Pattern of Risk Factors Associated with Pregnancy among the Recently Delivered Women

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ABSTRACT

Background : 'Pregnancy risk' is defined as the probability of dying or experiencing severe injury as the result of pregnancy or childbirth. High maternal mortality rate can be decreased by reduction of pregnancy risk among the women.

Objectives : To find out the pattern of pregnancy risk among the recently delivered women.

Methods and Material : This cross sectional study was conducted in gynaecology and obstetric department of Dhaka Medical College, Hospital and Combined Military Hospital, Dhaka from January 2004 to July 2004. Semi structured questionnaire was used as data collection instrument. Collected data were analyzed by SPSS.

Results : A total number of 124 recently delivered women were studied during this period. The study revealed that most of the respondent 36.3% were 20-24 years of age groups. Most of the respondents 90.3% were housewife, 24.2% were illiterate and 91.1% received antenatal care. About 31.5% had previous bad obstetric history and 25.8% had morbidity during pregnancy. The frequent compliant was high blood pressure in 37.5%. Among the respondents 45.2% had obstetric problem during recent pregnancy and highest percentage had complaint of dependent oedema is 51.8%. About 60.5% respondents faced problem during delivery and 12.9% had history of complication after delivery. The study revealed that 62.5% of age group <20 and ≥ 35 had ≥ 3 risk factors compared to 26.9% of age group 20-35 had ≥ 3 risk factors. The proportion of ≥ 3 risk factors were higher among the mothers whose husband were day labour (59.1%) compared to service holder (26.3%) and businessman (22.7%). The proportion of ≥ 3 risk factors were higher among the mother with history of two abortion (85.7%) as compared to single abortion (51.7%) and no abortion (20.5%). The study revealed that pregnancy risk was statistically significant in relation to age, occupation, education, number of pregnancy and number of abortion among the recently delivered women.

Conclusion : The result of this study would be helpful in making appropriate interventions for pregnancy risk factors reduction in terms of proper anti natal care, safe delivery system and post natal care.

Key words : Pregnancy risk, high risk mother, recently delivered women.

Introduction

'Pregnancy risk' is defined as the probability of dying or experiencing severe injury as the result of pregnancy or childbirth[1]. All pregnancies and deliveries are potentially at risk. However, there are certain categories of pregnancies where the mother, the fetus or the neonate is in a state of increased jeopardy. About 20-30 percent pregnancies belong to this category. Even with adequate antenatal and intranatal care, this small group is responsible for 70-80% of perinatal mortality and morbidity[2]. Annually, the number of women globally suffering from complications during/ after pregnancy is approximately

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9.5 million and more than 300,000 pregnant women will die[3,4]. Millennium Development Goals (MDG) are targeted to reduce the maternal mortality rate (MMR) to 143 per 100,000 live births by 2015. This has not been achieved in Bangladesh as the MMR of this country was 176 per 100,000 live births in 2015, and despite making progress towards the reduction of MMR, it still has a higher MMR than many other countries[5]. However, this pace of reduction needs to improve with a view to meeting the challenge of the 2030 Sustainable Development Goal (SDG-3.1) of an MMR of less than 70 per 100,000[6]. Therefore, understanding the causes of maternal deaths in Bangladesh is a primary requirement for further reduction in MMR. About three fourths of maternal deaths are caused due to the complications during pregnancy and child birth period[7]. Haemorrhage, excessive vomiting, convulsion/fits, and oedema face/feet/body were considered as the high risk pregnancy related complications[8]. In Bangladesh the main causes of maternal death are postpartum Hemorrhage (26%), abortion (21%), eclampsia (16%), Puerperal sepsis (11%), obstructed labour (8%) and other obstetric causes (18%)[9]. In this study an attempt has been made to find out the proportion of different pregnancy risk factors among the recently delivered women. It is expected that the finding of this study will contribute to future planning for appropriate preventive and curative measures for risk factors of currently pregnant women. The findings of this study may lead to some recommendations, which will help to reduce the pregnancy risk and will give some positive impact in reduction of maternal mortality and morbidity.

Methods and Materials

A cross sectional study was conducted among the recently delivered women to find out the pregnancy risk among them in gynaecology and obstetrics department of Dhaka Medical College Hospital and Combined Military Hospital, Dhaka with effect from January 2004 to June 2004. Total 124 respondents (recently delivered women who stayed in hospital upto 07 days after delivery) were taken as sample size. Data were collected by a semi structured questionnaire (pretested) by face to face interview. Collected data were analyzed and interpreted by frequency table, cross tables, charts, graphs computation of mean, median and standard deviation, chi-square and P-value were done with the help of computer using Statistical Package of Social Science (SPSS).

Results

The result of the study revealed that the mean age of the respondents was 25.3 ± 5.0 years. Highest percentage (36.3%) was in the range of 20 to 24 years. Out of 124 respondents 24.2% were illiterate and among the educate respondents highest 37.9% had secondary level of education. Regarding husbands education, 15.3% were illiterate and among the educated, 37.1% had secondary education and 90.3% respondents were housewife. The mean age of first marriage was 18.5 ± 2.7 years. The mean age of first birth was 21.0 years. Highest percentage 71.8% got married at the age of 16-20 years and 58.9% gave birth at the age of 20-24 years. The mean number of pregnancy was 2.39 ± 1.47. Highest percentage 35.5% had first pregnancy followed by 24.2% had 2, 20.2% had 3 and 20.2% had 4 and above pregnancy. 91.1% had history of antenatal care and 31.5% had previous bad obstetric history. In the present study, composite current pregnancy risk factors has been assessed based on morbidity during pregnancy, obstetric problem during pregnancy, problem during delivery and complications after delivery. The mean number of risk factors was 1.87 ± 1.11 ranging from 0 to 4. It was evident that 11.3% had no risk factors, 28.2% had one, 29.0% had two, 25.0% had three and 6.5% had four risk factors. Out of 124 respondents, 11.3% had no pregnancy risk factors, 57.3% had one to two and 31.5% had three or more risk factors. The proportion of three and above risk factors were higher among the mother with less than 20 and 35 years above age group (62.5%) compared to 20-35 years and the difference was statistically significant (P<0.05)

indicating the risk factors were higher in extreme age group. The proportion of 3 and above pregnancy risk factors were higher among the mother engaged in service or other job (50.0%) compared to housewife (29.5%), but 1-2 risk factors were higher among housewife (58.0%) compared to other than housewife (50.0%). However, the association between number of risk factors and occupation of the respondents was not statistically significant (P>0.05).

The proportion of 3 and above risk factors were higher among the mother's husband of daily labourer (59.1%) followed by service (26.3%) and business (22.7%) and the association was statistically significant (P<0.05) indicating pregnancy risk factors increases with low socio-economic condition. The proportion of 3 and above risk factors were higher among illiterate mother was (53.5%) compared literate mother was (24.5%) whereas 1-2 risk factors was higher among the literate mother (63.8%) and it was 36.7% among illiterate mother. A statistically significant association was found between pregnancy risk factors and literacy of mother (P<0.05) indicating the risk pregnancy increased with illiterate mother. The proportion of 3 and above risk factors were higher among the mother of illiterate husband was (57.9%) compared literate husband was (26.7%), whereas 1-2 risk factors was higher among the literate husband 63.8%) and it was 21.1% among illiterate mother. A statistically significant association was found between pregnancy risk factors and literacy of husband (P<0.05) indicating the risk pregnancy increased with illiterate husband. Analysis revealed that statistically significant association was found between age at first birth and number of risk factors (P<0.05) indicating the number of pregnancy risk factors increased with age at pregnancy less than 20 years. A statistically significant association was also found between number of pregnancies and number of risk factors (P<0.05) indicating risk pregnancy increase with increases number of pregnancies. Analysis revealed that number of risk factors increases with number of abortion and the association was statistically significant (P<0.01)
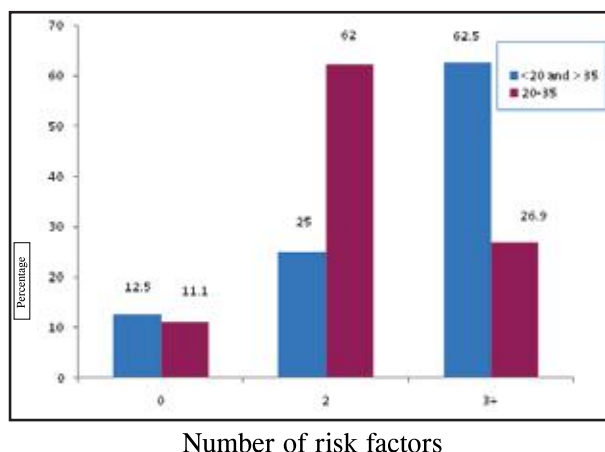
Table I: Distribution of respondents by number of pregnancy risk factors

Number of risk factors	Frequency	Percent
0	14	11.3
1	35	28.2
2	36	29.0
3	31	25.0
4	8	6.5
Total	124	100.0

Mean $\pm$ SD=1.87$\pm$ 1.11
Range= 0-4

Figure 01: Distribution of respondents by number of pregnancy risk factors and age

Number of risk factors
X^2=8.993; df=2; p value = 0.011; (p<0.05)

Table II: Distribution of respondents by number of pregnancy risk factors and occupation of the respondents and their husband

Variables	No. of risk factors			Total	p value
	0	1-2	3+		
Occupation (respondents)					
House wife	14(12.5)	65(58.0)	33(29.5)	112(100.0)	X^2=3.076; df=2; p value = 0.215; (p>0.05)
Others	00(0.0)	6(50.0)	6(50.0)	12(100.0)	
Total	14(11.3)	71(57.3)	39(31.5)	124(100.0)	

Variables	No. of risk factors			Total	p value
	0	1-2	3+		
Occupation (husband)					
Daily labourer	1(4.5)	8(36.4)	13(59.1)	22(100.0)	X^2=10.450; df=4; p value = 0.033; (p<0.05)
Service	9(11.3)	50(62.5)	21(26.3)	80(100.0)	
Business	4(18.2)	13(59.1)	5(22.7)	22(100.0)	
Total		71(57.3)	39(31.5)	124(100.0)	

Figure in parenthesis indicate percentage

Table III: Distribution of respondents by number of pregnancy risk factors and level of education of respondent and their husband

Variables	No. of risk factors			Total	p value
	0	1-2	3+		
Level of education (respondent)					
Illiterate	3(10.0)	11(36.7)	16(53.3)	30(100.0)	X^2=9.014; df=2; p value = 0.011; (p<0.05)
Literate	11(11.7)	60(63.8)	23(24.5)	94(100.0)	
Total	14(11.3)	71(57.3)	39(31.5)	124(100.0)	

Variables	No. of risk factors			Total	p value
	0	1-2	3+		
Occupation (husband)					
Illiterate	4(21.1)	4(21.1)	11(57.9)	19(100.0)	X^2=12.019; df=2; p value = 0.002; (p<0.01)
Literate	10(9.5)	67(63.8)	28(26.7)	105(100.0)	
Total	14(11.3)	71(57.3)	39(31.5)	124(100.0)	

Figure in parenthesis indicate percentage

Table IV: Distribution of respondents by number of pregnancy risk factors and age at marriage and age at first birth (yrs)

Age at first birth (yrs)	No. of risk factors			Total	p value
	0	1-2	3+		
<20	5(14.3)	14(40.0)	16(45.7)	35(100.0)	X^2=9.569; df=4; p value =0.048; (p<0.05)
20-24	7(9.6)		16(21.9)	73(100.0)	
≥25	2(12.5)	7(43.8)	7(43.8)	16(100.0)	
Total		71(57.3)	39(31.5)	124(100.0)	
Mean age (years)	20.93	21.01	20.95	20.98	

Figure in parenthesis indicate percentage

Table V: Distribution of respondents by number of pregnancy risk factors and number of pregnancy

No. of pregnancy	No. of risk factors			Total
	0	1-2	3+	
1	7(15.9)	35(79.5)	2(4.5)	44(100.0)
2	3(10.0)	18(60.0)	9(30.0)	30(100.0)
3	4(16.0)	10(40.0)	11(44.0)	25(100.0)
≥4	00(0.0)	8(32.0)	17(68.0)	25(100.0)
Total	14(11.3)	71(57.3)	39(31.5)	124(100.0)
Mean (no. of pregnancy)	1.79	1.87	3.54	2.39

Figure in parenthesis indicate percentage
X^2=34.149; df=6; p value = 0.001; (p<0.001)

Table VI: Distribution of respondents by number of pregnancy risk factors and number of abortion

Variables	No. of risk factors			Total	p value
	0	1-2	3+		
No. of abortion					
0	12(13.6)	58(65.9)	18(20.5)	88(100.0)	X^2=20.126; df=4; p value =0.000; (p<0.001)
1	2(6.9)	12(41.4)	15(51.7)	29(100.0)	
≥2	00(0.0)	1(14.3)	6(85.7)	7(100.0)	
Total	14(11.3)	71(57.3)	39(31.5)	124(100.0)	
Mean	0.14	0.20	0.79	0.38	

Figure in parenthesis indicate percentage

Discussion

Study shows that out of 124 recently delivered women interviewed, the highest number 36.3% were found in 20-24 year of age groups, followed by 33.1% in the age group of 25-29 years, 17.7% in the age range 30-35 years 6.5 less than 20 years and equal number of respondents were above 35 years. Mean age was 25.3 years. The mean age at marriage was 18.5 years. The highest number 71.8% got marry at the age of 16-20 years of age and lowest 13.7% were found below 15 years (at their marriage). Report of family health international in 1999, showed that 52.75% girls of Bangladesh are married within 19 year age[10]. Results is nearly similar to that of Bangladesh. Among the recently delivered women interviewed, the highest 90.3% were housewife and 9.5% were engaged in service. This is due to the fact that social and cultural milieu does not allow women to work outside the home. They give more preference to house hold work than doing service outside. One-fourth 24.2% were illiterate and among the educated respondents, highest percentage 37.9% had secondary level of education and lowest number 1.6% had masters level of education. Female literacy rate in our country is 42.5%[11]. In the present study this rate was 75.8% Dissimilarity was due to the fact that there were some educated urban respondents, Free education for female, compulsory primary education, food for education program and decreased dropout rate from school. The study shows that highest 58.9%, about three fifths gave births at the age of 20-24 years and the lowest 12.9% were found above 25 years of age at their 1st child birth. The median age at first birth was 20.0 years. According to Bangladesh

Demographic and Health Survey 1999-2000, among women age 20-24, the median age at first birth was 18.7. Urban women start child bearing later than rural women, the median age at first birth is 19.0 for urban women and 17.8 for rural women[12]. It was evident that 11.3% had no risk factors 28.2% had one, 29.0% had two, 25% had three and 6.5% had four risk factors. The mean number of risk factors was 1.87. In this study it is revealed that the proportion of three and above risk factors were higher among the mother with less than 20 and 35 years and above age group 62.5% compare to 20-35 years and the difference was statistically significant indicating that risk factor were higher in extreme age group. In a study in rural Sudan, it was found that teen age mother and those over 34 years of age run nearly twice that risk of having and unfavorable out come of pregnancies compared with mother aged 20-29 years[13]. The proportion of 3 and above risk factor were higher among the mother engaged in service or other job (50% compared to housewife 29.5%). The proportion of 3 and above risk factor were higher among the respondents whose husbandwere daily labour 59.1% followed by service holder 26.3% and business man 22.7%. It indicates that pregnancy risk factor is associated with low socio economic condition. The proportion of 3 and above risk factor were higher among the illiterate mother 53.3% compared to literate mother 24.5% which indicate that risk pregnancy increased with illiterate mother. The study shows that the proportion of 3 and above risk factor were higher among the wife of illiterate husband 57.9% compared with literate husband 26.7% indicating that pregnancy risk increased with illiterate husband. In this study the mean age at marriage of the respondent having no risk factor was 18-36 years, having 1.2 risk factors was 18.69 years and having 3 risk factors was 18.08 years. No statistically significant association was found at age of marriage with number of risk factors, although the number of risk factors increases with early marriage. This study reveals that the mean age at first birth of the respondent having no risk factors was 20.93 years, having 1-2 risk factors was 21.01 years and having 3 risk factors was 20.95 years. No statistically significant association was found at age

of first birth with number of risk factor. Although number of risk factors increases with age at first birth in extreme age group (below 20 and above 35 years). The study shows that the mean number of pregnancy of the respondent having no risk factors was 1.79 having 1-2 risk factors was 1.87 and having 3 risk factors was 3.54. It is seen that of pregnancy risk increases with increasing number of pregnancy. The proportion of 3 and above risk factors were higher among the mother of no history of abortion 20.5% compared to single abortion 51.7% and two abortion 85.7%. The number of risk factor increases with the increasing number of abortion. On the basis of findings of this study it may be recommended that pregnant women especially primigravidas should be educated about pregnancy related risk factors, their consequences and treatment seeking place by a sustained health education programme. At the same time government and non-government should provide pictorial card about pregnancy related 5 principle danger signs to the pregnant women so that they can easily understand and identify danger signs. Most importantly mass awareness should be developed among the married women of child bearing age about antenatal care, care during delivery and post natal care through mass media and other communication propaganda.

Conclusion

Maternal mortality and morbidity is a great public health concern in Bangladesh. Identification of pregnancy risk factors and provision of appropriate intervention will definitely cut down the maternal mortality and morbidity. To have a healthy mothers and healthy baby, we need to follow a system of proper antenatal care, safe delivery management and good post natal care. In this present study numbers of pregnancy risk factors are considered and analyzed. Among which - age of mother, education of mother and her husband, occupation of mother and her husband, number of pregnancy and number of abortion were found to be statistically significant in recently delivered women. But other risk factors should be considered with due importance also.

Conflict of interest: None

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