showed average age incidence of accidental haemorrhage was 26.3 years. Probably early age of marriage and uncontrolled fertility is responsible for this lower age incidence in the country. Most of the patients in the study group were of third gravidae 27% and fourth gravidae (22.9%). In the present study primigravidae comprised 18.7% and Multigravidae comprised 81.3% of the patients. Mahajan and Sharma (1971) reported that accidental haemorrhage is however, more common in Multigravidae.

cases, with the frequent and increased number of pregnancy and maternal anaemia. Prolonged hospitalisation of the patients is also responsible for threatening the life of the mother and baby.

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[illegible] IN PREGNANCY ANAEMIA

By
[illegible]

SUMMARY

Study was conducted on one hundred cases of pregnancy anaemia in the third trimester and twenty-five control cases in an attempt to correlate multiple variables affecting foetal outcome. Severity of anaemia, poor antenatal care, improper spacing and lower socio-economic status were found to be important contributory factors to poor foetal outcome. Incidence of preterm deliveries, still-births and low foetal birth weight increased with severity of anaemia and fall in socio-economic status. Incidence of still-birth was higher in preterm deliveries than in term deliveries. Only one case of congenital malformation (anencephaly) was detected. The mean foetal weight decreased from higher to lower socio-economic group and mild to severe grade of anaemia. No effect of parity was noted.

Dimorphic type of anaemia was more prevalent suggesting multifactoral background as causes of anaemia.

INTRODUCTION

Anaemia in pregnancy, which may be due to several factors and diseases, is a major cause of high maternal and perinatal loss. Epidemiological surveys have indicated that 40-80% of pregnant Indian women have haemoglobin level less than 11gm/dl (Raman, 1980). Such patients are prone to high incidence of complications during pregnancy (Raman, 1980). Any acute or chronic disease effects the foetus by altering placental function, if early in pregnancy, it results in either congenital malformations or abortions and if later, either premature delivery or intrauterine growth retardation or foetal death ensures (Raman, 1980).

A general association between poor foetal outcome and low maternal haemoglobin exists (Prema, 1981; Raman, 1980). Prolonged dietary deficiency during pregnancy affects the foetus at its critical growth period (ICMR, 1977).

Various studies have been conducted to study manifold effects of anaemia on pregnancy outcome. High incidence of prematurity, still births (Raman, 1980, Achari et al 1982), and low birth weight babies (Raman,

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[illegible] (Campbell & Ross, [illegible]).

MATERIAL AND METHODS

The study was conducted in [illegible] Obstetrics and Gynaecology, [illegible] Medical College, [illegible]. We have included and studied [illegible] pregnant cases in third trimester admitted to the hospital between March 1990 to February 1991.

There were hundred cases of anaemia with [illegible] as controls. Anaemic cases were subdivided into mild (Hb 8.1-10.0 gm%), moderate (6.1-8.0 gm%) and severe (6.0 and less gm%) grades of anaemia.

All the cases were [illegible] socio-economic classification. The [illegible] examination was carried out [illegible]. Routine investigations, especially [illegible]

[illegible] The mean birth weight of newborn [illegible] and percentage of cases [illegible]

Foetal Outcome

[illegible] belonged to lower and upper lower [illegible] group in comparison to controls [illegible] suggesting close relationship between socioeconomic condition and anaemia (Table I). Not much difference was found between the two groups [illegible] degree of anaemia and incidence of low birth weight babies.

The incidence of [illegible] lowbirth weight babies [illegible] in comparison to controls [illegible] low birth weight babies (Table II).

Table I

[illegible] according to socio-economic group

Socio-economic group	Controls (25)		Anaemic (100)		Total
	No.	%	No.	%	
Lower	6	24	43	43	49
Upper lower	4	16	24	24	28
Lower middle	8	32	22	22	30
Upper middle	5	20	9	9	14
Upper	2	8	2	2	4

Table III

Foetal outcome according to severity of anaemia

Outcome	Control (25)		Mild (6)		Moderate (37)		Severe (57)	
	No.	%	No.	%	No.	%	No.	%
Normal	21	84	2	33.37	15	40.5	10	17.54
Preterm	4	16	4	66.6	22	59.54	47	82.5
Still Birth	—	—	—	—	4	10.8	11	19.30
Foetal malformations	—	—	—	—	—	—	[illegible]	[illegible]
Low birth weight	4	16	—	—	17	45.9	49	85.9

lower socioeconomic status, frequent pregnancy, age and severity of anaemia — the factors

Table III
Mean birth weight, percentage of cases with poor foetal outcome & low birth weight babies according to socio economic group

Socio-economic group	Birth weight (kg)		% of cases with poor foetal outcome		% of cases with low birth weight	
	Control (25)	Anaemic (100)	Control (25)	Anaemic (100)	Control (25)	Anaemic (100)
Lower	2.65	2.30	4	32	4	35
Upper lower	2.68	2.40	9	32	4	32
Lower middle	2.71	2.28	12	13	4	10
Upper middle	2.73	2.29	8	6	0	8
Upper	2.80	2.35	4	1	4	0

in anaemic mothers had spacing of less than two years between subsequent deliveries. The incidence of still-birth was higher (26.66%) in less than 32 weeks gestational age compared to 32-37 weeks (15.5%) and 38-40 weeks (7.4%). The anaemic mothers delivering early in gestation had lower mean haemoglobin level than those delivering late.

DISCUSSION

In the present study higher percentage of cases with complications, including post-natal cases and higher percentage of cases belonged to lower and upper lower socio-economic group. Abnormal foetal outcome increased from upper to lower socioeconomic group and from mild to severe grade of anaemia. These observations were in agreement with number of studies which found association of poor foetal outcome with dietary inadequacies, and low socioeconomic status (WHO, 1965; ICMR, 1977; Raman, 1975 and Raman, 1980). Parity did not seem to affect the foetal outcome and pregnancy anaemia, and observation similar to Pambud & Marwah (1971).

Although anaemia as cause of congenital malformation, is not yet established, dietary deficiencies are known to cause congenital malformations in experimental animals. In the present study only one case of anencephaly was found.

The incidence of preterm deliveries in anaemic and control group was 73% and 16% respectively, as compared to incidence found by other workers — 12% and 7.1% (Lamba, 1965), 77% (Chaturvedi et al, 1966), 30% and 11.7% (Acharya et al, 1980) in anaemic and control cases respectively.

Incidence of still-birth was 15% in anaemic mothers, as compared to that found by other workers 14.6% (Acharya et al, 1980) and 21.6% (Chaturvedi and Sinha, 1969). This high incidence of premature and still births found in anaemic patients is in confirmation with study by ICMR (1977) which states that anaemia, per se is associated with high incidence of premature births.

As indicated earlier available data of different workers indicate that infants born to low socioeconomic group have low birth weight (WHO, 1974 and Murthy et al, 1976). Multivariate studies have linked maternal haemoglobin level with birth-weight (Johnson, 1965, Raman, 1980 and Bhatia and Tyagi, 1984). Taking an overall view of number of variables in present study it was observed that