<u>**Original Research Article**</u>

Prevalence and Cause of Stillbirth

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Abstract:

The study was conducted to know the prevalence and cause of stillbirth in Dept of Obstetrics and Gynaecology, RIMS, Ranchi. Data was collected for 100 cases referred to tertiary health centre in 2017-2019 which include the demographic characteristics, high-risk factors, maternal and fetal outcome. It was found that the majority of the cause of stillbirth was anaemia (26%), malaria (13%), maternal diabetes (13%), maternal blood pressure (26%), and infectious disease (42%) were observed in stillbirth cases.

Keywords: Pregnancy, stillbirth, high risk, tertiary care.

Introduction

Stillbirth is an obstetrical condition that occurs at or after 20 to 28 weeks of pregnancy and is defined by WHO as a baby born with no signs of life at or after 28 weeks gestation. The fetal condition becomes abnormal when there exists certain vulnerable factors in stillbirth which is especially reported prominent in the mid-gestation of 20–24 weeks resulting in stillbirth (Wapner and Lewis, 2002)5.

Certain events were known for causing stillbirths likely cord prolapse as well as due to ruptured vasa praevia (Ryan et al., 2012)6. While maternal hypotension is usually considered to be good in pregnancy there could be a link between hypotension and stillbirth (Steer et al., 2004)8. Intrauterine growth restriction (IUGR) owing to placental insufficiency has been identified in the case of 40–60% cases in stillbirths and otherwise in the case of unexplained stillbirths highlighting a probable role for placental pathology among stillbirth (Flenady et al., 2011)7.

Any of the slight reduction in stillbirth incidence in high incomes countries which have occurred in recent years has resulted from four distinct strategies (Goldenberg et al., 2004)4. SIDS deaths decreased worldwide because a means of simply and easily protecting vulnerable babies was discovered, namely settling all babies on their backs to sleep [1, 2]. In 2015, there were 2.6 million stillborn babies globally, with India having the highest number of stillbirths at 5, 92,000. The other countries in the top ten include Nigeria, Pakistan, China, Ethiopia, Congo, Bangladesh, Indonesia and Tanzania. The proposed study will bring awareness and help policymakers make effective policies in stillbirths.

Methodology: This study aims to explore the underlying causes of stillbirths delivered in the Dept. of Obstetrics & Gynaecology, Rajendra Institute of Medical Sciences, Ranchi from October 2017 to October 2019. It is a prospective, hospital-based, Observational study which includes case reports and case series, ecological studies, cross-sectional studies and cohort studies. The inclusion criteria are women of reproductive age group, Pregnancy of 28 weeks or more of gestational age, the Birth weight of the baby equal to or more than 1000 grams, Delivered baby not showing any sign of life and Abortion.

Results: Retrospective data of all the stillbirth cases were recorded during the period, and maternal clinical information was collected. A clinical examination was conducted to assess women's age, parity, booked/referral cases, any complaint during the present pregnancy, history of IUFD in past pregnancy, complaint/diagnosis at the time of admission, gestational age, past and present medical disorders, history of pregnancy-related or aggravated conditions, mode of delivery, and any intra or postpartum complications. The examination included a history of presenting complaints, menstrual history, antenatal period, history of antenatal period regarding, investigations, immunization, Iron, calcium intake, weight gain, oedema, raised blood pressure and any complications during 1st, 2nd and 3rd trimesters, Obstetric history, Parity, Past history, Medical, Family history, Personal history, General

Examination, and Obstetric examination. The descriptive statistics Representing the socio-demographic profile of the maternal samples, comprising of samples: Age, Location; sex of the foetus, religion and socioeconomic statuses were taken into consideration.

Table 1: Age of the respondents

Age		Cases	Percentage (100%)
1	Below 20	14	14.0
2	21-25	20	20.0
3	26-30	24	24.0
4	Above 30	42	42.0
	Total	100	100%

From the above table, it shows the majority of the respondents 42% are above 30 years, 24% of respondents are 26-30 ranges, 20% of respondents are 21-25 ranges and below 20 age group of peoples are 14 respondents among 100 respondents.

Table 2: Location of the respondents

Location		Cases	Percentage (100%)
1	Rural	79	79.0
2	Urban	21	21.0
	Total	100	100.0

From the study it could be that the majority of the sample population was from the rural region in Jharkhand. Also, this could attribute to the overall prevalence considering stillbirth appeared to be much more predominant in the rural areas due to poor healthcare-related and labour-related facilities and awareness among the individuals.

Table 3: Sex of the Foetus

Sex of the foetus		Cases	Percentage (100%)
1	Female	39	39.0
2	Male	61	61.0
	Total	100	100.0

From the above illustration it could be identified that the majority of the sample population delivered male babies comparatively to that of female babies. The overall ratio in terms of male: female was found to be 6:4. This also concludes on the very fact that male babies are much more prone to stillbirth-related complications compared with female babies.

Table 4: Cases Distribution of Foetal weight

Foetal Weight				
Valid	Cases	Percent	Descriptive statistics	
Below 2.5 kg	31	31.0	Mean	2305.0000
2.5-3.0 kg	45	45.0	Std. Deviation	364.69857
Above 3.0 kg	24	24.0	Minimum	1800.00
Total	100	100.0	Maximum	3000.00

From the above table, the data were obtained from 100 cases. Information on the foetal characteristics with regards to the foetal weight of the study population. From the observed table it could be identified that the mean weight of the sample population observed was around 2.3 kg ± 364.7. This denotes that the foetal weight appeared below normal ranges.

Table 5: Mode of delivery

Variables		Cases	Percentage (100%)
	C-section	37	37.0
Mode of delivery	Vagina	63	63.0
	Total	100	100.0

Mode of delivery was found to be prominently Vaginal (63%) compared with C-section.

Table 6: Maternal medical complications

Variables		Cases	Percentage (100%)
Mother having high BP	No	74	74.0
	Yes	26	26.0
	Total	100	100.0
Mother having anaemia	No	74	74.0
	Yes	26	26.0
	Total	100	100.0
Mother having Malaria	No	87	87.0
	Yes	13	13.0
	Total	100	100.0
Mother having diabetes	No	87	87.0

From the maternal specification, the reports on maternal blood pressure were assessed. From the study, there were over 31% of the maternal population reported Normal blood pressure, which is followed by hypertension/ high BP among the maternal sample as they constitute 31% of the population among the samples. Similarly, other stillbirth-associated complications namely: anaemia (26%), malaria (13%), maternal diabetes (13%), and infectious disease (42%) were observed in stillbirth cases.

Table 7: Causes of Still Birth

Causes	No of still birth	Percentage (100%)
Abruption, Multifetal gestation, PROM at 20-24 weeks	29	29.0%
IUGR(uteroplacental insufficiency)	24	24.0%
Maternal medical complications	20	20.0%
congenital anomalies	06	06.0%
undetermined	21	21.0%
Total	100	100.0%

Discussion

A total of 100 stillbirth cases observed among the maternal cases were subjected as included for the present study. From the data analysis, the following findings which were crucial for the study were:

- From the demographic profile involving Age (42% are above 30 years, 24% of respondents are 26-30 ranges, 20% of respondents are 21-25 ranges and below 20 age group of people are 14 respondents).
- Location (majority of the sample population was from the rural region in Jharkhand);
- Sex of the foetus (in terms of male: female was found to be 6:4.),
- The mean weight of the total cases observed was around 2.3 kg ± 364.7. entangled cord contributing to stillbirth was identified in 4% of the actual cases. Breech Delivery was observed among 18% of the stillbirth cases. 60% of them reported with first childbirth, which was followed by an older child whose age is greater than 24 months constituting 26% of the population among the population and the remaining 14 % fall within the category of samples with a child who is older than 12-24 months.
- Mode of delivery was found to be prominently Vaginal (85%) compared with C-section.
- On the conclusive remark the prime finding concerning causes for stillbirth cases from the study was determined that over 31% of the maternal population reported Normal blood pressure, which is followed by hypertension/ high BP among the maternal sample as they constitute 31% of the population among the samples.
- Similarly other stillbirth-associated complications namely: anaemia (26%), malaria (13%), maternal diabetes (13%), and infectious disease (42%) were observed in maternal stillbirth cases.

Conclusion

Stillbirth is a global problem facing all those involved in women's care. Women living in rural areas or poor women have the highest risk of dying and carry most of the burden. Reducing Stillbirth in each community in each country is a sound medical and economic strategy which would benefit every society at large. In India, most fetal death is preventable by providing adequate health care in the community, transport facilities, identification of high-risk cases, and timely reference for emergency and obstetric care.

Health education must be started at an early stage, routine antenatal care must be provided, high-risk pregnancies diagnosed early, good quality obstetric services provided, the referral system strengthened, and proper utilization of health services.

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