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Research Paper Home Science

Assessment Of Relationship Between IDA And Personal Hygiene, Nutritional Knowledge And Dietary Practices In Adolescent Girls

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ABSTRACT

In India, iron deficiency anemia (IDA) in adolescent girls has very high prevalence. IDA adversely affects health of adolescent girls as well as their role as 'would be mothers' in near future. IDA is probably both preventable and easily curable by synergistic improvement in personal characteristics of the girls. The objectives of the present study were therefore, aimed at assessing the IDA, the personal characteristics and their relationship in adolescent girls. 40 adolescent 10th standard girls belonging to middle income families were selected initially. IDA was confirmed biochemically in 33 girls. Personal characteristics namely, personal hygiene, nutritional knowledge and dietary practices were assessed in the 33 IDA respondents. Moderate anemia (Hb 7.0 to 9.9 gm%) was present in 48.49 percent, while 30.30 percent had severe (Hb 4.0 to 6.9 gm%) IDA. 72.73 percent IDA adolescent girls had poor level of personal hygiene, no respondent (0.00%) had excellent personal hygiene level. Nutritional knowledge level of good, fair and poor category was observed in 30.33%, 39.40% and 30.30% respondents. Poor dietary practices were observed in 66.67% whereas, excellent level was observed in 0.00% respondents. 27.27% respondents had fair dietary practices. There was significant inverse relationship between quality of personal characteristics namely, personal hygiene (-0.1889), nutritional knowledge (-0.1912) and dietary practices (-0.0756) of adolescent girls and their IDA.

Keywords : Iron deficiency anemia, personal hygiene, nutritional knowledge, dietary practices

Introduction:

Adolescence is a very important stage in the life of a girl. Growth and development of the body and reproductive system into adulthood occurs during the stage. Proper growth and development infuse structural and functional capacity in the body and its systems. Proper and adequate nutrition is the natural source of nutrients, necessary for the build up; for newer cells as well as for wear and tear. Iron deficiency anemia (IDA) is the commonest nutritional inadequacy affecting the health of adolescent girls. (ICMR, 1989 & WHO, 1992) To be beneficial, diet should include all the nutrients required by the body; more so during the adolescence. Dietary iron intake and its utilization for hemoglobin buildup are necessary for prevention of IDA.(Bhatt, 1995 &Sood, 1989).

Adolescent girls are future mothers. In India, many girls are married off as soon as they attain the age of 18 years. After marriage, they usually conceive in a short period of time. Adolescence is therefore, the right time period for the girls to be properly nourished and attain healthy growth and development. Inadequacy of nutrition amongst adolescent girls is caused by social and/or personal factors. Many broad social factors like poverty, lack of education, neglect as a girl child etc. are prevalent. It is difficult to rectify such social factors at individual level. Personal factors like lack of proper personal hygiene, lack of basic nutritional knowledge inspite of attending school, improper dietary practices etc. are amenable to correction in a reasonably short time span and yet on long term basis.

Another important factor, detrimental to adolescent girls' nutritional status is menorrhagia i.e. excessive blood loss during menstrual cycles. It depletes the body of not only iron but also proteins. Correction of menses and replenishment of mainly iron and proteins, apart from other nutrients leads to restoration of health, in such cases. The present study was planned to assess impact of personal hygiene, nutritional knowledge and dietary practices on IDA with the following objectives.

Objectives

1. To assess IDA in respondent adolescent girls.
2. To assess personal hygiene, nutritional knowledge and dietary practices of respondents.
3. To ascertain impact of personal hygiene, nutritional knowledge and dietary practices on IDA among respondents.

Methodology:

Factors responsible for nutritional IDA in adolescent girls include socio cultural status and personal characteristics. The present study was limited to personal characteristics. 40 adolescent girl students of 10th standard and belonging to middle income group of families in Akola city were selected. Clinical assessment for IDA revealed that 19 respondents were suffering from IDA. All the 40 respondents were then subjected to biochemical test for hemoglobin by qualified pathologist, whose report indicated that as many as 33 respondents out of 40, were having IDA as reflected by Hb level less than 10.9 gm%. These 33 respondents out of the originally selected 40 respondents were, at this stage accepted as the final respondents of the study. Information about personal characteristics namely personal hygiene, nutritional knowledge and dietary practices of the 33 IDA respondents was obtained by standard questionnaire in schedule format.

Hygiene was defined as 'condition or practices conductive to maintain health and preventing disease, especially cleanliness.' Hygiene was assessed in terms of care of fingernails, hand wash before each meal and after each toilet visit, washing feet after outdoor visits, use of footwear etc. Basic nutritional knowledge related to IDA and health was assessed in terms of knowledge about hookworms, relationship between dietary iron and blood hemoglobin levels, nature of menstrual cycles, iron rich and protein rich foods etc. Dietary practices were assessed based on information regarding pattern of food intake, dietary habits, intake of foods rich in iron, proteins and micronutrients like vitamin-C, consumption of junk foods, faulty diet rich in phytates and phosphates, defective absorption due to presence of tea, coffee, milk and calcium making iron unavailable by converting dietary iron into complexly bound form and consumption of vitamin-C facilitating iron absorption etc. The data related to each of the characteristics i.e. personal hygiene, nutritional knowledge and dietary practices was categorized into 4 levels namely excellent, good, fair and poor. The data was analyzed statistically.

Results And Discussion

ICMR recommends diagnosis of IDA depending on hemoglobin level in the blood by biochemical tests (ICMR, 1989)Clinical assessment alone is not recommended for detection of IDA (WHO, 1992).

Table-1: Distribution of respondents according to IDA assessment method.

Assessment Method	Respondents (N=33)	
	Number	Percentage
Clinical Method	19	47.5
Biochemical Method	33	82.5

It is evident that 82.5 percent actually had IDA as confirmed by biochemical tests. Clinical assessment could detect only 47.5 percent cases of IDA. As many as 35 percent cases of IDA were not detected by clinical assessment alone. Hence, it can at the best, serve as a screening method only.

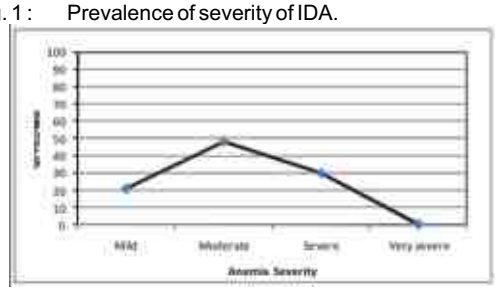
Biochemical assessment of hemoglobin in blood is the confirmatory test. It also indicates severity of IDA.

Table-2: Prevalence of severity of IDA.

Category	Anemia severity	Hb level (gm%)	Respondents N=33	
			Number	Percentage
1	Mild	10-10.9	07	21.21
2	Moderate	07-09.9	16	48.49
3	Severe	04-06.9	10	30.30
4	Very severe	< 04	00	00.00

Out of all the anemic adolescent girls in the study, 48.49 percent had moderate anemia; 30.30 percent had severe anemia and 21.21 percent had mild anemia. Significantly large percentage of adolescent girls needs to undertake steps to correct their IDA.

Fig. 1 : Prevalence of severity of IDA.



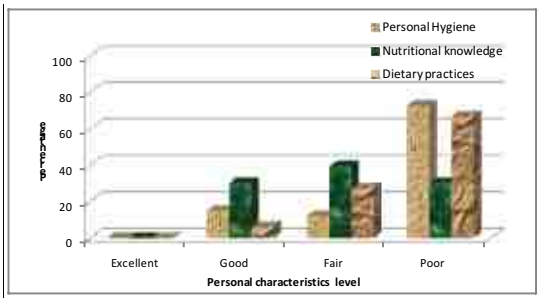
Personal characteristics acting as etiological factors for the IDA, were assessed.

Table-3: Distribution of respondents according to the level of the personalcharacteristics.

Level	Personal characteristics (n=33)					
	Personal Hygiene		Nutritional knowledge		Dietary practices	
	Number	Percentage	Number	Percentage	Number	Percentage
Excellent	00	00.00	00	00.00	00	00.00
Good	05	15.15	10	30.30	02	06.06
Fair	04	12.12	13	39.40	09	27.27
Poor	24	72.73	10	30.30	22	66.67

A large percentage (72.73%) of adolescent girls with IDA had poor level of personal hygiene. Poor personal hygiene is associated with high prevalence of chronic or recurrent hookworm infestation (Bothwellet al.,1979) No respondents (0.00%) had excellent personal hygiene level, inspite of being 10th standard students and belonging to middle income group. Nutritional knowledge of good, fair and poor level was observed in 30.30 percent, 39.40 percent and 30.30 percent respondents respectively; suggesting almost equal distribution with fair level recording marginally high percentage.

Fig. 2: Distribution of respondents according to the level of the personal characteristics



Inspite of all the respondents being 10th standards students having the same educational input, more than 69.00 percent failed to achieve good knowledge about relationship of nutrition and IDA. Significantly high (66.67%) respondents had poor dietary practice level, indicating that nutritional knowledge in their cases had not got transformed into proper dietary practices to prevent IDA. Dietary practices, especially in adolescent girls appeared to be influenced by factors other than nutritional knowledge, with adverse consequences.(Stolzfusret. al., 1998)

Conclusions:

Adolescent girls with IDA have sub-optimum levels of personal hygiene, nutritional knowledge and dietary practices. There was significant inverse relationship between quality of personal characteristics namely personal hygiene (-0.1889), nutritional knowledge (-0.1912) and dietary practices (-0.0756) of adolescent girls and their IDA. Nutritional knowledge related to IDA does not get translated into proper dietary practices so as to prevent or correct IDA. In order to decrease prevalence of IDA in adolescent girls, it is necessary to upgrade their personal characteristics like personal hygiene, nutritional knowledge and dietary practices related to IDA.

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