



## NUTRITIONAL AWARENESS OF WOMEN ON ANEMIA: EFFECT OF VARIOUS SOCIO-ECONOMIC FACTORS

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### ABSTRACT

*Iron deficiency is the most common nutritional deficiency and the leading cause of anemia in the world. However, there has been negligible explore on women's consciousness of anemia. The present study was thus undertaken with the objective to assess the Socio-economic status of rural women and to study the knowledge of women regarding nutritional anemia. In addition to this, the effect of various socio-economic and demographic factors on the nutritional anemia related knowledge of women. The cross-sectional study was carried out in two randomly selected villages; viz; Radhakantpur and Motipur, in Gadarpur Block in U.S Nagar district which lies in the Tarai region of Uttarakhand. Out of the total number of households in each village, 25% were selected randomly using chit method and one married woman from each household in the reproductive age group was selected. Their knowledge and socio-economic profile was recorded. From the outcome of study it was observed that knowledge level of the respondents indicates that most of the respondents were aware of high risk posed by nutritional deficiency to pregnant women. On the other hand, very few were aware of the symptoms, causes, consequences and iron rich food sources and food preparation for retention of iron. Conclusion was that knowledge of rural women was found to be very poor in regard of nutritional anemia. To exterminate the problem of nutritional anemia there is need to develop communication strategy in regards of nutritional anemia in the region.*

**KEYWORDS:** Nutritional Anemia. Existing Knowledge. Socio-economic Status.

## INTRODUCTION

Iron deficiency is the single most common nutritional disorder world-wide and the main cause of anaemia in infancy, childhood and pregnancy. As well as affecting a large number of children and women in developing countries, it is the only nutrient deficiency which is also significantly prevalent in Industrialized Countries. The numbers are staggering: 2 billion people – over 30% of the world's population – are anaemic, many due to iron deficiency, and in resource-poor areas, this is frequently exacerbated by infectious diseases. Iron deficiency and anaemia reduce the work capacity of individuals and entire populations, bringing serious economic consequences and obstacles to national development. Overall, it is the most vulnerable, the poorest and the least educated who are disproportionately affected by iron deficiency, and it is they who stand to gain the most by its reduction. In India, two-thirds of the women of child bearing age are estimated to suffer from iron deficiency anemia. Reports indicate that 15 per cent of all maternal deaths are attributed to anemia (IIPS 2007; Chakma 2000; National Nutrition Monitoring Bureau 2002; Micronutrient Initiative 2007). The high prevalence of anemia among women in India is a burden for them, for their families, and for the economic development and productivity of the country (Bentley and Griffiths 2003). It is estimated that about 20%-40% of maternal deaths in India are due to anaemia and one in every two Indian women (56%) suffers from some form of anaemia. According to National consultation on control of nutritional anemia in India and anemia is defined as the hemoglobin of less than 12 g/dl in females. Mild anemia is defined as hemoglobin level of 10-11.9 g/dl, moderate anemia as hemoglobin level of 7-9.9 g/dl and severe anemia was defined as hemoglobin level of less than 7g/dl among females. Data from National Nutrition Monitoring Bureau (NNMB), Indian Council of Medical Research (ICMR) and District Level Household Survey (DLHS) surveys have shown that prevalence of anaemia is very high (ranging between 80->90%) in preschool children, pregnant and lactating women and adolescent girls. India has among the highest number of cases of anaemia in the world, according to the NFHS-III undertaken in 2005-2006. The reasons range from high cost of healthcare facilities, poor food quality and the low status of women. The survey further revealed that among the states, Assam is the worst affected with 72% of married women being anaemic, followed by Haryana (69.7%) and Jharkhand (68.4%). Government of India has started many intervention programmes to exterminate the problem of anemia in the country but most of the efforts are towards the supplementation of iron tablets to the women. Ignorance, which is one of the most important causes of malnutrition, has hardly been addressed in these programmes. The present

study was thus planned to assess the nutritional anemia related knowledge of rural women, and to see the association of various socio-economic and demographic factors, on the nutritional knowledge of women in Uttarakhand.

## **METHODOLOGY**

The present study was conducted in two villages of Uttarakhand. The selected villages; viz; Radhakantpur and Motipur, in Gadarpur Block in U.S Nagar district. Out of the total number of households in each village, 25% were selected randomly using chit method and one married woman from each household in the reproductive age group was selected. A survey schedule was prepared to collect various information regarding subjects. Schedule was pre-tested on a non-sample population having similar socio-economic background. General information of subjects was collected using the same schedule. To test the knowledge of women on anemia, a set of 20 questions of multiple choice natures related to anemia were used. Questions were related to causes, prevention, symptoms and control of anemia. The questions were got approved by a panel of eight experts and pre tested on a non sample population. On account of wide variations in the scores obtained by subjects, the knowledge level was divided into three categories viz. low, medium and high. Accordingly the number of respondents, obtaining the scores, falling in different categories was zero to low, medium and high.

## **DATA ANALYSIS**

The statistical analysis was done on computer in MS –excel with compiler. The data was analyzed for percentage, mean, standard deviation.

## **RESULTS**

The findings of study and relevant discussion are presented under the following sections in accordance with the objectives set for the study. Socio-economic and communication characteristics of the respondents. Knowledge level of the women related to Iron Deficiency Anaemia (IDA).

### **Profile of respondents**

These socio-economic variables and communication characteristics of the respondents is as under:

**Age** It is evident that maximum numbers of respondents (47.5%) were middle aged followed by old (31.6%) and young (21.9%). **Education** Data reveals that 42.7 per cent respondents were illiterate and another 49.6 per cent of the respondents could only write their name. Formal education was very low in the study area as only 2.9 percent respondents had studied up to primary level and 0.99 per cent of respondents up to high school. One respondent in the study area was a post graduate.

**Family type** The data pertaining to family type indicates that majority (56.5 per cent) of the respondents belonged to nuclear family and 43.5 per cent belonged to joint families. This indicates that the constraints faced by women in large joint families and limited availability of food under such circumstances are not applicable in the study area. Hence, the communication strategy should predominantly aim at women and the nuclear family unit especially the grown up daughters. **Occupation** Advancement in socio-economic status drives an individual to look for additional sources of income. In the study area, some women had taken up secondary occupation like business, labour and service along with farming. The data reveals that majority of the respondents (68.4%) were engaged in unpaid household work. Another 30.6% were engaged in labour work along with household chores. This indicates that the individual purchasing power of women is rather low in the area. Hence, the message designing should mainly aim at change in habits (meal planning and preparation) rather than advocating the use of costly fortified supplements. **Income**

In this study, income was used to refer to the amount earned by the respondent from engaging in various paid activities outside the home. It was found that 59 women ((58.4%) women were housewives and not engaged in any paid activity outside their homes. 25.6% women belonged to low and 14% women fell under medium income categories. **Caste** was divided into three categories viz. general, scheduled caste and scheduled tribes, backwards classes and others. It was found that a very high percentage (100%) of respondents in the study area belonged general category.

**Table 1: Distribution of respondent according to different socio personal variable**

Sl.No.	Variable	Category	No. of respondents (N = 101)	%	Total
1.	Age	Young (15-25yrs)	22	21.9	101 (100)
		Middle (25-35 yrs)	47	47.5	
		Old (35- 45 yrs)	32	31.6	
2.	Educational	Illiterate (no formal education)	43	42.7	101 (100)
		Only write her name	50	49.6	
		Primary school	3	2.9	
		High school	1	0.99	
		Intermediate	2	1.9	
		Graduate	1	0.99	
		postgraduate	1	0.99	
3.	Family type	Nuclear	57	56.5	101 (100)
		Joint	44	43.5	
4.	Occupation	House wife	69	68.4	101 (100)
		Labor	31	30.6	
		Government service	1	0.99	
5.	Income	Low < Rs 3000/-	26	25.5	101 (100)
		Medium Rs 3001-Rs 6000/-	15	14.05	
		High > Rs 6001/-	1	0.99	
6.	Caste	General	101	100	101 (100)

**Mass media ownership** A number of media exist which are owned as well as used by the people for various purposes including awareness about health practices. Number and type of mass media owned in the study area is given in Table 2.

**Table 2: Distribution of respondents according to mass media ownership**

Sl. No.	Type of media	No. of households (N = 101)	Percentage
1.	TV	63	62.3
2.	Radio	48	47.5
3	Newspaper	5	4.9
4	Magazine	4	3.9
<b>Total</b>		101	100

Majority of the households (62.3 per cent) owned television followed radio which was owned by 47.5 per cent of the households. Subscription to print media is very low in the study area, with 4.9 per cent buying a newspaper and only 3.9 per cent subscribing a magazine. The media ownership pattern reveals an interesting situation which is contrary to general belief/perception that radio has the highest reach to rural areas.

**Information sources** information sources were divided into two categories, viz; primary and secondary.

**Table 3: Distribution of respondent according to information sources**

S. No.	Type of media	Number of respondents (N=101)			
		Primary	%	Secondary	%
1.	Radio	49	48.5	2	1.9
2.	TV	61	60.3	-	-
3.	Newspaper	2	1.9	-	-
4	Magazines	2	1.9		
5.	NGO/private agency	-	-	1	0.99
5.	Health/Extension work	7	6.9	69	68.3
6.	KVK	-	-	1	0.99
7.	Anganwadi worker	-	-	83	82.1

**Primary sources** It is evident from the data that electronic mass media and localite sources were primary sources of information for the women Data also indicates that print media (magazines) served as primary source of information for negligible number (3 %) of women. It also points that print media's role would be minimal as, though five families subscribe to newspapers; their use by the women is negligible.

**Secondary sources** Important secondary sources of information included anganwadi (82.1%) and health (68.3%) workers of the area. This indicates that group methods involving anganwadi and/or health worker of the village can play a crucial role in disseminating information and changing attitudes and practices influencing IDA.

**Media credibility** It was found that a very high percentage (97%) of women in the study area trusted their friends/ relatives concerning health information. It was also found that anganwadi worker (46%) and health worker (42%) enjoyed high credibility when compared top other media, especially cosmopolite and mass media sources. This indicates that while ownership and reach of electronic mass media is high, women believe in information given by local interpersonal sources

**Table 4: Distribution of respondents according to credibility**

(N=101)

Sl.No.	Media	No of respondents	Percentage
1	Friend/relatives	98	97.0
2	Anganwadi worker	46	45.5
3	Health worker	42	41.5
<b>Total</b>		101	100

**Media exposure frequency** It was classified into five categories viz. more than once a day, once a day, 2-3 times in a week, once in a week, less than once in 15 days.

**Table 5: Distribution of the respondents according to frequency of use**

Sl. No.	Media	More than once a day	Once in a day	2-3 times in week	Once in a week	Less than once in 15 days
1.	TV	62 (61.3)	-	-	-	-
2.	Radio	46 (45.5)	4 (3.9)	1 (0.99)	-	-
3.	Magazine	-	2 (1.9)	-	-	-
4.	Newspaper	-	2 (1.9)	-	-	-
5.	Health worker /extension worker	-	1 (0.99)	62 (61.3)	13 (12.8)	-
6.	Anganawadi worker	-	-	43 (42.5)	31 (30.6)	9 (8.9)

An analysis of the media use pattern indicates that maximum number of respondents are exposed to television (61.3%) and radio (45.5%) more than once a day. On the other hand, data reveals that most of the respondents rarely read newspapers and magazines. High frequency of exposure of respondents to the electronic mass media indicates that they can be especially used for awareness generation and information dissemination at the early stages in the communication strategy. It is also important to note that a very high percentage of women interacted with the health worker (61.3%) and anganwadi worker (42.5%) more than once a week. This frequent contact between these workers and the village women, combined with high credibility and same gender indicates that they can play a crucial role in the communicating information regarding IDA and controlling the same.

**Table.6: Distribution of respondent according to purpose of utilizing following media**

Sl.No.	Mass media	Information	Entertainment	Education
1.	TV	5 (4.9)	53 (52.4)	4 (3.9)
2.	Radio	-	50 (49.5)	1 (0.99)
3.	Magazine	-	1 (0.99)	1 (0.99)
4	Newspaper	2 (1.9)	-	-

Table.6 reveals that majority of respondents attended to T.V (52.4%) and radio (49.5%) for the entertainment and only 4.9% of the respondents used T.V for gathering information.

**Dietary patterns of the women** In many societies, including some developed countries, even where healthy diets are affordable, eating patterns and other factors unrelated to diet result in high levels of anemia, especially among young children, adolescent girls and women of child bearing age, whether or not they are pregnant. In other less developed societies, inequitable practices in household food distribution result in nutrition problems even when the ingredients necessary for a healthy diet are available in the home. Good nutrition should be about the universal availability of nutrients through the consumption of a healthy variety of foods. Most women in the study area did not understand the relationship between green vegetables and IDA. Although greens were very common in the villages, their consumption by women is limited and the common refrain was that "do not like vegetables." Most families had home-gardens where they grew iron rich green leafy vegetables and cassava plantations. Papaya and banana plants were very common in the villages.

**Iron Deficiency Anaemia** It is defined as a condition in which the hemoglobin concentration in the blood is below 11g/l due to iron deficiency. Anaemia results in decreased physical capacity and work performance and lowers the body's immune system (WHO 1989). It was found that 55.44 per cent women equated weakness with anaemia, This indicates that very few women were actually aware of IDA and its root cause.

**Prevalence** The survey carried out by the (NNMB 2003) indicate that prevalence in Pregnant women (74%) and adolescent girls (70 %) .That are the group at grate risk Data depicts that

majority (57.42%) of women believed that pregnant women were at a high risk of suffering from IDA. 20.79% respondents believe that lactating women suffer from this deficiency while another 20.79% said that all adult/pregnant/lactating women suffer from this iron deficiency anaemia. Data indicates that the respondents had a fairly good idea about the high risk groups.

**Types of anaemia** A reduced absorption of iron into the body can be due to either low level of intake of iron in diet or a poor biological availability of dietary iron. Anaemia is often graded as mild, moderate and severe, when haemoglobin concentrations are above 80 percent, between 80 percent to 60 percent or less than 60 percent of the cut off level respectively (De Maeyer et.al, 1989).

**Symptoms of anaemia** Depending upon the severity of IDA, symptoms can vary from yellowness of skin, giddiness, disturbances in respiratory, cardiovascular, renal, etc. functions, blood loss during pregnancy and fetal faltering. During the study, it was found that maximum number of women (37.8%) felt that giddiness is the only symptom of anaemia. In addition, 13.9% and 12.9% women listed weakness and blood loss as symptoms of anaemia respectively. Only, 34.6 per cent women knew that symptoms of anaemia can be wide ranging and can vary from giddiness to blood loss.

**Causes** Data presented in Table 4.12 depicts that 57.24% women knew that blood loss is the one important causes of anaemia and 29.7 % women said that early pregnancy is the other reason for IDA. Only 1.9 per cent women knew that iron deficiency is one reason for anaemia. This high level of ignorance about the role of iron in controlling IDA explains women's poor intake of green vegetables in the study area. Only, 9.9 % respondents were aware that causes for anaemia are wide ranging and can include any of the factors mentioned above.

**Consequences.** Anaemia also results in decreased physical capacity and work performance. The study revealed that the women were not aware of the consequences of IDA. Majority of the women (59.4 per cent) felt that the IDA results in blood loss occur due to this and 20.7 per cent of women said that it results in premature delivery. Abortion was stated as a consequences by 15.8% women and only 3.9% women were aware that IDA and have wide ranging and serious consequences for them and their children.

**Table 7: Distribution of respondents according to knowledge on various aspects of (IDA)**

Sl. No.	Category	No. of respondents	Percentage
<b>Definition of anaemia</b>			
1.	Iron deficiency	3	2.9
2.	Stomachache	4	3.9
3.	Giddiness	16	15.8
4.	Weakness	56	55.4
5.	All above	20	19.8
6.	None of them	2	1.9
<b>Prevalence</b>			
1.	Adult women	1	0.99
2.	Pregnant women	58	57.4
3.	Lactating women	21	20.7
4.	All above	21	20.7
<b>Type of anaemia</b>			
1.	Mild	-	-
2.	Moderate	-	-
3.	Severe	-	-
4.	No idea	101	100
<b>Symptoms of anaemia</b>			
1.	Weakness	14	13.8
2.	Giddiness	38	37.6
3.	Blood loss	13	12.8
4.	All of them	35	34.6
5.	None of them	1	0.99
<b>Causes</b>			
1.	Iron deficiency	2	1.9
2.	Stomachache	1	0.99
4.	Early pregnancy	30	29.7
5.	Bleeding	58	57.2
6.	All above	10	9.9
<b>Consequences</b>			
1.	Abortion	16	15.8
2.	Early birth	21	20.7
4.	Blood loss	60	59.4
5.	All above	4	3.9

## DISCUSSION

Socio-economic status assessment and nutritional knowledge regarding anemia assessment was done in randomly selected female subjects of reproductive age group (18-45Years) in two villages of Uttarakhand. General profile survey indicates low nutrition education among women

in the study area. It is clear from the fact that very few of them had information about IDA, its causes, symptoms, consequences and sources of iron rich food. Low nutrition education explains the poor intake of iron rich food; especially green vegetables among women, even though they are available in plenty in the village. This is further compounded by irregular visits of health and anganwadi workers for nutrition education. Their contribution is hindered by lack of communication and other infrastructural facilities. There was minimal use of group contact method for educating women, who preferred by the women for the dissemination of the health and nutrition messages. This will help to draw some general conclusions about the knowledge level of women towards nutritional deficiency and provide information for drawing up a comprehensive community strategy. Since the rural women did not receive much attention from the health care worker or aganwari worker in the past, new information communication technology and health programmes, in future have to give special emphasis on their need and health problems and mainstream them into the nutritional educational programmes.

## **CONCLUSION**

Lack of knowledge regarding anemia was observed amongst the rural women. Women are more prone to become anaemic because they are less educated and are deprived of proper diet due to male biased societies in rural areas. They do more physical work and need a well balanced diet. The main causes of anaemia are nutritional and infectious. Among the nutrition factors contributing to anaemia, the most common one is iron deficiency. The major factor in our society is socio-cultural. Due to the patriarchal nature of our society, women are discriminated from birth. The discrimination against girls results in an attitude of neglect towards them and they receive inadequate nutrition right from childhood. Nutrition deficiency such as protein, vitamin C and iron leads to anaemia among most girls and women. After marriage, a woman's status in the family and society is determined by her reproductive functions and that too on the number of male children she bears. In the adolescent phase due to menstruation, the requirement of iron increases. According to WHO if the prevalence of anemia at community levels is more than 40%, it is considered as problem of high magnitude. the problem of anemia is related to wider population than the traditionally considered groups of the pregnant and lactating females and children.

## RECOMMENDATIONS

So there is an urgent need for improving overall nutritional status of adolescents through nutrition education, community awareness and supplementation programmes. The need for regular blood tests to check hemoglobin levels is emphasized. Nutrition component needs to be included in the school curriculum. Emphasis is needed for corrective measures of anemia and iron deficiency in girls before they enter into adolescent age group.

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