

#### 4.4.2. Determination of Micronutrient Deficiency Disorders among Pregnant women and their association with the outcome of the pregnancy with respect to LBW babies - A hospital based study

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#### OBJECTIVES

1. To determine the level of following micronutrients in blood samples of pregnant women of 3<sup>rd</sup> trimester
  - Hematological: Hb, Iron, Ferritin, Folic acid, B12
  - Vitamins: A, E, C
  - Trace elements: Zn, Se, Cu
  - Hormones: T3, T4, & TSH
  - Urine Iodine Excretion level
  - Salt Iodine
2. To determine the association of LBW babies with micronutrient deficiencies of 3<sup>rd</sup> trimester pregnant women
3. Dietary Intake of micronutrients in 3<sup>rd</sup> trimester of pregnant women

#### PROGRESS

Preliminary analysis of 300 pregnant women covered in the study revealed that 71.4 per cent were Hindus and 28.3 per cent Muslims. Socio-demographic profile of pregnant women participated in the study is given in the Table 1

**Table 1. Socio-demographic profile of pregnant women participating in the study**

Pregnant women Characteristics	Number	Percentage (%)
<b>Number Examined</b>	<b>300</b>	
<b>Duration of Pregnancy</b>		
Seven	43	14.3
Eight	137	45.7
Nine	120	40.0
<b>Age Years</b>		
18-25	219	73.0
26-35	80	26.7
36-45	01	0.3

<b>Religion</b>		
Hindu	214	71.4
Muslim	85	28.3
Sikh	01	0.3
<b>Caste</b>		
General	78	26.0
OBC	118	39.4
SC	34	11.3
ST	04	1.3
Minority	66	22.0
<b>Education</b>		
Illiterate	37	12.3
Literate	21	7.0
Primary	49	16.3
Middle	54	18.0
Secondary	84	28.0
College	55	18.4
<b>Occupation of women</b>		
GNM	01	0.3
Government Teacher	01	0.3
Pharmacist	01	0.3
Private Teacher	01	0.3
House Wife	296	98.8
<b>Occupation of Husband</b>		
Agriculture Labour	11	3.7
Service	97	32.3
Business	57	19.0
Artisans	22	7.3
Other Labour	113	37.7

Haemoglobin estimation revealed that 75.7 per cent pregnant women were anemic. The severe anemia was found in 4.7 per cent of them. Analysis for vitamin A, and E revealed 69 % deficiency of Vitamin A whereas no pregnant women of 3rd trimester indicated Vitamin E deficiency. Zn deficiency was recorded in 37.8 per cent pregnant women whereas no deficiency of Se and Cu was found.

Analysis of 230 urine samples for iodine revealed the median urinary iodine as 112.5 mcg/l which was less than prescribed WHO cut off 150 mcg/l. The proportion of pregnant women showing UIE level below 50 mcg/l was 19.1% whereas in 64.4% pregnant women, the median UIE was below the optimal values of median urinary iodine..

Analysis of Dietary intake of 300 pregnant women revealed that their diet was deficient w.r.t. RDA (ICMR) in energy (9.4%), Protein (19.4%), Fiber (33.8%), calcium (26.0), Iron (46.0%), Zinc (36.7%), Folate (69.5%) and Vitamin B12 (84.2%).

Out of 300 registered women, 295 deliveries have been followed with in 48 hours . It was observed that 68.1 per cent deliveries were normal whereas 31.5 per cent were Cesarean. SD classification of Weight for age showed that LBW babies were 37.6 per cent.