

SOCIO-ECONOMIC FACTORS AFFECTING WEIGHT GAIN IN PREGNANCY

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SUMMARY

A longitudinal study of 212 pregnant women for a period of one year was conducted in a rural area of Uttar Pradesh. Effect of socio-economic factors was recorded on weight gain in pregnancy in three different trimesters. Significant increase in weight gain in pregnancy was observed in pregnant women belonging to social class I & II. High caste women also showed significant increase in weight gain during pregnancy than the women of backward and scheduled caste. Anaemia was found to be prevalent in 77.5% of women. Since majority of the women belonged to social class IV & V, this study highlights the importance of raising the overall socio-economic status of families to improve the health status of women as a whole.

Introduction

WHO's criteria for a reference healthy woman suggest that in the age group 20-39 years, they should weigh 55 kgs and undertake 8 hours of moderate active work. This reference woman gains 12.5 kg during pregnancy (WHO, 1973).

As socio-economic factors tend to affect weight gain in pregnancy, the present study was undertaken in the rural areas to find out whether or not the weight gain in poor, illiterate rural communities corresponds with the WHO criteria and to assess the role of social class and caste in relation to weight gain in pregnancy.

Material and Methods

The present study was conducted in the rural areas of district Aligarh in Western Uttar Pradesh. The Primary Health Centre situated in the village Jawan caters to a population of 1,69,399. Four randomly selected villages from PHC namely Oriha, Nagola, Rampur and Chandokha were included. 212 pregnant women in different trimesters in the age group of 15 to 44 years were registered within a period of 3 months and a longitudinal study (monthly follow-up of pregnant women in their respective homes) was carried out for a period of one year from May 1987 to April 1988. Information regarding weight gain in pregnancy and total daily caloric consumption of each woman was recorded in a pretested cy-

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clostyled proforma. Social class was determined by modified Prasad's classification (Prasad 1970). Monthly per capita income in each social class has been multiplied by 4.17 on the basis of all commodities price Index (Dec. 1987) with a view to update Prasad's classification. Haemoglobin estimation was carried out by means Sahli's Method in the field.

Results

The distribution of women in the three trimesters was as follows: 28(13.3%) in the first trimester, 93(43.8%) in the second trimester and 91(42.9%) in the third trimester as shown in Table I.

Average weight gain in pregnancy in women who were registered in the first trimester was found to be 6.9 kg. The

TABLE - I
GESTATIONAL AGE OF PREGNANT WOMEN IN THREE TRIMESTERS

Gestational age in weeks	Total no. of pregnant women	Percentage
10 - 12 wks 1st Trimester	28	13.3%
14 - 16 wks	30	14.1%
18 - 20 wks 2nd Trimester	34 93	16.0%
22 - 24 wks	29	13.7%
26 - 28 wks	29	13.7%
30 - 32 wks 3rd Trimester	37	17.4%
34 - 36 wks	15	7.0%
38 - 49 wks	5 91	2.4%
40 - 42 wks	5	2.4%
40 + wks	0	00
Total	212	100.00

TABLE - II
WEIGHT GAIN IN PREGNANCY IN RELATION TO SOCIAL CLASS

	Social class					Total
	I	II	III	IV	V	
Total no. of women in different social class	3	10	54	112	33	212
Gain in Wt. of women followed up through out the pregnancy (Kgs)	7.7	7.6	6.5	6.4	6.3	6.9
Gain in Wt. of women contacted during second trimester only (Kgs)	5.5	5.3	5.1	5.0	4.9	5.1
Gain in Wt. of women contacted during third trimester only (Kgs)	2.7	2.4	2.2	2.1	1.9	2.2

corresponding figures for those registered in the second and third trimester were 5.1 kg and 2.2 kg as shown in Table II.

Weight gain in pregnancy in relation to social class was observed and significantly there was an increase in weight gain of approx 1.4 to 1.1 kg in social class I & II in women followed up throughout the pregnancy from first trimester. 0.6 kg -0.2 of wt. gain was observed in women contacted during second trimester, whereas wt. gain of women contacted during third trimester was 0.8 - 0.2 kg respectively.

High caste women gain average wt. of 7.7 kg whereas in backward class and scheduled caste it was 6.5 kg in the women contacted from first trimester.

Weight gain in second trimester in High caste women was 5.4 kg whereas in backward and scheduled caste it was 5.1 and 5.0 kgs respectively. Third trimester wt. gain in high caste women was 2.6 kg whereas it was 2.1 and 2.0 kg in backward and scheduled caste as shown in Table III.

Significantly 197 (93%) women were illiterate and only 2 (0.9%) were graduates. Literacy rate of 7.1% was found in this study.

Haemoglobin estimation was done in 196 pregnant women, of whom 59(30.1%) had an Haemoglobin value of 9 to 10 gm/dl followed by 50(25.5%) with a Haemoglobin value of 8-9 gm/dl. The total number of women having Hb values of 5-7 gm/dl was 17(8.6%) and those having Hb. Values of 10-13 gm/dl, were 44(22.6%). Anaemia was found in 152(77.5%) women.

Discussion

Average wt. gain in the pregnant women who were registered in the first trimester was 6.9 kg and weight gain reported by other authors in India varies from 5.8 kg to 7.1 kg (Venketachalam 1962; Devi and Bakhru 1963; Bhatt et al 1972; Borkotoky and Singh 1975; Dawn C.S. 1982).

In Western countries, a total weight gain of about 12 kgs has been recorded in women who are termed well to do families,

TABLE - III
WEIGHT GAIN IN PREGNANCY IN RELATION TO CASTE.

	I	Caste II	III	Total
Total no. of women in each caste	71	64	77	212
Gain in wt. of women followed up throughout pregnancy (Kgs)	7.7	6.5	6.5	6.9
Gain in wt. of women contacted during second trimester (Kgs)	5.4	5.1	5.0	5.1
Gain in wt. of women contacted during third trimester (Kgs)	2.6	2.1	2.0	2.2

Thomson et al (1967). However, others have observed that there are individual variations in the weight gain pattern even in women from the affluent society Thomson et al (1984).

Weight gain in pregnancy in relation to social class was found significantly higher in women of social class I & II. Average weight gain between 13-40 weeks was 7 kg. Upper income group women weighing 50-55 kg, gained 11.0 kg in pregnancy, low income group women weighing 45 kg gained around 6 kg. (Prema, 1981).

Caste also played an important role in weight gain in pregnancy, as high caste women gained more weight in all the three trimesters as compared to the weight gain in backward and scheduled caste.

Literacy rate of 7.1% found in this study is much lower than the national average female literacy rate, i.e. 17.9% (Radha 1984) in rural areas and 14% in Uttar Pradesh (Rattan, 1988).

A very low literacy rate in the present study, might be attributed to the fact that in the rural area there is still resistance against female education.

Almost 50% of women in India are anaemic which is one of the main causes of maternal mortality. Mean Hb level in rural Bihar and U.P. was found to be 9.3 and 9.2 gm/dl respectively. Even in the State of Punjab, which is one of the most prosperous states in India, more than 75% of women were reported to be suffering from Anaemia.

Anaemia was found in 77.5% women which is comparatively higher than found by other authors. This might be due to inadequate diet and poor socio-economic status.

Conclusion

Ignorance, illiteracy and poverty are three main factors prevailing in our rural societies. The present study has also shown a definite bearing of social class and caste on weight gain in pregnancy. A very high percentage of Anaemia in the pregnant women was due to the fact that out of 212 pregnant women 145 belonged to social class IV and V i.e. they belong to very poor socio-economic status. The study also shows, that the rural women of India are under weight and gain less weight as compared to the "WHO criteria for a healthy reference women". It is therefore important that overall socio-economic status of the whole family is improved which will then influence the health status of the women as a whole.

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