

A cross-sectional study on bad obstetric history cases attending a tertiary care centre of West Bengal, India

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Running Title: Study on bad obstetric history cases

Abstract

Introduction : Bad obstetric history (BOH) implies previous unfavourable fetal outcome in terms of two or more consecutive spontaneous abortions, early neonatal deaths, stillbirths, intrauterine fetal deaths, intrauterine growth retardations and congenital anomalies. Maternal infections transmissible in utero at various stages of gestation lead to recurrent pregnancy wastage. **Aims:** The present study was undertaken to assess the obstetric and medical risk factors in patients with bad obstetric history (BOH) and outcome of pregnancy in case of BOH. **Methods:** This hospital based prospective cross-sectional study was conducted in study was conducted in the Department of Gynae and Obstetrics, Burdwan Medical College, Burdwan, West Bengal, India. Total 75 pregnant women who were fulfilling inclusion criteria of BOH

were included in the study after taking proper consent of the mothers. The duration of the study was 6 months (July 2022 to December 2022). The data was tabulated in Microsoft Excel software and analysed with SPSS V.20 software. **Results:** Maximum mothers belonged to age group 26-30 years i.e. 33 (44%), mean age of the mothers were 27.08 years. Maximum women were over weight i.e. 24 (32%), 21 (28%) belong to normal weight. Only 3 (4%) women were having preconception knowledge about folic acid. Spontaneous conception was 57 (76%), consanguinity conception was 12 (16%) and osteogenesis imperfect was 6 (8%). Recurrent pregnancy loss in primary was maximum two pregnancy losses in 30 (40%), in secondary maximum one pregnancy losses 1 i.e. 21 (28%). Complications due to bad obstetric history were hypothyroidism, cervical incompetence and adenomyosis were 18 (24%) each. **Conclusions:** Present study, supporting the change in definition of recurrent pregnancy loss. So early evaluation and with appropriate interventions in most of couples outcomes were fruitful.

Keywords : Bad obstetric history, recurrent pregnancy loss, stillbirth

Introduction

Pregnancy is very precious and very unique experience to women. It is a known fact that at least 12-15% of all recognized conceptions end in miscarriage and pre-clinical pregnancy loss rate is still higher i.e. 30%.¹ Most common cause of 1st trimester miscarriages are identified as foetal chromosomal abnormalities. Recurrent pregnancy loss is devastating and frustrating to couple as well as to clinician. Traditionally, recurrent miscarriage is defined as three or more clinically recognized pregnancy losses before 20 weeks from the last menstrual period.² Using the definition recurrent pregnancy loss occurs in approximately 1 in 300 pregnancies. Recurrent pregnancy loss needs proper & timed evaluation & intervention.

When evaluation of women for recurrent pregnancy loss is done, an underlying contributing factors can be identified in 40-50% in couple where no underlying problem is found the chances for a successful pregnancy can typically be in 50-70% range.³ If a contributing factor is found & treated the prognosis for live foetus is calculated as 80%. If couple had a normal pregnancy & delivery previously prognosis tends to be better.³

The evaluation to analyse causes for miscarriage will typically involve inspection of the macro and the micro environment within the uterus. If a pregnancy does occur, the endometrium must develop optimally to provide ongoing attachment and nourishment for the developing

pregnancy. Any process, which interferes with normal embryo-endometrium interaction can lead to pregnancy failure.³ Acquired problems could include polyps, fibroids and adhesions, which even if small, could interfere with an otherwise normal pregnancy. Congenital uterine problems include the septate uterus, bicornuate uterus or a T- shaped uterus related to in-utero diethylstilbesterol (DES) exposure).³

A significant immunologically mediated contributor to pregnancy loss is the anti-phospholipid antibody (APLA) syndrome. An otherwise normal pregnancy can miscarry at any stage of pregnancy. Women with APLA are at higher risk in later pregnancy of pre-eclampsia, foetal growth retardation and foetal demise.³ Gestational diabetes mellitus (GDM) is defined as abnormal glucose tolerance during pregnancy. GDM can be associated with significant morbidity and mortality in the foetus and new-born.

Recurrent miscarriage (RM 3 consecutive early pregnancy losses) affects around 1% of pregnancies. Parental chromosomal anomalies, maternal thrombophilia disorders and structural uterine anomalies have been directly associated with recurrent miscarriage. However, in the vast majority of cases the pathophysiology remains unknown.³ History taking is very crucial and important to manage BOH (bad obstetrics history) cases as parous women bears in her history more information than clinical examination is likely to provide.

Thus, present study was undertaken to find risk factors & medical conditions associated with bad obstetric history and also to identify other correctable social, ethical and environmental causes etc. for further improvement in outcome.

Materials and Methods

This hospital based prospective cross-sectional study was conducted in study was conducted in the Department of Gynae and Obstetrics, Burdwan Medical College, Burdwan, West Bengal, India. The duration of the study was 6 months (July 2022 to December 2022).

Inclusion criteria : Women aged 18 to 44 years with history of at least two or more miscarriage of less than 20weeks gestation, still births, IUFD and neonatal deaths were evaluated.

Exclusion criteria : Women with induced miscarriages, who does not given consent were excluded.

Parameters Studied : A detailed history of pregnant women like maternal age, parity prior obstetric history co-existing medical, surgical conditions, family history of BOH, current obstetric history were noted through a pre-structured and pretested proforma and thorough clinical examination was performed. Relevant Investigations were done.

Obstetric medical complications like hypothyroidism, tuberculosis, preeclampsia, premature rupture of membranes (PROM), antiphospholipid Abs (APLA) syndrome, antepartum haemorrhage (APH), malpresentations, multifetal pregnancy, severe oligohydramnios, IUGR (intra uterine growth retardation), preterm delivery, miscarriage, were noted.

Neonatal outcome like preterm Delivery, term Delivery, Neonatal Demise and Intrauterine foetal Death (IUFD) were also noted.

Sample size: Total 75 pregnant women who were fulfilling inclusion criteria of BOH were included in the study after taking proper consent of the mothers.

Data Analysis plan- The data was tabulated in Microsoft Excel software and analysed with SPSS V.20 software. The values of the collected data were described as mean and proportion. Descriptive statistics was done using standard statistical software. Subgroup analysis will be carried out chi square test, student t test. P value <0.05 will be considered as significant.

Ethical considerations- Study was initiated after obtaining the informed consents from the participants and ethical clearance from the institutional ethical committee.

Results

The present study was hospital based single prospective cross-sectional study, it was carried out from July 2022 to December 2022 at the department of Obstetrics and Gynaecology, Burdwan Medical College, Burdwan, West Bengal, India. Total 75 pregnant women who were fulfilling inclusion criteria of BOH were included in the study after taking proper consent of the mothers. A detailed history of pregnant women like maternal age, parity prior obstetric history co-existing medical, surgical conditions, family history of BOH, current obstetric history were noted through a pre-structured and pretested proforma and thorough clinical examination was performed. Relevant Investigations were done. Results thus obtained were analysed and expressed in tables and graphs.

Table 1 : Distribution of motehrs according to age group (n=75)

Age group	Frequency (n)	Percentage (%)
23-25	30	40.0
26-30	33	44.0

> 30	12	16.0
Total	75	100.0

Maximum mothers belonged to age group 26-30 years i.e. 33 (44%), followed by 23-25 years' age group, 30 (40%) and >30 years' age group 12 (16%). Mean age of the mothers were 27.08 years. (Table 1)

Table 2 : Distribution of mothers according to their BMI classification (n=75)

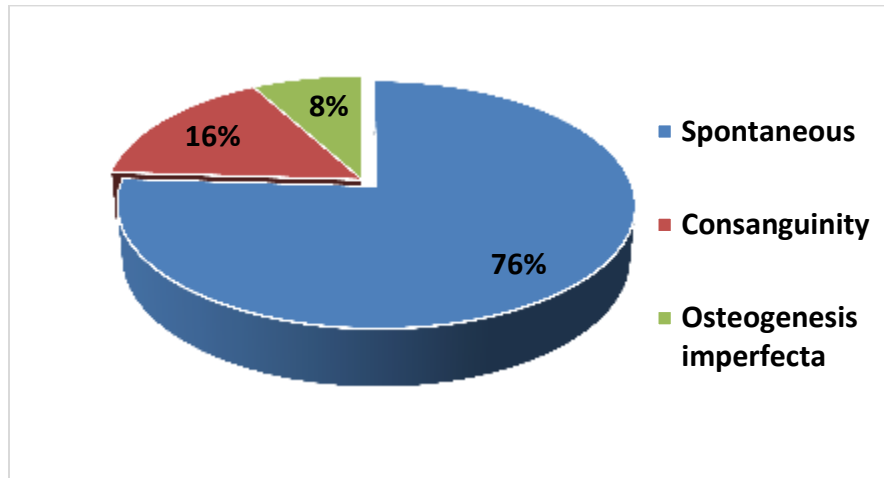
BMI Classification	Frequency (n)	Percentage (%)
Underweight	18	24.0
Normal weight	21	28.0
Overweight	24	32.0
Obesity class I	12	16.0
Total	75	100.0

Maximum women were over weight i.e. 24 (32%), 21 (28%) belong to normal weight, 18 (24%) were underweight and 12 (16%) women belong to obesity class I group. (Table 2)

Table 3 : Distribution of mothers according to their preconception of Folic Acid (n=75)

Preconception of Folic Acid	Frequency (n)	Percentage (%)
No	72	96.0
Yes	3	4.0
Total	75	100.0

Only 3 (4%) women were having preconception knowledge about folic acid. (Table 3)

Figure 1 : Distribution of mothers according to conception (n=75)

In the present study spontaneous conception was 57 (76%), Consanguinity conception was 12 (16%) and Osteogenesis imperfect was 6 (8%). (Figure 1)

Table 4 : Distribution of mothers according to gravida (n=75)

Gravida	Frequency (n)	Percentage (%)
2	21	28.0
3	24	32.0
4	21	28.0
5	9	12.0
Total	75	100.0

In the present study gravida 2 was 21 (28%), gravida 3 was 24 (32%), gravida 4 was 21 (28%) and gravida 5 was 9 (12%). (Table 4)

Table 5 : Distribution of mothers according to recurrent pregnancy loss (n=75)

Recurrent pregnancy loss	Frequency (n)	Percentage (%)
Primary		
0	18	24.0
1	24	32.0
2	30	40.0
3	3	4.0
Secondary		
0	51	68.0
1	21	28.0
2	3	4.0

In the present study recurrent pregnancy loss in primary was maximum two pregnancy losses in 30 (40%), in secondary maximum one pregnancy loss in 1 i.e. 21 (28%). (Table 5)

Table 6 : Distribution of mothers according to miscarriages in bad obstetric history (n=75)

Number of miscarriages	Term		Preterm		IUFD		Still birth		Miscarriage	
	No.	%	No.	%	No.	%	No.	%	No.	%
Zero	15	20	0	0	0	0	0	0	0	0
One	6	8	3	4	3	4	0	0	0	0
Two	6	8	18	24	0	0	0	0	9	12
Three	0	0	9	12	0	0	0	0	3	4

P = 0.794 (not significant)

Table 6 shows, there was no statistical significance in foetal outcome based on previous number of abortions. (Table 6)

Table 7 : Distribution of mothers according to complications due to bad obstetric history (n=75)

Complications	Frequency (n)	Percentage (%)
Anemia	15	20
Hypothyroidism	18	24
Grave's Disease	0	0
APLA	6	8
PIH	15	20
PROM	12	16
APH	3	4
Rh-ve	6	8
Tuberculosis	3	4
Polyhydramnios	6	8
Oligohydramnios	15	20
Twin	3	4
Breech	6	8
Preterm delivery	15	20
Post Dated	3	4
Cervical incompetence	18	24
Uterine anomaly	9	12
Adenomyosis	18	24
Prior LSCS	9	12
Congenital anomaly of baby	9	12

Miscarriage	15	20
IUFD	6	8
Alive	45	60
Neonatal Death	3	4
Stillbirth	6	8

Table 7 shows among various complications due to bad obstetric history, hypothyroidism, cervical incompetence and adenomyosis were 18 (24%) each, followed by anemia, PIH, oligohydramnios, preterm delivery, miscarriage were 15 (20%) each. The findings were not statistically significant.

Discussion :

In present study maximum mothers belonged to age group 26-30 years i.e. 33 (44%), followed by 23-25 years' age group, 30 (40%) and >30 years' age group 12 (16%). Mean age of the mothers were 27.08 years. Maximum women were overweight i.e. 24 (32%), 21 (28%) belong to normal weight, 18 (24%) were underweight and 12 (16%) women belong to obesity class I group.

Age, obesity and high parity have been shown to be independent risk factors for RPL and stillbirth. An increasing risk of fetal loss with increasing maternal age has been documented in women aged more than 30 years. At increase age more than half of all pregnancies resulted in asponaneous abortion, ectopic pregnancy or stillbirth.⁴ Obesity is known to be associated with increased rates

of complications in late pregnancy such as preterm deliveries, neonatal deaths, stillbirth, caesarean delivery and GDM.⁵ Studies have shown that mothers with BOH were four times likely to deliver a low birth weight (LBW) baby.⁶ Perhaps genetic factors and socioeconomic factors were the reasons for this phenomenon leading to repeat adverse obstetric outcome.⁶

In our study only 3 (4%) women were having preconception knowledge about folic acid. spontaneous conception was 57 (76%), Consanguinity conception was 12 (16%) and Osteogenesis imperfect was 6 (8%). Gravida 2 was 21 (28%), gravida 3 was 24 (32%), gravida 4 was 21 (28%) and gravida 5 was 9 (12%). This indicates that periconceptional folic acid prophylaxis had a significant role in prevention of foetal wastage due to neural tube defects.

In the present study recurrent pregnancy loss in primary was maximum two pregnancy losses in 30 (40%), in secondary maximum one pregnancy losses 1 i.e. 21 (28%). There was no statistical significance in foetal outcome based on previous number of abortions. The incidence of

spontaneous abortion varies according to a woman's parity and number of spontaneous abortions in the preceding ten years. After three or more spontaneous abortions, the proportion of pregnancies ending in spontaneous abortion increased to 44.6% in nulliparous women and 35.4% in parous women.⁴

In our study among various complications due to bad obstetric history, Hypothyroidism, Cervical incompetence and Adenomyosis were 18 (24%) each, followed by Anemia, PIH, Oligohydramnios, Preterm delivery, Miscarriage were 15 (20%) each. The findings were not statistically significant as seen in other studies.^{7,8} Hypertension with proteinuria leads to reduced plasma volume and reduced supply of nutrients to the growing fetus resulting in higher still births and preterm labors leading to prematurity and neonatal deaths.

Conclusion :

The present study was carried out in 75 mothers with bad obstetric history. The main objectives of this study were to assess the obstetric and medical risk factors in patients with bad obstetric history (BOH) and outcome of pregnancy in case of BOH to avoid the risk of future pregnancies. Early detection, evaluation and with appropriate interventions, in most of couples outcomes were fruitful.

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Conflict of interest: None declared

Ethical approval: The study was approved by the institutional ethics committee

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