Original Article

Maternal Outcome of Twin Pregnancy in a Tertiary Level Hospital

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Abstract

Context: The objective of this longitudinal study was to find out the maternal outcome of twin pregnancy. **Methods:** Patients with twin pregnancy admitted in the Obstetric ward of Rangpur Medical College Hospital during May 2017 to October 2017 were included in the study. In total of 60 respondents of different socioeconomic class were selected purposively and data were collected in a preformed questionnaire sheet. **Results:** Mothers were aged between 21-30 years. 51% ($p< 0.001$) mothers were devoid of risk factors, 82% ($p<0.001$) mothers had complications, among them PROM ($p< 0.05$) was highest and complications were higher in the mothers who didn't taken any type of antenatal care before appearing in the hospital ($p< 0.001$). The evaluation very clearly justified the need of antenatal care and check up to reduce the maternal complications.

Indexing words: Twin pregnancy, Maternal outcome, Antenatal care

Introduction:

Twin pregnancy has always been a subject of interest to Obstetricians and Pediatricians alike.[1] When more than one fetus simultaneously developed in the uterus is called multiple pregnancy. Simultaneous development of two fetuses (Twin) is the most common,[2] Twinning is a multi factorial phenomenon principally attributed to genetic and environmental factors, such as advanced maternal age and increased parity.[3-] Infertility treatment such as ovulation induction, in vitro fertilization, and intra cytoplasmic sperm injection as one of the predisposing factors of twin gestations , since fertility decreases with age.[4]

The frequency of twinning is highest among the black race such as Nigeria and consistently low among Orientals, Caucasian is in between the two extremes[5] In a study of India incidence of twin was 14 per 1000 deliveries.[6] In a study of Bangladesh incidence of twin pregnancy is 1.66%.[7]

Both maternal and perinatal mortality and morbidity is higher in multiple pregnancy then in singleton pregnancy.[8] Perinatal mortality (PNM) in twin is 4 times higher & in triplets 6 times higher than in singleton pregnancy.[9] When analyzed according to chorionicity, monochorionic pregnancies present a two to three times higher risk than dichorionic pregnancies.[10] In case twin pregnancies approximately one-third of these births are spontaneous, and 10% of the births occur after preterm prelabor rupture of membrane.[11]

The main cause of maternal mortality & morbidity in twin pregnancy are increased incidence of anemia, polyhydramios, pregnancy induced hypertension, gestational diabetes, ante partum hemorrhage, PROM, pre term labor, increased rate of operative interference, postpartum hemorrhage (PPH) and puerperial sepsis.[12]

The aim of this study was to determine the maternal outcome in twin pregnancy which is considered as a high risk pregnancy in a tertiary hospital.

Methods:

This longitudinal study was done to find out the maternal outcome of twin pregnancy in a tertiary level hospital. The study subjects were selected purposively those who were admitted with twin pregnancy of different socioeconomic group from May 2017 to October 2017. In total 60 respondents were selected and divided in to three groups, one group taken regular antenatal check up, one group taken irregular antenatal

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check up and another group taken no antenatal check up. Following informed consent each subject was interviewed through a questionnaire covering parameters age, socioeconomic status and level of education. The maternal outcome of each mother of different group was then observed very carefully. Data were processed using the computer soft ware SPSS and test of proportion was done for statistical analysis.

Results:

Table 1 shows sociodemographic findings of the patients. 85% patients were Muslim. 65% patients came from rural area. Here majority patients (30%) passed SSC and 26% patient had primary education. 55% patients came from lower socio economic society. 63% patients were multigravida. 63% patients had antenatal check up. Among them 33% had regular and 30 % had irregular ante natal checkup.

Table 1: Socio demographic profile of the study subjects (n = 60)

Variables	Frequency	Percentage (%)	p Value
Religion			
Islam	51	85%	<0.001
Hinduism	09	15%	
Residence			
Rural	39	65%	<0.001
Urban	21	35%	
Level of education			
Illiterate	06	10%	<0.01
Primary	16	26%	
SSC	18	30%	
HSC	13	22%	
Graduate	07	12%	
Socio economic status			
Lower	33	55%	<0.001
Middle	19	32%	
Higher	08	13%	
Parity			
Primi	22	37%	<0.001
Multi	38	63%	
Ante-natal checkup			
Regular	20	33%	<0.01
Irregular	18	30%	
None	22	37%	

Table 2 shows the risk factors for twin pregnancy. 51% conceived spontaneously, 20% patients had history of ovulation induction and 12 % had ART. History of twin pregnancy in the family was 17% of patients (p< 0.01).

Table 2: Risk factors (n=60)

Risk factors	Frequency	Percentage (%)	p Value
Family history	10	17%	
Twin pregnancy after ovulation induction	12	20%	<0.001
ART	07	12%	
None	31	51%	

Table 3 shows the frequency of maternal complications. In 18% patients, no maternal complication was found. Remaining 82% patients present with one or more complications (p< 0.001). 45% patients complain PROM. 35 % had preterm labor. 32% patients had gestational HTN, 13% suffering from GDM and polyhydramions and 23% patient suffering from anemia. 7% patients complain APH. PPH occurred in 12% patients. Eclampsia also occurred in 5% patients.

Table 3: Complications encountered by the mothers (n=60)

Complications	Frequency	Percentage (%)
Anemia	14	23%
Hyperemesis gravidarum	05	08%
Gestational HTN except eclampsia	19	32%
Eclampsia	03	5%
GDM	08	13%
Polyhydramions	08	13%
Pre term labor	21	35%
PROM	27	45%
APH	04	7%
PPH	07	12%
No Complications	11	18%

Table 4 shows the relation between antenatal check up and maternal complications. Maternal complications was present in 65% of mothers

who had taken regular antenatal check up, maternal complications was present in 78% of mothers who had taken irregular antenatal check up and maternal complications was present in 100% of mothers who didn't taken any type of antenatal check up (p< 0.001) .

Table 4: Relationship of ante natal check up with maternal and perinatal complication (n=60)

Antenatal Checkup (n= 60)	Regular (n=20)		Irregular (n=18)		None (n=22)		X2	*P value*
	No	%	No	%	No	%		
Yes	13	65%	14	78%	22	100%	36.13	<0.001
No	07	35%	4	22%	00	00%		

Regarding mode of delivery, Table 5 shows that commonest mode of delivery was cesarean section (60%) and vaginal delivery had occurred in 40% patient

Table 5: Mode of delivery (n=60)

Mode of delivery	Frequency	Percentage (%)
Vaginal	24	40%
a) Spontaneous	13	22%
b) Assisted breech delivery	11	18%
LUCS	36	60%
a) Emergency	22	37%
b) Elective	14	23%

Discussions:

Majority of the cases in this study were in between 21 and 30 years and this is probably due to early marriage. Most of the cases were from rural area (65%) and from low socioeconomic group (55%) and middle class (32%) probably due to low cost of treatment in government hospital.

Regarding maternal complication, in this study, 18% patients had no maternal complication. Remaining 82% patients present with one or more complications. 45% patients complain PROM. 35% had preterm labor. 32% patients had gestational HTN, 13% suffering from GDM and polyhydramions and 23% patient suffering anemia. 7% patients complain APH. PPH occurred in 12% patients. Eclampsia also occurred in 5% patients. In the study of Chowdhury and Hossain[13], Bangal et al[3] and Sultana et al[10] anemia present in 35.8%, 66% and 26% cases respectively. This was higher in respect of this study, difference of anemia cases between the present study and the previous study was probably due to improvement in ante natal care in our country. In the present study PROM and preterm labor had highest percentage which was similar with the study of Chiittacharoen et al[14] where pre term labor occurred in 40.2% and 48% cases. Consistent with the findings of the study of Chowdhury and Hossain[13], Bangal et al[3] and Sultana et al[10] percentage of gestational HTN also high in this study. The mode of delivery of the study subjects in this study was by LUCS (60%) and 40% patients vaginally. This study was almost similar with the study Chittachareon et al[14] in India where commonest route of delivery was LUCS (58.3%) but not consistent with the study of Gajera et al[4] where commonest route of delivery was vaginal delivery. In this study shows malpresentation is the commonest (36%) indication for caesarean section. Maximum patient has more than one indication for cesarean section. 31% patient had eclampsia and severe pre eclampsia.17% patient had history of previous caesarean section. 13% LUCS was done due to fetal distress and 3% due to placenta previa. This study is almost similar with the study of Dera et al[15] where malpresentation was the commonest indication (40%) for LUCS. In the present study 67% patients took ante natal checkup and 33 % patient had no antenatal check up. The findings of the study Nimbalkar et al[9] 59% were took antenatal care and 41% had no ante natal care. Study by Gajera et al[4] in India also showed that majority of the patient took antenatal check up. Ante natal checkup is very essential when a woman become pregnant. Various studies suggested that it is closely related to maternal and perinatal outcome and has strong influence on mode of delivery. This was also evident in this study. The study conducted by Blondel et al[16] in United kingdom named "Poor antenatal care and pregnancy outcome" found that women with poor antenatal care have a greater risk for adverse pregnancy outcome like higher rates of perinatal mortality, preterm delivery and low birth weight babies that is also evident in this study. The variation in percentage of antenatal checkup could possibly be due to educational background and social awareness among general people about maternal care. Moreover, the increased amount of antenatal care in Bangladesh probably could be the combined effect of

Government and NGO services to increase awareness regarding these issues.

Conclusion:

This study shows twin pregnancy has high maternal and neonatal complications. This complications associated with twin pregnancies cannot be prevented but by proper and regular antenatal care this can be detected early and controlled by proper and prompt management. Timely diagnosis and treatment of deficiency anaemia and pre eclampsia helps in preventing additional complications.

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