



A study on the prevalence of nutritional anaemia in pregnant women in slum areas of Cuttack district, Odisha

KEYWORDS

Anaemia, pregnant women, slum area, diet pattern

Padmaja Jagati

Junior Lecturer in Home Science, Govt. Women's Junior College, Titilagarh, Balangir-760733, Odisha

ABSTRACT *The present study was conducted in five selected slum areas of Cuttack district, Odisha to ascertain the prevalence of nutritional anaemia in pregnant women. One hundred respondents were selected using simple random sampling method to explore their socio-economic condition, knowledge regarding food groups, food taboos, prevalence of anaemia, clinical examination and general awareness regarding anemia. The objective of the study was thorough compilation of information regarding their diet pattern, knowledge regarding food groups during pregnancy and prevention of anaemia. The study revealed that, 46% and 31% of respondents suffer with mild and moderate degrees of anaemia respectively with other infections and deficiencies, 40% have several numbers of pregnancies with number of abortions, 67% are affected by different food taboos, 90% have zero knowledge about different food groups and 40% of them get help and supplements from the anganwadi health workers working in those specific locations.*

INTRODUCTION

In every community pregnancy has been regarded as the most welcome event of successful womanhood. Pregnancy is one of the most wonderful experiences in woman's life and a happy pregnancy can make it even better. The diet of pregnant mother is one single factor, which directly affect the outcome of pregnancy [1]. Child bearing imposes both physical and mental strain on the body and mind and it is important that the would-be mother leads a healthy life during pregnancy [2]. It is not only nutrition during pregnancy but also childhood nutrition of the woman that may influence obstetric outcome. Apart from the diet several other poverty associated factors such as malnutrition, anemia, and infection, parasitic infection leading to intestinal mal-absorption and closely spaced pregnancy also adversely affect maternal nutrition status [3].

Nutritional anemia is one of the major public health problems in India affecting almost 90% poor children, adolescent girls and pregnant women with serious implication of health and economic development. According to the statistics of World Health Organization (WHO) in 2008, prevalence of anaemia in pregnant Indian women is 49.7% compared to the global prevalence of 41.8% [4]. If the worst killer of infants and children is protein calorie malnutrition (PCM), nutritional anaemia plays the same notoriety among women of child bearing age [5]. Anemia is a major national nutritional problem with significant impact on the health and productivity of the population. It is the late manifestation of deficiency of nutrients needed for haemoglobin synthesis [6]. Nutritional anaemia mainly occurs in India due to low dietary intake, low iron (< 20 mg/day) and folic acid (< 70 µg/day) intake, poor bioavailability of iron (3-4%) in phytate and fibre-rich Indian diet and chronic blood loss due to specific diseases [7]. In India, anaemia is the second major cause of maternal deaths, estimated to be 20% of the overall maternal deaths [8]. Nutritional anaemia causes serious problems in pregnancy which affects 60-70% of pregnant women with haemoglobin levels less than 10 gm. It has been studied that, approximately 5-30% of all maternal deaths occur because of nutritional anaemia [9].

METHODOLOGY

The present investigation is designed to evaluate the prevalence of nutritional anaemia among pregnant women living

in various slum areas of Cuttack district, Odisha. In order to collect the information regarding the degree of anaemia, 100 pregnant women aged between 20-35 years were selected randomly from five arbitrarily chosen slum areas of the district. The collection of data in the present study was carried out in five numbers of slum areas located at Choudwar, Biribati, Balukuda, Jobra and Bidanasi of Cuttack district. The tools adopted in the study included a set of questionnaire, which was specifically designed for collection of data from the respondents living in those slums. The questionnaire covered aspects as personal details, general information regarding the slum they are living in, food consumption pattern, food taboos, clinical manifestation of the respondent and general awareness of the respondent regarding anaemia. In the present paper a comparison has been drawn among the respondents of two selected slum areas regarding the general awareness of anaemia.

RESULTS AND DISCUSSION

Socio-economic status of the respondents

From the present study it was found that, among the selected respondents 35% belonged to 20-30 and 65% belonged to 30-35 age groups. 40% of the total respondents were housewives, 25% worked as part-time servants, 15% worked at the construction sites and the remaining were engaged in other types of services. The type of family is one of the important socio-economic variables as it affects the living standard and nutritional status. The study revealed that, out of the 100 selected families, 45% belong to joint family, 25% belong to nuclear family and 30% belong to extended family category. 75% of the respondents were literate and the remaining being illiterate. Most of the houses in the slum areas were small huts with one living room. 45% of the families live in huts, 35% in pakka, 15% in semi-pakka and the remaining in kaccha houses. 25%, 45% and 20% of the respondents had one, two and three cases of pregnancies respectively with 10% having more than three pregnancies.

Clinical manifestation of the respondents

In the present study an extensive survey was carried out regarding the occurrence of nutritional anaemia among the pregnant women in the selected slum areas which is

graphically presented in figure 1.

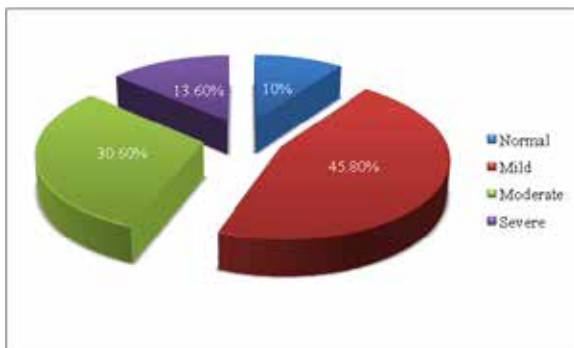
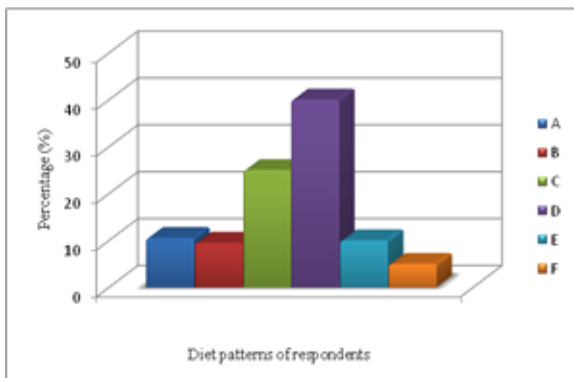


Figure 1. Degree of anaemia in respondents

Figure 1 illustrates that most of the respondents in the slum areas suffer from mild to moderate and moderate to severe type of anaemia. Results show that, 45.8% of respondents are mildly anaemic with haemoglobin level ranging between 9-11 g/dl, 30.6% are moderately anaemic with haemoglobin level between 7-9 g/dl and 13.6% respondents are severely anaemic with less than 7 g/dl of haemoglobin.

Dietary patterns of the respondents

Among the total number of selected respondents, an overwhelming 79% are found to be non-vegetarian, 16% found to be vegetarian and the rest 5% are found to be of ova-vegetarian category.



A→Do not eat during illness, B→After everybody in the family had eaten, C→At the time of feeling hungry, D→After finishing all the daily course, E→As per doctor’s advice, F→Do not eat due to insufficient food

Figure 2. Various diet patterns of the respondents

From figure 2, it is found that 40% of the respondents take their whole day meal after finishing all their daily course, 25% at the time of feeling hungry, 10.5% do not eat during illness, 10% eat as per doctor’s advice, 9.5% eat after everybody in the family had eaten and 5% do not eat due to insufficient food.

Though most of the respondents were found to be non-vegetarian, but they take non-veg food rarely due to low income. Rice is the stapled diet of all the selected respondents. They usually eat rice two to three times a day with a combination of either vegetable curry or bhaji, and occasionally non-veg recipes like fish, egg, dry fish etc. The study revealed that 90% of the respondents have zero knowledge and 10% have little knowledge about different food groups. Every society has its own traditional beliefs and practices related to health care based on superstition and restrictions on certain food items due to illiteracy, ignorance and traditional customs. The food taboos are found to be more common among slum families with 67% of pregnant women having restriction on different food items and 33% having liberty to take all type of foods. Major foods which are restricted during pregnancy are papaya, bitter gourd, some leafy vegetables, mushroom, berries, coconut, egg, dry fish, prawn, chili and sour items.

General awareness about the nutritional requirements

Due to illiteracy, ignorance and poverty, about 90% of the respondents have absolutely no idea and 10% have some knowledge about nutritional requirements during these special conditions like illness, pregnancy and lactation. Regular health check-up is an important aspect during pregnancy to know about the health of the mother and the status of the fetus in the womb. Results show that, about 60% of the pregnant women go for regular health check-ups and 40% have no awareness about it. 40% of the selected respondents take medicines regularly, 35% take occasionally, and the remaining are unaware. It is also found that, 50% of pregnant women take their supplements from the beginning of second trimester, 35% take it from the first trimester and 10% never take the supplements. 85% of the pregnant women have zero knowledge and 15% have some knowledge about the causes, symptoms and prevention of anaemia.

Table 1. Comparison of general awareness between the two selected slums

Particulars	No. of respondents (Slum A)	General awareness of the respondents (Mean±SD) (X)	No. of respondents (Slum B)	General awareness of the respondents (Mean±SD) (Y)	Deviation (X - Y)
Knowledge regarding anaemia	15	12.4±0.25	06	10.15±0.5	2.25 (81.85%)
Basic sources of knowledge	12	11.55±1.0	10	10.7±2.0	0.85 (92.64%)
Awareness about nutrition	05	14.05±0.25	03	14.12±1.5	0.07 (99.5%)
Food taboos	15	9.075±1.2	10	8.825±1.25	0.25 (97.25%)
Regular health check-up	15	9.1±1.49	12	12.25±1.6	3.15 (74.28%)
Availability of Supplements	08	10.70±1.0	10	10.80±0.8	0.10 (99.07%)
Regular intake of supplements	12	11.25±1.9	08	8.89±2.5	2.36 (79%)

Idea about prevention of anaemia	05	14.6±0.8	03	14.57±1.1	0.03 (99.8%)
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Table 1 represents the general awareness among the respondents of the two selected slums about anaemia. The results obtained show that, the respondents of 'slum A' possess better knowledge regarding anaemia, nutritional requirement, regular health-check up and intake of supplements than the respondents of 'slum B'.

CONCLUSIONS

The present study revealed a number of important findings on the existence, cause and effects of anaemia in pregnant women in the selected slum areas which are summarized below.

- The age of the selected respondents ranged between 20-35 years with majority of them (65%) belonging to 30-35 year age group
- Nearly 40% of the selected respondents were housewives, whereas others were involved in part-time jobs
- Majority of the respondents (75%) were found to be illiterate
- About 75% of the respondents have several number of pregnancies
- Most of the respondents (79%) were non-vegetarian with average consumption of three meals per day
- Parboiled rice was the main staple food of all the respondents with other supported food items
- Due to the existence of some common food taboos, 67% of pregnant women were restricted from taking many nutritious and high protein food items
- Majority of the respondents found to be suffering from mild to moderate and moderate to severe type of anaemia
- General symptoms like fatigue, nausea, palpitation, constipation, odema in leg and decreased physical activities were found in most of the respondents. Abnormal symptoms like severe vomiting and high blood pressure were found among some of the respondents
- 60% of the pregnant women go for free health check-ups regularly and 40% do not avail this due to lack of interest and awareness

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