

# Assessment of dietary practices and anthropometric status of pregnant women in Saraikela- Kharsavan district of Jharkhand

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## ABSTRACT

**Background :** Maternal nutrition is very important for the good health and reproductive performance of women and the health, survival and good development of their children. Malnutrition in pregnant women remains to a large extent uncounted and unreported because of which much attention is not given to the extent, causes and consequences of malnutrition in pregnant women. This leads to inadequate allotment of resources and inadequate efforts towards improving pregnant women's nutritional status compare to any other nutritional and public health programmes. Availability of limited data and lesser experiences with programmes that do exist come mostly from small-scale efforts to improve nutritional status of pregnant women. Mostly the focus will be on enhancing foetal growth and birth weight of baby but in this pregnant women's own health identity is lost which leads to various health problems in pregnant women. The present study assessed the dietary practices and anthropometric status of pregnant women in Saraikela Kharsawan district in state of Jharkhand in India.

**Objectives:** To assess the prevalence of dietary practices and anthropometric status among pregnant women in Saraikela-Kharwavan district of Jharkhand.

**Methods:** An Anganwadi based descriptive cross-sectional study was conducted between October-2018 and November 2018 among pregnant women in Saraikela-Kharsavan district.

**Results:** The underweight was observed in 25% women, 65% women were healthy and 10% were pre obese. The pregnant women fell short of recommended dietary allowances.

**Conclusion:** Regular, frequent and individual counselling with any action points and constant reinforcement can bring positive improvement in nutritional status during pregnancy.

**Key Words :** Anthropometric status, Prevalence dietary practices

## INTRODUCTION

Diet and nutrient adequacy is most essential for pregnant women's health as it prevents pregnancy related diseases and at the same time allows good growth of foetus. Mother's nutritional status during pregnancy and before pregnancy not only can affect the perinatal phase of pregnancy outcome but it may also cause the development of various metabolic disorders in her adult child.

For successful completion of pregnancy maternal nutritional status is very important. Chronic under nutrition

in mother's leads to low birth weight babies. There are few studies which reports the association between low birth weight and maternal malnutrition. There are many other socioeconomic factors, past nutritional status of the mother, climate, sanitation, infection age, general health etc. which effects the development of foetus. To make any intervention policy that aims to improve women's habit during reproductive or pregnancy cycle demands knowledge of the regular dietary patterns in this stages of life.

“Safe motherhood” and “child survival” are much used terms but still much attention is not paid to nutritional

status of pregnant women. However, many programmes are under implementation which are providing better coverage of services, particularly in developing countries like India.

Assessment of nutritional status is very important during pregnancy at several layers. It helps in management of women's health care before, during and after pregnancy. This will also help in planning future interventions.

### **Review of literature:**

Studies reported critical need of nutrition education for optimal pregnancy outcome (Rah *et al.*, 2008).

According to WHO maternal undernutrition and low birth weight infants remain the single most important cause of infant morbidity and mortality in the world and reduction in this scenario can be one of the global indicators of progress. In most of the low birth weight infants, risk of mortality, morbidity and chronic diseases during adulthood is very high (Mora and Nestel, 2011).

Some studies reported association between socioeconomic conditions and nutritional status of pregnant women. For developing countries it becomes very important to improve the socio economic conditions of communities, particularly before and during pregnancy (Moore *et al.*, 2004).

Review of studies on the nutritional status of pregnant women also revealed that in developing countries only two thirds of women consumed energy as per recommended dietary allowance and their average height and weight was below the 50<sup>th</sup> percentile for small framed women in developed countries. It was also observed that intake of nutrients were slightly higher in these women than non pregnant women although the nutritional requirements of pregnant women was significantly greater.

EneObangetal, reported that poor prenatal health and nutrition as well as inadequate care during pregnancy and delivery leads to high prevalence of maternal mortality in developing countries. Some of the reported causes of maternal mortality always overshadow the role a nutrition in pregnant women (Ene-Obong *et al.*, 2001).

Some studies reported micronutrient deficiencies were frequent in pregnant women. Repeated, closely spaced pregnancies are associated with poor health and nutritional status of pregnant women (Padilhapde *et al.*, 2009).

Anthropometric measurements are used mostly to

assess nutritional status of pregnant women, as these methods are easy to apply and economical. These measurements are effective tool in the prevention of perinatal morbidity and mortality.

Some studies reported that Anthropometric assessment during pregnancy benefits and responses to interventions in the elaboration of reference values for the various phases of gestation.

### **Objectives:**

#### **General objective:**

- To assess the dietary practice and anthropometric status among pregnant women in Saraikela Kharsawan district of Jharkhand

#### **Specific Objectives:**

- To assess the dietary practice among pregnant women in Saraikela- Kharsawan district
- To measure the anthropometric status among pregnant women

## **METHODOLOGY**

An Anganwadi based descriptive cross sectional study was conducted between October 2018 – November 2019 among pregnant women in Saraikela-Kharsawan district of Jharkhand

### **Inclusion Criteria:**

Study subject were all pregnant women who were attending antenatal care in the study area.

### **Exclusion Criteria:**

Not willing too sick or mentally not stable to respond to questions.

### **Sample size:**

Total of 100 pregnant women were selected by random sampling method.

### **Sampling procedure:**

A random sampling technique was used in sampling the study subject. 4 Anganwadi centres were included in the sampling frame and from each centre, 25 pregnant women were selected randomly.

### **Data collection procedure:**

With the help of 24 hours dietary recall method, was used to assess nutritional status, apart from this

anthropometric measurement *i.e.* weight and height was measured to find out BMI. Structured interview schedule was prepared and data regarding their dietary practices were collected. The schedule was pre tested before the actual data collection was started. Pregnant women were first informed about the study and its aim, and only those participants were considered, who were willing to participate. Face – to –face interviews were conducted with the participants while attending antenatal care in the respective Anganwadi centres.

#### Data analysis plan and management:

Data was entered and analysed. Descriptive statistics like percentage was used to measure the association between variables.

## RESULTS AND DISCUSSION

Among the study subjects 26% women family heads were educated up to primary school level, Middle school level 45%, High school 15%, Intermediate 2%, +2 UG/ PG level (2%), respectively

Among the total pregnant women, 15% family heads were unemployed, 40% were unskilled workers 25% were skilled 15% were semi-skilled and 5% were shop owner or were in clerical jobs.

3% women belong to monthly income category (Rs. < 2,091), 15% women family, heads earned (Rs. 2,092 – 6213), 40% earned (Rs. 6,314 – 10,356), 25% earned (Rs. 10,357 – 15,535), 14% earned (Rs. 15,536 – 20714) and rest 3% earned (Rs. 20,715 – 41,429) monthly.

About 22% women attended antenatal check-up one time, 42% attended 2-3 times and 36% women attended more than 4 times.

A total of 82% of women have got dietary advices 86% women received supplemented iron. (88%) wanted to attend institutional deliveries and 12% wanted child deliveries at home.

About 28% women were in (3-5m) pregnancy stage, 62% were in (6m – 8m) stage and 10% were in (> 9m) stage.

Out of all subjects 100% women reported that they take rice / wheat two or more times per day. 60% women reported that they take non vegetarian food one time / week, (30%) two times/week and 10% said they do not take. In case of milk and milk products, (55%) said they take one time / week, (23%) two or more times / week and 22% never take. Similarly, (75%) take eggs one time / week, 15% take two time / week and (10%) never take eggs. 14% women reported that they take green leafy vegetables one time / week and (86%) two / week.

**Table 1: Socio economic characteristics of pregnant women**

Variables	Frequency	Percentage
<b>Education levels of head of family</b>		
Illiterate	10	10.0
Primary school	26	26.0
Middle school	45	45.0
High school	15	15.0
+ 2	02	02.0
UG / PG	20	02.0
<b>Occupation levels of head of family</b>		
Unemployed	15	15.0
Unskilled	40	40.0
Semi-Skilled	25	25.0
Skilled	15	15.0
Clerical and shop owner	05	05.0
<b>Monthly income levels of head of family</b>		
< 2,091	03	03.0
2,092 – 6213	15	15.0
6314 – 10356	40	40.0
10,357 – 15,535	25	25.0
15,536 – 20,714	14	14.0
20,715 - 41429	03	03.0

<b>Table 2 : Health Service related Characteristics</b>		
Variable	Number	Percentage
<b>Gestational months of pregnancy</b>		
3m – 5m	28	28.0
6m – 8m	62	62.0
9m	10	10.0
<b>Number of women attended ANC</b>		
1 time	22	22.0
2 -3 times	42	42.0
4 times	36	36.0
<b>Given iron / Folic acid</b>		
Yes	86	86.0
No	14	14.0
<b>Advice about dietary practices</b>		
Yes	82	80.0
No	18	18.0
<b>Place of birth</b>		
Home	12	12.0
Institutional	88	88.0

<b>Table 3 : Dietary practice and anthropometric measurement characteristics of pregnant women</b>		
Variable	Number	Percentage
<b>Frequency of cereals as rice, wheat within 24 hours</b>		
One time per day	0	0.0
Two or more time per day	100	100.0
None	0	0.0
<b>Frequency of animals sources of foods like meat, lives &amp; other</b>		
One time per week	60	60.0
Two or more times per week	30	30.0
None	10	10.0
<b>Frequency of milk and milk products</b>		
One time / week	55	55.0
Two or more times / week	23	23.0
None	22	22.0
<b>Frequency of egg within 24 hours</b>		
One times / week	75	75.0
Two times / week	15	15.0
None	10	10.0
<b>Frequency of green leafy vegetable within 24 hours</b>		
One times / week	14	14.0
Two times / week	86	86.0
None	0	0.0
<b>Frequency of fruits within 24 hours</b>		
One times	14	14.0
Two times	8	8.0
None	78	78.0
<b>Frequency of butter or oil with your daily cooked food</b>		
2 Time	70	70.0
3 Time	15	15.0
4 Time	15	15.0
<b>BMI measurements</b>		
< 18.5	25	25.0
18.5 – 24.9	65	65.0
25.0 – 29.9	10	10.0
30.0 – 34.9	0	0.0

Similarly, (14%) women said they consume fruits one time / week (8%) said they take two times and 78% women reported that they never take fruits frequently. In case of consumption of oil (70%) women said that they use oil two times in a day (15%) said they use it 4 times.

The anthropometric measurements included height and weight of women which indicated BMI levels of pregnant women. It was observed (25%) women were underweight with BMI (<18.5), 65% were healthy, with BMI (18.5-24.5), and 10% were pre obese with BMI (25.0 – 29.9)

### Major findings:

- 25% women were found to be underweight which is alarming.
- Majority of family heads of pregnant women were educated only up to high school level.
- Occupation level of family heads varied from unemployment to skilled.
- Majority of family heads earned (Rs. 15,535/-) which is quite low.
- In terms of antenatal check, consumption of dietary supplementation the findings indicates satisfactory usage of services available to pregnant women.
- Almost all the women fell short of recommended dietary allowance of as their mean intake of all nutrients was low.

### Conclusion:

Holistic approach, simple nutrition education message in the all stages of pregnancy along with other determinant in a sustained manner can improve the nutritional status of pregnant women. Family members

can play very important role in nutritional wellbeing of pregnant women.

### Recommendation:

1. One additional meal every day to maintain strength of pregnant women and diversified food intake.
2. Increase family participation to decrease work load of pregnant women.
3. Extensive community level approach.
4. Intensify efforts at informing pregnant women about the importance of dietary practices.
5. Regular provision of nutrient supplement to mother's

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