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Research Article

Understanding Nutritional Anaemia: An Evaluation Of Awareness And Its Prevalence In High School Girls Aged 14-18

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ABSTRACT - Nutritional anemia is one of the most frequently observed deficiencies throughout the world among the woman of reproductive age-group. Higher prevalence is observed in developing countries. Nutritional iron status of adolescent girls is a matter of great concern since these girls enter reproductive life soon after attainment of menarche. The man aim of the study was to identifying the knowledge and prevalence of nutritional anaemia. And educate them on prevention of nutritional anaemia by early detection and improved nutrition and corrective measures. A Quantitative research approach with descriptive research design was utilized in the study. A sample of 60 adolescent girls aged between 14-18 years who met the inclusion criteria were selected for the study. Majority of subjects (44 out of 60) had average knowledge i.e. 40-70%. Prevalence of anaemia among adolescent girls was 44% with mild 27% and moderate 17% and no cases of severe anaemia.

Keywords: Nutritional Anemia, Awareness & Prevalence

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INTRODUCTION - In India, adolescents account for 25-30% of the total population. They form a large growing segment of the population and they represent major potential human resources for the overall development of the nation. Nearly 27% of adolescents in developing country are anemic. ICRW studies have documented high rates in India (55%), Nepal (42%). This higher prevalence in adolescents is due to poor iron status contributed by pubertal growth spurt, less intake due to poverty and body weight concerns and heavy blood loss. The onset of menarche makes the adolescent girls to become more vulnerable and highly susceptible to anemia.

Nutritional anemia is one of the most frequently observed deficiencies throughout the world among the woman of reproductive age-group. Higher prevalence is observed in developing countries. Nutritional iron status of adolescent girls is a matter of great concern since these girls enter reproductive life soon after attainment of menarche. The pre-pregnancy anemia status of adolescents is crucial and has long-term intergenerational consequences.

Prevalence of anemia in 504 adolescent girls (10-18 years) representing 24 sub-centre villages of Meerut was 34.5% using hemoglobin estimation by Sahli's method (haemoglobinometer), oral questionnaire and Physical examination with mild was 19%, moderate 14% and severe 1.4%. Anemia was associated and educational status, birth order and awareness of anaemia as well as marital and obstetrical status and not with age, anthropometry and age of menarche.

MATERIAL AND METHODS - This study is aimed at identifying the knowledge and prevalence of nutritional anemia. And educate them on prevention of nutritional anemia by early detection and improved nutrition and corrective measures. A Quantitative research approach with descriptive research design was utilized in the study. A sample of 60 adolescent girls aged between 14-18 years who met the inclusion criteria were selected for the study. Investigator adopted convenient sampling technique to select the samples. Baseline Performa, Self structured knowledge questionnaire and anemia prevalence assessment scale was the tools used for the study. Data was collected after taken the written consent from the participants. Data was organized and analyzed using descriptive and inferential statistics.

RESULT – Demographic Characteristics

1. Majority (71%) belonged to age of 16-17 years, 15% belonged to 14-15 years and 14% belonged to the age group of 17 years and above.
2. All belonged to arts classes.
3. Parent's education-twenty seven percent of fathers were educated up to primary and 38% of the mothers had attended high schools.
4. Parent's occupation -most of the fathers (38%) and mothers(32%)were employed and some (25%) of the mothers were housewives.
5. Income- 37% each had an monthly income level of 1000-3000 and Rs. 5000 and above.
6. Most of the were from nuclear families (72%)
7. Most of the were non-vegetarians (93%)
8. Majority were from urban areas (83%).

Knowledge on anemia

Table 1: Distribution of Subjects according to Knowledge Grades

N = 60

Sl. No.	Knowledge Grade	f	%
1	Good (15 and above)	3	5
2	Moderate (8-14)	44	73
3	Poor (below 8)	13	22

1. The overall knowledge on anaemia was 49.5%.
2. Only 3 subjects out of 60 (i.e. 5%) had good knowledge i.e. above 70%
3. Majority of subjects (44 out of 60) had average knowledge i.e. 40-70%.
4. Thirteen subjects out of 60 i.e. 22% had poor knowledge i.e. below 40%

Area-wise distribution of knowledge

1. They had average knowledge on areas of meaning, causes, signs and symptoms, diagnostic measures and complications.
2. They possessed poor knowledge on treatment (35%) with mean of 1.4 out of 4.

Prevalence of anaemia

Table 2: Distribution of Subjects according to Grades of Anaemia

N = 60

Sl. No.	Grades of Anaemia	Frequency	Percentage
1	Normal [≥ 12 gm/dl]	34	56
2	Mild [10 – 12 gm/dl]	16	27
3	Moderate [8 – 10 gm/dl]	10	17
4	Severe [< 8 gm/dl]	0	0
		Total	100

1. Prevalence of anaemia among adolescent girls is 44% with mild 27% and moderate 17% and no cases of severe anaemia.
2. Clinical features were not manifested as they had mild and moderate anaemia. Occasional headache and exertional dyspnoea were reported.
3. All students had stool test negative. So the cause of worm infestation can be ruled out.
4. Body mass index (BMI) with Hb values had slight negative correlation.

Relationship between knowledge and prevalence

1. Knowledge scores with Hb values showed highly significant correlation at 0.01 level.(r=0.34)
2. Body mass index (BMI) with Hb values had slight negative correlation (-0.08)

Association between knowledge on anaemia with demographic characteristics

- Knowledge in terms of Knowledge scores is not associated with demographic variables like parent's education, type of family area of residence or income level. (χ^2 <3.8) at 0.05 level.

Association between prevalence of anaemia with demographic characteristics

− The prevalence in terms of Hb values is not associated with demographic characteristics of age, sex, parent's education, occupation, food pattern, area of residence or income level.

CONCLUSION

This study highlights the critical issue of nutritional anaemia among high school girls aged 14–18, emphasizing both its prevalence and the level of awareness surrounding the condition. The findings indicate that a significant proportion of adolescent girls are affected by anaemia, often due to poor dietary habits, lack of nutritional education, and socio-economic factors. Moreover, the study reveals a concerning gap in awareness regarding the causes, symptoms, and long-term consequences of anaemia, underscoring the need for targeted health education programs in schools.

For adolescent girl's long-term physical, mental, and reproductive health as well as their immediate well-being, nutritional anemia must be treated at this critical juncture. Reducing anemia rates can be greatly aided by interventions including community engagement programs, routine health checks, and school-based nutrition campaigns. In the end, raising awareness and encouraging healthier eating habits are crucial steps in enabling teenage females to take control of their health and end the malnutrition cycle.

REFERENCES

- World Health Organization, Adolescent health and development SEARO. World Health Organization, South-East Asia Regional Office; cited 2020 Apr 20
- World Health Organization. Vitamin and Mineral Nutrition Information System. Geneva: World Health Organization; 2011. Haemoglobin concentrations for the diagnosis of anaemia and assessment of severity. WHO/NMH/NHD/MNM/ 11.1
- Gupta A, Lal PR, Sharma LK, Prakash S. Understanding the Determinants of Anaemia amongst Indian Adolescents. International Journal of Health Sciences and Research 2021; Vol.11; 213-235.
- Iron Deficiency Anaemia. Assessment, Prevention and Control: A Guide for Programme Managers. World Health Organization; 2001. Available from: https://www.who.int/nutrition/publications/e n/ida_assessment_prevention_control.pdf
- WHO 2001. Iron deficiency anemia: assessment, prevention, and control. A guide for programme managers. Geneva, World Health Organization, (WHO/NHD/01.3).
- Sedlander E, Long MW, Mohanty S, Munjral A, Bingenheimer JB, Yilma H, et al. Moving beyond individual barriers and identifying multi-level strategies to reduce anemia in Odisha India. BMC Public Health 2020;20:457-72.
- Adolescent Girls Anaemia Control Programme. Briefing Paper Series: Innovations, Lessons and Good Practices. UNICEF; 2011. p. 1.
- Chaluvaraj TSI, Satyanarayana PT. Change in Knowledge, Attitude and Practice Regarding Anaemia among High School Girls in Rural Bangalore: An Health Educational Interventional Study. National Journal of Community Med 2018; vol 9: 358-62
- PACKIRISAMY, S., 2022. A Questionnaire-Based Online Survey On Knowledge And Awareness Of Anaemia Among Female Health-Care Professional Students In Tamilnadu. Asian J Pharm Clin Res, 15(8), pp.114-118.
- Putri, S.R., Kusnandar, K. and Pamungkasari, E.P., 2022. The Effect Of Health Promotion Using Emo Demo Video On The Selection Of Food Contains Iron For Anemia Prevention In Adolescents: Study At Islamic Senior High School In Yogyakarta. Media Gizi Mikro Indonesia, 13(2), pp.85-96.