages of sub categories are calculated according to parent category

Table IV Indication of cesarean section (N = 1801)

Indication	Frequency	Percentage
History of previous cesarean section	991	55.02%
Previous 1 cesarean section	701	70.73%
Previous 2 cesarean section	290	29.27%
Fetal distress	186	10.32%
Preeclampsia	53	2.94%
Failed induction	47	2.60%
Antepartum haemorrhage*	31	1.72%
Placenta praevia	28	90.32%
Abruption placentae	3	9.68%
Malpresentation*	24	1.33%
Breech presentation	22	91.66%
Transverse lie	2	8.34%
Cephalopelvic disproportion	18	0.99%
Cervical dystocia	1	0.05%
Cord prolapse	1	0.05%
Macrosomia	1	0.05%
Fibroid uterus	1	0.05%

* Percentages of sub categories are calculated according to parent category

There were total 30 perinatal death during the study period among the 2084 deliveries which is 14.39 per 1000 birth. Most of the cases were due to intrauterine death.

Table V Pattern of perinatal death (N = 30)

Perinatal death	Frequency	Percentage
Intrauterine death	23	76.66
First week death	5	16.66%
Fresh still birth	2	6.66%

DISCUSSION

In this retrospective observational study a total of 2880 obstetric cases were admitted to BIRDEM General Hospital from July 2018 to June 2019. Majority of patients were in the age group of 18 to 40 years in our study as this the reproductive age group. Banu et al. showed that overall age distribution in majority (74%) of the respondents in their study were between 20 to 35 years, which correlates with our study. In our study two-thirds were multigravida, but in the study done by Banu et al. majority of the patients were primi-gravida.[5]

Our admitted patients were mostly (75%) from urban area. The main reason of this difference is because our hospital is a paying hospital, so many patients cannot bear the expense and only some of the patients having diabetes have the facility of free of cost treatment. In the study by Rathi et al. 67% patients were from urban area.[2]

Patients were admitted here routinely for delivery and some other causes. The most frequent associated disorder other than diabetes during admission was hypertensive disorders of pregnancy (14.13%) followed by anaemia (6.04%) and the most common obstetric complication was premature rupture of membrane (6.87%). Hypertensive disorder was the main indication of referral in another study done by Shilpa and Anand.[6]

In the present study most of the patients (62.53%) underwent caesarean section. Sosbye et al.[7] found that referral status contributed substantially to the increased caesarean section rate. But in our hospital both booked and referral cases had maximum rate of caesarean section.

In this study, 19 patients needed ICU admission. Some of them were admitted for serious or critical condition on arrival. Few patients required surgical intervention so they received intensive care management. There was 1 mortality during the study period. Patient was 34 years para. She had antepartum massive haemorrhage and died on operation table. Borchert et al. and Dilpreet et al. found obstetric haemorrhage to be the leading cause of maternal death in a study.[8,9]

There were total 30 perinatal death during the study period among the 2084 deliveries which is 14.39 per 1000 birth. Most of the cases (76.66%) were due to intrauterine death. Similar findings were observed in a Nepalese study where the perinatal death rate was 11.42 but they had 50% still birth and 25% were intrauterine death.[10]

Conclusion

Wide spectrum of complicated obstetric cases were admitted to our tertiary care hospital. Hypertensive disorders (pre-eclampsia, eclampsia), anaemia and haemorrhage (ante partum or postpartum) have been the commonest cause of admission, which need to be given special attention. Many complicated patients were referred from different centers for special management. If they were referred in proper time, they can be well treated. But delayed referral sometimes could not help properly and also resulted in a high number of cesarean delivery. The health care workers at primary centers should be trained properly. Health education and awareness by mass media can improve the health and social status of women in our country.

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Conflicts of interest: Nothing to declare.

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