

**A STUDY ON MATERNAL FACTORS AND PREGNANCY
OUTCOME IN MEDICAL COLLEGE
HOSPITAL OF JHANSI CITY**

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Abstract :

Research Question : What are the maternal factors which affect the pregnancy outcome.

Objectives : To study the effects of maternal factors on the outcome of pregnancy in terms of pregnancy wastage as abortions or stillbirths and to assess the magnitude of low birth babies.

Study Design: Cross-sectional study

Study Area: maternity wards of department of obstetrics & Gynecology of M.L.B. Medical college. Jhansi (U.P.)

Participants : 1350 pregnant women, who were admitted in the maternity wards & their new born babies

Study variables : Age, parity, education, per capita income, inter pregnancy interval

Statistical analysis: Chi-square test

Results : Live born babies were 81.48% while pregnancy wastage was 18.52% Among the live born babies 44.36% had normal weight at birth & 55.64% were low birth weight. Out of total pregnancy wastage, 58.80% were terminated as abortions and 41.20% as still births.

Introduction :

Pregnancy and child birth are physiological phenomena yet pregnancy predisposes a women to several health hazards. Globally, some 585000 maternal deaths occur every year. About 99% of these deaths occur in developing countries¹. India is among those countries which have a very high maternal mortality. A population based survey carried out in India which used longitudinal surveillance and complete coverage of vital events, showed a MMR of 5.9 per thousand live births in rural areas². The estimated maternal mortality ratio is 4.07 per thousand live birth³. Child health is closely related to

maternal health. A healthy mother brings forth a healthy baby. Overall, risk of death to the mother and baby increases in the following situation i.e. low socio-economic status, high and low maternal age (35 years or more and below 16 years), high parity (5th and subsequent pregnancies), maternal short stature, malnutrition, multiple pregnancy and severe anemia. These factors may lead to unfavourable outcome of pregnancy such as high incidence of abortions, intra-uterine deaths, pre and post term deliveries and low birth weight babies. Similar study on low birth weight and associated maternal factors in urban area concluded that

the maternal factors significantly associated with low birth weight were, anemia, low socio-economic status, short birth interval, maternal age and body mass index⁴. Keeping in this view, present study was carried out on pregnant mothers to know the outcome in the form of pregnancy wastage (abortion or still birth) and live birth normal birth weight or low birth weight

Material and Methods :

Present study was carried out at the department of community medicine, M.L.B. Medical college & Hospital, Jhansi (U.P.) during a period extending from August 2001 to July 2002. It was a hospital based cross sectional study. Pregnant women who were admitted in the

maternity wards of the department of Obs. & Gynae. of these hospital and their newborn babies were taken as subjects of study. Various informations gathered and observations made were recorded on a pretested schedule. The schedule consisted of 2 sections. Section 1 included data on family along with socio demographic variables. Section 2 consisted of mothers schedule and included questions pertaining to mother's age, parity, education, period of gestation, bed rest, intake of IFA tablets, inter birth spacing and antenatal check ups. the pregnancy out come were assessed in the form of wastage (abortions or still births) and live births (normal birth weight or low birth weight).

TABLE-1
Pregnancy outcome according to per capita income

Percapita income (Rs.)	Pregnancy Wastage		Live births						Grand Total	
			Low Birth Weight		Normal Birth Weight		Total			
	No.	%	No.	%	No.	%	No.	%	No.	%
>1000	31	13.60	72	36.55	125	63.45	197	86.40	228	16.89
500-999	18	8.82	86	46.26	100	53.76	186	91.18	204	15.11
300-499	58	21.42	119	56.13	93	43.87	212	78.52	270	20.00
150-299	45	16.01	148	62.71	88	37.29	236	88.99	281	20.82
<150	98	26.70	187	69.52	82	30.48	269	73.30	367	27.18

Pregnancy wastage and live births- $X^2=21, p<0.001$

LBW & Normal birth weight- $X^2=55.59, d.f.=2, p<0.001$

TABLE-2
Pregnancy outcome according to maternal age

Maternal age (Years)	Pregnancy Wastage		Live births				Grand Total			
			Low Birth Weight		Normal Birth Weight		Total			
	No.	%	No.	%	No.	%	No.	%		
<=18	98	45.37	87	73.72	31	26.28	118	54.63	216	16.00
19-35	133	13.75	421	50.48	413	49.52	834	86.25	967	71.63
>35	19	11.38	104	70.27	44	29.73	148	88.62	167	12.37

Pregnancy wastage and live births- $X^2=123.52$,d.f.=2, $p<0.001$

LBW & Normal birth weight- $X^2 37.5$,d.f.=2, $p<0.001$

TABLE-3
Pregnancy outcome according to Parity

Parity	Pregnancy Wastage		Live births				Grand Total			
			Low Birth Weight		Normal Birth Weight		Total			
	No.	%	No.	%	No.	%	No.	%		
1	11	24.40	191	55.52	153	44.48	344	75.60	455	33.70
2-4	71	15.92	148	39.47	227	66.53	375	84.08	446	33.04
>4	68	15.15	273	71.65	108	28.35	381	84.85	449	33.26

Pregnancy wastage and live births- $X^2=15.81$,d.f.=2, $p<0.001$

LBW & Normal birth weight- $X^2=79.41$,d.f.=2, $p<0.001$

TABLE-4
Pregnancy outcome according to inter-pregnancy interval

Inter-pregnancy (Years)	Pregnancy Wastage		Live births						Grand Total	
			Low Birth Weight		Normal Birth Weight		Total			
	No.	%	No.	%	No.	%	No.	%	No.	%
<2	56	16.67	185	66.07	95	33.93	280	83.33	336	37.54
2-3	51	13.70	173	53.90	148	46.10	321	86.30	372	41.57
>3	32	17.11	63	40.65	92	59.35	155	82.89	187	20.89

Pregnancy wastage and live births- $X^2=1.62, d.f.=2, p>0.05$

LBW & Normal birth weight- $X^2=26.73, d.f.=, p<0.001$

Results :

Out of 1350 women studied live born babies were 1100 (81.48%) while pregnancy wastage was 250 (18.52%). Among the live born, 488 (44.36%) had normal weight at birth and 612 (55.64%) were low birth weight babies. Among pregnancy wastage, 147 (58.80%) terminated as abortions and 103 (41.20%) as still births.

Tables-1 shows that maximum number i.e. 367 (27.18%) of mothers belonged to socio-economic classes V with per capita income of less than Rs. 150 per months. It was seen that with the increase in per capita income, there was an increase in the percent of babies born with normal weight.

Table-2 shows that maximum number i.e. 967 (71.63%) of mothers belonged to the age group between 19 & 35 years. Frequency of Low birth weight babies was 73.72% in the age group

of ≤ 18 years. Most favourable age for pregnancy outcome came out to be 19-35 years.

Table-3 shows the association between pregnancy out come and parity. It was found that 455 (33.70%) mothers were having para 1, followed by para 4 or more i.e. 449 (33.26%). Pregnancy wastage and frequency of LBW babies were 24.40% and 55.52% respectively in para 1 mothers. Wastage being highest in mothers of para 1 and LBW being highest in the mothers of para 4 or more. This table also shows that there were 455 mothers as primipara. Out of remaining 895 mothers. 372 (41.57%) had an inter pregnancy interval of 2-3 years. It was observed that mothers having an inter pregnancy interval of less than 2 years had more number of LBW babies (Table-4).

Discussion :

In the present study, the prevalence of LBW babies was 55.63%. It was more than the prevalence of the LBW babies in our

country(26%). Perhaps, it is because of most of the mothers were of low socio-economic status ultimately reflecting their poor antenatal care, nutrition and lack of rest during the day hours.

Socio-economic status showed a highly significant association with pregnancy wastage and LBW babies. It was seen that with an increased in per capita income, pregnancy outcome improved. Gawande UH et al (1994)⁵ Deshmukh Js et al (1998)⁴ and Anand K et al (2000)⁶ also revealed same results. Young age (≤ 18 years) of mothers was found to be significantly associated with pregnancy wastage and increased incidence of LBW babies. Similar results were also observed by Gawande UH et al (1994)⁵. Poorest outcome of pregnancy was observed in primi and mothers who had parity of more than 4 were associated with more number of LBW babies. Gawande UH et al⁵ and Maitra N et al (1995)⁷ found a statistically significant association between primiparity and low birth weight. Mothers having an inter pregnancy interval of less than 2 years had more number of low birth weight babies as compared to those having an inter pregnancy interval of ≥ 2 years.

Increase in the incidence of low birth weight babies with grand multipara can be due to the fact that a large number of children are

born with out adequate spacing, leading to depletion in the woman's nutritional status and health, leaving her incapable of giving a healthy baby.

References:

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