



## Knowledge of five obstetric danger sign among pregnant women attending antenatal care of ICMH, Matuail, Dhaka

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### Abstract

*This study was designed to investigate of five obstetric danger sign among pregnant women attending antenatal care of ICMH, Matuail, Dhaka.*

*It was a cross-sectional study conducted among 200 pregnant women, aged 18 years and above, who attended antenatal follow-up from May to August 2009 at Obstetrical out Patient Department (OPD), in ICMH, Matuail, Dhaka. Data were collected personally by using a structured questionnaire through interviewing which aimed to assess awareness of five danger signs.*

*In this study majority of the respondents, (62.5%) were from rural area and only 27.5% from urban area. The mostly reported mean age of pregnant women was around 25 years (74%>).*

*Almost all were housewife (98%). In case of education level, 6%> respondents did not receive any formal education and remaining was more or less educated. Among the all participants 40% and 60% were in 2<sup>nd</sup> and 3<sup>rd</sup> trimester of their pregnancy. Regarding source of knowledge 50% women got idea through reading posters, 15% informed by health care providers and 4%> were learned by watching and listening pregnancy healthcare related programs in television and radio. In terms of the five obstetric danger signs, only 2% respondents were knowledgeable about all of the signs. Majority of the women, 36%) had no idea about danger sign of pregnancy whereas 4%>, 14%>, 22%> and 22%> women knew at least one, two, three and four obstetric danger signs, respectively. Therefore, the most common spontaneously mentioned danger sign was 'convulsion' (52%>), followed by vaginal bleeding (50%), severe headache with vomiting (44%), high fever (32%) and prolong labour (16%>).*

*Women had low awareness of danger signs of pregnancy whereas better awareness of danger signs was strongly associated with higher level of education of the woman.*

**Keywords:** *Obstetric danger signs, Knowledge, Pregnancy, Antenatal care.*

### Introduction

Maternal morbidity and mortality are serious concerns in Bangladesh. In 2015 the global

maternal mortality rate (MMR) declined to 216 maternal deaths/100,000 live births.<sup>[3]</sup> In developing countries 99% maternal mortality was reported

comparing to developed countries and almost one third occur in South Asian regions. Although, maternal mortality worldwide dropped by about 44% between 1990 and 2015, one of the target of the Sustainable Development Goals (SDG) is to reduce the global maternal mortality ratio to less than 70 per 100 000 live births between 2016 and 2030 (WHO, 2018).<sup>[1]</sup> It was estimated that complications develop in about 600,000 pregnancies of the 4 million women who become pregnant every year. In Bangladesh, there are about 9 million women who have survived the rigors of pregnancy and childbirth and suffered from lasting complications. Bangladesh is one of the countries that achieved the primary target of MDG 5 by 2015. However, still now the MMR is not reached in desire level.

Women die from a wide range of complications in pregnancy, childbirth or after delivery. These life threatening complications are treatable, and thus most of these deaths are avoidable if women with the complications are able to identify and seek timely and appropriate emergency obstetrical care.<sup>[4]</sup> Danger signs in pregnancy are those signs that a pregnant woman will see, or those symptoms that she will feel which refers to that something wrong. Health care providers to basis out complications and initiate treatment immediately, the five most common danger signs and symptoms during pregnancy that can augment the risk of maternal mortality are: vaginal bleeding, high fever, severe headache and vomiting, prolong labour and convulsion. It is reported in Bangladesh that most of the maternal mortality is caused by postpartum haemorrhage (26%), eclampsia (15%), puerperal sepsis (11%), obstructed labour (8%), abortion (21%) and other obstetric complications (19%) (Report, 2001). So, most of the causes of maternal mortality and morbidity are clustered around the five danger signs of pregnancy.<sup>[2]</sup>

Most of these maternal deaths could be avoided by providing comprehensive antenatal care, skilled delivery care and access to emergency obstetric care. Moreover, women who attend antenatal care

(ANC) are more likely to know obstetric danger signs during pregnancy and delivery.<sup>[5]</sup> World Health Organization (WHO) recommends to raise awareness among women about danger signs before, during or after delivery to improve early detection of problems and reduce the delay to seek obstetric care. Therefore, ANC provides a unique opportunity to strengthen knowledge of obstetric danger signs and encourage institutional delivery. To reduce the maternal mortality and improve the overall reproductive health status of women, Bangladesh government has taken an extensive program, Safe Motherhood. The focus is on increasing utilization of EOC services by addressing the 'Three Delays and Five Danger Signs Model' through increasing coverage and decentralizing EOC services together with mobilizing the communities.<sup>[6]</sup> The vision is to create a socio-cultural momentum that reduces maternal mortality and morbidity as women's right.<sup>[7]</sup>

One of the major causes of high maternal and perinatal mortality rate is lack of awareness on management of reproductive crisis, namely danger signs in pregnancy and seeking treatment.<sup>[8]</sup> On the basis of inter-related social, cultural and financial factors of reproductive age women, various strategies on maternal and child health have been taken. Research is essential for careful health service planning and health education programs. It is also a significant step to impart knowledge to the women regarding different types of danger signs as these can eventually lead to complications in pregnancy and its total consequences.<sup>[9]</sup> Such needs-assessment can also help women to seek early treatment against the grave aftermath and crux of consequences in appropriate time and thereby can help reducing maternal and child morbidity and mortality. Considering the aforesaid circumstantial evidences, the present study was conducted to explore the knowledge regarding five danger signs in pregnancy among the pregnant women attending antenatal clinic of ICMH.<sup>[10]</sup>

**Objective**

To access the knowledge of five obstetric danger sign among pregnant women attending antenatal care of ICMH, Matuail, Dhaka

**Materials and Methods****Study design and setting**

A cross-sectional study was conducted from May to August 2009 at Obstetrical out Patient Department (OPD), in the Institution of Child and Mother Health (ICMH), Matuail, Dhaka which is a well known antenatal clinic in this area.

**Sampling size**

Overall 200 cases were included in this study on the basis of inclusion and exclusion criteria. The study population included all pregnant women in second and third trimester, aged 18 years and above who attended antenatal follow-up at the OPD of ICMH. The women who were in first trimester were fall in exclusion criteria. Convenience sampling was used to recruit the mothers to the study.

**Ethical approval**

Permission to conduct the study was approved by the institutional review board and all information was collected after taking informed consent from the couples. A letter of permission was also obtained from the director of Hospital ICMH.

**Questionnaire design and modification**

Data were collected personally by using a structured questionnaire through interviewing which aimed to assess awareness of five danger signs (bleeding, high fever, convulsion, severe headache with vomiting and prolong labour) of obstetric complications and identify associated factors among the pregnant women of the study area.

The questionnaire used in this study contained 8 variables and comprised three sections:

- Socio-demographic characteristics, including age, address, level of education, working status of the patient, working status of the husband and monthly household income.
- Pregnancy characteristics, including obstetric history (number of pregnancies, number of deliveries, trimester of pregnancy) and

number of antenatal visits.

- Knowledge of five pregnancy danger signs. Women were asked whether they had heard of pregnancy danger signs and their sources of information. They were then asked whether they can recall the danger signs during their pregnancy.

**Data analysis**

After data collection, responses for open-ended questions were reviewed, categorized, and coded for computerization. Microsoft Office Excel 2007 was used for data analysis. Percentages were used to describe the data.

**Result****Socio-demographic characteristics of the respondents**

A total of 200 pregnant women were included in the study with a response rate of 100%. Majority of the respondents were from rural area (62.5%) and only 27.5% from urban area. The mean ( $\pm$ standard deviation (SD)) ages of respondents among three age groups (<20, 20- 30 and >30 years) were 18.04 ( $\pm$ 1.21), 25.08 ( $\pm$ 2.76) and 32.34 ( $\pm$ 1.39) years, respectively. Twelve (6%) respondents did not receive any formal education. Among the remaining respondents, 36 (18%) completed primary school, 104 (52%) completed secondary school, 16 (8%) had higher secondary education and 32 (16%) studied above higher secondary education. Out of 200 respondents, almost all were housewife (98%) and only 2% were doing job. Regarding occupation of respondents' husband the majority was service holder (42%) followed by small businessman (30%), foreigner (20%), day laborer (6%) and others (2%). Their monthly family income were summarized into four groups (Up to 3000/-, 3000-5000/-, 5000-10,000/- and above 10,000/- Taka) and the mean ( $\pm$ standard deviation (SD)) of the estimated income of the participants were 2612.5 ( $\pm$ 264.67), 3752.08 ( $\pm$ 548.88), 7021.42 ( $\pm$ 1728.77) and 20030.3 ( $\pm$ 6825.89) respectively (Table 1).

**Table (1):** Socio- Demographic Characteristics of respondents (n =200).

Variables	Frequency	Percent	Mean±SD
Residence	55	27.5	
<b>Urban</b>			
<b>Rural</b>	145	72.5	-
Age	22	11	18.04±
<b>&lt;20</b>			1.21
<b>20-30</b>	148	74	25.08±2
			.76
<b>&gt;30</b>	30	15	32.34±1
			.39
Level of education	12	6	
<b>No read and write</b>			
<b>Primary</b>	36	18	-
<b>Secondary</b>	104	52	-
<b>Higher secondary</b>	16	8	-
<b>Above higher secondary</b>	32	16	-
Occupation of the respondents	196	98	
<b>Housewife</b>			
<b>Service holder</b>	4	2	
Occupation of the respondents' husbands	60	30	
<b>Business</b>			
<b>Service holder</b>	84	42	-
<b>Foreigner</b>	40	20	-
<b>Day laborer</b>	12	6	-
<b>others</b>	4	2	-
Monthly family income	48	24	2612.5±
<b>Up to 3000/-</b>			264.67
<b>3000-5000/-</b>	48	24	3752.08
			±548.88
<b>5000-10,000/-</b>	70	35	7021.42
			±
			1728.77
Above10,000/-	34	17	20030.3±6825.89

**Obstetric characteristics' of respondents**

Out of 200 pregnant women, 76 (38%) were pregnant for the first time(nullipara) and 68 (34%) had one delivery (primipara). Fifty six (28%) respondents were multipara in which 44 (22%) had two deliveries, 8 (4%) had three deliveries and 4 (2%) had four deliveries. Among the all participants 60% were in 3<sup>rd</sup> trimester and remaining 40% were in 2<sup>nd</sup> trimester of their pregnancy. In this study, respondents had visited health facilities for ANC service where 8% women got only one ANC service, 30% got two ANC service, 28% received three times ANC and 38% received more than three ANC service. Regarding source of knowledge about five important danger signs of pregnancy, 50% women claimed that they got idea through reading posters, 15% women were informed by health care

providers and 4% were learned by watchins and listening pregnancy healthcare related programs in television and radio (Table 2).

**Table 2** Obstetric characteristics of respondents

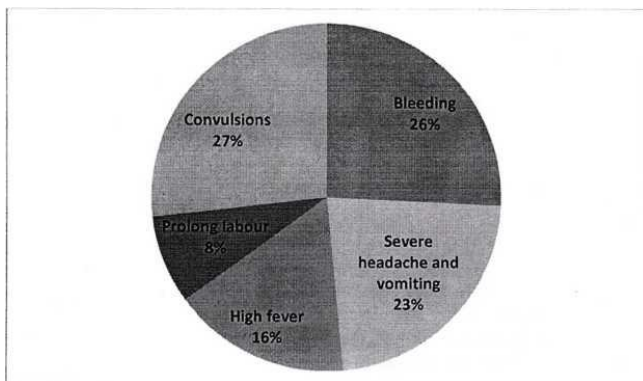
Variables	Frequency	Percent
Parity of the patients	76	38
<b>Nullipara (didn't have any type of delivery)</b>		
<b>Primipara (had one delivery)</b>	68	34
<b>Multipara (had 2 deliveries)</b>	44	22
<b>Multipara (had 3 deliveries)</b>	8	4
<b>Multipara (had 4 deliveries)</b>	4	2
Trimester of pregnancy	80	40
<b>Second trimester</b>		
<b>Third trimester</b>	120	60
Number of Antenatal checkup	16	8
<b>One time</b>		
<b>Two times</b>	60	30
<b>Three times</b>	56	28
<b>Four times</b>	28	14
<b>Five times</b>	28	14
<b>More than five times</b>	20	10
Source of knowledge	30	15
<b>Health care provider</b>		
<b>Poster</b>	100	50
<b>Radio &amp; Television</b>	8	4

**Knowledge of obstetric danger signs**

In this study, bleeding, severe headache and vomiting, high fever, prolong labour and convulsions were considered as five main danger signs during pregnancy. Out of 200 pregnant women, only 2% respondents were knowledgeable about all of the five obstetric danger signs. Majority of the women, 36% had no idea about danger sign of pregnancy, 4% women knew at least one danger sign, 14% women knew two danger signs and equal amountof respondents, 22% in each, had mentioned three and four obstetric danger signs, respectively. When asked to mention danger signs during pregnancy, the most common spontaneously mentioned danger sign was 'convulsion' (52%), followed by bleeding (50%) and severe headache with vomiting (44%) whereas, only about one fourth of the total respondents could recall high fever (32%) and prolong labour (16%) as a danger signs of pregnancy (Table 3) (Figure 1).

**Table 3:** Knowledge of mothers about five obstetric danger signs during pregnancy

Variables	Frequency	Percent
Five obstetric danger signs	100	50
Severe headache and vomiting	88	44
High fever	64	32
Prolong labour	32	16
Convulsions	104	52
Number of obstetric danger signs known by respondents	72	36
None		
One	8	4
Two	28	14
Three	44	22
Four	44	22
Five	4	2

**Figure 1:** Respondents knowledge about five danger signs of pregnancy (N=200)

## Discussion

It is a matter of concern that all women in developing countries like Bangladesh are at heavy risk of obstetric complications. Most of the time, the treatment and other medical and nursing management for affected women start following recognition of danger signs. Unfortunately, some tragic consequence, women die at home or in their way to the health facility, take place due to lack of proper idea about danger signs of pregnancy complications as well as immediate effective actions.

Therefore, the current study was conducted in 2009 to assess the knowledge of pregnant women about five most important danger signs and symptoms during pregnancy like bleeding, severe headache and vomiting, high fever, prolong labour and convulsions.<sup>[11]</sup> This study revealed that 36% women were not aware of any danger sign of

pregnancy that indicates the sign of low awareness. Slightly more result was observed to a study conducted in kuwanzulu, South Africa, in 2011 and in rural Tanzania, in 2009 in which nearly half (48%) of all pregnant women did not know any danger signs.<sup>[12]</sup> In this study, out of 200 pregnant women only 4% mentioned at least one danger sign and the rate was extremely lower than other studies (52% in Uganda and 26% in Tanzania).<sup>[13]</sup>

In this study, convulsion was the most recognized obstetric danger sign during pregnancy (52%) whereas the second most recalled danger sign was vaginal bleeding (50%).<sup>[14]</sup> In other countries the findings were slightly different as most of them reported vaginal bleeding was most recognized danger sign among all, 9.6% in Tanzania, 39% in Pakistan. The reason excessive vaginal bleeding after delivery is most commonly recognized as a danger sign may be that it is the most visible sign and the most common cause of maternal death immediately after delivery. Furthermore, the mean interval from the onset of severe bleeding to death is two hours in contrast to an average of 12 hours for bleeding during pregnancy and delivery (Baqui and Ahmed, 2004).<sup>[15]</sup>

In this study, among 200 women, 16% were aware of prolonged labor as an obstetric danger sign despite its association with both maternal and fetal morbidity and mortality. According to the Bangladesh Maternal Mortality Survey, 37% women surveyed cited prolong labour as a danger sign of pregnancy. In a study in Gambia, involving urban and rural women attending antenatal care, prolonged labor was not recognized as a danger sign, a similar finding was reported from Malawi.<sup>[16]</sup> However, a study in Pakistan reported that 23% of women are aware of this danger sign. The difference in knowledge observed is difficult to explain but it may be due to how interviews were conducted, whether prolonged labour was one among danger signs women were counseled during antenatal care or perception of prolonged labour in these culturally different areas. Besides this the current study revealed that 44% and 32% women

recognized severe headache and vomiting as well as high fever as a danger sign of pregnancy, respectively.

Women who had completed primary education had higher awareness of danger signs than women with incomplete or no formal education. Better education is associated with enlightenment and awareness of different health conditions although exposure to information is crucial. Studies in Tanzania and elsewhere indicated that a higher level of education was associated with lower maternal mortality, whereas other studies have shown no association.<sup>[16]</sup>

Despite these conflicting results, we still believe that women's education is important for understanding health messages and to be able to make decisions regarding their health and care.

Women who made four or more antenatal care visits were more aware of danger signs, independent of gestational age at booking. It is worth noting that women advised to deliver in hospital due to risk identified during antenatal care were not more aware of danger signs than those not advised. Provision of information aimed at increasing awareness of risk factors and danger signs in pregnancy are a challenge to antenatal programs and the difficulties involved should not be underestimated. A recent Cochrane review failed to find high quality evidence for the benefit of antenatal education for child birth. Furthermore, a literature review of qualitative studies concluded that interaction between patient and nurse has a complex and multifaceted nature. Studies from Gambia, Nepal, Tanzania and Zimbabwe, reported that less than three minutes were spent on individual counseling per consultation in antenatal clinics, whereas, simulation of FANC in Tanzania showed that the necessary time to provide appropriate information was 15 minutes. It is recommended that the socio cultural aspects should be taken into account in modern concepts of information, education and communication.<sup>[17]</sup>

The BMMS reported that awareness among women about complications was low. The most common complications reported were pre-eclampsia

followed by prolonged/obstructed labour and postpartum bleeding. The reason for the low percentage of reported cases of postpartum bleeding could be due to the fact that very few with the complication survived. Retained placenta, excessive vaginal bleeding and signs of eclampsia were considered by the women as potentially life threatening. Sixty percent of those with life threatening complications sought treatment, the most common reasons for seeking treatment were convulsions followed by prolonged labour and retained placenta. Among women with perceived complications, only 32% sought treatment from a qualified practitioner.

The Government of Bangladesh has undertaken an initiative at district level called 'Accelerating Progress towards Maternal & Neonatal Morbidity Reduction' to reduce maternal and neonatal mortality and morbidity in the country. Three UN agencies, UNFPA, UNICEF and WHO are jointly providing technical support to this initiative. The baseline survey was conducted during March- May 2008 in 22 upazilas of the 4 districts namely Jamalpur, Moulvibazar, Narail and Thakurgaon. Awareness of danger signs of pregnancy was low among the surveyed women. Only 49% of women in the total sample were found to be knowing of at least two danger signs of pregnancy. Awareness of danger signs generally appeared lowest in Thakurgaon, intermediate in Moulvibazar and highest in Narail and Jamalpur.

Further studies on the quality of counseling on danger signs and utilization of health services, and appropriate training modalities for health workers are needed. Qualitative approaches, such as in-depth interviews, can be used to explore how women perceive the information given.

### Conclusion

Overall, in this study, women had low awareness of danger signs of pregnancy whereas better awareness of danger signs was strongly associated with higher level of education of the woman. There is a clear need to create awareness regarding obstetric

complications. Therefore, we recommend the following in order to increase awareness of danger signs of obstetrical complications: To improve quality of counseling to women on health messages especially danger signs of obstetric complication, and involving husbands and other family members in antenatal and postnatal care; to use radio messages and educational sessions targeting the whole community and to intensify provision of formal education as emphasized in the second millennium development goal to enable women better understand information given.

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