Nature of Maternal Death in a Rural Hospital

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Maternal death has been recorded over a long period in history and is a serious public health concern all over the world. Objective of the study was to find out the nature of maternal deaths in a rural area of Bangladesh. It was conducted in the department of Obstetrics and Gynaecology at Jahurul Islam Medical College Hospital which stretched for 3 years period from May, 2009 to April, 2012.It involved data from all pregnant women within the study period, only death cases were enrolled for further study after reviewing in details in presence of professors and senior doctors. All the necessary information were collected and recorded in a preformed facility based maternal death review form and finally necessary clinical and statistical analyses were done.Mortality rate was 6.98/1000 live births. Factors associated with maternal mortality are age, parity, socio-economic strata, antenatal care, substandard care.Maternal mortality rate has been detected to be closer to the national report. An integrated approach involving government and private facilities and best utilization of our resources and servicesare very much necessary to reduce maternal mortality in rural areas.

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Key words: Nature, maternal death, rural area

Introduction

It is estimated that around 58,500 women die each year from pregnancy related complications.[1]Less than one percent of these deaths occur in developed countries, demonstrating that they could be avoided if resources and services were available.[1]

Causes of maternal death are direct resulting from complications of pregnancy; labour, puerperium (70-80%) or indirect causes those are associated with medical disorders complicating pregnancy (20-25%).

The commonest single preventable cause is obstetric hemorrhage which is responsible for 25-50% of maternal death.[2] Atonic PPH is the most important cause among obstetric hemorrhage (APH), rupture of uterus and ectopic gestation, Septic abortion is an important cause of death especially in Bangladesh and India.[3]

Method

A retrospective study was conducted in the Jahurul Islam Medical College Hospital which stretched for 3 years period from May, 2009 to April, 2012. Data collected from all pregnant women admitted in the department of Gynaecology and Obstetrics. Only death cases were enrolled for further study.

All the deaths in the department were reviewed in details in presence of professors and senior doctors. All the necessary information were collected and recorded in a preformed facility based maternal death review form and finally necessary clinical and statistical analyses were done.

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Result

During the study period there were 3200 deliveries. 3009 babies were born alive of which total number of maternal deaths was 21yielding the rate of maternal death in terms of 1,000 live births was 6.98.

Table I: Distribution of maternal deaths cases according to age (n=21)

Age Group	Number	Percentage
16-20	4	19.05
21-25	10	47.62
26-30	3	14.28
31-35	2	9.52
36-40	1	4.76
41-45	1	4.76

Table I shows, most of the patients (47.62%) belong to 21-25 years group who were in their early reproductive life.

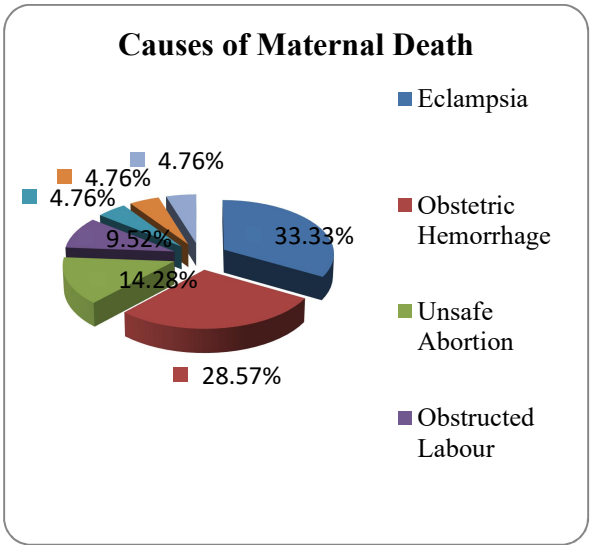

Fig-1. Causes of maternal death cases (n=21)

Analyzing the causes of maternal deaths it was found that eclampsia (33.33%) was the leading cause of death. Obstetric hemorrhage (28.57%) was the second leading cause of maternal death followed by unsafe abortion.

Table II: Parity distribution of maternal death cases (n=21)

Para	Number	Percentage
0	10	47.61
1-2	2	9.52
3-4	3	14.28
>4	6	28.57

It was observed that 47.61% of the patients were primigravida followed by para>4 were 28.57%.

Table III:Distribution of cases according to socio-economic condition (n=21)

Socio-economic condition	Number	Percentage
Low	15	71.43
Middle	5	23.81
Higher	1	4.76

71.43% patients were from low socio-economic group, 23.81 % were from middle class family and 4.76% patients from higher class family.

Table IV:Distribution of cases according to antenatal checkup (ANC) (n=21)

ANC	Number	Percentage
No	12	57.14
Irregular	7	33.33
Regular	2	9.52

We found 57.15% of the patients were not on ANC, 33.33% were on irregular antenatal care and 9.52% were on regular ANC.

Table V:Distribution of cases according to 3 delay model (n=21)

Delay	Number	Percentage
Delay in seeking advice	12	57.14
Delay in reaching to a health care facility	8	38.09
Delay in receiving adequate treatment	1	4.76

57.14% patients presented late due to delay in seeking advice, 38.09% patients died due to delay in reaching to a health care facility and 4.76% patient died due to delay in receiving adequate treatment.

20 patients (95.23%) died due to causes other than receiving adequate treatment in the hospital.

Discussion

Maternal mortality is an important indicator of a woman's health both in developing countries and in more developed countries.[4] Though the mortality rate (6.98/1000 live birth) is high than Bangladesh Maternal Health Services and Mortality Survey (2001)[5] it is low than other results of Khatun K and Parvin M.[6,7] The value in Jahurul Islam Medical College Hospital is not reflecting the situation of the whole country as patients present in this tertiary referral hospital when complicated.

Most of the patients (47.62%) belonged to 21-25 years group who were in their early reproductive life.According to the final report of NIPORT (BMMS-2001),[5]the pregnancy related mortality has been found to be highest among 25-29 year age group. But the risk per birth for women over 35 years is almost ten times the risk of birth for women aged 15-24.

Most of the maternal deaths occurred in patients coming from low socio economic condition having no or irregular ANC. Those who are of low socio economic group are usually less educated, cannot take health care and advice when they meet and cannot reach the best available center. So it is likely that the number of maternal death is more among them. This finding is consistent with finding of Khatun K,[6]and Parvin M.[7] The finding of survey report of NIPORT has shown that risk is lower in economically better of patients, higher in poorer but highest in middle age group.[8]

According to BMMS-2001, only half of the pregnant women make one or more antenatal visits and only 20% make 3 or more visits as recommended. There are some cases where death is not always avoidable but there are many deaths which could have been avoidable if regular antenatal checkup by well-trained health workers, midwives or doctors can be taken to recognize a complication at an early stage when death may be preventable by taking appropriate measures.

Eclampsia was the leading cause of death which is consistent with other study results.[9-14]

Obstetric hemorrhage was the second leading cause of maternal death in this study followed by unsafe abortion. The other causes of maternal death were obstructed labour, anemic heart failure, molar pregnancy and anesthetic hazards. Two patients died from obstructed labour after LSCS done, because of development of septicemia. One patient died from molar pregnancy after suction and evacuation from excessive hemorrhage.One patient died from anesthetic hazard in the operation table, due to cardiac arrest and one patient died from pregnancy with anemia due to anemic heart failure-which reflects extreme poverty.

Almost all cases presented late in the hospital when the prompt and effective treatment was not enough to save the lives.

Conclusion

To save the lives of a vast majority of women who develop obstetric complication, it is necessary to assist community in developing plans, to ensure that when a complication develops quick action can and will be taken so that women in need can reach to appropriate facilities in time. In this

connection it is useful to analyze separately each of the 3 steps that must be considered in order to get lifesaving treatment. Delay in any of the 3 stages can spell death. These delays result from socio-economic constraints, cultural conditions, geographical and environmental obstacles, administrative and logistic barriers that exist in the community.

Maternal mortality cannot be reduced unless women have timely access to health care facilities and to achieve this, greater emphasis should be given to improve the status of women in the society in order to increase their capacity, to control their lives including their sexual and reproductive health. Of all health initiatives increasing the availability of EOC and skilled attendance at birth has been recognized as a key intervention to reduce maternal mortality.

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