Original Research Paper

Obstetrics & Gynaecology

PREVALENCE AND RISK FACTORS FOR STILL BIRTH IN CHENGALPATTU

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ABSTRACT This study aimed to determine whether maternal age, maternal education , socio-economic status are factors for still births and identify the high risk age group which are likely to get affected , determine the significant maternal medical conditions which are attributed to stillbirths and significant obstetrics causes which are attributed to stillbirths. A cross-sectional hospital based study in government medical college hospital, chengalpattu was conducted. Data relating to socio- demographic information , passed obstetric history, associated medical conditions, index pregnancy characteristics where collected . economic classification was based on B.G.prasad's recommendation. medical and obstetric causes classified based on ReCoDe classification. Out of 11023 births from june 2016- may 2017 121 still births incidents were recorded at chengalpattu amounting to 11\1000 still birth incidents.

The study showed mothers age between 19 and 21 is high risk group, literacy level has a positive impact in preventing stillbirths, economic status is a influencing factor for stillbirth and placenta related complications remains a major causative factor of still birth followed by clinical conditions of the mother. The study could not establish any cross dependency on the variables and most of the factors have an independent influence on the outcome.It is recommended that importance of antenatal care need to be communicated to the society especially to young mothers and practiced efficiently.

INTRODUCTION

As per WHO, Stillbirth refers a baby born with no signs of life at or after 28 weeks gestation, more, with a birth weight of greater than or equal to 1000grams , or a body length of greater than or equal to 35cm.[1] . Every stillbirth is a tragedy and a potential life loss. There are in addition many psychosocial consequences for parents, including anxiety, long term depression, post traumatic stress disorders and stigmatizations.[2] Three fourth of the stillbirth occurred in South Asia and Africa and 60% occurred in rural families from these areas[1]. The estimated average global stillbirth rate in 2015 was 18.4 per thousand births. In 2015, India accounted for 592100 stillbirths [4], which is 22.6% of Global still birth. In terms of numbers, India ranks the first in the world. India shares the highest burden of stillbirth 75% as compared to other South East Asian countries.

Almost half of stillbirths happen when women is in the labor. The majority of still births are preventable, evidenced by the regional variation across the world [1] and data collected suggested that most of these deaths could be prevented [4]. In order to prevent, we need to identify and understand the causes and factors that are associated with stillbirths.

Pregnancy induced hypertension, Eclampsia, Abruptio placenta, birth asphyxia and preterm labor are common causes contributing the still births. Inadequate antenatal care and suboptimal intrapartum care are the general reasons behind the preventable medical causes.

However, there are not many studies identifying the local causes and risk factors for stillbirths both from the medical and sociological perspective. Given the prevalence rate in India , there is an urgent need for more studies to identify the risk factors associated with stillbirths.

The study aims to identify medical and socio demographic factors of stillbirths in Chengalpattu.

The result of the study will help us identify the significant factors contributing to stillbirths in a semi urban location like Chengalpattu and help the authorities to arrive at an effective prevention plan.

AIMS AND OBJECTIVES:
- To determine wheather maternal age, maternal education, socioeconomic status are factors for stillbirths and the high risk age group which are likely to get affected.
- To determine the significant maternal medical conditions which are attributed to still births.
- To determine the significant obstetric causes which are attributed to still births.

METHOD AND MATERIAL:

The ethical clearance for this study was obtained from the institutional ethical committee of chengalpattu medical college on 9.6.2017.

Study design cross-sectional hospital based study in government medical college and hospital , chengalpattu.

Inclusion Criteria :
Featal death in the 3rd trimester i.e.
a) >=28 completed weeks of gestation
Or
b) >=1000gms of birth weight
Or
c)Body length >=35 cms

Exclusion Criteria :
fetal deaths which are .<28 weeks of gestation.

The Procedure Involved The Following Steps
1)Data relating to socio-demographic information , past obstetric history , associated medical conditions, index pregnancy characteristics were collected

2) Social factors and delivery characteristics that were captured is listed below

Social factors
Age of Mother
17-18
19-20
21-22
23-24
25-26
27-28
29-30
Educational background of the Mother
Illiterate
Literate upto high school
More than high school

Mode of Delivery
Vaginal
Instrumental
Caeserean section

3) B.G.Prasad's economic classifications [19] was followed for categorizing the economic status as per the table given below.

Social Class	Per capita income (Rs/Month)
I(Upper Class)	Above 6261
II (Upper Middle Class)	3099-6260
III (Middle Class)	1835-3098
IV (Lower Middle Class)	949-1834
V (Lower Class)	<948

4) ReCoDe classification [20] was used for categorizing under medical and obstetric causes

Classification system according to relevant condition at death (ReCoDe). Obtained from Gardosi J et al. *BMJ* 2005 Nov 12; 331:1113–7

5) The above data was collected and recorded using Microsoft excel. SPSS was used for ststistical analysis of data. Bivariate analysis to cross-tabulate and multivariate analysis to identify independent variables that will play a significant role in influencing stillbirth was done using SPSS.

OBSERVATION AND RESULTS :
Out of 11023 births from june 2016 to may 2017 , 121 still birth incidents were recorded at chengalpattu. The data was collected from the parturition record maintained. This amount to approximately 11 per thousand still birth incidents.
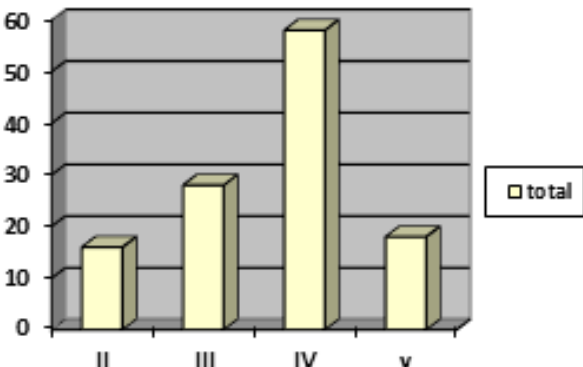
The following plots give the details of the data.
The split of incidents based on mother's age group shown below.
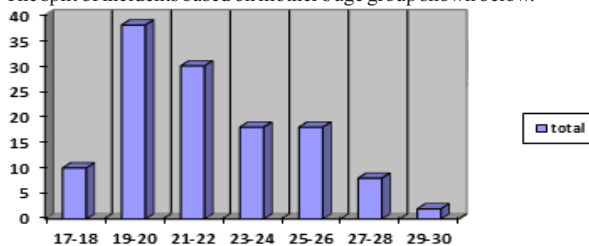
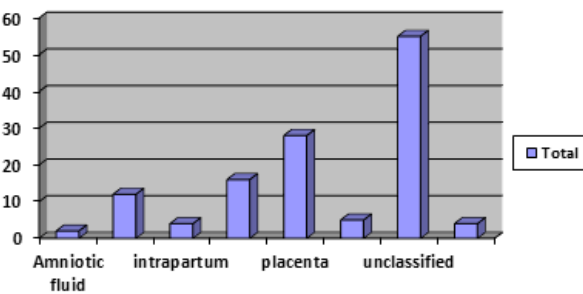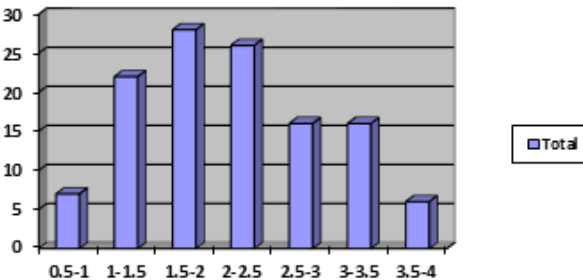The split based on educational qualification of mother is shown below
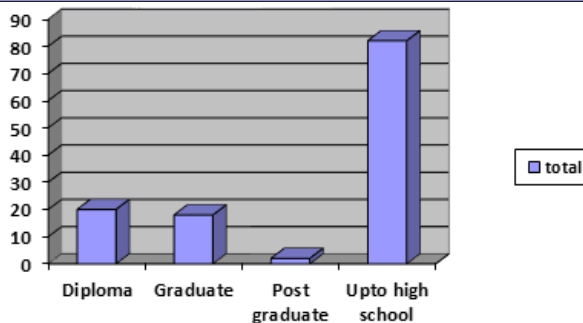
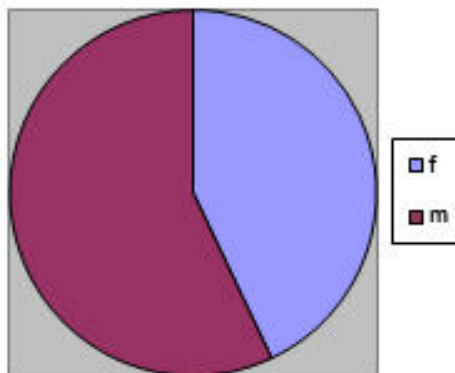The socio-economic class spread is shown below (based on B.G.Prasad's classification)

The spread based on medical and obstetric causes classified by relavent condition at death (ReCoDe) is given below
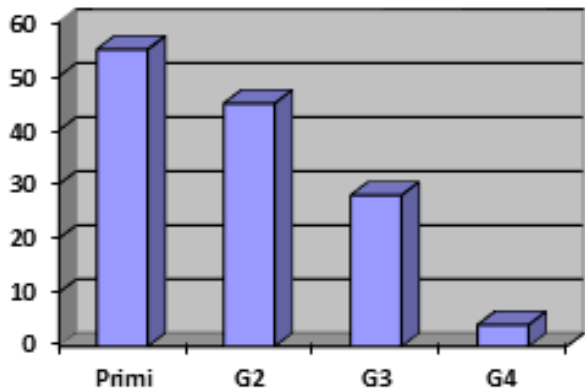

The spread based on weight of fetus is shown below

The split based on sex is shown below

The spread based on parity is given below

Of the above, 13 incidents had previous abortion history .

Cross tabulation nd chesquare test was conducted between medical and obstetric causes classified by relavent condition at death (ReCoDe) and parity to see if there is any correlation .

		ReCoDe Classification							
		Amniotic fluid	Fetus	Intrapartum	Mother	Placenta	Umbilical Cord	Unclassified	Total
Parity	G2	2	1	4	0	6	12	3	14	42
	G3	1	0	3	0	2	1	1	3	11
	Previous abortion	0	1	2	0	0	5	0	5	13
	Primi	0	0	4	3	7	8	1	32	55
Total		3	2	13	3	15	26	5	54	121

Chi square test on the above yielded a significance level of 0.095 which is above the threshold of 0.05 , supporting the null hypothesis. It can be concluded there is no significance relationship observed between medical and obstetric causes classified by relevent condition at death (ReCoDe) and parity

Chi – Square Tests			
	VALUE	df	Asymptomatic Significance (2-sided)
Pearson Chi-Square	29.857ª	21	0.095
Likelihood ratio	32.564	21	0.051
N of Valid cases	121		

ª.24 cells (75%) have expected counts less than 5. The minimum expected count is .18.

Cross tabulation and chi square test done between medical and obstetric causes classified by relevent condition at death (ReCoDe) and mothers age . the details are given below

ReCoDe Classification	Age														
	17	18	19	20	21	22	23	24	25	26	27	28	29	30	Total
	0	0	0	0	0	1	0	1	0	0	0	0	1	0	3
Amniotic Fluid	0	0	1	0	0	0	0	0	1	0	0	0	0	0	2
Fetus	0	0	2	2	0	1	3	0	2	1	1	1	0	0	13
Intrapartum	0	1	1	0	1	0	0	0	0	0	0	0	0	0	3
Mother	0	0	1	2	3	6	1	0	1	0	0	0	1	0	15
Placenta	1	3	3	4	1	3	3	2	4	1	1	0	0	0	26
Umbilical Cord	0	1	1	0	0	0	1	1	1	0	0	0	0	0	5
Unclassified	1	3	12	8	7	7	3	3	4	3	2	1	0	0	54
Total	2	8	21	16	12	18	11	7	13	5	4	2	1	1	121

Chisquare test on above yielded a significance level of 0.164 which is above the threshold 0.05 , supporting the null hypoythesis . it can be concluded that there is no significant relationship observed between medical and obstetric causes classified by relavent condition at death (ReCoDe) and mothers age

Chi – Square Tests			
	VALUE	df	Asymptomatic Significance (2-sided)
Pearson Chi-Square	104.133ª	91	0.164
Likelihood ratio	72.118	91	0.928
N of Valid cases	121		

ª.107 cells (95.5%) have expected counts less than 5. The minimum expected count is .02.

DISCUSSION :

Individual analysis of parameters gives some key points to discuss.

Mothers age between 19-20 and 21-22 are highly impacted . this could relate inadequate care and nutrition for the pregnant mother and the neglecting attitude of the society towards early age pregnancies combined with the psychological immaturity and stress taken up by the mother herself .

Educational qualification has a positive impact. More than 65% of incidents belonged to mothers who are upto high school. While only one case of out of 121 is a post graduate. It indicates , literacy level has a role in preventing the still birth.

Excluding the unclassified cases, placenta related causes influenced the most followed by mother and fetus related conditions. This finding aligns with the studies referred in [9], [10]. Major placenta related condition was abruption with grade 2 and 3 . Rh negativity was the major factor in mother related conditions leading onto still births.

Fetus weight between 1.5-2.5 kg are the most affected. 45% of cases belong to this category. The exact reason behind this is yet to be established and needs further studies.

The gross tabulation and chi square tests had clearly established that mothers age and medical and obstetric causes classified by relavent condition at death (ReCoDe) has no correlation. Similarly parity also did not have any correlation with recode classification .

This shows the study could not establish any cross.
Dependency on the variables and most of the factors.
Have an independent influence on the outcome.

CONCLUSION

This study shows that
1.Mother's age between 19 and 21 is a high risk group and additional care should to be taken for this age group
2. Literacy level has a positive impact in preventing stillbirth.
3. Economic status is an influencing factor for stillbirth.
4. Placenta related complications remains a major causative factor of stillbirth followed by clinical condition of the mother.
The study could not establish any cross dependencyon the variables and most of the factors have an independent influence on the outcome.

SUMMARY :

This study aimed to determine whether maternal age, maternal education , socio-economoc status are factors for still births and

identify the high risk age group which are likely to get affected , determine the significant maternal medical conditions which are attributed to stillbirths and significant obstetrics causes which are attributed to stillbirths.

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It is recommended that importance of antenatal care need to be communicated to the society especially to young mothers and practiced efficiently.

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