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EVALUATION OF WEEKLY IRON AND FOLIC ACID SUPPLEMENTATION PROGRAM FOR ADOLESCENTS IN RURAL KANCHIPURAM, INDIA

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Abstract

Background: Adolescent anaemia is a long standing public health problem in India. The NFHS-3 data suggests that the prevalence of anaemia among adolescent Indian girls (15–19 years) is 56%. The Government of India launched weekly Iron and Folic Acid Supplementation (WIFS) Programme on 2013 to cope up with the problem of iron deficiency anaemia among adolescent boys and girls. **Objective:** The present study was done to assess the knowledge, attitude and practice regarding anaemia and weekly iron and folic acid supplementation program by government of India for adolescents in rural Kanchipuram **Material and Methods:** A Cross sectional study was carried out among all the teachers and adolescents studying at schools located in the Field practice area of Meenakshi Medical College and Research Institute, Kanchipuram using a structured questionnaire. Data was entered and analyzed by using Statistical Package for Social Sciences (SPSS) (version 21.0) software package. **Results:** Among 353 respondents, 331 were students and 22 were teachers. Out of 331 students, 53.8% were males and 46.2% were females. Majority of the students (83.7%) consumed Iron and Folic acid (IFA) tablets regularly. 79.2% of the respondents have not experienced any side effects. Although 76.2 % of the students were aware about anemia and 55.1 % stated that the source of information is from school, 70.5 % students were not aware of the symptoms of anemia. More than half the respondents were able to identify correctly the composition of the Iron and folic acid tablets. The teachers reported that the supply, stock and storage of IFA tablets was regular and adequate.**Conclusions:** Giving IFA supplementation alone is not sufficient to correct anemia, this has to be combined with improving the the awareness about anemia and how to prevent it.

Key-words: Adolescence, anemia, Iron and Folic acid tablets

Introduction

Adolescence is a period of transition from childhood to adulthood, During this period in life there is significant increase in nutritional requirements, especially iron.[1] Adolescent anaemia is a long standing public health problem in India. According to the National Family Health Survey III, 56% adolescent girls and 30% adolescent boys in India are anaemic.[2] Studies have shown that rural areas had a better compliance to iron folic acid (IFA) tablet consumption in rural areas as compared to urban areas.[3] Efficiency of weekly iron supplementation in the control of nutritional anaemia has been demonstrated in various research settings of India. The Weekly Iron and Folic Acid Supplementation (WIFS) program had shown various benefits in the health of adolescent girls like an increased appetite, reduction in the symptoms of anaemia like menstrual irregularities,tiredness and weakness.[4-8] The Ministry of Health and Family Welfare, Government of India had launched the Weekly Iron and Folic Acid Supplementation (WIFS) program for school going adolescent girls and boys to address this problem. The program is implemented at schools by teachers and principals of respective schools and through anganwadi workers for adolescent girls who are out of school.The present study was conducted to evaluate the Weekly Iron and Folic Acid Supplementation program implemented in schools in a rural Kanchipuram, Tamilnadu.

Materials and Methods

The present study was a community based Cross sectional study carried out among all the teachers and adolescents studying at schools located in the Rural field practice area of Department of Community Medicine, Meenakshi Medical College Hospital and Research Institute. We interviewed all the teachers and adolescent students to evaluate the impact of WIFS program in the schools. The sample size for the study was 353 respondents, among them, 331 were students and 22 were teachers. From the students, we recorded information

regarding Knowledge & Awareness about anaemia, WIFS program, consumption of Iron Folic Acid tablets, Side effects experienced, Reason for not taking tablets, experienced Benefits of Iron folic acid supplementation. From the teachers we collected information regarding supply, stock and storage of IFA tablets. Information regarding health education provided to the teachers and students were also recorded. Data was entered and analyzed by using Statistical Package for Social Sciences (SPSS) (version 21.0) software package. The study was carried out after obtaining necessary permissions from the concerned authorities. Assent and informed consent was obtained from the students and parents prior to initiation of the study.

Results

A total of 331 students (178 boys and 153 girls) were interviewed. Most of the students were from class seven and eight[Table 1]. More than 70% of children had no idea about the symptoms of anemia, while 42(12.75%) and 37(11.15%) students mentioned tiredness and breathlessness as the main symptom of anemia respectively [Table 2]. Most of the student 125(37.85%) said that they have heard about anemia from their teachers and 57(17.25%) students have heard it from some health personnel [Table 2].

Table 1: Distribution of student respondents based on age & class (n = 331)

Class Distribution	Male (n=178) n (%)	Female (n=153) n (%)	Total
6 std	37 (20.8)	31 (20.3)	68(20.55)
7 std	51 (28.7)	38 (24.8)	89(26.75)
8 std	41 (23.0)	42 (27.5)	83(25.25)
9 std	22 (12.4)	16 (10.5)	38(11.45)
10 std	27 (15.2)	26 (17.0)	53(16.1)

Table 2: Knowledge & Awareness regarding anemia among students (n=331)

	Male (n=178) n (%)	Female(n=153) n (%)	Total n(%)
Are IFA tablets good for health?			
Yes	119 (66.9)	131 (85.6)	250(76.4)
No	59 (33.1)	22 (14.4)	81(23.75)
IFA tablets contains			
Iron	37 (20.8)	43 (28.1)	80(24.16)
Folic acid	-	-	
Both Iron & Folic acid	47 (26.4)	47 (30.7)	94(28.39)
Don't know	94 (52.8)	63 (41.2)	157(47.43)
Most important benefit of IFA tablets			
Improved sense of wellbeing	18 (10.1)	5 (3.3)	23(6.7)
Reduction in tiredness	13 (7.3)	11 (7.2)	24(7.25)
Weight gain	8 (4.5)	11 (7.2)	19(5.85)
No benefit	139 (78.1)	126 (82.4)	265(80.25)

Table 4: Consumption of Iron & Folic Acid tablets among students (n=331)

	Male (n=178) n (%)	Female (n=153) n (%)	Total
Whether consumed Iron Folic Acid tablets?			
Yes	178 (100)	153 (100)	331(100)
No	-	-	
Total tablet consumed in last 4 weeks			
1	17 (9.6)	8 (5.2)	25(7.4)
2	10 (5.6)	5 (3.3)	15(4.45)
3	10 (5.6)	5 (3.3)	15(4.45)
4	141 (79.2)	135 (88.2)	276(83.7)
Time tablets were taken			
Before food	14 (7.9)	2 (1.3)	16(4.6)
After food	164 (92.1)	151 (98.7)	315(95.4)

Table 5: Most Important Reason for not taking all 4 tablets (n=55)

Particulars	Male (n=37) n (%)	Female(n=18) n (%)	Total
Not given	12 (32.4)	8 (44.4)	20(38.4)
Side effects	10 (27.0)	5 (27.8)	15(27.4)
Absenteeism	10 (27.0)	2 (11.1)	12(19.05)
Taste not good	4 (10.8)	2 (11.1)	6(10.95)
Parent opposed	1 (2.7)	1 (5.6)	2(4.15)

Table 6: Side effects experienced by students (who have taken all 4 tablets) (n=276)

Particulars	Male (n=141) n (%)	Female(n=135) n (%)	Total
Abdomen pain	12 (8.5)	16 (11.9)	28(10.2)
Nausea	2 (1.4)	2 (1.5)	4(1.45)
Headache	4 (2.8)	7 (5.2)	11(4)
Black stools	3 (2.1)	8 (5.9)	11(4)
Bad taste	-	3 (2.2)	3(2.2)
No side effects	120 (85.1)	99 (73.3)	219(79.2)

Only 94 (28.39%) students could correctly mention that IFA tablet contains both iron and folic acid [Table 3]. Regarding the benefits of IFA tablet, most of the students 265(80%) said it had no benefit at all [Table 3]. All 331 students reported to have consumed IFA tablets at school [Table 4]. Most of the students, 276(83.7%), had taken all the four tablets in the last 4 weeks [Table 4]. Again most of them, 315(95.4%) had taken it after food [Table 4]. Among those who had not taken all the four tablets in last four weeks, 20(38.4) reported not being given the tablet and another 15(27.4%) attributed the reason for not taking tablets was due to various side effects of the tablet [Table 5]. On the other side those who had taken all the four tablets in last four weeks, most 219(79.2%) students had no side effects. Among those who had side effects, majority experienced abdominal pain [Table 6]. All teachers reported regular supply of IFA tablets for the

program. Further they maintained that they have adequate stock of IFA tablet and storage is not an issue.

Discussion

Our study assessed the awareness about anemia and its symptoms among the school students. We found that, 76.2% students were aware about anemia but most of them (70.5%) could not correctly mention the symptoms of anemia. Similar findings were reported in another study done in Chennai which conclude that the awareness of anemia and its causes are very low among school students, especially in government schools.[9] In our study only 28.3% students correctly told the composition of IFA tablet. This is in contrast to a previous study done in rural Puducherry, where majorities (88.7%) of adolescents were able to identify the composition of IFA tablet.[10] There is a need to make the students more aware about the IFA tablets and its benefit. This can be done directly by the teachers who can explain the students about the benefits of IFA and also indirectly by sensitizing the parents on the issue. Eighty three percent (83.7%) students, in our study, reported to have consumed all the four tablets in the last four weeks. This was in agreement with previous study in rural Puducherry which reported 85.8% of students had consumed all four tablets. [10] Our study reported that majority(79.2%) of students had no side effects. This was similar to the findings in another study, which reported 87.5% respondents had no side effects. [10] This should be emphasized to parents and children who are taking as well as to those who are not taking the IFA tablets regularly. Teachers reported that supply, stock and storage of IFA tablets were regular and adequate. Among those who had not taken all the four tablets, 38.4% said that it was not given to them. Viewed in the light of no stock issue, this needs serious attention. The teachers should also be periodically motivated to keep the program going.

Conclusion

Periodic evaluation is required to assess the impact of the weekly iron folic acid supplementation program. There is an increased need for promoting awareness among all concerned stakeholders (teachers, parents and school children) in order to increase the compliance. Effective awareness programs could increase the increased utilisation of the program.

Limitations:

The comparison of the before and after effects of the WIFS program in terms of hemoglobin levels could have been more insightful in understanding the effectiveness of the program, Since the pre-program data was not available the hemoglobin estimation was not carried out.

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