TAJ June 2009; Volume 22 Number 1

ISSN 1019-8555
The Journal of
Teachers Association
RMC, Rajshahi

Original Article

Neonatal Out Come in High Risk Pregnancy

H Akthar[1], S Sultana [2], A Siddique[3]

Abstract

A 12 months study was carried out on 226 pregnant high risk patients attending in Rajshahi Medical College Hospital from January 2008 to December 2008. The aim of the study was to identify various type of high risk pregnancies and to determine social and educational status as well as new born conditions of birth. Among the 226 recruited patients 69.5% came from rural area. Among the 69.5% rural high risk patients 63.69% were illiterate. Live born baby in this study was 95.13%. In our study neonatal out come was excellent. Excellent out come was attributed to early diagnosis of high risk pregnancy and suitable intervention both by Obstetrician and Paediatrician.

TAJ 2009; 22(1): 26-29

Introduction

Most pregnancies are low risk and have favorable out come. But high-risk pregnancies are less common and are potentially serious occurrences. Any pregnancy in which there is a maternal or fetal factor that may adversely affect the out come of pregnancy defined as high-risk pregnancy[1]. So, we must identify the risk factor because in high-risk pregnancy likelihood of a positive out come of pregnancy is significantly reduced. In order to improve the out come of high-risk pregnancy, we must identify risk factor and attempt to mitigate the problems in pregnancy and labour. In the management of high-risk pregnancy much progress has been made since the 1950. Pediatricians began appearing in the newborn nursery in the 1950s, facing responsibility for the perinate at the moment of birth. Many scientific break throughs directed toward evaluation of foetal health and disease marked the 1960, which is considered the decade of fetal medicine. During 1970s, the decade of perinatal medicine, Pediatrician and Obstetricians combined forces to continue improving perinatal survival[2]. High risk cases are assessed at the initial antenatal examination. The cases are also assessed near term and again in labour for any new risk factor[3].

Objectives

The purpose of this study ...

- To identify the incidence of high–risk pregnancies
- To identify various type of high-risk pregnancies
- To determine social and educational status as well as new born conditions at birth.

Material and Methods

The study was conducted in the department of Obstetrics and Gynaecology, Rajshahi Medical College Hospital, Bangladesh. Total 5000 pregnant women were admitted in the Hospital from 1st January 2008 to 31st December 2008 constituted the sample. Among them a total of 226 patients were included in the study as a high risk

[1] Assistant Professor, Department of Obstetrics & Gynecology, Rajshahi Medical College, Rajshahi.
[2] Assistant Registrar GU-II, Department of Obstetrics & Gynecology, Rajshahi Medical College, Rajshahi.
[3] Professor, Department of Pediatrics. Rajshahi Medical College, Rajshahi.

pregnancy. Pregnancies were labelled as high risk on the basis of age gravidity, obstetric history and medical history and neonate were also assessed at birth and high risk factor was identified. The patients having criteria, age less than 20 and more than 35 years older, gravidity status primigravida and beyond 3, obstetric history poor such as two or more abortion, previous still birth, neonatal death, previous preterm birth, pre-eclampsia and medical history, anaemia in pregnancy, pregnancy induced hypertension, and gestational diabetes mellitus were included in the study and admitted in the hospital.

Clinical Examination

A thorough clinical examinations including general examination and obstetrical examination were carried out.

Investigation

Haematological examination, hemoglobin%, Blood sugar estimation, BT, CT & platelet count, serum uric acid level were done for selective patients. Urine examination and ultrasonography were done to see foetal maturity, whether the growth is normal or restricted. Then a confirm diagnosis was made.

Recording

Before examination, verbal consent of the patient was taken. History, clinical examination and relevant investigations were done. The findings were recorded in the data schedule.

Results

In our study, a total of 226 patients with high-risk pregnancies were admitted in the Gynae and Obstetrics Department of R.M.C.H. Total obstetric patient were 5000. The incidences of high-risk pregnancies were 4.52%. Among these patients there were 157(69.5%) coming from rural area as compared to 69 (30.5%) from urban area.

Table I : Frequency and distribution of high-risk pregnancies. n- 226

Area	No	Percent %
Rural area	157	69.5
Urban area	69	30.5

Table II : Educational status of high-risk pregnancies

No	Illiterate	%	Literate	%
157	100	63.69	57	36.30
69	19	27.53	50	72.46

Among 157 rural population 63.69% were illiterate. But in urban population 27.53% were illiterate. Pregnant women from rural area 100 (63.69%) were illiterate as compared to urban area where 19(27.53%) were illiterate.

Table III : Distribution of high-risk pregnancies according to age, gravidity, obstetric history and medical history n- 226

High-risk	No	Percent
Age (15-19)year	40	17.69
Age (30-35)year	20	8.84
Gravidity primi	40	17.69
Gravidity >3	15	6.63
Pre eclampsia and pregnancy induced HTN	70	30.97
GDM	30	13.27
Maternal anaemia	11	7.52

Regarding high-risk pregnancies, maximum patient were pre-eclamtic and suffered from pregnancy induced hypertension 70 (30. 97%). Teenage pregnancy and primi gravid patient were in second position 40 (17.69%) and gestational diabetes mellitus were in the third position 30 (13. 27%). In our study pre-eclampsia and pregnancy induced hypertension topped the list 30.97%, teenage pregnancy age between 15 to 19 yrs constituted 17.69%.

Table IV : Type of delivery and gestational age at the time of delivery n- 226

variables		
Type of delivery	**No**	**%**
Caesarean section	160	70.79
Natural	60	26.54
Forceps	6	2.65
Gestational age		
Term	175	77.43
Preterm	40	17.69

Regarding type of delivery and gestational age at the time of delivery caesarean section constituted 160(70. 79%), natural delivery 60 (26.54%) and 6(2.6%) needed forcep delivery. In our study preterm delivery occurred 40 (17.69%).Study showed that caesarean section constituted 70.79% and preterm delivery 17.69%. Rate of caesarean section was higher. Because of better management of pregnancy and foetal survival.

Table V : Neonatal out come n- 226

Viability	**n**	**%**
Live born	215	95.13
Stillborn	8	3.53
Perinatal death	3	1.32
Neonatal complications	n	%
NICU admission	60	26.54
Neonatal jaundice	10	4.4
Hypoglycemia	10	4.4
Transient tachypnoea	2	0.8
Birth asphyxia	5	2.2
Meconium aspiration syndrom	5	2.2
Low birth weight	10	6.6
IUGR	15	6.6
Prematurity	40	17.69

Eleven were excluded (eight stillbirth and three perinatal death). Regarding perinatal condition showed a prevalence of live birth 215 (95.13%) the neonate problem faced by high-risk pregnancy were neonatal jaundice 10 (4.4%), hypoglycemia 10 (4.4%), tachy pnoea of newborn 5(2.2%), birth asphyxia 2(0.8%), meconium aspiration syndrome 5(2.2%), low birth weight 10 (6.6%), IUGR 15(6.6%) and prematurity 40(17.69%) . Among the complicate neonate 26.54% had been admitted in the NICU. Among the high risk neonate prematurity was 17.69% and another 13.2% were constituted low birth weight and IUGR. High-risk pregnancies have a strong relationship with the outcome of pregnancy and survival of neonate. It was shown that in high risk pregnancies foetal survival rate was 95.13%.

Discussion

Prevalence of high-risk pregnancy and neonatal out come observed in this study. Among 5000 admitted pregnant women, a total of 226 (4.5%) patients were diagnosed as high-risk pregnancies. A study carried out in rural area in Lahore, Pakistan where prevalence of high- risk pregnancies in the community was (64.96%)[4]. Incidence of high-risk pregnancies were higher in Lahore study because it was community based study with a total population of 10, 226. In our study it was found that 69.5% high-risk pregnancies from rural area compared of 30.5% in the urban area. The incidence of rural high-risk pregnancies similar to Lahore study. In the developing countries over 50% pregnant women in high- risk pregnancies lived in rural area[5.] Among 69.5% high-risk pregnant women of rural area were illiterate 63.69% compared to 30.5% urban high-risk pregnant women were illiterate 27.53% .It indicates that education probably helps the women to understand the motivational efforts of the health professional for safe motherhood[6.] In our study distribution of high–risk pregnancies were done according to age, gravidity, Obstetrical history and medical history. In our study teenage pregnancies were seen 17.69%. Approximately 10% all birth occur in teenage mother world wide[7.] Higher education is associated with lower rate of adolescent child bearing and other socioeconomic changes cancel or reduce this effect in several countries[8.] Age more than 30 were included in this study 8.84%. Increasing age associated with pre-eclampsia and pregnancy induced hypertension. The prevalence of hypertension among the pregnant women was 13.9% and more than 35 years old 20.7% in one study carried out De Barros Maternity Hospital[9]. We observed 226 patients of high-risk pregnancies, among them 17.69% were primigravid and age group15-19 were also 17.69%. An increased risk of preterm delivery was associated with young maternal age in both developed and developing countries.In the developing countries incidence of teenage pregnancy is more where chances of increased risk of maternal anaemia, preterm and caesarean delivery is also more[10]. In this series, there were 70.79% caesarean delivery and 17.69% preterm delivery and maternal anaemia was 7.52%. In a study in Africa it was found that prematurity was 39%[11]. The published data suggest that prenatal care regimes, which also provide social and

behavioral services along with medical care. Could both improve the health of the mother and neonatal out come. Regarding obstetric history, pre-eclampsia and pregnancy induced hypertension topped the list 30.97%, Gestational diabetes mellitus in the second position (13.27%). Highest number of patients seen in our study was pre-eclampsia and pregnancy induced hypertension among the pregnant women. In Lenor Mendes Hospital it was 13.9%[12]. The patient of Mendes de Barros Hospital 95.8% received prenatal care. On the contrary our pregnant women who developed pre-eclampsia reffered to hospital with irregular prenatal care. In our study neonatal out come 95.13% of women had live birth. The frequency of stillbirth was 3.53% and perinatal death 1.32%. Bug AGA found that 93.4% had live birth and the frequency of stillbirth was 5.8%. This is close to the result of our study. Among the live born who admitted in NICU, of them neonatal jaundice developed 4.4%, hypoglycemia 4.4%, transient tachypnoea of new born 0.8%, birth asphyxia 0.8%,meconium aspiration syndrome 2.2%, low birth weight 10.14%, IUGR 6.6% and prematurity 17.69%. Study done by Corderylet al hypoglycemia reported to occur 47% in macrosomic and 20% in non- macrosomic IDM [13]. In our study among 226 high risk pregnancies only 3.53% was stillborn and 1.32 was neonatal death. This present study showed that a low stillbirth rate and highlighted low birth weight and prematurity as the main perinatal consequence.

Conclusion

In view of prevalence of high risk pregnancies most of the women from rural area and most of them are illiterate. So it indicates that education probably helps the women the motivational and efforts of the heath professional for safe motherhood. But in our study the neonatal outcome was excellent. So the excellent outcome of high risk pregnancy is attributed to an early diagnosis of high risk pregnancy and suitable intervention both by Obstetrician and Pediatrician meant higher chances of having a pregnancy without complications to the mother and negative effect to the fetal health.

Reference

1. T John etal. overview of high risk pregnancy. B JOG 2006; 113 (5): 544-51.
2. Nageotte MP etal. Perinatal out come with the modified biophysical profile. Am Jobset Gynae 1994; 170 (6): 1672- 1676.
3. Dc Datta. Text bok of obstetrics. High risk preg; 2006: 63/- 632.
4. Mubasher Mahmuda , Rai Hameed. Prevalence and out come of high risk pregnancies in the rural area Lahore 2003 – 2004. Ann Ny Acad Sci 1994; 18 (709): 86
5. Tital pent v etal. Risk factors for birth before arrival of siriray Hospital; J Med Asso Thai 2002; Dec 85 (12): 1251-55.
6. E. M Bake H, A. M Davier. The risk approach in health care, Geneva, WHO 1994; P- 102.
7. F Nilli etal. Maternal and neonatal out come in teen age pregnancy in Tehren. J Adv NWLS 2001; 34 (4): 456- 64.
8. Singhs. Adolescent child bearing in developing countries, a global review. Study family Plan 1988; 29(2): 117- 36.
9. Solanqe Regina et.al. Pregnancy induced hypertension and the neonatal out come. Acta paul En ferm 2008; 21(1): 538.
10. Pal A, Gupta KB. Adolescent Pregnancy: a high risk group. J Indian med Assoc 1997; 95(5): 127 – 8.
11. OnadekoMo, A vokey F. Observation of still birth, birth weight and maternal haemoglobin in teenage preg in Nigeria. A fr J Med Sci 1996; 25 (1): 81 – 6.
12. Xing etal. Impact of pregnancy induced hypertension on foetal growth. Am J Obstet Gynae; Col 2002: 180.
13. Corderol etal. Infant of diabetic mother. Din perinatal 1993; 20: 635 – 48.

All correspondence to:
Hasina Akhtar
Assistant Professor
Department of Gynaecology & Obstetrics
Rajshahi Medical College Hospital, Rajshahi