High Risk Pregnancy among Women Attended at Antenatal Clinic in a Tertiary Hospital

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High risk factors of pregnancy have a major effect on morbidity and mortality of pregnant women. Risk factors of pregnancy represent a public health challenge in both industrialized and developing countries. To estimate the prevalence rate of high risk pregnancies in Model Family Planning Clinic of Mymensingh Medical College Hospital, a cross sectional type of observational study was conducted for duration of 15 days. Sample size was 376 and individual pregnant woman was the unit of study. Data were collected by interviewing the respondents by using a form. Collected data were analyzed through master sheet by using scientific calculator and presented by appropriate tables and diagrams. Out of 376 pregnant women, 204 were at risk with a prevalence rate of 54.3 percent. Of 204 at risk women, 114(55.9%) women had single risk factor, while 90 (44.1%) had multiple risk factors. Out of 376 pregnant women, 121(32.2%) were pregnant for the first time, while the rest 255(67.8%) women were multigravida. Of primigravid, 36 women, while of multigravid 168 women were at risk. Among primigravida 24(66.7%) were with single risk factor, whereas 12(33.3%) were with multiple risk factors. On the contrary, of 168 at risk women with multigravidity, 90(53.6%) had single risk factor, while 78 (46.4%) were with multiple risk factors. Factors like history of caesarean section (66), abortion (51), Stillbirth (38), diabetes mellitus (28), preeclampsia (27), PPH(25), severe anaemia (22), hypertension (20), APH (16) and short stature (11) were the worth mentioning. On the basis of study finding, it can be concluded that the high risk pregnancy is more prevalent among multipara having past history of caesarean section, still-births and instrumental delivery.

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Key words: Pregnancy, risk

Introduction

Pregnancy and childbirth are physiological processes. However, all pregnancies and childbirth are potentially at risk. Globally, every year nearly 8 million women suffer from pregnancy-related complications. More than half of them die as a result.[1] Maternal morbidity and mortality are high for the poor women in developing countries. One woman in 11 die from pregnancy related complications in developing countries in contrast to 1 in 5000 in developed countries. For one maternal death, at least sixteen more women suffer from severe morbidities. A high risk pregnancy is one that has significant probability for a poor maternal or foetal outcome.[2] High risk pregnancies are a small segment of the obstetrical population that

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produces the majority of the maternal and neonatal morbidity and mortalities.[2] However, in 20 to 30 percent of pregnancies mother, foetus or neonate is in a state of increased jeopardy. Generally, about 20 percent of pregnant women are at moderate level of risk, while another 5 percent are at high risk[1]. Using risk approach it is possible to detect the high risk pregnancy. And by providing special care to these high risk women, as well as minimum care to the rest of the majority women utilizing the scarce resources, it is possible to improve maternal and perinatal outcomes.[3] In industrialized countries maternal mortality have been reduced significantly through identification of high risk cases. But in developing countries maternal morbidity and mortality are still high. High risk women require sophisticated maternal and foetal surveillance and in many occasions difficult management decisions in order to optimize their outcome.[4]

The risk factors may be pre-existing prior to or at the time of first antenatal visit or may develop subsequently in the ongoing pregnancy, labour or puerperium. Several socioeconomic, biological, medical and surgical, obstetrical factors and current pregnancy complications unfavourably influence the course of pregnancy and its outcome. Residents of urban slums and remote rural areas, women from very poor families, women deserted by husbands or widows belong to socioeconomic factors. While women less than 18 years or more than 35 years, grand multipara, short statured primipara and women becoming pregnant with quick succession, grant multi para constitute the biological factors. Women with history of longstanding infertility, repeated abortions, intrauterine deaths, instrumental or abdominal delivery, retained placenta, history of large perineal tear, stillbirth, prolonged labour are the risk factors under past obstetric factors. Medical and surgical factors include pregnancy associated with severe anaemia, diabetes mellitus, hypertension, tuberculosis, infective hepatitis, cardiac and renal diseases.[3,4] Over 50 percent of all maternal complications and 60 percent of all primary caesarean section arise from high risk group of cases.[1]

Nationally, comprehensive maternal and child health service delivery infrastructure from grassroot to higher level has been developed in order to reduce maternal and neonatal mortality rate, The central purpose of antenatal care is to arrange skilled care for the high risk group, while to provide appropriate care for all mothers with an aim to achieve a healthy mother and a healthy baby at the end of a pregnancy. The study was conducted with a view to work out the prevalence of high risk pregnancy as well as to identify the associated risk factors among women attended at antenatal clinic, Model Family Planning Clinic, Mymensingh Medical College Hospital, Mymensingh.

Methods

A descriptive, cross-sectional study was conducted among pregnant women attended for ante-natal care at Model Family Planning Clinic in Mymensingh Medical College Hospital, Mymensingh during January 2016 to March 2016. Study was conducted for partial fulfillment of undergraduate curriculum in Community Medicine under the University of Dhaka. Individual pregnant woman was the unit of study with a sample size of 376 selected by purposive type of nonrandom sampling technique. Case record form was used as data collection tool that was pre-tested before finalization. Data were collected by the 3rd year MBBS students Batch M-51 under the supervision of teachers from department of Community Medicine, Mymensingh Medical College, Mymensingh. Before embarking on, the students were adequately oriented regarding the study

procedure including seeking informed consent from the pregnant mother, use of form and method of date collection. Collected data were checked for omission, consistency and relevancy. Data were analyzed by computer software SPSS version 20.0. It will also help in assessing the factors affecting the antenatal care of high risk mothers in Bangladesh.

Results

A descriptive cross-sectional study was conducted among 376 pregnant women attended at Model Family Planning Clinic, Mymensingh Medical College Hospital, Mymensingh for antenatal care with a view to calculate the prevalence rate of high risk pregnancy and to know the associated risk factors. It was revealed that maximum age of women was 37 years and minimum age was 18 years with a mean of 25.01 years and standard deviation of 4.20 years. Majority of the respondents 145 (38.6%) were within 20 to 24 years, while as many as 135 (35.9%) pregnant women were in age group 25 to 29 years, 61 (16.2%) were in age group 30 to 34 years, 26 (6.9%) were in age group 15 to 19 years, 9(2.4%) were in age group 35 to 39 years. Religion of highest number 368 (97.9%) of respondents were Islam, whereas only 8(2.1%) women was Hinduism. Monthly family income was ranged from 2000 to 50000 taka. As many as 139 (37.0%) respondents belonged to family with monthly income less than 10000 taka, while 125 (33.2%) had 10000 to 19999 taka, 112 (29.8%) had more than 20000 taka. Mean family income of 15175.5 taka with a standard deviation of 7924.6 taka. It was observed that highest number of respondents 190 (50.5%) had their residence in urban area, while 130 (34.6%) had in rural area and 56 (14.9%) had in suburbs. An overwhelming majority of pregnant women 358 (95.2%) were literate, while only 18(4.8%) were illiterate. As many as 122 (32.4%) were prigravida, while the rest 254(67.6%) were multigravida. Of 254, eleven (4.4%) were grand multipara. As many as 143 (38.0%) women were with parity zero, 135 (35.9%) women were with parity one and 98 (26.1%) women were multipara. Regarding duration of pregnancy, it was revealed that highest number of respondents 64 (17.0%) were in first trimester, while 203 (54.0%) were in second trimester and 109 (29.0%) were in third trimester. Body weight of the pregnant women was ranged from 33 to 84 kilograms. At least 298 (79.3%) women had weight 50 to 69 kg, while 52(13.8%) had 30 to 49 kg, 26 (6.9%) had 70 to 89 kg with a mean body weight of 56.6 kg with a standard deviation of 7.9 Kg. Height range was from 135 to 175 centimetres. Height of 11 (2.9%) pregnant women was below 140 cm, while 365 (97.1%) had height equal to and more than 140 cm. Systolic blood pressure was ranged from 70 to 170 mm of Hg, while that of diastolic blood pressure was from 50 to 100 mm of Hg with a mean of 111.0 and 76.0 mm of Hg, and standard deviation of 13.5 and 8.6 mm of Hg respectively. Systolic Blood Pressure (SBP) of 16 (4.3%) women had SBP equal to or more than 140 mm of Hg, while 48 (12.8%) women had Diastolic Blood Pressure (DBP) equal to and over 90 mm of Hg and marked as hypertensive. Out of 376 pregnant women, 204 were at risk with a prevalence rate of 54.3 percent. Of 204 at risk women, 114(55.9%) women had single risk factor, while 90(44.1%) had multiple risk factors. Out of 376 pregnant women, 121(32.2%) were pregnant for the first time, while the rest 255(67.8%) women were multigravida. Of primigravid, 36 women, while of multigravid 168 women were at risk (Fig-1). Among primigravida 24(66.7%) were with single risk factor, whereas 12(33.3%) were with multiple risk factors. On the contrary, of 168 at risk women with multigravidity, 90(53.6%) had single risk factor, while 78 (46.4%) were with multiple risk factors. History of caesarean section (66),

abortion (51), Stillbirth(38), diabetes mellitus(28), preeclampsia (27), PPH(25), severe anaemia (22), hypertension(20), APH(16) and short stature were the noteworthy factors that made the pregnancy at risk (Table 1).

Table I: Risk factors of pregnancy n=204

Risk Factors	Frequency	Percentage
Prolonged Pregnancy	1	0.5
History of vaccum extraction (ventouse)	1	0.5
Polyhydramnios	1	0.5
Oligohydramnios	3	1.5
History of IUD	3	1.5
Elderly (>30 years) primigravida	3	1.5
Transverse lie	4	2.0
Liver disease	5	2.5
History of forceps delivery	6	2.9
Renal disease	7	3.4
Breech presentation	8	3.9
Short statured primi	11	5.4
APH	16	7.8
Hypertension	20	9.8
Severe anaemia	23	11.3
H/O PPH	25	12.3
Pre-eclampsia	27	13.2
Diabetes Mellitus	28	13.7
History of still-birth	38	18.6
History of abortion	51	24.9
History of CS	66	32.4

*Multiple conditions

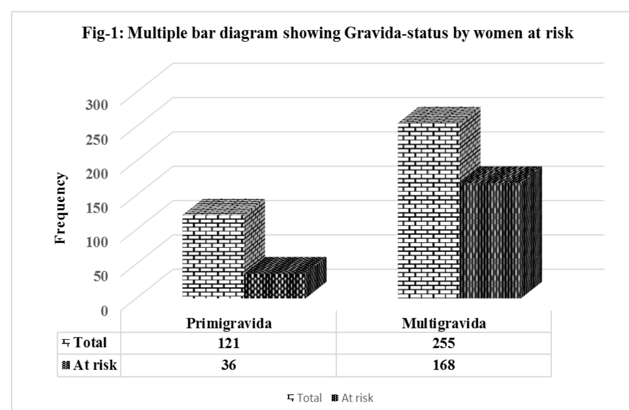

Fig-1: Multiple bar diagram showing Gravida-status by women at risk

Discussion

A descriptive, cross sectional study was conducted to find out the prevalence of high risk pregnancy among women attending at antenatal Clinic, Model family planning clinic at Mymensingh Medical College Hospital, Mymensingh with a sample size was 376. Out of 376, two hundred and four pregnant women were at risk with a prevalence rate of 54.3 percent. In an analytic cross sectional study carried out at Rajiv Ghandhi University of Health science, Banglalore, India the estimated prevalence of high risk pregnancy was 14 per cent. This is not substantiate the current study findings which might be due to purposive type of sampling used for the selection of the study units.[5] Of 204 at risk women, 114(55.9%) women had single risk factor, while 90(44.1%) had multiple risk factors. It was observed that 26(6.9%) were in age group 15 to 19 years. In a retrospective study the obstetric behaviour and outcome in 80 teenage pregnancies it was observed that overall teenage pregnancy was 3.2 percent.[6] In another study it was revealed that out of 4,649 pregnant mothers, 704 (15.1%) were teenagers.[7] The findings are more or less similar to the current study findings. The difference might be due to nonrandom sampling technique. As many as 130 (34.6%) had residence in rural area and 56 (14.9%) had in suburbs. In a hospital-based admitted patients it was observed that 157(69.5%) pregnant women had their residence in rural

area.[8] At least 18(4.8%) pregnant women were illiterate, 122 (32.4%) women were pregnant for the first time, 11(4.33%) were grand multipara. Height of 11(2.9%) pregnant women was below 140 cm, 64 (17.02%) women were hypertensive. It is postulated that illiterate, elderly primigravid, grand multipara women are at high risk for poor pregnancy outcomes.[3,4]

Conclusion

It can be concluded that the high risk pregnancy is more prevalent among multipara having past history of caesarean section, abortion, PPH, still-births and instrumental delivery. Moreover, various biological characteristics like teenage, short stature, first pregnancy at late reproductive life coupled with non-obstetrical factors like severe anaemia and comorbidities like diabetes mellitus, hepatic and renal diseases are responsible for making a pregnancy at risk.

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