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Sanjana
Research Scholar, Department of Home Science, Patna Women's College, Patna University, Patna, Bihar, India

Dr. Sunita Kumari
Assistant Professor, Department of Home Science, Patna Women's College, Patna University, Patna, Bihar, India

Corresponding Author:
Sanjana
Research Scholar, Department of Home Science, Patna Women's College, Patna University, Patna, Bihar, India

A study on awareness level of anaemia among young adult girls (18 to 25 years), in Patna

Sanjana and Dr. Sunita Kumari

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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. 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. in India, it poses a huge health burden. Iron deficiency anaemia was the leading cause of years lived with disability among young adult girls. 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. Many nutritional surveys see that most girls do not take sufficient nutritional supplements. Most of the girls are not aware that they are affected by anaemia which was a reason increasing anaemia number. They are headed for malnutrition.

Keywords: Anaemia, haemoglobin, nutrients, girls

Introduction
In the case of anaemia, the amount of haemoglobin in the blood becomes very less than normal (5-9 grams per 100 ml 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.

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%.

Types of anaemia
Microcytic and 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.

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 affected than men, and it tends to run in families. It occurs more commonly in people who have other autoimmune diseases. Certain medicines used also may affect the absorption of Vitamin B12.

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

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.

Review and Literature

- Shinde, (2015) [1] conducted a study to assess to estimate the prevalence of anaemia among adolescent females and to study the socio-demographic factors associated with anaemia. The findings demonstrated that the higher prevalence of anaemia amongst adolescent girls indicates a major health problem that requires an urgent solution and socio-economic status of the family is also caused of anaemia.
- Fischer, Roche *et al*. (2022) [11] reported that in adolescent, iron-deficiency anaemia is the leading cause of disability adjusted life years last. This article aims to systematically review the available evidence on the relationship between iron status and anaemia and impact of iron interventions ion 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.
- Joglekar, (2015) [12] according to him anaemia is one of the most widespread nutritional problems among all vulnerable groups. Reported that the keeping thing view in mind the present study was designed to assess the prevalence of anaemia among college going girls of Raipur city. The present study revealed that anaemia is major health problem among the college going girls in government hostels. Continuous follow-up programme and nutrition education can improve the nutritional status of college going girls.
- Sunuwar, Singh *et al*. (2020) [13] 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) [14] 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.
- Rahman, Ali (2019) [15] reported that the prevalence of IDA and its associated factors among reproductive age women in a rural area of karaikal, puducherry. The findings demonstrated that in the current study anaemia is a major public health problems; coordinated efforts should be paid to control anaemia. Recognised risk factors should be considered in prevention and control strategies of IDA among reproductive age group women in this region.

Methodology

Area of the study: The area of the study is College, selected colleges are;

1. Magadh Mahila College
2. J.D Women's College
3. Science College
4. A.N College

Sampling method: Based on the objective of the study the sampling method has been adopted. Hundred (100) respondents are purposively selected by the sample size.

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

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

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

Result and Discussion

Table 1: Awareness about anaemia in age adults' girls

S. No.	Awareness	Respondent N=100	Percentage %
01	Awareness about anaemia	69	69.0
02	Eating only iron rich food for maintain haemoglobin level	28	28.0%
03	Early marriage increase the risk of anaemia	71	71.0%
04	Early pregnancy is a cause of anaemia	67	67.0%
05	Frequency of pregnancy is a cause of anaemia	72	72.0%
06	Excessivebleeding during menstruation can causes anaemia	57	57.0%
07	Level of haemoglobin at your age is 12-16g/dl	38	38.0%

The study table clearly shows a higher percentage (69%) of awareness about anaemia in young adult girls and very few girls don't know about anaemia. Girls don't know that early marriage is a cause of anaemia. They think early marriage does not affect us because anaemia is a lack of nutrients and haemoglobin. The table also shows that 67% (early pregnancy) and 72% (frequency of pregnancy) of girls know that the early age of pregnancy and frequency of pregnancy is the cause of anaemia because there is no distance between child births into 2 to 3 years which increases anaemia risk. After all, prenatal time and delivery time women's loss of l of bleed in their body increases anaemia risk.

During excessive bleeding in the menstruation period increases the risk of anaemia and only 57% of girls agree about this. 38% of girls only know the correct level of haemoglobin level.

Table 2: Awareness about nutrition supplement

S. No.	Nutritional supplements	Respondent N=100	Percentage %
01	Poor dietary intake is a cause of anaemia	89	89%
02	Iron nutrient supplements do you think are needed for anaemia	42	42%
03	Folic acid nutrient supplements do you think are needed for anaemia	9	9%
04	Vitamin B12 nutrient supplements do you think are needed for anaemia	25	25%

Perusal shows that girls agree about poor dietary intake increases anaemia whenever we consume junk foods and consume fewer nutrient foods that increase the risk of anaemia.

Maximum (42%) girls know that iron is best for less risk of anaemia and minimum (25%) girls know about vitamin B12 is also best for less risk of anaemia and very fewer girls are aware of the folic acid nutrient is also help in less of risk of anaemia.

Table 3: Awareness about nutrient supplement foods

S. N.	Nutrition foods	Respondents N=100	Percentage %
01	Know about Iron rich food	42	42%
02	Know about folic acid food	24	24%
03	Know about vitamin B12 food	34	34%
04	Know about fortified cereals is vitamin B12 rich food	12	12%
05	Non –vegetarian is Best resource of vitamin B12	9	9%

Perusal shows that maximum girls know about iron and vitamin B12-rich foods and very less know about folic acid foods. The result show that only 12% of girls know about fortified food is vitamin B12 rich and very less (9%) girls know non-vegetarians is the best resource for vitamin B12

Table 4: Nutrition supplement and foods help in absorption of iron

S. No.	Help of absorption of iron	Respondents N=100	Percentage %
01	Vitamin C increase the absorption of iron	14	14%
02	Protein I help in absorption of iron in our body	8	8%
03	Red meat, Beet root, Orange, Amla, Kidney beans are help in the absorption of blood	55	55%
04	Jaggery is source of protein	37	37%
05	Tea and coffee are decreased a absorption of iron	76	76%

The result shows that only 14% of girls know that vitamin C helps in the absorption of iron and 8%girls know that protein also helps in the absorption of iron, this result show that most of the girls don't know that food of helping in the absorption of iron.

The study also shows that 55% of girls know about the food that helps in the absorption of blood. For example, red meat, beetroot, orange, amla, and kidney beans are helping in the absorption of blood and only 37% of girls know that jaggery is also a source of protein. Girls know that tea and coffee are decreased the absorption of iron.

Conclusion

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 know the heavy bleeding during menstruation is risk of anaemia.

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.

Suggestion

The findings are more effective, we need to incorporate and integrate them in a very subtle manner in our curriculum. Without proper implementation and execution, the findings will remain redundant. To achieve the objectives we need to:-

- 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, for example, banana, spinach, tomato, beetroots, apricots etc. among young girls.
- Awareness about folic acid nutrients and folic acid foods, for example, pulses, leafy vegetables, broccoli, avocado, citrus fruits etc.
- Awareness about vitamin B12 nutrients and foods, for example, meat, egg, cornflakes, wheat biscuits etc.
- 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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