



A Study on Awareness Level of Anaemia Among Young Adult Girls (18 To 25 Years), in Patna

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Abstract— In the case of anaemia, the amount of haemoglobin in the blood becomes very less than normal (5-9 grams per 100ml of blood), which reduces the ability of the body's cells to take up oxygen. As a result, the cells do not get enough oxygen. In India, 86.0% of girls are suffering from anaemia in 2019-20 and Bihar, 63.6% of girls are suffering from anaemia according to NFHS. The main reason for the study is that India has the largest number of anaemia in girls. Anaemia is considered an important health problem because of the adverse effects on mental and physical development during a girl's development. General information and awareness about health were substantiated by a majority (69%) of the young girls being aware of anaemia. But awareness about health consciousness and nutritional supplement is still lagging at less than half the percentage.

Keyword— anaemia, haemoglobin, nutrients, girls, health, awareness

I. INTRODUCTION

In the case of anaemia, the amount of haemoglobin in the blood becomes very less than normal (5-9 grams per 100ml of blood), which reduces the ability of the body's cells to take up oxygen. As a result, the cells do not get enough oxygen. It is caused by an insufficient supply of one or more nutritional elements like iron, protein, vitamin B12, folic acid, vitamin B6, and vitamin C. This leads to a decrease in circulating haemoglobin. In the case of anaemia, the size of red blood cells is smaller or bigger than the normal size. It becomes impaired due to which the formation and development of haemoglobin are not done properly.

Anaemia may be defined as the condition that results from the inability of the erythropoietin tissue to maintain a normal haemoglobin concentration leading to a reduction in the total circulating haemoglobin. Anaemia is caused by the absence of any dietary essential that is involved in haemoglobin formation or by poor absorption of these dietary essentials. Some anaemia is caused by a lack of either dietary iron or high-quality protein, by lack of Vitamin B6 which catalyses the synthesis of the haem portion of the haemoglobin molecule; by lack of Vitamin C which influences the rate of iron absorption into the

tissues; or by a lack of Vitamin E which affects the stability of the red blood cell membrane. Copper is not part of the haemoglobin molecule but aids in its synthesis by influencing the absorption of iron, its release from the liver or its incorporation into the haemoglobin molecule.

Iron is one of the micronutrients. It is used for the formation of haemoglobin, oxygen transportation, brain development, regulation of body temperature and muscle activity. When iron is decreased in the human body, it is called the iron deficiency. Iron deficiency is the most common etiological factor in anaemia. The decreased haemoglobin level is called iron deficiency anaemia.

In India, it poses a huge health burden. Iron deficiency anaemia was the leading cause of years lived with disability among children and adolescents, affecting 86.0% in the year 2019-

20 and in Bihar, 63.6% of girls are suffering from anaemia according to NFHS. As documented by various studies, in India, 60-90% of young girls suffer from anaemia.

The National Family Health Survey 2019-21 (NFHS-5), the fifth in the NFHS series, provides information on the population, health and nutrition of India and each

state/union territory. Like NFHS-4, NFHS-5 also provides district-level estimates for many important indicators. And according to NFHS-5, 57.0 % of girls in India are suffering from anaemia and in Bihar 63.5%.

Women of reproductive age are at increased risk of anaemia because of chronic iron depletion during the menstrual cycle, inadequate dietary intake and recurrent infections. Given the intensity of the problem in the country, intermittent IFA supplementation for all menstruating women would be a cost-effective strategy to build up iron stores and prevent anaemia. IFA supplement (100 mg elemental iron and 500 mcg of folic acid) throughout the calendar year, i.e., 52 weeks, each year. Albendazole (400mg) tablets for biannual de-worming for helminthic control.

ASHA to distribute IFA supplements to women in reproductive age group during doorstep distribution of contraceptives.

India has the largest population of young adults in the world being home to 243 million individuals aged 18 to 25 years.

Within the family, compared to boys, the girl's health, nutrition, education and development are more neglected which harms reproductive health. Young girls face more problems than boys, largely due to socio-cultural factors. There are limited choices available for the future and girls are caught in the cycle of early marriage, pregnancy and childbearing. Education regarding nutrition and other health aspects during the study period will help young college girls in their future life.

Despite many efforts from different governmental and non-governmental agencies focusing on different health aspects, this young population, especially the girls, is deprived of basic health care and awareness.

II. THERE SOME TYPES OF ANAEMIA

1. Microcytic & Hypochromic Anaemia

In this condition, red blood cells cannot access iron in the blood, so there is a decrease in red blood cell production (anaemia) that is apparent at birth. The red blood cells that are produced are abnormally small (microcytic) and pale (hypochromic). Microcytic and hypochromic anaemia can lead to pale skin, tiredness and slow growth.

2. Pernicious anaemia

A lack of vitamin B12 is one cause of anaemia. Pernicious anaemia usually develops over the age of 50. Women are more commonly in people who have other autoimmune diseases. Certain medicines used also may affect the absorption of vitamin B12.

3. Megaloblastic anaemia

Megaloblastic anaemia is caused by a deficiency of folic acid in the diet. In this condition, the size of the red blood cells present in the blood becomes larger than normal, unformed and distorted.

CAUSES	SIGNS AND SYMPTOMS
- Iron deficiency	- Looking pale
- Vitamin B12 deficiency	- Shortness of breath
- Folic acid deficiency	- Sore tongue or dry mouth
- Vitamin C deficiency	- Cracks and ulcers in the mouth
- Protein deficiency	- Restless leg syndrome
- Inadequate utilisation of Iron	- Hair falls
- Blood losses	- Brittle
- Increased requirements	- Spoon-shaped nails
- Accident	- Headache
- Bacteria	- Dizziness,
- Medicines	irritability and
- Frequency of absorption	loss of concentration
- Frequency of pregnancy	- Fatigue and low energy
- Delivery	

III. PROBLEM OF STUDY

The problem of the study is that India has a largest number of anaemia in girls. Anaemia is considered as an important health problem because of the adverse effects on mental and physical development during girl's developments. Many nutritional surveys see that most of the girls are not take sufficient nutritional supplements. Most of the girls are not aware that they are affected by anaemia that was a reason increasing anaemia number. They are headed for malnutrition. Iron deficiency occurs when the iron absorbed is not sufficient to meet the body's needs. This may be due to inadequate iron intake, poor absorption of iron, enhanced need of iron, and from chronic blood loss. And day by day anaemia is increasing.

NEED OF THE STUDY

What you eat and drink each day affects your health and wellbeing, both physically and mentally. Good nutrition and nutritional supplements help you to maintain healthy life. It has been seen that the problem of anaemia in girls is increasing in despite of so many effects and planning. They suffer from many serious health problems and headaches, dizziness, weakness, skin become yellow etc. the need of the study is to find out the level of awareness among girls regarding this deficiency disease (anaemia)

and nutritional supplement. In an addition also find out the seriousness and causes of anaemia among girls. Because seriousness of anaemia in girls increasing day by day. This awareness will help them to care their health and also control the diseases.

OBJECTIVES OF THE STUDY

- To assess the awareness level regarding anaemia among young girls.
- To find out the factors associated with anaemia among young girls.

IV. REVIEW AND LITERATURE

- **Fischer, Roche et al (2022)** reported that in adolescent, iron-deficiency anaemia is the leading cause of disability adjusted life years lost. This article aims to systematically review the available evidence on the relationship between iron status and anaemia and impact of iron interventions on cognitive and adolescents. The finding demonstrated that overall more high-quality research is needed to guide programmers and policy makers to understand the relationships between anaemia and educational performance and the potential impacts of iron interventions, which effectively reduce anaemia, on adolescents learning and school performance.
- **Sunuwar, Singh et al (2020)** according to them anaemia remains a major public health challenges with high prevalence among women in south and southeast Asian countries. And this study aimed to assess the prevalence and factors associated with anaemia among women of reproductive age in seven selected south and southeast Asian countries. Reported them that the results of this study suggest that various house-hold, environmental and individual factors contribute to the increased likelihood of anaemia.

- **Akinbode, Oginni (2020)** conducted a study to assess the level of awareness and prevention of anaemia among pregnant women attending the antenatal clinical at Lagos university, Nigeria. The findings demonstrated that even though awareness and prevention practices were good, there is a need to create more awareness among pregnant women and also to give adequate health education on prevention of anaemia to produce favourable outcome in pregnancy for both the child and mother.

V. METHODOLOGY

Area of the study: The area of the study is in Colleges. Selected colleges are;

- Magadh Mahila college
- J.D women's college
- Science college
- A.N college

Sampling method: Based on the objective of the study the sampling method was adopted. Hundred (100) respondents will be purposively selected by the sample size.

Tool and technique of data collection: The data was collected on the basis of questionnaire, interview, observation asked from the girls.

Data analysis: Tabulation and frequency distribution method was taken for data analysis.

Statistical analysis: Percentage was drawn from the respondent's observation.

VI. RESULT

Respondents were 100 young adult girls whose age was 18 to 25 years.

Table 1: Awareness level of young adults girls

Variable		Number	Percentage
Know about anaemia	a) Yes	69	69
	b) No	31	31
Know about	a) 14-18 g/dl	33	33
Haemoglobin levels at 18 to 25 ages in girls	b) 12-16 g/dl	38	38
	c) 11-13 g/dl	8	8
	d) Don't know	21	21
knows	a) 12 g/dl	15	15
haemoglobin	b) 09 g/dl	11	11

level	c) 14 g/dl	25	25
	d) 10 g/dl	17	17
Early marriages is risk of anaemia	a) Yes	71	71
	b) No	29	29
Load of work after marriage	a) Yes	38	38
	b) No	62	62
Early marriage causes of anaemia	a) Yes	67	67
	b) No	33	33
Frequency of pregnancy is a cause of anaemia	a) Yes	72	72
	b) No	28	28
Excessive bleeding during menstruation	a) Yes	57	57
	b) No	43	43
Feel weakness	a) Always	18	18
	b) Sometimes	43	43
	c) Never	39	39
Breathing problem	a) Always	10	10
	b) Sometimes	51	51
	c) Never	10	10
Feel dizziness	a) Yes	21	21
	b) No	30	30
	c) Sometimes	49	49
Rapid heart beat	a) Yes	33	33
	b) No	67	67
Nails like	a) Spoon shape	13	13
	b) Cracks in the corner	24	24
	c) Yellow		
	d) All above	33	33
	e) None of this	13	13
		17	17

Pale skin	a) Yes	68	68
	b) No	32	32
Poor dietary	a) Yes	89	89
	b) No	11	11
Nutritional supplements	a) Iron	42	42
	b) Folic acid	09	09
	c) Vitamin B12	25	25
	d) All above	24	24
Know about iron rich foods	a) Yes	42	42
	b) No	58	58
Iron richfoods	a) Vegetables	41	41
	b) Fruits	16	16
	c) Dry fruits	10	10
	d) All above	33	33
Know aboutfolic acid foods	a) Yes	24	24
	b) No	79	79
Folic acidfoods	a) Vegetables	09	09
	b) Pulses	11	11
	c) Fruits	03	03
Know aboutvitamin B12 foods	a) Yes	34	34
	b) No	66	66
Vitamin B12foods	a) Fortifiedfoods	12	12
	b) Non-vegetarian	22	22
Nutrition supplement help in absorption of iron	a) Yes	33	33
	b) No	67	67
Helps in absorption ofiron	a) Vitamin C	14	14
	b) Protein	08	08
	c) Both	11	11
Helps in the	a) Red meat	25	25

formation of blood	b) Beet root	37	37
	c) Orange	10	10
	d) Amla	07	07
	e) Kidney beans	21	21

Jiggery source of protein	a) Yes	37	37
	b) No	63	63
Know about chai & coffee is decreased the absorption of iron	a) Yes	76	
	b) No	28	

VII. DISCUSSION

The study entitled "A study on awareness level of anaemia among young girls (18 to 25 years) in Patna" was conducted with the following objectives: To assess the awareness level regarding anaemia among young girls and to find out the factors associated with anaemia among young girls. This was a descriptive and exploratory study on 100 young adult girls. For this purpose, a questionnaire was prepared to consist of general information about the respondent, questions related to awareness level and factors associated with anaemia among young adult girls.

The finding indicates that 69% of girls are aware of anaemia and 31% of girls are not aware of anaemia. This result shows that maximum girls know about anaemia and very few girls don't know about anaemia. 27% of girls know that anaemia affects our oxygen level and 22% of girls know that it affects the immune system. Only 20% of girls know that anaemia affects both. 31% of girls don't know which part of us anaemia affects.

Most of the girls don't know what a haemoglobin level in their age group is. Only 38% of girls are aware of correct haemoglobin levels. The result shows that most of the girl's haemoglobin level is under 12-14 g/dl and only 28% of girls' haemoglobin is low.

Girls are aware about causes of anaemia but they don't know after marriage over workload also increases a risk of anaemia.

Most of the girls are facing symptoms of anaemia. Only 25% girls are not facing symptoms of anaemia.

the finding second is to identify factors associated show that most of the girls think that iron nutrient supplement is enough to reduce the risk of anaemia. only 24% of girls responded that iron, folic acid, and vitamin B12 also help in reducing anaemia risk and 25% of girls responded that vitamin B12 is only required and 9% responded is folic

acid required.

58% of girls are aware of iron-rich foods. Most of the respondents majority are known about vegetables and 16% of respondents know about fruits. Very rarely do respondents know that dry fruits are also a source of iron-rich food. But 33% of respondents know that all of these are a source of iron.

Very rare respondents know that folic acid and folic acid foods. There is the majority of respondents are pulses and vegetables are the second majority of respondents. But 3% majority in fruits. This table shows that most of the respondents consume pulses for folic acid nutrients. Only 33% of respondents know that vitamin B12 foods. Most respondents know that non-vegetarian foods for vitamin B12 and 12% of respondents know about fortified foods. The result shows that most of the respondents know that non-vegetarian food sources are best.

The majority of know about absorption of iron is 33%. Only 11% of respondent says that vitamin C and protein help in the absorption of iron. 14% responded that vitamin C only helps in the absorption of iron and 8% response says that protein is help in absorption. Most girls don't know about jiggery, rice flacks and black gram are also a source of iron. In this study, it is found that girls are aware of anaemia, its causes, and symptoms but they are not aware of nutrition supplements and foods.

VIII. CONSLUSION

It is concluded that there has been a considerable rise in educational standards coinciding as reflected by the data. General information and awareness about health were substantiated by a majority (69%) of the young girls being aware of anaemia. But awareness about health consciousness and nutritional supplement is still lagging at less than half the percentage. There also see that 71% of young girls have heavy bleeding during

menstruation. Girls are aware of the causes of anaemia but still most of the girls are suffering from the risk of anaemia.

Another noteworthy fact highlighted is that a majority 89% of the girls suffered from fatigue, unusual tiredness, breathing problem, and dizziness. This displays the pathetic status of females in society and their lack of exposure to health-related information. Their intake of a balanced diet 68% is also inappropriate but they have general basic information about different stages in females' lives. Here the girls know that poor eating habits can lead to anaemia but don't know which diet is good for them. Most girls think that iron-rich food is enough for anaemia because it increases a red blood cell but they are not right and aware. Their information about anaemia is very general and casual and they lack in-depth information about what is the reason for anaemia and what nutrient important for anaemia. 40% were unaware that intake of vitamin B6, B12 and vitamin C, folic acid and protein reduce anaemia. Especially folic acid. They don't know vitamin B12, folic acid, protein, and vitamin C, also important for anaemia. Especially don't know about folic acid. They don't know vitamin B12 and folic acid also help of increasing red blood cells. And protein and vitamin C help in the absorption of iron.

Their dietary habits reflected that although being aware of the proper calorie intake, their food habit was irregular and inappropriate. One fact is that only a negligible percentage of 2% suffers from chronic diseases. But one vital information still lacking in their priority list is their negligible information about additional iron intake required at reproductive age to maintain iron balancing during pregnancy. More than half of the girls were unaware of the supplementation daily consumption of folic acid. Their information about the RDA of iron is also negligible. Thus, this information gathered revealed a lot about the health consciousness, health standard and general information the girls had about these important issues. They don't know what type of food helps in the absorption of iron.

IX. SUGGESTION

- Integrate the concerning topics with the study materials and other allied topics.
- Maximize the use of audio-visual aids to create a large impact.
- Hold timely workshop to ensure awareness.
- Form a group of health experts and facilities.
- Provide effective and proactive counselling.

- Form a counselling cell.
- Organize health quizzes, seminars to bring about active participation.
- Acknowledge the efforts of responsible students in their endeavour to create an understanding on these issues.
- Awareness about the nutritional supplement.
- Awareness of iron-rich foods,
- Awareness about folic acid nutrients and folic acid foods,
- Awareness about vitamin B12 nutrients and foods,
- Awareness about protein and vitamin C nutrients, what is their work in anaemia, and how they help in the absorption of iron. Also, awareness about protein and vitamin C rich foods.

Thus, there is a need to awareness, and educate girls between the age of 18 to 25 years. There is a need to make aware of which nutrients are necessary for which fertilizers and which food items are rich in nutrients. Mass participation, awareness and active cooperation will ensure an optimum result. This alone will ensure and fulfil the objectives of our project.

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