International Journal of Medical Research Professionals
P-ISSN: 2454-6356; E-ISSN: 2454-6364
DOI: 10.21276/ijmrp

Original Research Article.

The Prevalence of Congenital Anomaly in Feto-Maternal Medicine Department of BSMMU

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ABSTRACT

Objective: In this study our main goal is to evaluate the prevalence of congenital anomaly in feto-maternal medicine dept of BSMMU.

Method: This cross-sectional study was carried out at fetomaternal medicine dept of BSMMU from January to December 2019. Where 100 pregnant women who fulfilled the inclusion criteria were included. During the study all the congenital anomalous neonates, born in the department of feto-maternal medicine during the study period either detected before birth by ultrasonogram of mother and fetal echocardiography or detected at birth by the pediatrician and other appropriate investigations such as ultrasonography, radiography and echocardiography.

Results: During the study majority were belong to 25-30 years age group, 55%. And most cases were multiparity group, 55%. 60% were housewife, and 55% belong to middle economic status. Most of the cases pregnancy had irregular ANC visits, 60% followed GDM cases were 10%, 25% pregnant women took folic acid during pregnancy. 80% delivery took place vaginal followed by 55% neonates admitted in NICU, 60% neonates were male, 39% neonates had lower birth weight, 10% neonates were dead after delivery. 35% had Hydrocephalous cases, followed by 20% cases were bilateral hydronephrosis, 13% cases were bilateral pelvicalyceal dilatation, 10% cases were congenital heart diseases, 7% cases were kidney diseases, ASD with VSD cases were in 5% cases, 3% cases were clubfoot, and rare cases like multiple abnormality (Hydrocephalus, cystic hygroma, deformity of the fetal spine) seen in 1% cases.

Conclusion: In this study Hydrocephalous found the commonest congenital anomaly. Among them unplanned pregnancy and irregular visits are act as a possible risk factor for congenital anomalies seen in our locality. Regular antenatal visits and prenatal diagnosis are recommended for prevention, early intervention and even planned termination, when needed.

Keywords: Congenital Anomaly, ANC Visits, Hydrocephalous, Fetal Echocardiography.

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Article History:

Received: 02-02-2022, **Revised:** 24-02-2022, **Accepted:** 19-03-2022

Access this article online	
Website: www.ijmrp.com	Quick Response code
DOI: 10.21276/ijmrp.2022.8.2.001	

INTRODUCTION

Congenital anomaly (CA) is described as any aberration evident at birth, particularly one that is structural in nature and can be inherited genetically, acquired during the gestation period, or inflicted during parturition.[1,2]

It encompasses a wide range of structural dysmorphisms, from relatively minor issues with no serious medical or cosmetic consequences to major anomalies with exceptionally poor prognostic outcomes, long-term disability, and significant impacts on individuals, families, health care systems, and societies.

According to a World Health Organization (WHO) research, CA affects 1 in every 33 children, resulting in roughly 3.2 million birth defect- related disorders, and it is predicted that 2,70,000 newborns die during the first 28 days of life every year.[3]

It is not only a main cause of fetal death, but it also contributes to premature delivery, childhood and adult morbidity, as well as significant consequences for women and their families.

Countries who implemented prenatal diagnostic tools and provided access to abortion due to congenital abnormalities decreased newborn mortality.[4-6]

In this study our main goal is to evaluate the prevalence of congenital anomaly in fetomaternal medicine dept of BSMMU.

OBJECTIVE

To assess the prevalence of congenital anomaly in Bangladesh.

METHODOLOGY

This cross-sectional study was carried out at fetomaternal medicine dept of BSMMU from January to December 2019. Where 100 pregnant women who fulfilled the inclusion criteria were included. During the study all the congenital anomalous neonates, born in the department of feto-maternal medicine during the study period either detected before birth by ultrasonogram of mother or detected at birth by the pediatrician and other appropriate investigations such as ultrasonography, radiography and echocardiography. Clinical examination and laboratory investigations were carried out. Statistical analysis was performed using the Statistical package for social science SPSS version 23.0. A descriptive analysis was performed for clinical features and results were presented as mean ± SD for quantitative variables and numbers (percentages) for qualitative variables.

RESULTS

In table-1 shows age distribution of the study group where majority were belong to 25-30 years age group, 55%. In figure-1 shows parity distribution of the study where 59% cases were multiparity. Table-2 shows demographic status of the study group where majority were housewife, 60% and 55% belong to middle economic status. In table-3 shows clinical characteristics of the study group where majority of the cases pregnancy had irregular ANC visits, 60% followed GDM cases were 10%, 25% pregnant women took folic acid during pregnancy. In table-4 shows laboratory profile of the study group where in 45% cases had <2.5ng/dl S. folate followed by 55% had >11g/dL HB level, 80% had <15µg/L S. Ferritin and 10% had Rubella IgG +ve cases. In table-5 shows mode of delivery neonates status where 80% delivery took place vaginal followed by 55% neonates admitted in NICU, 60% neonates were male, 39% neonates had lower birth weight, 10% neonates were dead after delivery. In table-6 shows congenital abnormality in neonates where majority had Hydrocephalous cases, 35% followed by 20% cases were bilateral hydronephrosis, 13% cases were bilateral pelvicalyceal dilatation, 10% cases were in heart diseases, 7% cases were kidney diseases, ASD with VSD cases were in 5% cases, 3% cases were clubfoot, and rare cases like multiple abnormality (Hydrocephalus, cystic hygroma, deformity of the fetal spine) seen in 1% cases.

Table 1: Age distribution of the study group

Age group	Percentage (%)
19-24 years	20%
25-30 years	55%
31-36 years	25%

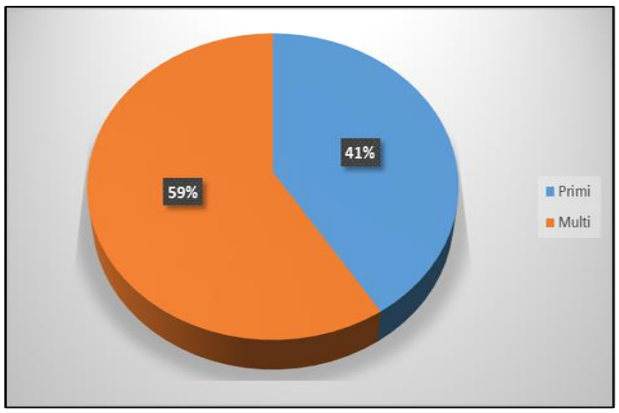

Figure 1: Parity distribution of the study

Fig 2: Bilateral gross fetal hydronephrosis of newborn baby

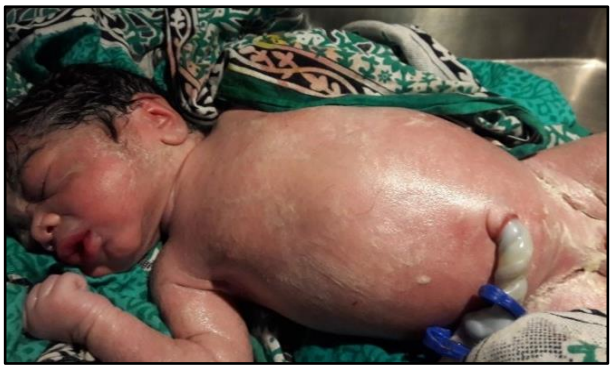

Fig 3: Hydrocephalus of the newborn baby

Fig 4: Non immune hydropfetal's of the newborn baby

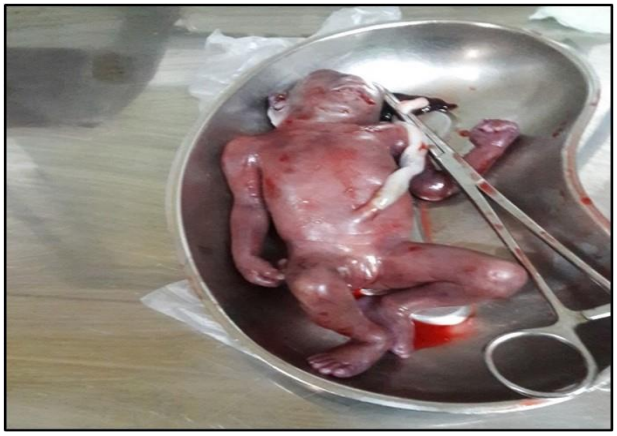

Fig 5: Anencephaly of the new born baby

Table 2: Demographic status of the study group

Demographic status	Percentage (%)
Economic status:	
Lower	45%
Middle	5%
Study patients working status:	
Housewife	60%
Middle Brac worker	10%
Garments worker	25%
Ngo worker	5%
Husband occupation	
Service holder	35%
Garments worker	29%
Businessmen	32%
Others	4%

Table-3: Clinical characteristics of the study group

Consanguinity No:	100%
Number of ANC visits:	
Irregular:	60%
<2 times:	10%
>2 times:	30%
GDM:	10%
Cold and fever:	9%
History of abortion	5%
Intake of folic acid:	25%

Table-4: Laboratory profile of the study group

Laboratory profile	Percentage (%)
S. Folate:	
2.5-20ng/ml	55%
<2.5ng/dl	45%
S. Ferritin:	
<15µg/L	80%
>15µg/L	20%
TSH:	
0.2-<2.5 mU/L	90%
FT4:	
0.7–1.20 ng/dl	91%
HB:	
<11 g/dL	45%
>11g/dL	55%
Rubella IgG +ve	10%

Table-5: Mode of delivery and neonates status

Mode of delivery	
Vaginal delivery:	80%
Cesarean section:	20%
Neonates status:	**Percentage (%)**
NICU admission of neonates	55%
Birth weight:	
VLBW	4%
LBW	39%
Normal weight	57%
Neonates gender:	
Male	60%
Female	40%
Death case of neonates	10%

Table 6: Congenital abnormality in neonates

Congenital abnormality in neonates	Percentage (%)
Hydrocephalous	35%
Bilateral hydronephrosis	20%
Bilateral pelvicalyceal dilatation	13%
Heart diseases	10%
Kidney diseases	7%
Omphalocele with ASD with VSD	5%
Omphalocele	4%
Clubfoot	3%
Ventriculomegaly	2%
Multiple abnormality (Hydrocephalus, cystic hygroma, deformity of the fetal spine)	1%

DISCUSSION

With regard to pattern of congenital anomalies in the study, majority had Hydrocephalous cases, 35% followed by 20% cases were bilateral hydronephrosis, 13% cases were bilateral pelvicalyceal dilatation, 10% cases were in heart diseases, 7% cases were kidney diseases, ASD with VSD cases were in 5% cases, 3% cases were clubfoot, and rare cases like multiple abnormality (Hydrocephalus, cystic hygroma, deformity of the fetal spine) seen in 1% cases. Which similar to one study.[6]

Whereas other study found the commonest congenital abnormality seen in musculoskeletal system (33.2%), followed by gastro-intestinal tract (15%), CNS (11.2%), genitourinary (10.5%), cardiovascular system (9.1%), skin (8.7%) etc.[7]

Some studies recorded higher incidence of CNS malformations followed by GIT and musculoskeletal system whereas reported GI malformations as the most common one.[3, 4]

These dissimilarities with our group may be due to genetic or environmental factors. It is reported that a higher incidence of malformation in the babies born to mothers aged over 35 years. [2-3] These were dissimilar with our research work where majority of malformed mother's age between 25-30 years.

But the similar results of us were observed by other researchers.[7,8] Previous studies have reported significantly higher incidence of malformations among the multipara and most of the pregnancy before 37 weeks of gestation.[9]

This was consistent with present work which indicates a positive correlation between the birth order and the incidence of congenital anomalies. It was also noted that preterm babies were more prone to develop anomalies than full term.[10] The previous study evaluated the factors that significantly increased the risk of congenital malformations were irregular ANC visits hydramnios, maternal febrile illness in the first trimester, past history of abortions, diabetic mother, eclampsia, history of congenital heart disease in previous child or malformed babies etc.[11] Which was supported by our study where majority of the cases pregnancy had irregular ANC visits, 60% followed GDM cases were 10%, and 5% cases were found who had previous abortion history.

In this study it was observed that 80% patients delivered normally and 20% underwent caesarean section. In Turkey, a five-year retrospective regional study found 56% vaginal delivery and 44% caesarean section which was dissimilar with the current study.[11]

This might be due to we diagnose antenatally by USG and planned to deliver vaginally.

More male babies were born with congenital malformations than females which is consistent with other studies.[11-13]

It may be because of the fact that the females were afflicted with more lethal congenital malformations and could not survive to be born signs of life. Besides that, association of LBW with increased risk of congenital malformations is very well documented.[14]

CONCLUSION

In conclusion we can say that majority had Hydrocephalous cases congenital anomalies cases were observed where unconsciousness about pregnant women and irregular ANC visits are act as a possible risk factor for congenital anomalies seen in our locality. Regular antenatal visits and prenatal diagnosis are recommended for prevention, early intervention and even planned termination, when needed.

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Source of Support: Nil.

Conflict of Interest: None Declared.

Cite this article as: Umme Kulsum, Nahreen Ahkter, Tabassum Parveen, Fatima Wahid, Nilufar Islam, Sharmin Ferdous. The Prevalence of Congenital Anomaly in Feto-Maternal Medicine Department of BSMMU. Int J Med Res Prof. 2022 Mar; 8(2):001-04. DOI:10.21276/ijmrp.2022.8.2.001