AN ANALYSIS OF RISK FACTORS DETERMINANTAL ON OUTCOME OF PREGNANCY

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SUMMARY

The present study was undertaken to analyse pattern of risk factors operative during pregnancy in Jamnagar. Out of 350 antenatal women examined, 248 (70.85%) were found to carry some risk during pregnancy according to standardised criteria. The chief risk factors have been analysed.

Introduction

In developing countries all over the world, there is high morbidity and mortality in mothers due to lack of improved system of delivery of health care. Out of every 1000 pregnancies. 1.3 to 6 mothers die directly or indirectly due to pregnancies in developing countries (W.H.O., 1980-81). Thus health of the mother is a tender and wanted component of total care, and can not be neglected, because of the fact that if mother is healthy, the children will be healthy, which will in turn affect nation's health. Health care depends upon the availability of money, material and manpower, which are scarce in all developing nations. To utilise the available resources to maximum hilt for improving the health of mothers, one strategy has been evolved, known as "RISK-APPROACH", which is feasible, and economically sound. This approach has great potential for better coverage and also for improving quality of M.C.H. services. The risk approach aims to give special attention to those who are at risk, simultaneously giving minimum required health care to others. Individuals and population groups with an increased expectation of complications or disease are defined as "AT RISK" (W.H.O., 1978).

A high risk pregnancy is the one in which the foetus is vulnerable to a significant risk of death, before and after birth and may develop disability later, the mother may have a serious health problem of biological, obstetrical or of socio-economic nature which are all potentially inimical to perinatal health.

The present study was undertaken with a view to find out common risk factors amongst mothers and foetus during antenatal period, from both urban and rural

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community, who were attending the Irwin Group of Hospitals, Jamnagar.

Material and Methods

The study was conducted in the department of Obstetrics and Gynaecology, Irwin Group of Hospitals, attached to Shri M. P. Shah Medical College, Jamnagar (Gujarat). This hospital is the only Government institution rendering specialised services of maternal and child health care in the district of Jamnagar. All antenatal cases who came in routine out door or were admitted in hospital during emergency hours, during 1983-84 were included in this study. A total of 370 antenatal women were taken up for study. These cases were followed for detection of any risk factors, till they completed their antenatal span. Pregnancy of 12 weeks or more were included in this study. The criteria applied for classifying a mother as "AT RISK" were according to W.H.O. 1978.

Observations

In all 350 antenatal women were analysed for the purpose of the present study. Out of these, 248 antenatal women (70.85%) showed risk during pregnancy. Chief biological and social risk factors observed during pregnancy were elderly grand multipara (12.00%), prolonged interparity interval (12.28%), high risk employment (10%) and previous caesarean or instrumental delivery (7.14%). 3.13% of antenatal women were short statured primi and 2.28% were elderly primi. (Table I). 13.14% women had history of repeated and 10.85% gave history of previous still births. History of previous perinatal deaths was given by 5.71% of women and breech presentation was observed in 4.85% of them. Oblique lie was observed in 1.14%, and 0.57% each had twins and hydramnios. (Table II). The maternal causes of risk during pregnancy were; pre-eclampsia/eclampsia (8.28%), anaemia below 50% (7.42%), cardiovascular disease associated with pregnancy (5.71%), pyrexial infection during pregnancy (4.28%), antepartum haemorrhage (2.85%), Rh —ve mothers with Rh +ve husband (2%), and tuberculosis (0.57%), in the present sample (Table III).

TABLE I

Biological and Social Causes of Risk During Pregnancy

	Causes	No.	%
1.	Elderly primi	8	2.28
2.	Age under 17 years	2	0.57
3.	Short statured primi (below 140 cm)	11	3.14
4.	Cephalo-pelvis disproportion or any other pelvic deformity	2	0.57
5.	Elderly grandmultipara	42	12.00
6.	Prolonged interparity interval more than 5 years	43	12.28
7.	Prologed pregnancy (14 days after E.D.D.)	1	0.28
8.	Previous caesarean or instrumental delivery	25	7.14
9.	Manual removal of placenta	0	—
10.	Unmarried mothers	0	—
11.	High risk employment	35	10.00
12.	Widow	0	—

TABLE II
Foetal Causes of Risk During Pregnancy

Sr. No.	Causes	No.	%
1.	Breech	17	4.85
2.	Transverse lie	4	1.14
3.	Oblique lie	0	—
4.	Twins	2	0.57
5.	Hydramnios	2	0.57
6.	Signs of foetal hypoxia	0	—
7.	Previous still birth or intrauterine deaths	38	10.85
8.	Previous perinatal deaths	20	5.71
9.	H/O repeated abortions	46	13.14

TABLE III
Maternal Causes Risk During Pregnancy

S. No.	Causes	No.	%
1.	Antepartum haemorrhage	10	2.85
2.	Pre-eclampsia/ eclampsia	29	8.28
3.	Anaemia (Hb below 50%)	26	7.42
4.	Diabetes	0	—
5.	Tuberculosis	2	0.57
6.	Liver diseases	0	—
7.	Kidney diseases	0	—
8.	Cardiovascular diseases	20	5.71
9.	Any other pyrexial infection like malaria, or viral infection	15	4.28
10.	Rh —ve mothers with Rh +ve husband	7	2.00

Discussion

The present study aimed at analysing the pattern and prevalence of risk factors during pregnancy in the study area. This was a hospital based study and no effort was made to reveal prevalence rate of "at risk" pregnancies, in the area. The sample contained cases of both urban and rural areas, but due to communication problem, social spectrum, or any other reasons, the sample may not be representative of the population. Chief objective was to analyse, pattern of various factors causing risk to pregnancy outcome.

Almost three-fourth of the women had some minor or major risk factor. This indicates the need for utmost antenatal care during pregnancy, for the survival of mother and the healthy outcome of pregnancy. It may go a long way in decreasing the maternal and infant mortality rates, that are persistently high in our country, inspite of improved health services.

Small family norm has yet to gain wider approval in Indian families. Grand multiparity, a potential risk condition could be observed in every eighth woman (12%), and these findings are in conformity with those of Dey and Das (1974).

It is pity that due to economic constraints, women also have to bear burden of employment. It may be instrumental in the financial upliftment of the family but is not devoid of risk, particularly during pregnancy. Every 10th pregnant woman in study sample was employed.

Previous caesarean or any other assistance during delivery carries risk in the subsequent pregnancies. Such a history was given by 7.14% of the antenatal women which is in conformity with findings of Ghosh *et al* (1975).

In the present study, previous history of still births was affirmative in 10.85% of mothers. This rate is higher than that observed by Shah *et al* (1969) viz. 8.1%. 5.71% of antenatal women had history of previous perinatal deaths. Lumb *et al* (1981) revealed a rate of 8% perinatal deaths in Asian women. History of repeated abortions was given by 13.41% of women, while Mathur *et al* (1979) observed history of abortions in 32% of women, the rate may be higher because

they have included the women with history of even one abortion, and we have taken the criteria of more than the abortion.

The present study revealed the incidence of toxaemia of pregnancy in 8.28% of antenatal women, which has a detrimental effect on the foetus and on the health of the mother. Babson and Benson (1971) also showed the incidence of pre-eclampsia ranging from 3 to 10%. Severe anaemia. which is a preventable risk factor was observed in 7.42% of antenatal women. Similar findings were observed by I.C.M.R., (1975), who found severe anaemia in 8.5% of women with parity IV and above.

5.71% of antenatal women had associated cardiovascular disease. The incidence was higher when compared with results of other studies carried out in India; Raiturkar and Anjanevulu (1976) observed a rate of 0.34% and Rosario and Kuthiala (1975) revealed a rate of 0.46%. Out of 5.71% cases of cardiovascular disease associated with pregnancy, majority viz. 95% of cases were attributable to rheumatic heart disease. According to W.H.O. (1978) the incidence of cardiovascular disease in pregnancy depends upon the prevalence of rheumatic heart disease in a community, probably this may be a reason for a high incidence of C.V.S. disease in pregnancy, in present study. 2.85% of antenatal women had antepartum haemorrhage. Dewhurst (1972) also had similar findings viz. 3%.

Looking to the results of the present study, it is evident. that different kinds of risk factors are operating, which has a strong bearing on health of mother and outcome of pregnancy. The saddening part is that many of these risk factors are morbidity and infant mortality attributable to these risk factors could have been prevented. For prevention of risk during pregnancy, these risk factors should be given attention for their prevention and if all some risk is seen at least its further pregression should be curtailed by proper antenatal care. Looking to the limited resources in developing countries, we can resort to "RISK APPROACH". Risk approach implied special attention to the antenatal women with some risk, while giving minimum required health care to others, it also implies identification of pregnant women who are at risk and referring them to appropriate level of health care, if the facilities do not prevail at peripheral health centre.

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