RESEARCH PAPER — FOOD SCIENCE RESEARCH JOURNAL
ISSN-0976-1276 ■ Visit us : *www.researchjournal.co.in*
Volume 11 | Issue 2 | October, 2020 | 202-206
DOI : 10.15740/HAS/FSRJ/11.1/202-206

To study the knowledge of adolescences girls regarding iron deficiency anaemia in Amreli city

Neha Tiwari and Jiju N. Vyas

The study was conducted in purposively selected Amreli city of Gujarat State. Five Higher Secondary School were purposively selected from Amreli. Out of four higher secondary school 20 adolescences girls were randomly selected constituting the total sample of 60 adolescences girls for the present study. Data were collected with the help of structured interview schedule. Frequencies, Percentage and mean per cent score were used for analyzing the data statistically. Finding of the study reveal that majority of the respondents (65%) had average knowledge about different aspects of anemia. The reason behind the average knowledge may be lack of awareness, lack of educational programme on anemia and organizational membership. However, 35 per cent respondents were in good knowledge category with overall mean per cent score of 61.02.

Key Words : Knowledge, Adolescences girls, Iron deficiency anaemia

How to cite this article : Tiwari, Neha and Vyas, Jiju N. (2020). To study the knowledge of adolescences girls regarding iron deficiency anaemia in Amreli city. *Food Sci. Res. J.,* **11**(2): 202-206, **DOI : 10.15740/HAS/FSRJ/11.2/202-206**.Copyright@ 2020: Hind Agri-Horticultural Society.

INTRODUCTION

Adolescence is a transitional age of physical and psychological human development generally between puberty and legal adulthood. Adolescence is a second phase of life. It is "coming of age" as children grow into adult physically, mentally and socially. Adolescents account for 22.8 per cent of Indian population; that means 230 million Indians are adolescents in the age group of 10 to 19 years. Adolescence is also a sensitive period, particularly for girls. WHO (World Health Organization) includes the period in life aged between 10-19 years as adolescence. The period is further divided into early (10-13 years), middle (14-17years) and late (18-20years). Girls typically start puberty around age 10-12 years and achieve their full growth at the age of 15 (WHO, 2010). Adolescence is a transition from dependent childhood to independent and responsible adulthood. Iron plays an important role in biology forming complexes with molecular oxygen in haemoglobin and oxyglobin. Iron deficiency is one of the most common of the nutritional deficiencies. Iron is present in all the cells in the human body and has several vital functions and decrease in iron may lead to morbidity and death. Iron deficiency anemia can cause shortened attention span, alertness and learning in adolescence. Anemia occurs when the hemoglobin concentration falls below the normal range for the age and sex of the individual. True anemia arises when there is an imbalance between red cell production and red cell destruction. Types of anemia are: Iron deficiency anemia, sideroblastic anemia, megaloblastic anemia, hypo plastic

MEMBERS OF RESEARCH FORUM

Author for correspondence :
Neha Tiwari, Krishi Vigyan Kendra (JAU) **Amreli (Gujarat) India**
Email: nehatiwari@jau.in

Associate Authors' :
Jiju N. Vyas, Sardarkrushinagar Dantiwada Agricultural University, **Dantiwada (Gujarat) India**

anemia and hemolytic anemia. The causes includes nutritional deficiency, mal absorption, blood loss etc. The body can store about one forth to one third of its iron, and it is not until those store are depleted that iron deficiency anemia actually begins to develop. Iron deficiency anaemia is the most common type of anemia in all age group, and it is the most common type of anaemia in the world. Iron deficiency anemia occurs when insufficient quantity of iron available for body's requirement. According to world health organization (WHO) the hemoglobin level should be 12 g/dl for adolescent girls. If it is less than 12 g/dl it is considered as iron deficiency anemia. According to WHO if the hemoglobin level is 10 g/dl then it is considered as mild iron deficiency anaemia, if the hemoglobin is between 7 g/dl to 10 g/dl then it is considered as moderate iron deficiency anemia and if the hemoglobin is less than 7 g/dl then it is considered as severe iron deficiency anemia. It is estimated that 2000 million people all over the world is suffering with anemia. More than 500 million people are affected, more commonly in under developed countries, where inadequate iron stores can result from inadequate intake of iron (seen with vegetarian diet) or from blood loss (eg. intestinal hookworm). In the United States of America adolescent girls are 10 times vulnerable to develop anemia than boys. Average western diet contains 10-15 mg of iron per day and about 10 per cent this is absorbed. In factors of iron deficiency anemia are low intake of meat, fish, iron fortified food, frequent dieting, vegetarian eating style, meal skipping, heavy menstrual periods, intensive physical training etc. The iron deficiency anemia is usually correctable with oral supplements with ferrous sulphate (200 mg t.d.s.) usually it is well tolerated. Therapy should be continued until the anemia has resolved. To prevent anemia, diet naturally rich in iron should be provided. Therefore, the present study was conducted to study the

Objectives:

Knowledge of adolescences girls regarding iron deficiency anaemia in Amreli city.

METHODOLOGY

The study was conducted in purposively selected Amreli city of Gujarat State. Four Higher Secondary School were purposively selected from Amreli city *i.e.,* Ji Ji Ben Forward High School , Smt. S.S. Ajmera School, Smt. Shantaben Haribhai Gajera Sankul and B.N. Virani Higher School having maximum number of adolescence who were willing to participate in this study. Out of four higher secondary school 20 adolescences girls were randomly selected constituting the total sample of 60 adolescences girls for the present study. Data were collected with the help of structured interview schedule. Frequencies, Percentage and mean per cent score were used for analyzing the data statistically.

OBSERVATIONS AND ASSESSMENT

In the present study Table 1 shows that more than half of the respondent (66.60%) heard about anemia, As anemia is a condition in which hemoglobin level goes down. Farther table revealed that doctor (21.66%) , media (23.33%), friends (21.66%) were main source of information regarding anemia.

Table 1 : Distribution of respondents regarding their source of information about anemia (n=60)

Sr. No.	Items	f	%
	Heard about anemia	40	66.66
	Source of information		
1.	School Teacher	0	0.0
2.	Doctor / Health personal	13	21.66
3.	Family members	11	18.33
4.	Media	14	23.33
5.	Friends/Neighbors	13	21.66

Data in Table 2 revealed that more than half of the respondents (58.33%) had knowledge about anemia

Table 2 : Distribution of respondents regarding their knowledge about anemia (n=60)

Sr. No.	Items	f.	%
1.	Knowledge about anemia	35	58.33
2.	Anemia is health problem	27	45
3.	In Anemia		
I.	Increased red blood cells	0	0.0
II.	Decreased hemoglobin	35	58.33
III.	Increased hemoglobin	0.0	0.0
IV.	Don't know	25	41.66
5.	Nutrient deficient in anemia		
I.	Iodine	3	5
II.	Iron	7	11.66
III.	Calcium	0.0	0.0
IV.	Don't know	50	83.33

whereas 45 present of the respondent were very much aware that anemia is the health problem, data in table regarding conditions for anemia shows that more than half of the respondent (58.33%) had knowledge about anemia is happened due to decreased hemoglobin. Further table revealed that very few of the respondents were correctly know that anemia is happened due to iron deficiency in our body and 83.33 per cent of the respondent that didn't knew that lack of which nutrients causes of anemia. However, 41.66 per cent of respondent didn't know aware any above condition for anemia.

Data in Table 3 revealed that very few of the respondents know about causes of *i.e.* poor diet (28.33%), worm infection (5%) and it was very disappointing to know that half of respondent (53.33%) were unaware about causes of anemia.

Table 3 : Distribution of respondents regarding their causes of anemia (n=60)

Sr. No.	Items	f.	%
1.	Worm infection	3	5
2.	Poor diet	17	28.33
3.	Excessive bleeding	0.0	0.0
4.	All there are correct	8	13.33
5.	Don't know	32	53.33

Table 4 indicate that very few of the respondents (11.66%) knew all the symptoms of anemia, where as one third of the respondent (36.66%) and one fourth of the respondent knew irregular MC and tiredness / body weakness were the main symptoms of anemia. However, 30 per cent of the respondent Don't know symptoms of anemia.

Table 4 : Distribution of respondents regarding their symptoms of anemia (n=60)

Sr. No.	Items	f.	%
1.	Tiredness / body weakness	13	21.33
2.	Irregular menstrual cycle	22	36.66
3.	Impact learning process	0.0	0.0
4.	Short of breath	0.0	0.0
5.	All are correct	7	11.66
6.	Don't know	18	30

Table 5 revealed that 41.66 per cent of the respondent knew that anemia adversely affect the growth and development and learning capacity. However, more than one third (41.66%) of the respondent did not knew the effect of anemia on health.

Table 5 : Distribution of respondents regarding their effect of anemia (n=60)

Sr. No.	Items	f.	%
1.	Impact on growth and development	3	5
2.	Impact on learning (school performance)	3	5
3.	Decreased wok capacity	4	6.66
4.	All are correct	25	41.66
5.	Don't know	25	41.66

Perusal of Table 6 indicate that 58.33 per cent of the respondent had 8 to 10 HB level, whereas 20.84 per cent and 20.83 per cent of respondent having HB level 11 to 12 and 13 to 14. Table 6 further showed that one third (33.33%) of the respondent reported that consumption of junk food was the main reason of heaving anemia, whereas few of the respondents knew lack of balance diet (8.33%) and uneven pattern of diet (8.33%) were the main reasons of anemia. However, 41.66 per cent respondent reported and the reason of anemia like more work pressure, insomnia, etc.

Table 6 : Distribution of respondents regarding their hemoglobin level and their reasons of anemia (n=60)

Sr. No.	Items	f.	%
	Level of HB		
1.	HB level 8 to 10	35	58.33
2.	HB level 11 to 12	12	20.84
3.	HB level 13 to 14	12	20.83
4.	Don't know	0	0.0
	Reasons for anemia		
5.	Lack of balance diet	5	8.33
6.	Lack of green leafy vegetable in diet	5	8.33
7.	Uneven pattern of diet	5	8.33
8.	Consumption of junk food	20	33.33
9.	All are correct	25	41.66

Table7 show one third (33.33%) of the respondent reported that consumption of junk food was the main reason of heaving anemia, whereas few of the respondents knew lack of balance diet (8.33%) and uneven pattern of diet (8.33%) were the main reasons of anemia. However, 41.66 per cent respondent reported and the reason of anemia like more work pressure,

Table 7 : Distribution of respondents			(n=60)
Sr. No.	Items	f.	%
1.	Lack of balance diet	5	8.33
2.	Lack of green leafy vegetable in diet	5	8.33
3.	Uneven pattern of diet	5	8.33
4.	Consumption of junk food	20	33.33
5.	All are correct	25	41.66

insomnia, etc.

Data in Table 8 shows that 60 per cent of respondents knew their time to start M.C. and 70 per cent of the respondents reported that their M.C. is regular. Further data regarding duration of M.C. shows that almost half of the respondents (48.33%) reported their duration of M.C. was 4 to 5 days. Table 8 further indicate that 61.66 per cent of respondent's loss heavy blood during their M.C.

Table 8 : Distribution of respondents regarding their M.C. started			(n=60)
Sr. No.	Items	f.	%
1.	M.C. starting time	36	60
2.	M.C is regular	42	70
3.	Duration of M.C.	0.0	0.0
I.	3 day	5	8.33
II.	4 day	14	23.33
III.	5 day	29	48.33
IV.	6 day	9	15
V.	7 day	3	5
4.	Heavy blood loss due to menstruation	37	61.66

Data in Table 9 indicate that consuming iron rich food 46.66 per cent and taking IFA tablets were the preventive measures for anemia, whereas 30 per cent of the respondents reported that consuming iron rich food, taking IFA tablets and personal hygiene were the main preventive measures for anemia. However, 8.33 per cent didn't knew about preventive measures of anemia. Further Table 9 regarding iron rich food indicate one third of the respondents (33.33%) knew that Green leafy vegetables were the main iron rich food followed by Sprouts (30.0%). Table 9 further revealed that 8.33 per cent of the respondents agreed that factors like tea, coffee are the inhibiter in iron absorption and 28.33 per cent respondents reported that vitamin – C enhances the iron absorption.

Table 9 : Distribution of respondents regarding their knowledge about preventive measures of anemia			(n=60)
Sr. No.	Items	f.	%
1.	Prevention measures of anemia		
I.	Consuming iron rich food	28	46.66
II.	Personal hygiene	0.0	0.0
III.	Taking IFT tablets	28	46.66
IV.	All are correct	18	30
V.	Don't know	5	8.33
2.	Iron rich food		
I.	Green leafy vegetables	20	33.33
II.	Sprouts	18	30
III.	Meat, poultry	1	1.66
IV.	All are correct	20	33.33
V.	Don't know	1	1.66
3.	Factors (tea, coffee) inhibit iron absorption	5	8.33
4.	Vitamin C enhances iron absorption	17	28.33

*Multiple responses

Overall knowledge of the respondent :

An effort was made to categories the respondents on the basis of their overall knowledge about the anemia. Findings in Table 10 reveals that majority of the respondents (65%) had average knowledge about different aspects of anemia. The reason behind the average knowledge may be lack of awareness, lack of educational programme on anemia and organizational membership. However, 35 per cent respondents were in good knowledge category with overall mean per cent score of 61.02. (Fig. 1).

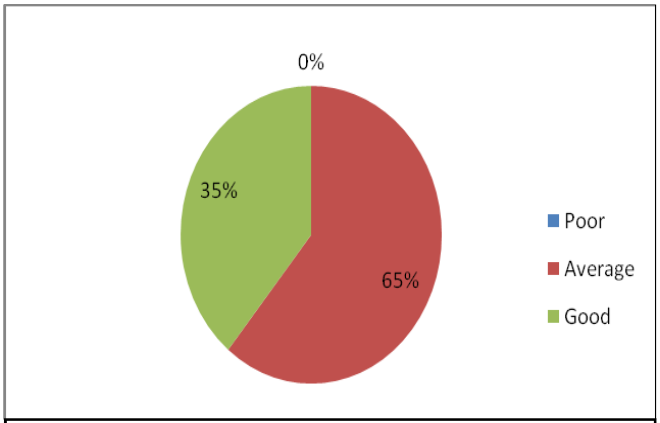

Fig. 1 : Categorization of respondents on the basis of their overall knowledge

Table 10 : Categorization of respondents on the basis of their overall knowledge (n=60)

Sr. No.	Knowledge categories	f/%
1.	Poor	0
2.	Average	65
3.	Good	35
	Overall MPS	61.02

Conclusion :

More than half of the respondents possessed average knowledge about MGNREGA with overall MPS of 61.02. this is due to lack awareness programme on anemia. For this it is needed to organize community small teachings regarding measures to improve hemoglobin levels to promote the health status of adolescent girls and also administration organize anemia preventive programmes and provide information materials and screening for anemia.

LITERATURE CITED

Bentley, M.E. and Griffiths, P.L. (2003). The burden of anemia among women in India. *European J. Clin. Nutr.,* **57**: 52-60.doi:10.1038/sj.ejcn.1601504.

Divya, D., Kokilamma, B., Sudharani, P. and Sreelatha, M. (2017). A study to assess the knowledge regarding measures to improve hemoglobin levels among adolescent girls at selected colleges Tirupati. *Internat. J. Appl. Res.,* **3** : 648-652.

Pareek, P. and Hafiz, A. (2015). A study on anemia related knowledge among adolescent girls. *Internat.J. Nutr. & Food Sci*., **4**: 273-276.

Sridevi., R. (2016). A study to assess the knowledge regarding anemia among adolescent girls in v.o.c. higher secondery school at kotucherry, karaikal. *Int. J. Adv. Res.,* **4** : 2272-2275.

WHO UNICEF, UNU (2001). Iron deficiency anaemia: assessment prevention and control. A guide for program managers.Geneva: World Health Organization; 2001.WHO-NHD/01.3

Received : *18.07.2020;* **Revised :** *27.08.2020;* **Accepted :** *28.09.2020*