IJMRP

Original Research Article.

Clinical Study on Perinatal Deaths in Chittagong Medical College

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ABSTRACT

Introduction: Perinatal death is the total of the fetal death and the early neonatal death. Nowadays, it is most sensitive indicators of both the standards of medical care and effectiveness of social and public health measures.

Objective: In this study our main goal is to observe the risk factors and study the amount of perinatal deaths.

Methods: This cross-sectional study conducted at Department of Obstetrics & Gynecology, Chittagong Medical College Hospital, Chittagong from July 2008 to December 2008. Fresh stillbirth babies and neonates died within 7 days after delivery where birth weight of 1 kg or more attending this study in Patient Department of Obstetrics & Gynecology, Chittagong Medical College Hospital, Chittagong.

Results: Half of the patients were below 25 years of age, 30% in the range of 25 – 30 years and the remaining 20% 30 years. The mean age of the patients was 25.2 ± 5.1 years. Also found that, over 60% of mothers were delivered by lower uterine caesarean section (LUCS) or laparotomy followed by peripartum hysterectomy or repair of rupture uterus (cut and take to discussion) and vaginal delivery (37%) and craniotomy (2%).

Conclusion: This study recommends that a large scale case-control study to be conducted in Bangladesh and based on the findings of the study a guideline to be formulated to provide perinatal care in our country.

Keywords: Perinatal Mortality, Fetal Death, Neonatal Death.

INTRODUCTION

The perinatal mortality (PNM), also perinatal death, is the total of the fetal death (stillbirth) and the early neonatal death.[1] The perinatal mortality rate encompasses late fetal and early neonatal mortality. The perinatal mortality rate is calculated as: (# of perinatal deaths / total # of births (still births + live births)) x 1000. Presumably, perinatal death is the most delicate markers of medicinal consideration and the viability of social and general wellbeing measures. WHO anticipated the amount of perinatal deaths worldwide to be higher than 7.6 million.[2-7]

Developed and developing countries have various common risk factors for perinatal mortality. Poor maternal health, unfavorable social conditions, and inadequate care during pregnancy, delivery, and the immediate postpartum period mostly effect perinatal mortality.[3] To improve perinatal deaths, prevention, treatment of pregnancy complications and ensuring all deliveries have become the keystone of secure motherhood.[4]

Risk of perinatal death has been increased during childbirth. For example, during the 1960s, PNM rates after uterine rupture and placenta praevia were 216 and 99 per 1000/live-births in Norway.[5] Although perinatal death related to dystocia is currently comparatively rare in industrial countries, they are still substantial in several developing countries. More than 87% of babies have been reported to die during deliveries complicated by abnormal fetal position in Guatemala.

Besides, intrapartum risk factors are considered by some population-based studies of perinatal mortality in developing countries. In view of the current emphasis, on improving the care given during labour and delivery to reduce mate perspective of present importance, on improving the care given throughout labour and delivery to cut back maternal mortality, it is necessary to evaluate the extent to which this approach may also contribute to the reduction of perinatal mortality.
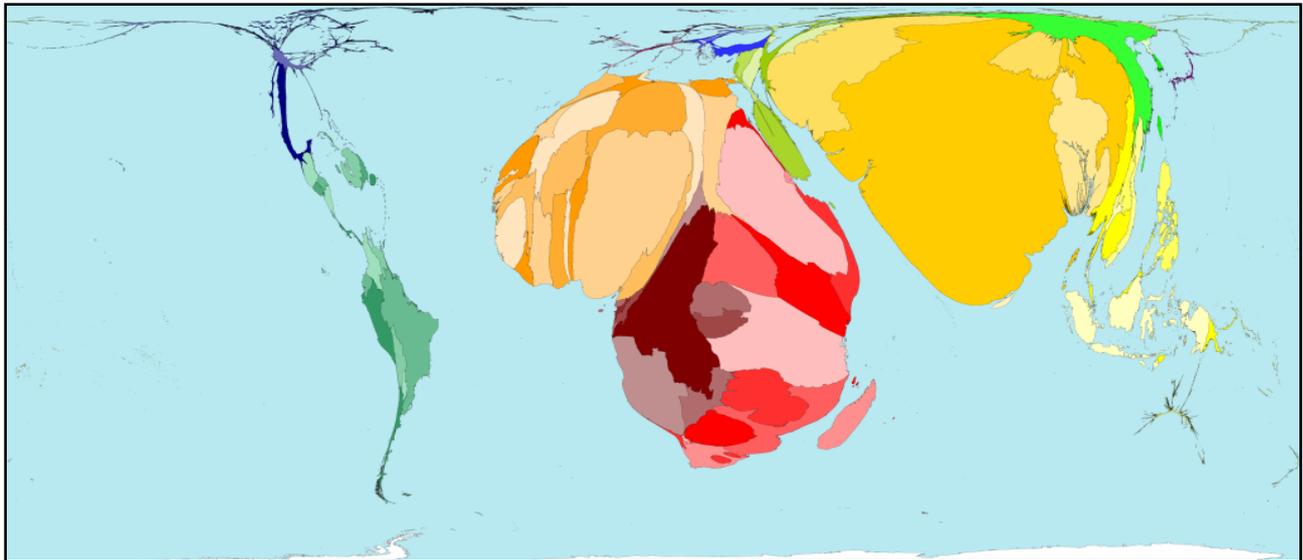
Fig 1: Relative distribution of early neonatal death by country

OBJECTIVES
General objective
- To study the amount of perinatal mortality (PNM) in tertiary hospital as well as the factors associated with it

Specific objective
- To find out the risk factors associated with peinatal death
- To observe the type of perinatal mortality

METHODOLOGY
Study Type
This study was a cross sectional study.

Study Period and Place
Study was conducted at Department of Obstetrics & Gynecology, Chittagong Medical College Hospital, Chittagong.
This observation was carried out from July to December 2008.

Study Population
Fresh stillbirth offspring and neonates died within first week of delivery at the Department of Obstetrics & Gynecology, Chittagong Medical College Hospital, Chittagong.

Inclusion Criteria
- Fresh stillbirth babies and neonates died within 7 days after delivery where birth weight was 1 kg or more.

Exclusion Criteria
- Birth weight below 1kg
- Known gestational age below 28 weeks
- Intrauterine Fetal Death (IUD) with maceration

Sample Size
The sample size was determined using following formula:

$n = (Z^2 \times p \times q) / d^2$

Where,

Z = Standard normal deviate (1.96 corresponding to 95% of CI)

p = Anticipated proportion, taken as 50%, i.e., 0.5

q = (1-p) = 0.5,

d = allowable error (here 10% of 'p') = 0.05.

Therefore, the required sample size,

$n = (1.962 \times 0.5 \times 0.5)/(0.05)2 = 384$.

Data Collection
A structured questionnaire contained all the variables of interest, was developed and datas were collected through interview, observation and clinical examination.

Data Processing Statistical Analysis
Data were processed and analyzed using SPSS software. Descriptive statistics like frequency, percentage, Standard Deviation (SD), range etc. were used to analyze the data.
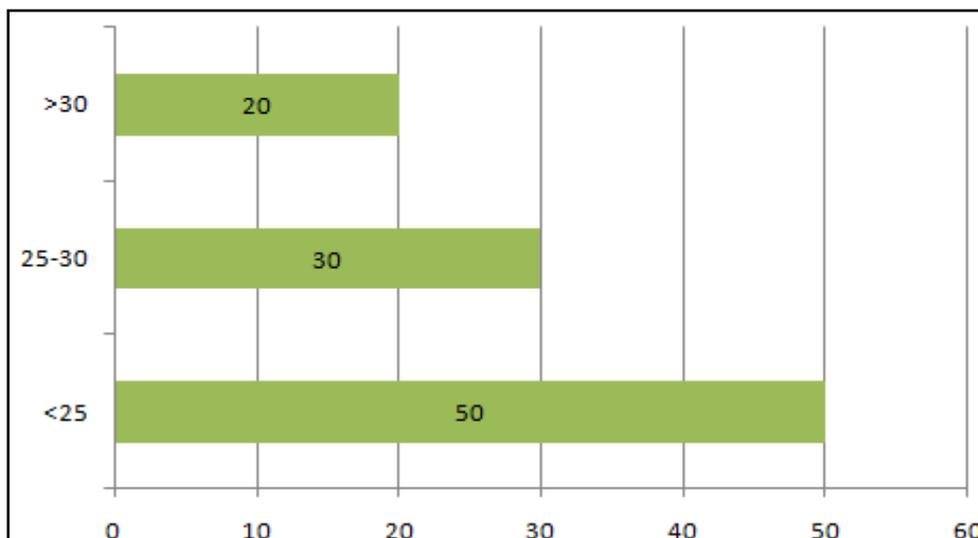

Fig 2: Distribution of patients by age (n=100)

Table 1: Clinical Representation On Admission

Clinical presentation on admission	Frequency	Percentage
Pain abdomen	67	67.0
Prolong labour	20	20.0
Fever	13	13.0
Rupture uterus	07	7.0
Per vaginal bleeding	05	5.0
Cord prolapse	05	5.0
Shock/unconciousness	08	8.0
Convulsion	03	3.0
After coming head arrest	05	5.0
Shoulder dystocia	02	2.0

Table 2: Distribution of subjects by mode of delivery (n = 100)

Mode of delivery	Frequency	Percentage
Vaginal delivery	37	37.0
LUCS/Laparotomy	61	61.0
Craniotomy	02	2.0

RESULTS

Age Distribution

Figure2 illustrates the age distribution of the patients. Half of the patients were below 25 years of age, 30% in the range of 25 – 30 years and the remaining 20% 30 years. The mean age of the patients was 25.2 ± 5.1 years and the lowest and highest ages were 18 and 39 years respectively.

Clinical Representation On Admission

Table1 demonstrates the presentation on admission. Two-third (67%) of patients complained of pain abdomen. 20% patients had prolonged labour, 13% fever, 7% rupture uterus. Per vaginal bleeding, after coming head arrest and cord prolapsed each was 5%. 8% patients had shock or unconsciousness, 3% convulsion and 5% after coming head arrest.

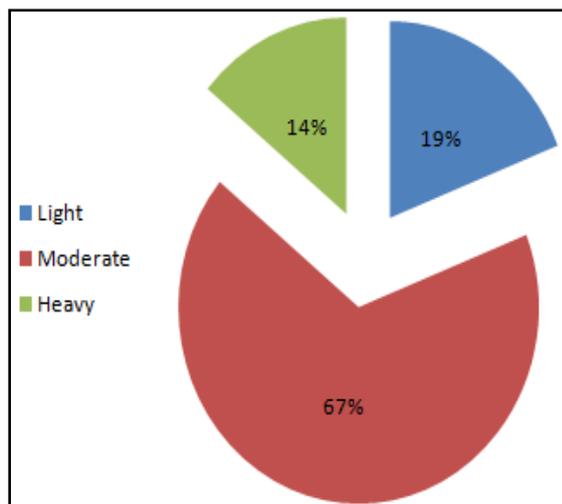### Work Load During Pregnancy

Figure3 displays that two-third of the patients used to perform moderate work during pregnancy, 19% light and 14% heavy work.

Mode of Delivery

Table2 shows the mode of delivery. Over 60% of mothers were delivered by lower uterine caesarean section (LUCS) or laparotomy followed by peripartum hysterectomy or repair of rupture uterus (cut and take to discussion) and vaginal delivery (37%) and craniotomy (2%).

Type of Perinatal Death

Type of perinatal death demonstrates that 73% of patients had still birth and 27% early neonatal death.

Fig 3: Distribution of patients by work-load during pregnancy
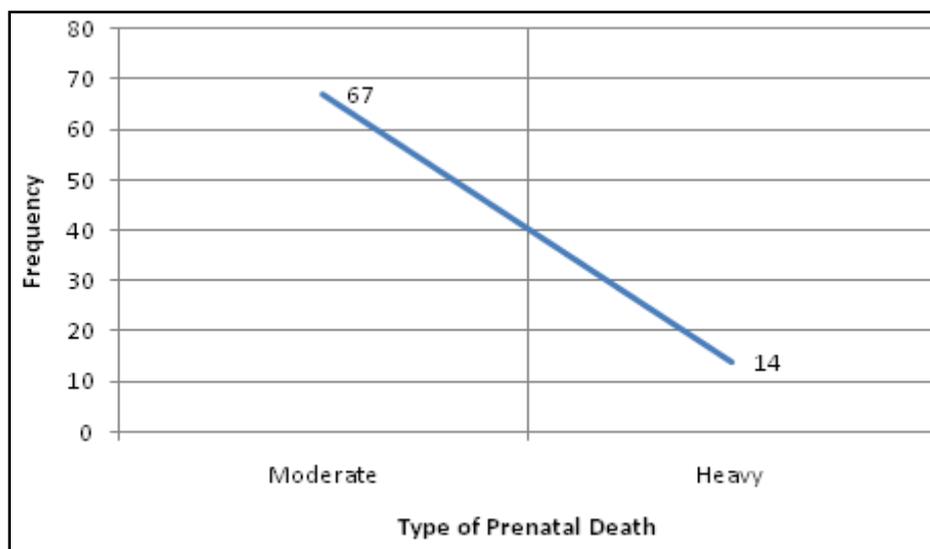
Fig 4: Distribution of patients by type of perinatal death

DISCUSSION

The findings derived from data analysis showed that the mean age of the mothers was 25.2 ± 5.1 years and also the lowest and highest ages were 18 and 39 years respectively. Two-third of the patients used to perform moderate work throughout maternity, 19% light and 14% heavy work. As most of the deliveries within the rural region occur at home in the absence of medically trained health personnel, it is terribly troublesome to determine data that aspects of labour were liable for perinatal death. As in various different developing countries, determinants of perinatal deaths in

rural Bangladesh do not seem to be well outlined. However, a population-based study reported that LUCS/ Laparotomy (61%) were the most common causes of perinatal death.[6] In Bangladesh, notably in rural areas, the nature and quality of labor, delivery etc. practices stay relatively unsupported. Thus obstetric causes of perinatal death in rural community warrant further research.

CONCLUSION

Perinatal mortality is a sensitive indicator of a country's health and socioeconomic status. Though WHO and many countries have given prime importance to reduce perinatal mortality and morbidity, the issue has not yet been addressed duly in Bangladesh. Although present study did investigate the delay in attending hospital, many studies have identified delay in attending hospital as reasons of poor perinatal outcome. As the findings of the study were compared with those of other studies conducted around the world, widely divergent factors were identified as the determinate of perinatal death. The study, therefore, recommends that a large scale case-control study to be conducted in Bangladesh and based on the findings of the study a guideline to be formulated to provide perinatal care in our country.

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