

Original Article**KNOWLEDGE ATTITUDE AND PRACTICE REGARDING MICRONUTRIENT IN SECONDARY SCHOOL STUDENT OF TRIBAL AREA IN GUJARAT****Modi Bhavesh¹, Patel Prakash², Sutariya Shailesh³, Dave Paresh⁴**

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ABSTRACT:

Introduction: Iodine, vitamin A and iron are most important micronutrients in global public health terms; their lack represents a major threat to the health and development of populations the world over, particularly children in low-income countries. To combat the deficiency of micronutrients, awareness of their importance and their source plays vital role. **Objective:** to assess knowledge regarding important micronutrients in tribal students. **Methodology:** It is a cross sectional study conducted in 348 secondary school students of tribal area. **Observations:** Questionnaire regarding knowledge revealed that 83 (23.9%) student had never heard of vitamin A, while 103 (29.6%) and 72 (20.7%) student had never heard of Iron and Iodine respectively. Gender wise analysis revealed that overall knowledge of micronutrients is comparatively higher among the girls. **Recommendations:** School children should be specially targeted in IEC campaign to decrease burden of micronutrient deficiency. Micronutrients should be included in school syllabus.

KEYWORDS: Micronutrient, deficiency, anemia, IDD

INTRODUCTION

Micronutrients, so called because they are needed only in minuscule amounts, these substances are the “magic wands” that enable the body to produce enzymes, hormones and other substances essential for proper growth and development. As tiny as the amounts are, however, the consequences of their absence are severe. Iodine, vitamin A and iron are most important micronutrients in global public health terms; their lack represents a major threat to the health and development of populations the world over, particularly children in low-income countries. Micronutrient deficiencies negatively affect child survival, growth, brain development educational achievement and resistance to illness. It is often children in developing countries who suffer most¹.

Malnutrition, including vitamin and mineral deficiency, underlies over 50% of these child deaths.² Vitamin and mineral deficiency compromises the economic development of most developing nations, causing the preventable loss of up to 2% of their gross domestic product.³

Vitamin A deficiency increases the risk of severe illness, and even death, from common childhood infections such as diarrheal diseases and measles. In developing countries 200–300 million children of preschool age are at risk of vitamin A deficiency.^{4,5}

40-60% of young children in developing nations suffer from iron deficiency in early childhood that disrupts their cognitive development significantly and irreversibly, diminishing their school

performance and hindering their physical development.^{6,7} NFHS II found that High proportion (75%) of children suffers from anemia in India mainly due to lack of iron in diet and worm infestation.

Iodine deficiency most commonly, impedes fetal brain development. At the population level, the consequence of iodine deficiency is a 10–15% lower average intellectual quotient (IQ), which affects the social and economic development of both communities and nations⁹.

The World Bank has estimated that, combined with vitamin A deficiency and iron deficiency, iodine deficiency may lower the economic wealth of a nation by as much as 5% every year.

To combat the deficiency of micronutrients, awareness of their importance and their source plays vital role.

OBJECTIVES

The current study was conducted with an objective to assess knowledge regarding important micronutrients in tribal students.

METHODOLOGY

The study was conducted in Sabarkantha district located in northern part of Gujarat. Out of 12 tribal taluka of the district, three were randomly selected for the study by using random number table.

From each taluka, two secondary schools selected and from each school it was decided to take 50 students, 25 boys and 25 girls for the study. A list of boys and girls was prepared from their

attendance register and desired sample was selected by simple random sampling without replacement using random number table. Ten students were selected additionally to compensate absent students.

Each student was personally interviewed to collect desired information. Total 348 secondary students were interviewed in 6 secondary schools.

Written permission and consent was sought from the principal of the each school before initiation of the study.

OBSERVATION AND DISCUSSION

All the student participated in the study were 14 to 16 years old. Out of total 348 students 179 (51.4%) were male and 169 (48.6%) were female. Questionnaire regarding knowledge revealed that 83 (23.9%) student had never heard of vitamin A, while 103 (29.6%) and 72 (20.7%) student had never heard of Iron and Iodine respectively. This was a quite alarming fact that in spite of being a secondary school student significant number of student had never of these micronutrients (Table 1).

Knowledge of Functions of Vitamin A in the body helps to motivate children to eat Vitamin A reach food. The current study revealed that only 229 (65.8%) students were aware of at least one

function of vitamin A in the body. Only 54% students knew that it is important for eye sight. Usefulness of vitamin A for healthy skin, better growth and prevent illness was known by 1.7%, 15.8% and 6.9% students respectively. It was found that 97 (27.9%) students did not know any dietary source of vitamin A. In the study 65% were stated Green Leafy Vegetables as good source of vitamin A. Yellow fruits, carrot and milk are also stated as good source of vitamin A by 28.4%, 25.0% and 22.4% students respectively. Only 172 (49.4%) students knew at least one dietary source of iron. Vegetables, legumes and cereals were stated as good source of iron by 43.4%, 8.9% and 12.6% of students. Only 127(36.5%) students knew that low iron causes anemia.

At least one benefits of iodine was known by 206 (59.2%) students. Out of these 206 students, 175 knew that iodine prevent goiter while only 23 knew that it is important for mental development of child.

Above data revealed that the students had poor information on micronutrients, their dietary source and their usefulness for health.

Gender wise analysis revealed that girls had significantly higher information on many of the components of micronutrients.

Table 1: Gender wise distribution of information related to micronutrients

	Male (n=179) (%)	Female (n=169) (%)	P value
Heard of Vit A	120 (67.0)	145 (85.8)	<0.01
Heard of Iron	114 (63.7)	131 (77.5)	<0.01
Heard of Iodine	133 (74.3)	143 (84.6)	0.018
Know at least one dietary source of Vit A	115 (64.2)	136 (80.5)	<0.01
Know at least one dietary source of Iron	86 (48.0)	86 (50.9)	0.596
Know at least one function of Vit A	106 (59.2)	123 (72.8)	<0.01
Know at least one cause of Anemia	75 (41.9)	80 (47.3)	0.308
Know at least one benefits of Iodine	108 (60.3)	98 (58.0)	0.656

Table 2: Sources of information for three selected micronutrients

	Vitamin A (%)	Anaemia (%)	Iodized salt (%)
School Teacher	249 (71.6)	218 (62.6)	162 (46.6)
Television	65 (18.7)	42 (12.1)	195 (56.0)
Magazine / Newspaper	47 (13.5)	32 (9.2)	43 (12.4)
Banner / Poster	12 (3.4)	16 (4.6)	10 (2.9)
Peer Group	27 (7.8)	26 (7.5)	17 (4.9)
Parents	24 (6.9)	23 (6.6)	29 (8.3)
Radio	4 (1.1)	4 (1.1)	6 (1.7)
Any Other	6 (1.7)	20 (5.7)	1 (0.3)

Table 2 reveals that school teachers were the major source of information for the micronutrients followed by television and newspaper. Iodized salt was used by families of 137 (81.1%) girls and 124 (69.3%) boys. Thus families of girl students using iodized salt were higher and the

difference was statistically significant. This difference might be due to fact that involvement of girls in kitchen work compare to boys. It may be possible that families were using iodized salt but the boys were unaware of that.

Table 3: Gender wise distribution of selected preventive practices

	Male (n=179) (%)	Female (n=169) (%)	P value
Wearing foot during defecation	140 (78.2)	132 (78.1)	0.98
Washing hand with soap after defecation	141 (78.8)	159 (94.1)	<0.01
Using private/ community latrine for defecation	110 (61.5)	137 (81.1)	<0.01

It was found in the study that 78.2% wears shoes during defecation while 86.2% and 72% students were wash hand by soap after defecation and uses private or community toilet for defecation respectively. As shown in Table 3, practices of defecation in private or community latrine and hand washing with soap after defecation was significantly higher among girls.

Gender wise analysis revealed that overall knowledge of micronutrients is comparatively higher among the girls and they were more serious in implementing personnel preventive habits in the practice.

RECOMMENDATIONS

There is need for strengthening IEC activity with special emphasis on micronutrient. School children should be specially targeted in IEC campaign to decrease burden of micronutrient deficiency.

Micronutrients should be included in school syllabus and school teachers should be utilized to communicate information to student.

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