

## Causes of Stillbirth and its Frequency in Tertiary Care Hospital

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### ABSTRACT

**Aim:** To evaluate the causes of still birth and its frequency in tertiary care hospital.

**Study design:** Descriptive study.

**Place and duration of study:** Department of Obstetrics & Gynaecology, Services Institute of Medical Sciences, Lahore from 1<sup>st</sup> January 2020 to 30<sup>th</sup> September 2022.

**Methodology:** Seven thousand women were enrolled from which 100 were identified to have stillbirth and followed up till their outcome of delivery. Those women who had still birth were further followed for the causes related with still birth through their and the fetal clinical available data. All major causes were addressed related with still birth and noted in the proforma. The frequency of the cases was identified through the measurement of incidence rate. Neonates born were clinically evaluated in terms of their birth weight as well as term analysis.

**Results:** Majority of the pregnant women were within the age group of 36-45 years. There were 54% of the women who were obese. On analysis of the associated reasons with still birth, it was observed that 27% of the pregnant women undergoing still birth were not known of the cause, while 24% and 20% had placental complication and infection respectively.

**Conclusion:** Maternal age, infection, placental abruption and obesity are the main causes of still birth. The frequency of still birth is 1.42% in this region.

**Keywords:** Cause, Stillbirth, Frequency

### INTRODUCTION

Neonatal death has been reported as 4 million globally with some nominal improvement within the last two decades<sup>1</sup>. World health organization has reported till birth to be the 5<sup>th</sup> leading reason of neonatal mortality. It is preventable pregnancy outcomes however various factors augment this unfortunate event.<sup>2</sup> In the developing world, majority of the cases are related with antepartum mortality, as well as other reasons as ante placental abruption and infections<sup>3-5</sup>.

Obesity and smoking are considered as two major factors which enhance the risk of still birth in pregnant women<sup>5-7</sup>. Age has also been related with augmenting the risk of the still birth specifically in develops countries where women conceive more in late thirties<sup>8,9</sup>. The prevalence and frequency of stillbirth varies from region to region depending upon different socioeconomic conditions.

Within the developed countries the incidence of the still birth is 5 in 1000 cases. Unfortunately, in the developing countries the rate of still birth is much higher and ranges around 20 to 40 cases in 1000 cases<sup>6-8</sup>. Globally 2.7 million cases of still birth are observed whereas only in South Asia and Africa 55% of these events are occurring. In Pakistan 36 to 98/1000 birth are observed to be still birth<sup>10,11</sup>. In the present study the main causes of still birth are highlighted. The results of this study will assist in analyzing the factors provoking its occurrence and help in the management and prevention of still birth in this region of the world.

The objective of the study was to evaluate the causes of still birth and its frequency in tertiary care hospital.

### MATERIALS AND METHODS

This descriptive study was enrolled pregnant women who were followed-up till their outcome of delivery. Those women who had still birth were further followed for the causes related with still birth through their and the fetal clinical available data. All pregnant women having normal delivery, multiple abortion history was excluded from the study. After permission from Institutional Ethical Review Board a written informed consent was taken from each included study participant. Within the period of 3 years the total

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number of pregnant women visiting the gynecology ward was assessed and 100 were identified of still birth. Still birth was defined in terms of macerated (skin discoloration, overriding sutures or sloughing skin) and non-macerated (intrapartum). The sample size was generated after considering the prevalence of still birth in Pakistan ranging between 36-98 per 1000 deliveries. A well-structured proforma was designed for documenting the clinical information as well as causes of still birth. All major causes were addressed related with still birth and noted in the proforma. The frequency of the cases was identified through the measurement of incidence rate. Neonates born were clinically evaluated in terms of their birth weight as well as term analysis. Data was statistically determined through SPSS version 26.0 by frequency and percentage measurements. Mean and standard deviations were also used for analysis.

### RESULTS

In the present study the age of the patients was between 18-45 years with a mean age of 36.1±3.5 years. Majority of the pregnant women were within the age group of 36-45 years. There were 54% of the women who were obese. Parental education presented data where paternal education was higher than maternal education (Table 1). The maternal gravida characteristics related with still birth have showed 23% cases to have multiparity while 16% were biparous. There were 61% cases that were primiparous (Fig. 1). On analysis of the associated reasons with still birth, it was observed that 27% of the pregnant women undergoing still birth were not known of the cause, while 24% and 20% had placental complication and infection respectively. Umbilical cord complications were seen in 8% of the cases while malformation was obvious in 12% pregnant women (Fig. 2).

The fetal characteristics presented 52 to be males while 48 as girls. Early preterm was observed in 34% cases while only 10% had it on term (Table 2). The two types of still birth observed were macerated and non-macerated. The frequency of macerated still birth was higher in cases than non-macerated cases (Fig. 3). The birth weight of the new born showed that 36 cases had a very low birth weight with a mean of 0.53+ 0.30 kg whereas 44 neonates has a birth weight between 1.5-2.5kg having a mean value as 1.17+0.15kg (Table 3).

Table 1: Sociodemographic features of enrolled patients

Characteristics	Maternal	Paternal
<b>Age in years</b>		
18-25	16 (16%)	-
26-35	35 (35%)	-
36-45	49 (49%)	-
<b>BMI</b>		
18-24.9	21 (21%)	-
25-29.9	25 (25%)	-
≥30	54 (54%)	-
<b>Parental Education</b>		
No formal education	23 (23%)	16 (16%)
Primary	35 (35%)	22 (22%)
Secondary	24 (24%)	29 (29%)
College	18 (18%)	33 (33%)

Table 2: Fetal characteristics linked with stillbirths

Characteristics	No.	%
Male	52	52
Female	48	48
Early Preterm	34	34
Late preterm	56	56
Term	10	10

Early Preterm is >28-32 weeks, Late preterm is >32-37 weeks, Term is >37 weeks

Table 3: Neonates birth weight association with still birth

Birth weight	No.	Mean±SD
More than 2.5 kg	26	2.90±0.26
Less than 2.5-1.5 kg	44	1.88±0.35
Less than 1.5-1 kg	36	1.17±0.15
Less than 1kg	31	0.53± 0.30

Fig. 1: Distribution of gravida within cases

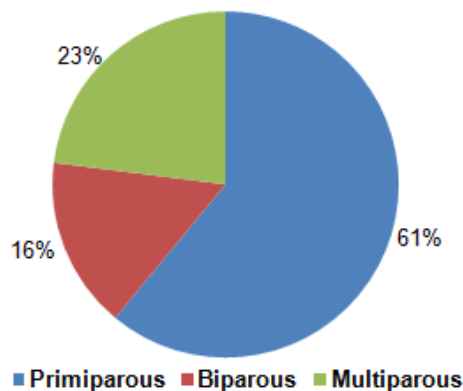


Fig. 2: Causes of still birth among cases

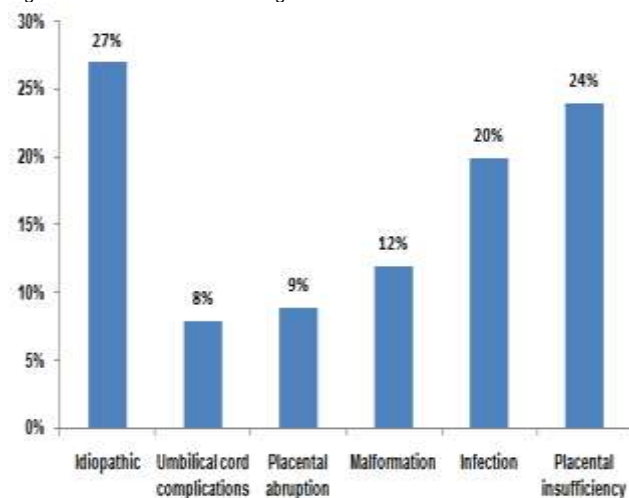
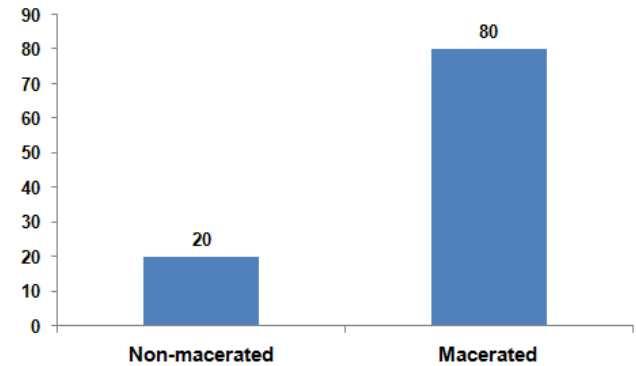


Fig. 3: Types of stillbirth observed



## DISCUSSION

In the world, Pakistan is at the highest of stillbirth rate which is shocking<sup>12</sup>. The published data from the country is higher than the new studies come as 18% of 100 of the stillbirth rate<sup>13-18</sup>. It may be due to data registration problems and other factors of rural setup. Pertinently, the original values can't be justified with the obstetrical as well as antenatal care provided in the past 20 years<sup>17-20</sup>.

Drug abuse, infections and complications in pregnancy are leading causes of still birth. The present study results also identified similar reasons to increase the risk of still birth cases. Similar has been documented in published research elsewhere<sup>19,21</sup>.

A three years based instant studies by Global Network from the high populated seven different countries including Pakistan resulted the stillbirth rate of Pakistan as 56.5% of 1000. These results are not classified as the whole owing to the geological factors involved behind the study. It was noted that about 73.22% mothers having 20 to 34 years ages were stillbirth deliverer. Such studies also reported likewise results received from India, Pakistan and Nepal<sup>8,23</sup>.

Age in addition with other related factors causes a high risk in still birth escalation. Similar results were observed in the current study results. The developed countries have results the contrast stillbirths from mothers above 35 years age<sup>1,9,22</sup>.

Mothers with only single pregnancy were at the augmented stillbirth rate<sup>5,17</sup>. Such mothers have been reflected with a high percentage of 61% of the stillbirth. This has also been justified in the present study results.

## CONCLUSION

Maternal age, infection, placental abruption and obesity are the main causes of still birth. The frequency of still birth is 1.42% in this region.

**Conflict of interest:** Nil

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