Research Article

Knowledge, attitude, and practice about anemia among adolescent girls in urban slums of Davangere City, Karnataka

Navinkumar Angadi, A. Ranjitha

Department of Community Medicine, JJM Medical College, Davangere, Karnataka, India.
Correspondence to: Navinkumar Angadi, E-mail: navinkumarangadi7@gmail.com

Received July 20, 2015. Accepted August 1, 2015

Abstract

Background: Anemia is one of the most widespread nutritional deficiency diseases. It affects all age groups and both sexes in most states of India. Profoundly affected groups are adolescent girls (74%–98%). Anemia in adolescents is a critical public health problem in India. Lack of nutritional knowledge is one of the most significant reasons of nutritional problems and consequently improper practice, which can lead to several complications.

Objectives: (1) To know knowledge, attitude, and practice regarding anemia among adolescent girls. (2) To know treatment-seeking behavior regarding anemia among adolescent girls.

Materials and Methods: It is a cross-sectional study conducted among adolescent school girls aged 11–15 years from five government schools under urban field practice area of JJM medical college, Davangere. The study was conducted from 1st September to 30th November 2014 for a period of 3 months by using a pre-designed, pre-tested, semi-structured questionnaire.

Result: Age of students ranged from 11 to 15 and the mean age was 13 years. One hundred sixty (91%) had heard of anemia; 53 (33%) girls told poor diet is the only cause for anemia; 49 (31%) told tiredness is the only feature of anemia; 20 (13%) answered anemia impacts on physical growth, learning process, and decreases work capacity; and 88 (55%) girls told they will consult doctor and takes iron tablets.

Conclusions: The study has highlighted good knowledge but poor attitude and practice toward anemia among adolescent girls.

KEY WORDS: Adolescent girls, anemia, knowledge, attitude andpractice, urban slums

Introduction

Adolescent is defined by World Health Organization as a person between 10 and 19 years of age.[1] The world is home to 1.2 billion individuals aged 10–19 years[2] and India has the largest national population of adolescents (243 million), followed by China (207 million), the United States (44 million), Indonesia, and Pakistan (both 41 million each).[3]

Access this article online	
Website: http://www.ijmsph.com	Quick Response Code:
DOI: 10.5455/ijmsph.2016.2007201570	

Adolescence is a period of transition from childhood to adulthood. It is characterized by rapid physical, biological, and hormonal changes resulting in psycho-social, behavioral, and sexual maturity in an individual. It is the second growth spurt of life, and both boys and girls undergo different experiences in this phase.[4]

Anemia in India primarily occurs due to iron deficiency and is the most widespread nutritional deficiency disorder in the country today. According to National Family Health Survey (NFHS)–III data, over 55% of both adolescent boys and girls are anemic. Adolescent girls in particular are more vulnerable to anemia due to rapid growth of the body and loss of blood during menstruation. According to NFHS-III, almost 56% of adolescent girls aged 15–19 years suffer from some form of anemia. More than 39% adolescent girls (15–19 years) are mildly anemic, while 15% and 2% suffer from moderate and severe anemia, respectively.[4] In Karnataka, according to

NFHS-III, the prevalence of anemia among adolescent girls, 15–19 years, is 51.3% including 33.5% with mild anemia, 16.5% moderate anemia, and 1.3% with severe anemia.[5] Thus remaining as serious public health problem and has changed little over the last several decades in spite of National Anemia Control Programme for the prevention and control of anemia among pregnant women and children. To combat anemia during adolescence, with far reaching benefits in terms of safe motherhood and healthier future generations, an initiative called "12 by 12 initiatives" was launched on 23rd April 2007 at Delhi, by Federation of Obstetrics and Gynecological Society of India (FOGSI), in collaboration with Govt. of India, WHO, and UNICEF.[6]

With respect to this issue, it is very important to run health education programs to prevent anemia. Health education in schools plays a vital role in increasing knowledge of the students. With this background, this study has been undertaken to assess knowledge, attitude, and practices and treatment-seeking behavior among adolescent girls regarding anemia in urban slums of Davangere.

Materials and Methods

This study was approved by ethical committee of JJM Medical College, Davangere. It is a cross-sectional study conducted from 1st September to 30th November 2014. There are eight slums under the Urban Health Centre located in the field practice area of JJM Medical College. There are five government schools located in these eight slums. All adolescent school girls aged 11–15 years enrolled as students in these five schools, will form the universe of the study. After taking written consent, students were interviewed by using a predesigned, pretested, semi-structured questionnaire.

Study Population

Adolescent school girls aged 11–15 years, who are resident of urban slums and who are willing to participate were recruited for the study.

Method of Data Collection

Permission obtained from the district education program officers and principals of the schools for conducting the study. Interview was conducted among study subjects to assess the knowledge, attitude, and practice toward anemia.

Results

The age of students ranged from 11 to 15 and the mean age was 13 years, and 47 (27%) adolescent girls were 11 years of age.

Knowledge toward Anemia among Adolescent Girls

In our study, out of 175 adolescent girls, 160 (91%) had heard of anemia. The main source of information was school teachers (35%), followed by the doctor or other healthcare personnel (30%). One hundred seventeen (73%) knew that anemia is a health problem. Out of 160 girls who had heard of anemia, 53(33%) did not know what happens in anemia and only 57 (36%) girls answered correctly that there is decreased hemoglobin in anemia. Only 64 (40%) girls out of 160 told anemia is due to deficiency of iron and 30 participants did not know the answer. Fifty-three (33%) girls out of 160 told poor diet is the only cause for anemia and 22 (14%) answered anemia is due to multiple causes such as worm infestation, poor diet, and excessive flow during menstruation. Out of 160 girls, 49 (31%) told tiredness/body weakness is the only feature of anemia and 20 (12%) answered anemia manifests with multiple signs and symptoms. Fifty-six (35%) told anemia impacts on only physical growth and development and 20 (13%) answered anemia impacts on physical growth, learning process, and decreases work capacity. When we asked about the preventive measures against anemia, out of 160 girls, 70 (44%) told consumption of iron-rich food is the only protective measure and 13 (8%) answered multiple correct measures. Out of 160 girls, 99 (56%) told green leafy vegetables (GLVs) are the only source of iron-rich food and 20 (13%) girls answered sprouted pulses, GLVs, meat, and poultry all are rich sources of iron. Sixty-nine (43%) told tea or coffee reduces iron absorption and 118 (74%) told vitamin C enhances iron absorption.

Attitude toward Anemia among Adolescent Girls

Out of 175 girls, 112(64%) girls opined that it's good to include GLVs in daily diet; 118 (68%) girls felt that Iron needs of adolescent girls are different from others; and 99 (56%) girls opined that taking iron and folic acid tablets prevents anemia.

Practice toward Anemia among Adolescent Girls

Out of 160 girls who had heard about anemia, only 54 (34%) had checked their hemoglobin to know their anemia status. Out of 175 girls, 132 (75%) had taken Albendazole tablet in the last one year. Out of 132 girls who told they have taken antihelminthic (Albendazole), 87 (66%) had taken twice a year. Out of 160 girls who had heard about anemia, 19 (12%) were consuming iron-rich food daily and 106 (66%) once in a week.

Treatment-Seeking Behavior

When we asked 160 girls who had heard of anemia, 39 (24%) told they will take only home remedy if they get anemia and 88 (55%) girls told they will consult doctor and take iron tablets.

Discussion

Out of 175, 91% of adolescent girls had heard of anemia, 73% knew that anemia is a health problem, 36% subjects answered correctly that hemoglobin decreases in anemia. Forty percent subjects in our study told that anemia is due to deficiency of iron and this result was higher than observation made in a study by Kotecha et al.[7] (12.1%).

Table 1: Knowledge toward anemia among adolescent girls

Variable	Number	Percentage
1. Heard about anemia	160	91
2. Source of information		
School teacher	56	35
Doctor/health personal	48	30
Family members	29	18
Media	22	14
Friends/neighbors	5	3
3. Anemia is health problem		
Yes	117	73
No	43	27
4. In anemia there is?		
Increased red blood cells	40	25
Decreased hemoglobin	57	36
Increased hemoglobin	10	6
Don't know	53	33
5. Nutrient deficient in anemia		
Iodine	11	7
Iron	64	40
Calcium	55	34
Don't know	30	19
6.Causes of anemia		
Worm infestation	14	9
Poor diet	53	33
Excessive bleeding	38	24
All three are correct	22	14
Don't know	33	21
7. Signs and symptoms of anemia		
Tiredness/body weakness	49	31
Irregular menstrual cycle	26	16
Impact learning process	14	9
Short of breath	4	3
All are correct	20	12
Don't know	47	29
8. Effects of anemia		
Impact on growth and development	56	35
Impact on learning (school	18	11
performance)	34	21
Decreased wok capacity	20	13
All are correct	32	20
Don't know		
9. Preventive measures of anemia		
Consuming iron-rich food	70	44
Personal hygiene	36	23
Taking IFA tablets	12	7
All are correct	13	8
Don't know	29	18
10. Iron-rich food		
Green leafy vegetables	90	56
Sprouted pulses	15	9
Meat, poultry	13	8
All are correct	20	13
Don't know	22	14
11. Factors (tea, coffee) inhibit iron absorption		
Yes	69	43
No	61	38
Don't know	30	19
12. Vitamin C enhances iron absorption		
Yes	118	74
No	32	20
Don't know	10	6

Table 2: Attitude toward anemia among adolescent girls

Variable	Number	Percentage
1. Inclusion of iron-rich food in daily diet		
Yes	112	64
No	63	36
2. Iron needs of adolescents are different		
Yes	118	68
No	46	26
Don't know	11	6
3. IFA tablet prevents anemia		
Yes	99	56
No	51	29
Don't know	25	15

Table 3: Practice toward anemia among adolescent girls

Variable	Number	Percentage
1. Had checked hemoglobin before knowing anemia status		
Yes	54	34
No	106	66
2. Had taken Albendazole tablets		
Yes	132	75
No	23	13
Don't know	20	12
3. If yes, frequency of Albendazole consumption		
Once yearly	36	27
Twice yearly	87	66
Don't know	9	7
4. Frequency of iron-rich food consumption		
Daily	19	12
4–5 times in a week	13	8
Two times in a week	22	14
Once in a week	106	66

In our study, 12% subjects knew about multiple signs and symptoms of anemia. This is lower than observation made in study by Kotecha et al.[7] (44.2%) and Chakma et al.[8] (38%).

Forty-four percent subjects told that consumption of iron-rich food was the only protective measure against anemia and 56% subjects told that GLVs were the only source of iron-rich food. However, in a study conducted by Chakma et al.,[8] 81.4% of the adolescent girls did not know that the anemia could be prevented or treated.

Forty-three percent subjects told that tea or coffee reduces iron absorption and 74% answered that vitamin C enhances iron absorption. This finding is higher than a study conducted by Kotecha et al.[7] (37.3%).

In our study, 55% of the subjects stated they will go to doctor for check up and take iron tablet if they suffer from anemia-related symptoms. This finding is lower than a study conducted by Chakma et al.[8] (65%).

The mean knowledge score was 9.5 ± 3.89, attitude score was 2.25 ± 1.44, practice score was 1.6 ± 0.64, and mean cumulative knowledge, attitude, and practice score was 13.4 ± 4.96. A study carried out by Shojaeizadeh[9] showed that 57.3% had poor knowledge, 54.1% had unfavorable attitude, and 44.5% did not perform appropriate behavior to prevent anemia.

Strengths of the Present Study

The study was conducted among adolescent school girls who were resident of the urban slums as they are more vulnerable to anemia. The study highlighted the need for comprehensive nutritional knowledge regarding diet and supplements to prevent anemia.

Limitation

Study done in schools of a single urban health centre limits us to generalize the results.

Conclusion

Adolescent girls exhibited good knowledge toward anemia but poor attitude and practice. However, adolescent girl's knowledge alone is not sufficient to impact practices and attitudes. Behavioral, physiological, and socioeconomic limitations must be addressed efficiently. Dissemination of comprehensive nutritional knowledge regarding diet and supplements should be made.

Recommendation

There is a need to include Behavioral Change Communication strategy so that students consume diet rich in iron and in the long run it will result in remarkable improvement of the iron status of the students.

Acknowledgment

District Education Program Officers, Principals of the schools and study participants.

References

1. World Health organization. Adolescent health and development. Available at: http://www.searo.who.int/en/Section13/Section1245_4980.htm (last accessed on October 10, 2012).
2. United Nations, Department of economic and social affairs, population division, world population prospects: The 2008 revision. Available at: http://www.esa.un.org/unpd/wpp2008/index.htm (last accessed on October 12, 2012).
3. The state of the world's children 2011 – Adolescence an age of opportunity. UNICEF. Available at: http://www.unicef.org (last accessed on October 10, 2012).
4. Operational framework, Weekly iron & folic acid supplementation Program for adolescents – MOHFW. Available at http://www.mohfw.org (last accessed on September 5, 2012).
5. Nutrition and Anemia; NFHS-3. Karnataka. Sept 2008. 89 p. Report 2005-2006: Vol. 1.
6. Mittal S. 12 by 12 Initiatives. Implementation Strategies. GOI, WHO, UNICEF and FOGSI collaboration, July 2007:16.
7. Kotecha PV, Karkar P, Nirupam S. Adolescent girls anemia control program, Government of Gujarat (Departments of health and education): Summary Report. Vadodara: Medical College Vadodara/UNICEF, 2001.
8. Chakma T, Rao PV, Meshram PK. Feasibility of iron-folic acid supplementation among tribal adolescent girls, Mandla district, Madhya Pradesh. Public Health Nutrition. 2012:16(2):377–80.
9. Shojaeizadeh D. A study on knowledge, attitude and practice of secondary school girls in Qazvin on iron deficiency anemia. Iranian J Public Health 2001;30(1):53–6.

How to cite this article: Angadi N, Ranjitha A. Knowledge, attitude, and practice about anemia among adolescent girls in urban slums of Davangere City, Karnataka. Int J Med Sci Public Health 2016;5: 416-419

Source of Support: Nil, **Conflict of Interest:** None declared.