

## Knowledge and self-reported practices on prevention of iron deficiency anemia among women of reproductive age in rural area

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### Abstract

**Objectives:** To assess the knowledge, self-reported practices on prevention of Iron deficiency anemia and to find the relationship between knowledge and practice.

**Materials and methods:** Questionnaire on demographic proforma, knowledge and self reported practice on prevention of Iron deficiency anaemia were used to collect the data. A descriptive survey design was adopted and 120 women were selected for the study using cluster sampling technique.

**Results:** Majority of women belonged to the age group of 31-45 years (53.3%); most of them (31.7%) had the secondary level of education. Majority of participants had inadequate knowledge (55.8%) and unfavorable practices (58.3%) with regard to iron deficiency anemia and its prevention. There was a weak positive correlation between knowledge and self-reported practices of women ( $\rho = 0.275$ ,  $p = 0.002$ ).

**Conclusion:** The women of reproductive age have inadequate knowledge on iron deficiency anemia and its prevention. Adequate knowledge may lead to better practices on prevention of iron deficiency anemia.

**Keywords:** Iron deficiency anemia, knowledge, preventive practice, reproductive age women, rural area.

### 1. Introduction

The most common nutritional deficiency anaemia affecting more than 2 billion people globally is iron deficiency anaemia [1]. Iron deficiency anemia (IDA) is found in all age groups and can occur in any region of the world. During pregnancy, lactation there is a high demand for iron and menstruation blood loss is the common causes of iron deficiency in reproductive age women [2].

In India, around 66% of the women of reproductive age are anticipated to suffer from IDA. By accounting for 20% of aggregate maternal death it has become the second most common cause of maternal deaths. The higher percentage of women having anaemia may be due to their low literacy level, poverty, low level of autonomy and having less decision making power [3-5]. A 2007 Indian government "12 by 12 initiative", which aimed at ensuring to have haemoglobin of 12 g/dL in Indian adolescents by 2012, listed that low dietary intake, poor availability of iron, chronic blood loss due to

hookworm infestation, and malaria as the main causes of anaemia in India [6].

The knowledge and household practices of women towards the prevention of iron deficiency anaemia differ from region to region and with individual woman [7]. Adequate Maternal knowledge of anemia may encourage women to take iron supplements during pregnancy and after childbirth. Lower maternal education will lead to higher rates of anemia in the mother in rural areas [8]. Though there are various programs started by government of India, the prevalence of anemia remains higher especially among the rural population. The ignorance of rural women about anemia and lack of knowledge on preventive practices may still contribute to poor health conditions. This study aimed to assess the level of knowledge about causes, symptoms and prevention of IDA among women of reproductive ages of rural area and also their practices to prevent IDA.

## 2. Materials and methods

The study was conducted at selected villages of Udupi taluk using descriptive survey design. Total of 120 women of reproductive age participated in the study. Pilot study was conducted among 20 women and sample size was estimated based on the estimation of mean score. Samples were selected by cluster sampling technique. One block was randomly selected out of the four blocks of Udupitaluk, and from that block four villages were selected randomly. Thirty samples each were selected from the four clustered villages. Women of age group 20-45 years were included in the study. Demographic proforma, knowledge questionnaire and self-reported practice rating scale were administered to the participants. The reliability of the knowledge questionnaire was calculated using split half method ( $r=0.82$ ) and self-reported practice rating scale using Cronbach's alpha ( $\alpha=0.90$ ).

The ethical committee approval was obtained before the commencement of the study. Informed consent was obtained from all participants. The structured questionnaire on knowledge and practice were administered to the participants. Knowledge questionnaire on Iron deficiency anemia had maximum possible scores of 20 and minimum was zero. The total knowledge scores were categorized based on the median scores as the data was not following normalcy. The scores 0-12 were categorized as inadequate knowledge and 13-20 as adequate knowledge. The practice on prevention of IDA was assessed using structured self-reported practice rating scale. The maximum possible scores were 58 and minimum 30. Based on the median scores, self-reported practice scores were categorized as favorable (scores less than 48) and unfavorable (scores 48 and above) practices. To find the relationship between the knowledge and practice regarding IDA and its prevention, Spearman rank correlation was computed.

## 3. Results

The findings on knowledge scores showed that among 120 participants, the median knowledge score was 12 and Interquartile range was 9-14, the minimum score obtained was three and the maximum was twenty. Most (55.8%) of the participants had inadequate knowledge and 44.2% had an adequate knowledge on prevention of IDA. This reveals that there is still lack of knowledge among reproductive age women on IDA

Study revealed that there is statistically significant weak positive correlation ( $\rho =0.275$ ,  $p=0.002$ ) between knowledge and self-reported practices on prevention of iron deficiency anemia. Thus study

inferred that the woman who has adequate knowledge on iron deficiency anemia has better practices for prevention of anemia.

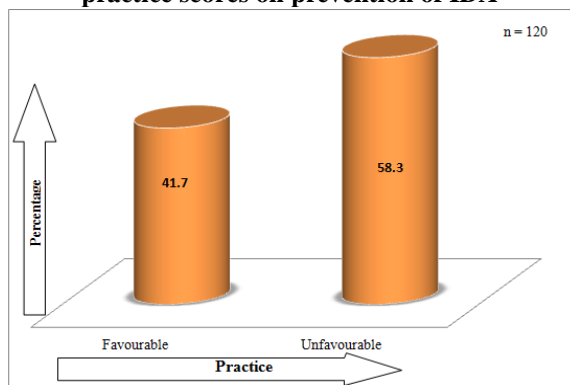
The description of demographic characteristics is given in table 1.

**Table 1: Frequency and percentage distribution of sample characteristics**

Variables	f	%
<b>Age in years</b>		
20-30	56	46.7
31-45	64	53.3
<b>Educational qualification</b>		
No formal education	06	05.0
Primary	23	19.1
Secondary	38	31.7
P.U.C	23	19.2
Graduation and above	30	25.0
<b>Occupation</b>		
Government employee	05	04.2
Housewife	81	67.5
Private employee	25	20.8
Self employed	09	07.5
<b>Religion</b>		
Hindu	92	76.6
Muslim	20	16.7
Christian	08	06.7
<b>Family income per month in rupees</b>		
<3000	25	20.8
3000-5000	25	20.8
5000-8000	34	28.3
>10000	36	30.0
<b>Marital status</b>		
Married	97	80.8
Unmarried	23	19.2
<b>If married, number of children</b>		
No children	13	13.4
1-3	83	85.6
More than 3	01	01.0
<b>Spacing between children in years</b>		
Not applicable	58	48.3
Less than 2 years	09	07.5
2 and more than 2 years	53	44.2
<b>Number of members in the family</b>		
1 to 5 members	85	70.8
More than 5 members	35	29.2
<b>Type of diet</b>		
Vegetarian	11	09.2
Non-vegetarian	109	90.8
<b>Any previous source of information on anemia</b>		
Yes	59	49.2
No	61	50.8
<b>If yes from which of the following</b>		
Family/friends	04	06.78
Health worker	41	69.49
Mass media	13	22.03
Others, specify	01	01.69
<b>Any menstrual disorders</b>		
Yes	11	09.2
No	109	90.8

Description of self-reported practice on prevention of IDA is given in figure 1.

**Figure 1: Percentage distribution of self-reported practice scores on prevention of IDA**



#### 4. Discussion

Anemia is the most common health problem among the women of reproductive age. Anemia results in weakness and decreases the productivity of an individual. During pregnancy it increases the risks causing maternal and infant mortality rate. A study conducted to find the prevalence of anemia in pregnant women of Udipi district, Karnataka, found that the prevalence was 50.14 percent. Anemia was higher among young women, women belonging to low socioeconomic status, women with higher parity and short pregnancy intervals [9].

Ignorance about anemia and its prevention is one of the causes for malnutrition. A study conducted to assess the knowledge on IDA among the women of 18 to 45 years age in three villages of Uttarakhand, showed that majority (66.32%) of the women had low knowledge score, only 4.56 per cent had high knowledge scores and rest were having scores of medium knowledge category [10].

The present study also explored the knowledge among the rural women regarding the cause, manifestations of IDA and ways to prevent IDA. Most of the women of reproductive age had inadequate knowledge which may prevent them from seeking early treatment and adopting preventive measures.

It was found that the knowledge level of rural women was exceptionally poor with respect to nutritional anemia. It is observed that there is a significant correlation between the educational qualifications with knowledge scores of IDA. Knowledge scores increased proportionately with increased educational level. Knowledge scores were found to be better in younger age group and were strongly associated with educational status [10,11]. Hence the education of the rural women may eliminate the ignorance about the various health problems.

The dietary iron absorption rate differs in adults, whereas males have 6% and females of reproductive age have 13%. This difference in the absorption rate reflects the poor stores of iron in females due to menstrual bleeding and pregnancy [12]. This showed that sufficient dietary intake of iron can avoid IDA. A study conducted by Shojaeizadeh on knowledge; attitude and practice of secondary school girls in Qazvin city of Iran indicated that 57.3 % of students had poor knowledge, 54.1% unfavorable attitude and 44.5 % weak practice on iron deficiency anemia prevention[13].

Among the most important factors of iron deficiency anaemia, inadequate intake of iron through diets, parasitic infections, gastrointestinal diseases, growth spurt, menstrual blood loss, pregnancy and lactation are the common causes leading to IDA. Hence women need to take adequate dietary iron in day to day diet.

The present study shows that majority of women of reproductive age did not have favourable practices in prevention of IDA which means that these women did not give much importance for dietary iron. This result is inconsistent with a study done among pregnant women who revealed that they had poor knowledge (51.3%) and majority of mothers (66.0%) had poor self-reported practice for the prevention of anaemia during pregnancy.

Knowledge on IDA has significant relationship with practice on prevention of anemia [14]. The findings of the study conclude that there is a need to improve the knowledge of the rural women which in turn enhances their practices. The Community health personnel play a vital role in health care delivery system especially in rural areas. Based on the findings of the study a leaflet on prevention of IDA is developed in order to create awareness and improve public health.

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