# A Study on the Prevalence of Nutrition related health problems among Rural Pregnant Women of East Singhbhum district of Jharkhand

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**ABSTRACT**

**"Yatra Nariyastu Pujyante Ramante Tatra Devata" (God reside in places where women is worshipped). This has been our vedic philosophy since ages, but when we look at the health and nutrition status of women we find that, women receive the minimum benefits. Maternal mortality rate is rural areas figures among the world's highest. Women, particularly in the vulnerable stage of pregnancy are more susceptible to and trapped in the cycle of disease and illness primarily due to their nutritional status being affected by unequal access to food, health care and heavy work demands. The state of Jharkhand has one of the country's worst maternal mortality rates in spite of multilevel approaches taken at different levels. The present study was undertaken with the objective to explore about the nutrition related health problems in rural pregnant women of East Singhbhum district of Jharkhand. To study this100 pregnant women were selected from two villages of East Singhbhum district of Jharkhand. Socio-economic status of the subjects was studied through standard scales. Anthropometric measurements were taken to find out the BMI . With the help of pre tested structured schedule qualitative and quantitative data regarding dietary habits, deficiency disorders were collected. Frequency analysis was performed. SPSS method was used to test the significance. The study revealed that majority of pregnant women were from lower middle socioeconomic class. Various health problems were observed in subjects which were mostly associated with nutritional deficiencies. Thyroid,low vision, anemia etc were some of the health problems observed in them in varying stages. The study showed no significant difference between socioeconomic class of subjects with respect to nutrition related health problems The study suggested multispectral and multichannel approaches at all level for health empowerment of women.**

**Key words : Mortality, Morbidity, Socio-economic**

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### Introduction

Maternal mortality rate is rural areas figures among the world's highest. Women, particularly in the vulnerable stage of pregnancy are more susceptible to and trapped in the cycle of disease and illness primarily due to their nutritional status being affected by unequal access to food, health care and heavy work demands.Socioeconomic status is an important factor influencing health, nutritional status,mortality and morbidity of vulnerable population at large. It also influences the acceptability, affordability accessibility, and actual on ground utilization of various available health facilities.

### MATERIALS AND METHODS

Under the light of above introduction the present study was undertaken. The details of the research methodology is presented in this section under following subheadings:

**Objectives**
- To investigate the Socio Economic status of rural pregnant women of East Singhbum district of Jharkhand
- To find out the nutritional status of subjects by using Anthropometric measurements.
- To study the prevalence of nutrition related observed health problems among the subjects.
- To study the association between socioeconomic status and observed health problems of subjects.

**Hypothesis**

- It is likely that socio – economic status of rural pregnant women of East Singhbhum district will show wide variations.
- Subjects who belong to lower socioeconomic groups may reflect poor nutritional status.
- Rural subjects may be suffering from nutrition related health problems
- There must be strong association between Socio Economic status and observed health problems.

**Lmitation of the study**

- The study was limited to pregnant women of rural areas of East Singhbhum district of Jharkhand.

**Source of Data**

- The research was aimed at studying the prevalence of nutrition related health problems in rural pregnant women of East Singhbhum, district of Jharkhand India. The study also aimed at knowing the socio economic condition of the population and association between socio economic condition and observed nutrition related problems. For data collection Pregnant women of two villages of East Singhbhum were selected to collect the response through Interview method using the questionnaire as an Interview schedule.

**Sample of the study**

- Sample of the study consisted of 100 pregnant women i.e 50 each from two villages Lohabasa and Kesikudar of East Singhbhum district of Jharkhand, India.

## RESULT AND DISCUSSION

**I. Socio – Economic Profile of Pregnant Women :East Singhbhum**

**Table 1: Frequency distribution of Education level of family hand of pregnant women**

| Score | Education | Frequency N = 100 | Percentage % |
|---|---|---|---|
| 7 | Profession | 0 | 0.0 |
| 6 | UG / PG | 14 | 14.0 |
| 5 | + 2 | **42** | **42.0** |
| 4 | Higher Secondary | 12 | 12.0 |
| 3 | Middle | 10 | 10.0 |
| 2 | Primary | 14 | 14.0 |
| 1 | Literate | **8** | **8.0** |
| | **Total** | 100 | 100.0 |

The above table 1, depicts the education levels of head of family of pregnant women based on modified Kuppuswami scale (2010). In East Singhbhum district majority of **42%** family heads were educated upto + 2 levels.(14.0 %),(12.0 %),(10.0%),(14.0%) and(8.0%) family heads were educated upto UG / PG, Higher Secondary, Middle ,Primary and Literate Levels respectively.

**Table 2: Frequency distribution of occupation levels of family heads of Pregnant Women**

| Score | Occupation levels | Frequency N = 100 | Percentage % |
|---|---|---|---|
| 10 | Profession | 0.0 | 0.0 |
| 6 | Semi Profession | 0.0 | 0.0 |
| 5 | Clerical / Shop owner | **38.0** | **38.0** |
| 4 | Skilled worker | 16.0 | 16.0 |
| 3 | Semi – Skilled | 12.0 | 12.0 |
| 2 | Unskilled | 24.0 | 14.0 |
| 1 | Unemployed | 10.0 | 10.0 |
| | **Total** | 100 | 100.0 |

The above table 2, reportes that none of the family heads of subject were at profession and semi profession level of occupation but majority **38%** family heads were at clerical jobs or were shop owners. Another (16%) were skilled workers, (12%) semi skilled, (24%) unskilled and (10%) unemployed.

**Table 3: Freuency distribution of monthly income of family heads of Pregnant Women**

| Score | Monthly Income (Rs) | Frequency N = 100 | Percentage % |
|---|---|---|---|
| 12 | 41,430 | 04 | 4.0 |
| 10 | 20, 715 – 41,429 | **22** | **22.0** |
| 6 | 15, 536 – 20714 | 18 | 18.0 |
| 4 | 10,357 – 15,535 | 20 | 20.0 |
| 3 | 6,214 – 10,350 | 20 | 20.0 |
| 2 | 2,092 – 6,213 | 12 | 12.0 |
| 1 | < 2,091 | 04 | 4.0 |
| | **Total** | 100 | 100.0 |

According to table 3, 4% family heads earned less than (< 2,091 Rs) montly, and 4% earned (41,430 Rs). 20% each earned (6,214 – 10,350 Rs) and (10,357 – 15,535 Rs) respectively. Majority **22%**, family heads earned (20,715 – 41,429 Rs). 12% family heads earned (2,092 – 6,213 Rs) montly.

**Table 4  Frequency distribution of Socio-Economic class of family of Pregnant Women**

| Range | Socio – Economic class | Frequency N = 100 | Percentage % |
|---|---|---|---|
| 26-29 | Upper class | 02 | 2.0 |
| 16-25 | Upper middle class | 17 | 3.0 |
| 11-15 | Lower middle class | **27** | **27.0** |
| 5-10 | Upper lower class | 20 | 20.0 |
| 0 < 5 | Lower class | 34 | 34.0 |
| | **Total** | 100.0 | 100.0 |

Table 4,depicts that majority (34.0%) belonged to lower middle class and (20%), 27%), (17%) and (2%) family heads belonged to upper lower class, lower middle class, upper middle class and upper class respectively.

**II. Anthropometric Measurements of Pregnant Women: East Singhbhum**

**Table 5. Frequency distribution of Body Mass Index (BMI)**

| Range | Description | Frequency N = 100 | Percentage % |
|---|---|---|---|
| < = 18.5 | Underweight | **40.0** | **40.0** |
| 18.5 – 24.9 | Healthy | 44.0 | 44.00 |
| 25-29.9 | Pre obese | 2.0 | 2.0 |
| 30 – 34.9 | Moderately obese | 10.0 | 10.0 |
| 35 – 39.9 | Severely obese | 0.0 | 0.0 |
| >= 40 | Morbidity obese | 4.0 | 4.0 |
| | **Total** | 100.0 | 100.0 |

According to table 5, BMI levels of pregnant women revealed that (40%) were underweight and (44%) ,(2.0%) (10%), (0.0%) and (4%) were healthy, pre obese moderately obese, severely obese and morbidity obese respectively.

**III. Observed health problems in Pregnant Women: East Singhbhum**

**Table 6  Percentage distribution of observed health problems**

| Health Problems | Absent (%) | Just Recovered (%) | Long Period (%) | Very Long Period (%) |
|---|---|---|---|---|
| TB | 92.0 | 8.0 | 0.0 | 0.0 |
| Thyroid | 82.0 | 10.0 | 8.0 | 0.0 |
| Low Vision | 72.0 | 8.0 | **20.0** | 0.0 |
| Inflammation at Corners of Mouth | 54.0 | 23.0 | **23.0** | 0.0 |
| Dental Fluorosis | 48.0 | 48.0 | 4.0 | 0.0 |
| Swelling of Limb | 52.0 | 40.0 | 8.0 | 0.0 |

| | | | | |
|---|---|---|---|---|
| Recurring Fever | 60.0 | 28.0 | 12.0 | 0.0 |
| Irregular Periods | 36.0 | 30.0 | **44.0** | 0.0 |
| Dental Cavities | 72.0 | 16.0 | 8.0 | 4.0 |

The above table 6, depicts the state of various health problems prevalent in rural pregnant women of East Singhbhum district. The pregnant women (92%), (82%), (72%), (54%), (48%), (52%), (60%), (36%), and (72%) reported absence of TB, Thyroid, How vision, Inflammation at Corners of mouth, Dental fluorosis, Swelling of limb, Recurring fever, Irregular periods and dental cavities respectively. Majority (**44%**) women reported irregular period problems from long period. (20%), (23%) subjects reported low vision and inflammation at corner of mouth respectively from long period

**Table 7. Percentage distribution observed health problems in pregnant women & Socio economic class of family: (East Singhbhum)**

| Clinical features | Upper Lower class &Lower Middle class % | | | | Upper Middle class % | | | | P value |
|---|---|---|---|---|---|---|---|---|---|
| | **4** | **3** | **2** | **1** | **4** | **3** | **2** | **1** | |
| **TB** | 0.0 | 0.0 | 8.0 | 64.0 | 0.0 | 0.0 | 0.0 | 28.0 | **0.358** |
| **Thyroid** | 0.0 | 0.0 | 0.0 | 72.0 | 0.0 | 0.0 | 4.0 | 24.0 | **0.102** |
| **Low vision** | 0.0 | 8.0 | 12.0 | 52.0 | 0.0 | 0.0 | 0.0 | 28.0 | **0.297** |
| **Inflammation of corners of mouth** | 0.0 | 4.0 | 20.0 | 48.0 | 0.0 | 4.0 | 8.0 | 16.0 | **0.759** |
| **Dental Fluorosis** | 0.0 | 4.0 | 32.0 | 36.0 | 0.0 | 0.0 | 16.0 | 12.0 | **0.736** |
| **Swelling of limb** | 0.0 | 8.0 | 28.0 | 36.0 | 0.0 | 0.0 | 12.0 | 16.0 | **0.655** |
| **Recurring fever** | 0.0 | 8.0 | 20.0 | 44.0 | 0.0 | 4.0 | 8.0 | 16.0 | **0.972** |
| **Irregular periods** | 0.0 | 24.0 | 24.0 | 24.0 | 0.0 | 4.0 | 12.0 | 12.0 | **0.635** |
| **Dental Caries** | 4.0 | 4.0 | 4.0 | 60.0 | 0.0 | 4.0 | 12.0 | 12.0 | **0.094** |

**Note: 1. 4. Very long period, 3. Long period, 2. Just recovered, 1. Absent**

$H_0$. *There is no significant difference between socio economic class with respect to observed health problems in pregnant women*

Since P value is greater than 0.05 hence null hypothesis is accepted at 5% level with respect to health problems TB, Thyroid, Low vision, Inflammation at corners of mouth, Dental Fluorosis, Swelling of limb, recurring fever, irregular periods and Dental Caries. Hence it can be inferred that there is no significance difference between socio-economic class of family with respect to health problems TB, Thyroid, Low vision, Inflammation at corners of mouth, Dental Flurosis, Swelling of limb, recurring fever, irregular periods and Dental Caries.

**Major Findings:**
The study revealed that less then half of family heads of the subjects were educated upto intermediate levles. In-spite of being a developed district it was surprising to observe that very insignificant percentage of family heads were graduates or post graduates. This finding is supported by other studies where similar trend was observed in rural set up of Bihar.[1] The possible reason behind this trend could be going for jobs to fulfil economic needs. It also shows that now also in rural India majority of people are not abel to go for higher education. Education level of family heady is one of the major indicator for socio-economic status (SES) and has a wide impact on an individual / family's health.

In the present study (38 %) of family heads were reported to be in clerical jobs or were shop owners and significant number of family heads were found to be unskilled. Unemployment was also reported. The findings of Kim et al.,2018[2] reported (35%) family heads to be in same occupation and (12%) unemployment. Comparing both the studies similar conclusion were inferred that the possible reason behind this could be lower education levels.

It can be inferred from the present study that the occupation and education levels of family heads showed the variation of monthly income also. This finding was supported by another study by Suryanarayana etal.,2017[3].Both the studies indicated that the per capita income influences the affordability and utilization of the health facilities

As per the study the Overall socio – economic status showed different levels of socio – economic class which could be due to different levels of education, occupation and monthly income. The present study is supported by another study of Prasad,2018[4]. Socio-economic status (SES) is one of the prime factors influencing the health status of nation and especially the vulnerable sections like pregnant and lactating mothers.

The present study reported underweight in (40%) of subjects which is very alarming and matter of concern. A study by Chaudhary (2016)[5] reported little higher rate of underweight in (55% ) rural pregnant women..As BMI levels corresponds with the socio – economic status, lower BMI  indicates lack of awareness and poverty  making them dependent on Rice – salt or Rice – potato diet, which results in malnourishment and lead to other nutrition related health problems.

As per the study major nutrition related health problems observed in subjects were irregular periods, low vision, inflammation at corners of mouth and recuring fever Which indicates to micronutrient deficiency. Alarming prevalence of verious health problems observed in subjects is also supported by a study conducted  by (Joshi  etal., 2017)[6] which revealed that majority of women having lower BMI (18.5% / > 18.5%) had Anemia and other micronutrient deficiency like Calcium, Folic acid, Vit-A and Vit B12 deficiency.

The present study showed no significant difference between socioeconomic class of subjects with respect to nutrition related health problems. Supported by the study of (Joshi  etal., 2017)[6]

## CONCLUSION

This study was conducted to know about prevalence of nutrition related health problems in rural pregnant women of East Singhbhum district. The findings of the study uncovered the various nutrition related health problems observed in the subjects. It also revealed the socioeconomic and nutritional status of the subjects inview of the objectives set for the research. The study concluded that there is no siginificant difference between socioeconomic class of subjects with respect to nutrition related health problems.

## ACKNOWLEDGEMENT

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