Original Article

Study of Known Risk Factors Involved in Stillbirth In Kohat

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Abstract

Objective: To outline the known risk factors involved in stillbirth.
Study Design: Cross sectional study.
Place And Duration: At gynecology and obstetrics department, Liaqat Memorial Hospital Kohat. From 1st June to 31 August 2015.
Methodology: A sample of 148 pregnant women was selected using simple random sampling. Data was collected using purpose built performa`s and analysed using spss 21.
Results: Out of 148 cases, 15 cases were nulliparous, 126 were multipara, and 7 were grandmultipara. Mode of delivery in 117 cases was simple vaginal delivery, and rest underwent cesarean section.84 out of 148 had BMI>30 other had normal BMI. 65 out 148 had an antenatal visit, 121 cases were socioeconomically satisfactory, while 27 were poor. Anemia was found in 139 out of 148, maternal malnutrition in 66 cases, Hypertension in 46 females, fetal malformation in 15 cases, malaria in 2 cases, diabetes mellitus in 6 cases, 68 cases used prescribed drugs, 80 women didn't use any medications.
Conclusion: Our study sought to identify proportions of various risk factors associated with stillbirths. So Promotion of maternal health, Improvement of family planning services, knowledge of antenatal care and visits, sufficient health care delivery system is the key to minimize the rate of stillbirths.
Key words: Still birth, Kohat, risk factors, Liaqat memorial hospital.

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Introduction

The term stillbirth means babies born dead during the last trimester of pregnancy.[1] Stillbirth is defined as "the death of a fetus or product of conception inside the uterus regardless of the duration of pregnancy, provided that the fetus didn't show any sign of life after being expelled from the mother.[2] or death occurring at least 28 weeks of gestation or at least 1000g birth weight.[3]

Approximately 3.3 million still births are reported per year with 97% occurring in developing countries.[4] A stillbirth estimate by WHO in 2009 revealed that Pakistan had a rate of 47 stillbirth per 1000, total births compared to the global rate of 19 per 1000,Pakistan ranking 2nd among the top 5 countries that represents half of all the stillbirth.[5]

The significantly associated risk factors related to maternal condition appeared to be advanced maternal age, black race, nulliparity, obesity, pre-eclampsia, diabetes, anemia, smoking, maternal malnutrition.

Risk factors although not directly associated with the stillbirth include lack of antenatal care, maternal illiteracy and poor socioeconomic status.[6] Maternal

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sleeping position can be a factor of stillbirth.[7] The higher stillbirth rates shown among lower socioeconomic group of population in both developing and more developed parts of the world extend the use of stillbirth as development indicater.[8] Better antenatal care and improvement of socioeconomic condition including maternal nutritional status can reduce stillbirths in developing countries. In Pakistan, large proportion of stillbirth maybe preventable with ensuring higher quality obstetric care. The vast majority (98%) of stillbirths occur in low- and middle-income countries.[9]

Every stillbirth is a tragedy and a potential life lost. There are in addition many psycho-social consequences for parents, including anxiety, long-term depression, post-traumatic stress disorder and stigmatisation.[10]

Cause of death is very often not recorded accurately or not recorded at all. Training of healthcare providers is required to improve their understanding of the causes of stillbirth and factors associated with stillbirth and their ability to conduct perinatal audit.[11]

The stillbirth rate has remained generally constant since 2000. It has been speculated that rising obesity rates and average maternal age might be behind the lack of improvement[12] a systematic review identified these as the more prevalent risk factors for stillbirth.[13]

It is important to recognize that there is a distinction between the underlying cause of the death (the disease process), the mode of death (for example asphyxia) and the classification of the death (for example growth restriction). Conventional diagnostic systems fail to identify a specific cause in about half of IUFDs.[14]

South Asia has the world's largest numerical stillbirth burden with rates ranging from 25 to 40/1000 births. Within Pakistan, reported stillbirth rates vary from 36 per 1000 to 70 or more per 1000 in some rural areas.[15],[16-20] In contrast, the World Health Organization (WHO) reports a Pakistani stillbirth rate of 22 per 1000 births.[21]

Methodology

This study was conducted in Liaqat memorial hospital Kohat over a period of 3 months from 1st June to 31 August 2015. Study design used was analytical cross sectional study. The sampling technique was simple random sampling. A total of 148 pregnant women of gestational age greater than 28 weeks, delivering the stillbirth during the three months period were included in the study. The non pregnant and the women delivering live babies were excluded.

The data was collected over the three months with the help of a performa provided to the gynecology and obstetrics department of LMH Ethical committee clearance was obtained and fully informed consent was taken prior to obtaining data.

The data was analyzed using spss21. The known risk factors were acknowledge and their proportion in the obtained number of stillbirths was determined and illustrated with the help of simple bar charts and pie diagrams.

Results

The study revealed that 148 stillbirths occurred within the three months duration of our study at LMH Kohat. Table I shows the proportion of stillbirth risk factors among the pregnant ladies

Table I : Proportion of risk factors among 148 cases

Risk factors	Frequency	Proportion (%)
Maternal diseases	142	95.94
Anemia	139	93.91
Hypertension	46	31.08
Diabetes	6	4.05
Malnutrition	66	44.59
Fetal malformations	15	10.13
Malaria	11	7.43
Multiparity	126	83.10
Abnormal vaginal bleeding	88	59.45
Complications during labour	84	56.75
BMI > 30	83	56.08
Lack of education about antenatal visits		
No antenatal visits	83	56.08
Poor socioeconomic status	27	18.24
Drug use	68	45.94
Previous stillbirth	7	4.72

Anemia was found in 139 out of 148, maternal malnutrition in 66 cases, hypertension in 46 females, fetal malformation in 15 cases, malaria in 2 cases, diabetes mellitus in 6 cases.68 cases used prescribed drugs, 80 women didn't use any medications.

84 out of 148 pregnant women who had stillbirths were found to have a BMI>30.7 women had history of previous still births.15cases were nulliparous, 126 were multipara, and 7 were grandmultipara. Mode of delivery in 117 cases was simple vaginal delivery, and rest underwent cesarean section. In 84 cases of stillbirths various complications during labour were found while in 88 pregnant women there was abnormal vaginal bleeding.

83 cases had no knowledge about antenatal visits and their importance while 68 had knowledge about antenatal visits. The socioeconomic conditions of 121

cases were satisfactory while the rest of 27 cases had a poor socioeconomic status.

Regarding the drugs usage during pregnancy, 68 women used those drugs which are not contraindicated in pregnancy, while 80 cases didn't use any drugs during pregnancy.

Out of all the collected data the major risk factors are anemia, hypertension, abnormal vaginal bleeding, complications during labour, BMI >30 no antenatal visits. As shown in Figure 1.

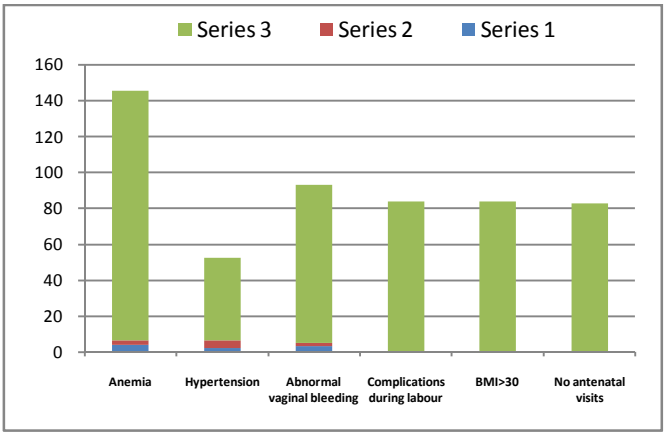

Figure 1. Major risk factors causing stillbirths in 148 cases.

Discussion

In the U.S. and other developed countries, most of the stillbirths occur antenatally and are frequently macerated. In this study, most stillbirths were fresh, indicating that most fetal deaths occurred close to delivery. A recent population based study in rural areas of Pakistan, where the stillbirth rate was 47/1000 births, reported that 75% were fresh, results similar to this study.[22] Based on these and other data[23], it appears that there are major differences in the timing of stillbirths between developed and developing countries, with a far greater percentage of stillbirths in developing countries occurring in the peripartum period.

Risk factors are maternal characteristics associated with, but not obviously causal, for stillbirth. In developed countries, conditions such as prior stillbirth, minority status, low socio-economic status(SES), maternal thinness, older maternal age, single marital status and smoking, alcohol and drug use all have been associated with stillbirth.[24]

The health and nutritional status of the pregnant women is very important in addressing the problem of stillbirth. If the pregnant women is always unwell and eats poorly, the fetus is very likely to be affected among maternal conditions related to ill health, anemia was found in major proportion of cases. The anemia could be of any etiology.

We note, however, that identification of the cause of stillbirth is complex, and even in developed countries where placental pathological examinations and autopsies are available, a specific cause cannot be identified in about half of all stillbirth[25,26.] The correction of anemia in such pregnant women primarily depends on good nutrition, as the nutritional status of many women was not satisfactory. Anemia as a risk factor can affect the hemodynamic status of both the mother and the growing fetus. Therefore it should be addressed properly In addition, studies have found that severe maternal anemia, secondary to malaria, is a contributing factor to stillbirth.[27]

Next to anemia, malnutrition was observed in most cases which may be due to lack of health education, poor socioeconomic conditions, and other pathological conditions related to the food metabolism. The data of our study revealed that a large number of stillbirths are contributed to maternal malnutrition. Maternal malnutrition is also a key risk factor especially in the developing and underdeveloped countries. The caloric requirements of women, needed for the developing fetus, are increased during pregnancy. Frequent incidence of hypertension and other pregnancy related diseases tend to effect health of mother. Prolonged hypertension, or pre-eclampsia and eclampsia can cause hemodynamic instability and therefore can contribute to stillbirths.

Antenatal care or antenatal attendance is very important for every pregnant women better access to antenatal care and obstetrics care could reduce the incidence of stillbirth inadequate medical care contributes to the high stillbirth rates in developing countries.[28] Our data showed poor socioeconomic status in some cases which may be directly a cause of maternal malnutrition. It is a contributory factor to a high percentage of maternal diseases and other conditions of ill health. Obesity also seems to be significant in the context of stillbirth the BMI of such women was more than 30.

Our study reinforces findings from other recently published studies that report a failure of Pakistani health facilities to offer essential and comprehensive obstetric care; deficiencies in staff competence have also been reported.[29, 30] In developed countries, even with an autopsy and histologic evaluation of the placenta, the cause of many stillbirths remains unknown.[31]

Thus, the findings from this study suggest that despite

giving birth in a health facility and having cesarean section rates even higher than recommended for many developing countries, women may not have received appropriate obstetric care.[32]

Conclusion

Our study sought to identify proportions of various risk factors associated with stillbirths. So Promotion of maternal health, Improvement of family planning services, knowledge of antenatal care and visits, sufficient health care delivery system is the key to minimize the rate of stillbirths.

Recommendations: Maternal diseases should be addressed before and during course of pregnancy by utilizing the mother and child health care services. Anemia should be prevented by educating mother about the importance of their nutritional status during pregnancy. Family planning services should be accessible and affordable to the married couples in context of multiparaty. Level of health education regarding antenatal visits should be improved. At least 4 visits should be done. Health personnel concerned with antenatal care should be properly trained. The family and social relationships of the pregnant women should be supportive and cooperative regarding her health. Women empowerment and their rights should be emphasized in the society. Intra natal care should be strengthened to avoid and deal with any complications that develop in the high risk cases. Obesity should be addressed before pregnancy and can be prevented by balanced diet, avoiding sedentary life style, and disease causing obesity should be treated and prevented.

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