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Nutrition status of tribal women: A case study of tribal Visakhapatnam

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Abstract
The present research is an attempt to generate awareness on importance of nutrition for women from the selected tribal areas of Visakhapatnam. The major hitch of our society is to discriminate women; girls are discriminated from the birth. The discrimination results in an attitude of abandon towards girls and correspondingly they receive inadequate nutrition right from childhood. Anemia ruins the health and well-being in women and increases the risk of maternal and neonatal adverse outcomes. Anemia affects half a billion women of reproductive age worldwide. In 2011, 29% (496 million) of non-pregnant women and 38% (32.4 million) of pregnant women aged 15-49 years were anemic Anemia is the most prevalent nutritional deficiency in women especially in the rural and tribal women. This research investigates the prevalence and determinants of anemia among tribal women in Visakhapatnam. The study will be concentrating on women at reproductive age, pregnant women, and lactating women. Under the present study, ignorance is been identified as main cause for anemia; create a colossal impact amongst women about the threat of being anemic., it is essential to advocate nutrition in terms of foods, rather than nutrients to reach the masses.

Keywords: nutrition, anemia, nutritional deficiency, anemic

Introduction
Rural people in India in general and tribal populations in particular, have their own beliefs and practices regarding health. Some tribal groups still believe that a disease is always caused by superstition spirits. They therefore seek remedies through magic religious practices. However, these practices are slowly coming down even in rural and tribal areas, and they are consulting medical practitioners for their health issues. But still several factors such as economic, social, and cultural factors are becoming a threat for the general rural areas and tribal in particular to enjoy nutritious and healthy life styles. The main reason behind the health exploitation of rural and tribal people is lack of health consciousness and poor accessibility towards health care providers.

Anemia ruins the health and well-being in women and increases the risk of maternal and neonatal adverse outcomes. Anemia affects half a billion women of reproductive age worldwide. In 2011, 29% (496 million) of non-pregnant women and 38% (32.4 million) of pregnant women aged 15-49 years were anemic [1].

Anemia is the most prevalent nutritional deficiency in women especially in the rural and tribal women. This research investigates the prevalence and determinants of anemia among tribal women in Visakhapatnam. The study will be concentrating on women at reproductive age, pregnant women, and lactating women. Since People consume food, it is essential to advocate nutrition in terms of foods, rather than nutrients.

The severity of anemia is categorized by the following hemoglobin concentration ranges: Anemia was defined as per WHO criteria. Anemia is defined as

- Hb concentration< 12 g/dl - No Anemia
- Hb concentration above10 g/dl but below 12 - Mild Anemia
- Hb concentration 7 to < 10 g/dl – Moderate Anemia
- Hb concentration < 7 g/dl4 [2] - Severe Anemia

The researcher has collected information from Paderu Community Health centre for the period Jan 2017 to June 2017. The details of the patients contain both men and women of all age group. Since the study covers the age group women who fall under 16-40, the researcher considered the information which is related to above said age group and income levels as low and middle.

There is huge need to educate the tribal women with respect to nutrition, because there is not even 1 % of the total population are with no anemia. There is a need to strengthen & empower the women with nutrition processes.

Description of the problem
The present research is an attempt to create awareness on importance of nutrition for women from the selected tribal areas of Visakhapatnam. The major hitch of our society is to discriminate women; girls are discriminated from the birth.

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The discrimination results in an attitude of abandon towards girls and correspondingly they receive inadequate nutrition right from childhood. After marriage, a woman' status in the family and society is determined by her reproductive functions and that too in tribal areas it is very high. The need of iron increases in the adolescent phase due to menstruation. Every month about 40 ml. blood is lost with approximately 0.6 mg of iron [3]. This increased requirement for iron is not met due to discriminatory social beliefs and food restrictions. Nutrition deficiency such as protein, vitamin C and iron leads to anemia, and which is very high among girls and women.

Nutrition is a basic human need and a prerequisite to a healthy life. A proper diet is essential from the very early stages of life for proper growth, development and to remain active. Food consumption, which largely depends on production and distribution, determines health and nutrition of the population. Anemia is a worldwide problem most commonly due to widespread nutritional deficiencies and cannot be considered as an isolated apart from the general nutrition, It affects all age groups but the most vulnerable are preschool-age children, pregnant women, and non-pregnant women of childbearing age.

People who become iron deficient aren't getting enough iron in their diet, becomes anemic. This means that the body can't make hemoglobin, so it makes fewer red blood cells. When someone has anemia, less oxygen reaches the cells and tissues and affects how the body works. Iron plays an important role in muscle function, energy creation, and brain development. As a result, a child with iron deficiency may have learning and behavioral problems and that will carry forward for the rest of the life.

Literature Review

Seetharam *et al*. (1997) conducted a study on prevalence of nutritional anemia in Mysore city. In this study, the researcher considered 510 girls in the age group between 16-22 years from Maharani's science college, Mysore. Not only has the Educational level of the parents and income of the parents had an influence on occurrence of anemia. But also the children of educated and high income families also suffered from anemic condition. The study concluded that, there is an urgent need for nutrition education of girls and parents to prevent anemia [4].

et al. (2001) in their research, which is published in Indian Journal of Community medicine, the researchers concentrated on socio demographic correlates of anemia among adolescent girls in rural areas of district Meerut (Uttar Pradesh) [5]. The study found that, there is significant relationship between anemia and literacy of adolescent girls and their mothers.

WHO (2001) published a guide for programs managers on "Iron Deficiency Anemia in order to assess, prevent and control anemia. It has developed a food based nutrition program to reduce anemic conditions rather than focusing on nutrients based approach [6].

Bentley and Griffiths (2003) [5] the research investigates the determinants of anemia among the women in Andhra Pradesh, India, a case study conducted and the data collected from The National Family Health Survey 1998/99. A total of 4032 married women were considered under which, women aged between 15-49 years from 3872 households found to be mild anemia @ 32.4 %, 14.19% had moderate and 2.2 % had severe anemia. The study concludes that, there is a need to have new strategies to improve the nutrition status among the women under reproductive ages [7].

Malhotra and Passi (2004), according to them, research was conducted in rural areas of Delhi, Rajasthan, Uttar Pradesh among the hemoglobin position of adolescent girls and study reported from their analysis that, the incidence of mild anemia, moderate anemia and severe anemia was found to be 50 %, 44.4 % and 2.8 % respectively. There was only 2.8% of the selected population has normal levels of hemoglobin [8].

Diwaker (2007) conducted a study in rural areas in India, study concentrated on 10,000 women who belong rural areas and study revealed that 6,948 (69.40%) women were anemic. The major percentage of anemic rural women which was 43.52 % were fell under the categorization moderate anemia, while largest proportions of the urban group (35.7 %) were comes under mild anemia category [9].

According to Premlatha *et al*. (2012) an article titled "Anemia Prevalence of anemia among adolescent school girls and its associated factors "which was published in the journal, India. Epidemiology, was conducted a study in Chennai to estimate the influencing factors of prevalence of iron deficiency anemia among adolescent schoolgirls in the age group 13-17 years.. A cross sectional survey was carried out among 400 school students.

The study found that, the commonness of anemia was found to be 78.75% among school girls. The results of the study showed that the factors such as age, literacy status of mother, types of family, community, weight, diet, regularity of intake of green leafy vegetables and fruits, menstrual discharge and deforming are the factors contributing to the prevalence of anemia [10].

According to Savita *et al*. (2013), in their article entitled "Impact of Education Intervention on Nutrition Knowledge of Iron Deficiency Anemia among Post Adolescent Girls

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"concentrated on post adolescent girls from Bangalore, to study the impact of education intervention on nutritional knowledge of iron deficiency anemia, the study found that, among 207 post adolescent girls of age between 18-25 years, the prevalence of anemia, it is observed that 53.14 % were found to be moderately anemic, 42.51 % were found to be mildly anemic and 2.89 % were to be found severely anemic and only 1.44 % had normal hemoglobin level [11].

According to Kawaljit Kaur (2014), in his study "Anemia'a silent killer' among women in India: Present scenario", which is published in European Journal of Zoological Research Anemia is the most prevalent nutritional deficiency disorder in the world. It influences all age groups but the most exposed are preschool-age children, pregnant women, and non-pregnant women of childbearing age. Globally, anemia affects 1.62 billion people, which corresponds to 24.8% of the population. The highest prevalence of anemia exists in the developing world where its causes are multi-factorial. National Family Health Survey statistics reveal that every second Indian woman is anemic and one in every five maternal deaths is directly due to anemia. This review will focus on recent advances in our understanding of the burden of anemia in specific sub-groups, the causes and consequences of anemia among women [12].

The main causes of anemia are nutritional and infectious. Among the nutrition factors contributing to anemia, the most common one is iron deficiency. It is due to a diet that is monotonous, but rich in substances (phytates) inhibiting iron absorption so that dietary iron cannot be utilized by the body [13].

There are several studies which are concentrated on the anemia as a result of nutritional imbalance. There are several influencing factors such as socio economic, cultural factors, educational levels.

The studies were conducted on rural areas of various places in India and most affected group is adolescent girls.

Present Study

The present study will be concentrating on the age group women fall between 16- 40. For conducting the research, the researcher has collected 250 reports from Paderu Community Health Centre.

As the study focused on the women who fall between age group between 16-40, the researcher considered only the reports which are 182 who fall under the above said age group, income levels of the patients were classified in to low and middle income groups.

Table 1: Classification of patients based on their age groups and HB level

Hb Level	Age Groups				
severity	16-20	21-25	26-30	31-35	36-40
10-<12 (Mild Anemia)	12	3	1	4	3
7 -<10 (Moderate Anemia)	32	27	7	34	21
<7 (Severe Anemia)	1	9	5	14	3
>12(No Anemia)	3	2	1	0	0
Total(182)	48	41	14	52	27

Out of 182 patients, 26.37% fall under the age between 16-20, out of which, 67% of the women affliction from moderate anemia. 26 % of the women who fall under 31-35 age group suffering from severe anemia. It is a noticeable point that not even 1% of the women having no anemia.

The majority of the population is anemic. There is a need to create awareness among the tribal women about the need of hemoglobin and its importance.

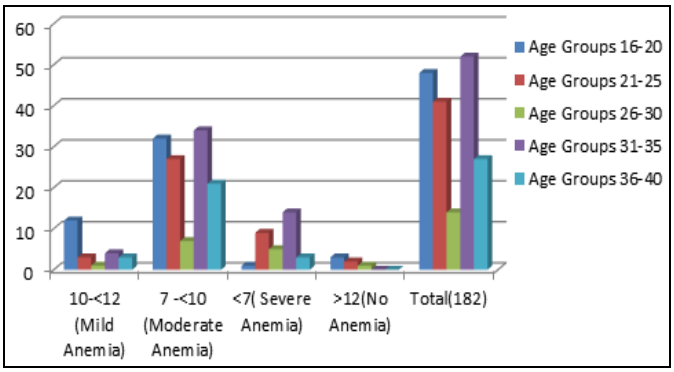

Fig 1: Graphical presentation of the patients anemia

Objectives of the study

1. To understand current health status of the tribal women who fall between 16-40 r (it obviously covers the women fall under Unmarried (Reproductive Age), Married (child bearing age), Lactating women)
2. To understand the impact of social, economic and cultural factors on the patients.
3. To calculate the statistical significance between HB levels with age and income levels of the patients.

Research Methodology

A sample of 182 patients was considered for the study from Paderu Community Health centre from the period Jan 2017 to June 2017. The details of the patients contain both men and women of all age group. Since the study covers the age group women who fall under 16-40, the researcher considered the information which is related to above said age group. Data analysis was done using tables and SPSS 21 software. Hypothesis testing was done using chi square analysis in SPSS.

Hypothesis Formulation

H1: There is relationship between age of the patient and HB level

H2: There is relationship between income levels with HB level

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Hypothesis Testing

Hypothesis 1

At 5% Level of Significance the Chi Square test shows 0.679, which is more than 0.05. Therefore hypothesis can be rejected. Hence concluded that there is no association between age with HB level. in table 2.

Table 2: Chi – Square tests between age groups and HB levels

Crosstab					
Count					
	hb level				Total
	10-<12	7 -<10	<7	>12	
21-25	3	27	9	2	41
26-30	1	7	5	1	14
31-35	4	34	14	0	52
36-40	3	21	3	0	27
Total	14	121	43	4	182

Table 3

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	9.274[a]	12	.679
Continuity Correction			
Likelihood Ratio	10.377	12	.583
Linear-by-Linear Association	1.757	1	.185
N of Valid Cases	182		
a. 11 cells (55.0%) have expected count less than 5. The minimum expected count is. 31.			

Hypothesis 2

Table no 4 shows chi squares tests at 5% Level of Significance and test shows 0.867, which is more than 0.05. Therefore hypothesis can be rejected. Hence, concluded that there is no association between income levels with HB level.

Table 4: Chi – Square tests between income groups and HB levels

Crosstab						
Count						
		HB level				Total
		10-<12	7 -<10	<7	>12	
income	low	8	65	24	1	98
	11	0	2	0	0	2
	moderate	6	54	19	3	82
Total		14	121	43	4	182

Table 5

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	2.509[a]	6	.867
Continuity Correction			
Likelihood Ratio	3.154	6	.789
Linear-by-Linear Association			
N of Valid Cases	182		
a. 6 cells (50.0%) have expected count less than 5. The minimum expected count is. 04.			

Conclusion

Women's nutritional requirement is necessary throughout different stages of her life. Government of India at central and state level has initiated several nutrition programmes to improve the nutritional status of the people to get rid of anaemia. But these programmes made very little impact because of they did not making efforts to create awareness such as Swachh bharat abhiyan sochaly, is a massive movement that seeks to create a Clean India it created a very great impact. Similarly, Government has to take initiative to spread the importance of nutrition, ensure massive action plans to reach the population. Ignore the causes for anemia; create a colossal impact amongst women about the threat of being anemic., it is essential to advocate nutrition in terms of foods, rather than nutrients to reach the masses.

There are many super foods which are available in cheaper also rich in iron, calcium, fiber etc., which contain large amounts of nutrients. It is our responsibility to promote awareness about the foods which are high in nutrients, so as to consume by the population to get rid of anemia.

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