Original Article

Effects of Multiple Pregnancies on Mother and Foetus

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Abstract

Background: *The incidence of multiple pregnancies is on rising due to a variety of reasons like increased use of assisted reproductive techniques and an increasing number of women having a pregnancy at an advanced age. A mother with twin pregnancy needs to be taken under the special care category.* ***Objectives:*** *We are intended to observe the effects associated with twin or higher-order pregnancy.* ***Materials and Methods:*** *This is a descriptive type of cross-sectional observational study conducted in the Department of Gynae and Obstetrics, Bangabandhu Sheik Mujib Medical University and Dhaka medical college hospital over a period of six months from 1st July to 31st December 2014. Total fifty patients were included in the study. Inclusion criteria were pregnant women who would be admitted with multiple pregnancies in BSMMU & DMCH.* ***Results:*** *Average age of the responding patients was 24.54 years with standard deviation of ±3.93. Forty-two (84%) patients had ANC. Maximum (34%) patients had no complication, 8(16%) patients had GDM, 8(16%) patients had Preterm labor (PTL), 12 (24%) patients had Preeclampsia and only 5(10%) patients had PROM. Maximum (50%) babies had no significant fetal outcome, 30% babies had low birth weight, 16% babies were very low birth weight and 4(8%) patients had fetal demise.* ***Conclusion:*** *Now a days the incidence of multiple pregnancies is increasing due to ART. Multiple pregnancies are high-risk pregnancies with more complications in comparison to a single pregnancy. Our study reveals that nearly half of the cases had no maternal or fetal complication, Commonest maternal complications were preterm labor, Premature rupture of membranes (PROM), preeclampsia, and fetal outcomes were premature and low birthweight babies.*

Key words: *Multiple pregnancies, Maternal Outcome Fetal outcome.*

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Introduction

The incidence of twinning and higher-order multiples has increased dramatically over the last two decades. Twining is a multifactorial phenomenon principally attributable to genetic and environmental factors, such as advanced maternal age and increased parity.[1]Since the mid-1980s, there has been a phenomenal increase in the observed rates of multiple pregnancies. Globally, the highest burden of multiple births has been found in sub-Saharan Africa, with an average twinning rate of 20 per 1,000 deliveries compared to 10 per 1,000 deliveries in Europe or around 5-6 per 1,000 deliveries in Asia.[2] In the US alone, between 1981 and 1997 the rates of twin gestations increased by 45% and triplets increased by 35.8%.[3] There are corresponding increases observed in Europe also, rates in England and Wales increased by 41% for twins and 27.3% for triplets during a similar time period. France and Canada also reported notable increases in the rates of their multiple gestations.[5] In India, twinning occurs in approximately 1% of pregnancies and has been reported to be responsible for 10% of perinatal mortality.[6] In Bangladesh, multiple pregnancies have been observed in 1.4% of pregnancies.[4] Due to recent change in the Human Fertilization and Embryology Authority (HFEA) guidelines[5] which restrict the number of embryos to no more than two, there has been a reassuring stabilization in the rate of triplets.[6] The incidences of twins are on rising due to a variety of reasons like increased use of assisted reproductive techniques and increasing number of women having a pregnancy at advanced age.[7] Others that contribute to the development of multiple pregnancies are hereditary, race, and delayed childbearing infertility treatment with the use of ovulation-inducing drugs.[8] These astounding increases in multiple gestation rates can be explained by a social shift in women's attitudes to childbearing which has resulted in

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more and more women choosing to postpone childbearing in favor of work and career commitments This delayed childbearing has resulted in an increased maternal age at conception,[9] one of the predisposing factors for conceiving multiples and need to use infertility treatments such as ovulation induction, IVF and ICSI as fertility decreases with age. Multiple pregnancies are associated with a variety of maternal and fetal complications.[10] Common maternal complications reported in various studies are nutritional anaemia, pregnancy-induced hypertension, preterm labor, PROM and polyhydramnios, malpresentation. Twin suffers at higher risk of preterm labor, discordant fetal growth, abnormal vascular communications, fetal malformations, cord complications, and stillbirths. For the above reason, a woman with multiple pregnancies needs frequent intensive antenatal care. Long-term consequences of multiple pregnancies are costly both in terms of immediate postneonatal expenditures as well as lifetime survivorship costs.[11] A mother with multiple pregnancies needs to be taken under the special care category. We are intended to observe the effects associated with pregnant women twin or higher-order pregnancy.

Material and Methods

This is a descriptive type of cross-sectional observational study conducted in the Department of Obstetrics & Gynaecology, Faculty of Surgery, Bangabandhu sheikh Mujib Medical University (BSMMU) and Dhaka medical college hospital (DMCH) over a period of six months from 1st July to 31st December 2014. A total of fifty patients were included in this study. Inclusion criteria were pregnant women who were admitted with multiple pregnancies in BSMMU & DMCH. For mother Preecalmpsia, GDM, PROM, and Preterm labor were observed. For fetuses premature, low birth weight and fetal demise were observed. All mothers would be informed about the prospect and procedure of the study and informed written consent was taken from them. Data would be collected using a structured questionnaire from the patients admitted at BSMMU & DMCH.

Results

The age of the responding patients ranges from 19 to 33 years, the mean±SD of patients' age is 24.54±3.93, the median age of patients is 35 years and mode of age is 20 years.(Figure-l) Most (50%)of the responding patients are secondary level educated and only least (24%) are primary educated. Most (58%) of the responding patients are of the upper-middle class in socioeconomic condition and only 4 (8%) are of the upper class. Most (60%) of the responding patients are in average nutritional status and least are in good nutritional status. (Table-l) Most 30(60%) of the responding patients had no contributory history related to obstetrics,16(32%) had a history of abortion and only 4(8%) patients had a history of stillbirth. (Table-ll) Thirty-four (68%) patients had regular menstrual periods and the rest had irregular menstrual periods. (Table-lll) Forty-two (84%) patients had ANC and the remaining had no. (Table-lV)Maximum (34%) patients had no complications, 8(16%) patients had GDM, 8(16%) patients had Preterm labor (PTL), 12 (24%) patients had Preeclampsia and only 5(10%) patients had PROM. Maximum (92%) patients had no any significant fetal outcome and only 4(8%) patients had fetal demise.

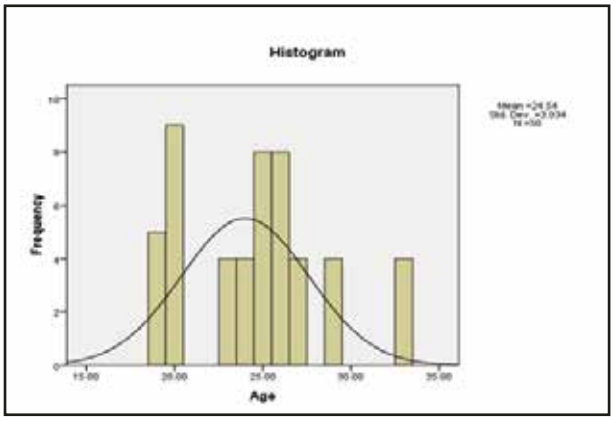

Fig. 1: Distribution of patients by age (n=50)

Table I: Distribution of respondents by demoghaphic crieteria (n=50)

Criterion	N	%
Education		
Primary	12	24.0
Secondary	25	50.0
Higher Secondary	13	26.0
Total	50	100.0
Socioeconomic Condition		
Middle	17	34.0
Upper Middle	29	58.0
Upper	4	8.0
Nutritional Status		
Average	30	60.0
Good	20	40.0
Total	50	100.0

Table II: Distribution of respondents by Obstetric History (n=50)

Obstetric History	N	%
Abortion	16	32 .0
Stillborn	4	8.0
No	30	60
Total	50	100.0

Table III: Distribution of respondents by Menstrual Period (n=50)

Menstrual Period	N	%
Regular	34	68.0
Irregular	16	32.0
Total	50	100.0

Table IV: Distribution of respondents by ANC (n=50)

ANC	N	%
Yes	42	84.0
No	8	16.0
Total	50	100.0

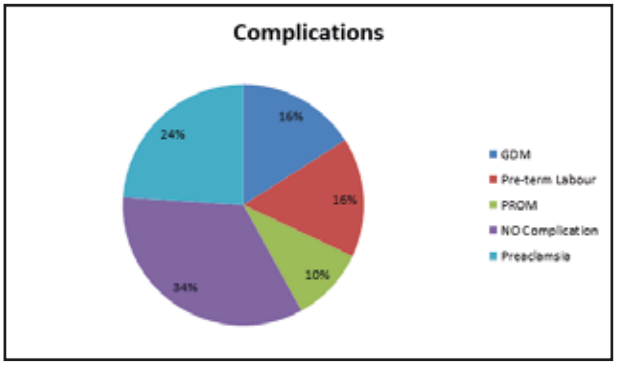

Fig. 2: Distribution of respondents by Complication (n=50)

Maximum (34%) patients had no any complications, 8(16%) patients had GDM, 8(16%) patients had Preterm labour(PTL), 12 (24%) patients had Preeclampsia and only 5(10%) patients had PROM (fig. 2).

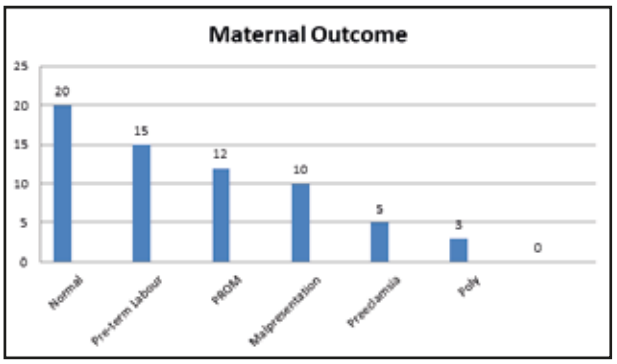

Fig. 3: Distribution of respondents by Maternal Outcome (n=50; some of the same patients have multiple entity)

Maximum (40%) patients had no significant maternal outcome, 15 (30%) patients had Pre-term labor, 12(24%) patients had PROM and 10(20%) had malpresentation only 10(20%) patients had malpresentation and 5(10%) had preeclampsia. (fig. 3). Some patients had multiple entity.

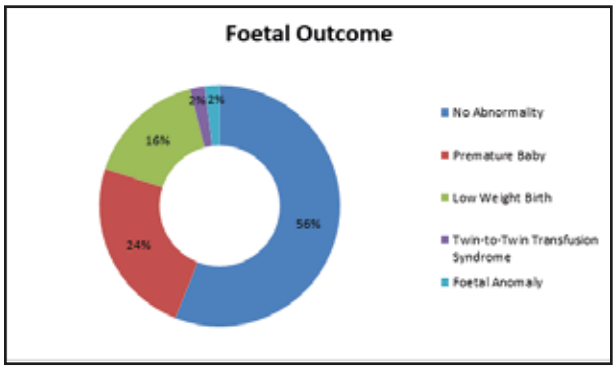

Fig. 4: Distribution of respondents by Foetal Outcome (n=50)

Maximum (56%) patients had no significant fetal outcome, 12(24%) had Premature baby, 8(16%) had low birth weight baby, 1(2%) had twin-to-twin transfusion syndrome,1(2%) had fetal anomaly.(fig. 4).

Discussion

The present study revealed that a maximum (40%) patients had no significant maternal outcome,15(30%) had preterm labor 12(24%) patients had PROM 10 (20%) patients had malpresentation, 5(10%) patients had preeclampsia, and only 3(6%) patients had polyhydramnios (fig 2 & fig. 3). This study revealed that 28(56%) of the baby had no abnormality.,12(24%) had premature babies,8(16%) had low birth weight baby, 1(2%) had twin-to-twin transfusion syndrome,1(2%) had a fetal anomaly. Some studies such as Fishman et al.[12] reported the high frequency (71%) of pregnancy termination because of maternal complications. However, Sebire et al.[13] reported that only 4% of pregnancies were termi¬nated due to maternal complications.

The incidence of multiple pregnancies was found as 1.44% in a study by Nawshaba et al[14] and 1.5% by the study of Vidyadhar et al.[15] A relatively high rate can be explained on the basis that Liaquat University Hospital is a referral center from rural Sindh. A similar high incidence of multiple pregnancies was found in the study done by SyedaBatool Mazhar in 2006 at MCH Centre Islamabad 67and by Shamsa Akhtar in 1996.[16]

The age of the responding patients ranges from 19 to 33 years, mean±SD of patients' age is 24.54±3.93. The highest incidence was found in women age group between 31–40 (54.1%), which reported that bearing children at older age results in multiple gestations.[17] The similar observation was found in the study conducted by Malik MS et al, in Lahore.[18] Most of the women presented with preterm labor at <36 weeks 15 (84%) and 6% were gestational age at >36 weeks.

During the antenatal period, anaemia, preterm labor, PIH, and Abruptio placentae were the major complicating factors,

preterm labor 84%, anaemia was found in 42 (65.6%) of women, PIH in31.2%, Abruptio placentae in 6.25% of cases.[19] However in a study done by Shahela Khatiq, anaemia was most common complication followed by preterm labor, PIH, and (Intrauterine growth restriction) and in twin pregnancy.[20]

Conclusion

Nowadays the incidence of multiple pregnancies is increasing due to ART. Multiple pregnancies is high-risk pregnancy with more complications in comparison to singleton pregnancy. Our study reveals that nearly half of the cases had no maternal or fetal complication, Commonest maternal complications were preterm labor, PROM, preeclampsia and fetal outcomes were premature and low birthweight babies.

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