



## Level of nutritional awareness about anaemia in adolescent females of different income ranges

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### Abstract

Adolescent females are the future mother and their health status may affect future generation. Iron deficiency anemia is widely prevalent among them. Anemia not only affects their health status but also have influence on their behavior. Therefore, the present investigation is undertaken with a noble cause to create awareness in the society towards the status of female adolescent.

**Keywords:** adolescent females, health status, anemia, nutritional

### Introduction

The main nutritional deficiency, commonly observed in female adolescent is iron deficiency anaemia because the requirement of iron increases to replace menstrual blood losses and abrupt growth. It is a serious world-wide problem especially in developing countries. World Health Organization has estimated 27 per cent of adolescents as anaemic. Study carried out by Indian Council for Rural Women (ICRW) documented high rates i.e. 55 per cent of anaemia in India. Another survey done in 1997 showed that the prevalence of anaemia in 12-18 years old girls in rural India was 82.9 per cent. Kriplani (2006) stated that in India, more than 70 per cent of women are affected with Iron deficiency anaemia (IDA), among them, every fifth women is affected severely.

The consequences of iron deficiency included impaired immunity, increased morbidity from infectious diseases, decreased physical work capacity and restricted growth with decreased appetite. Iron deficiency in children is also associated with lower score on tests and development, and with impaired learning and school achievements. Over the past decade and a half, the relationship between iron deficiency and cognitive performance has received increasing attention and confirmation. In spite of great efforts made by various Government or Non-Government agencies to improve the health condition of adolescent, a very little progress has been reported due to lack of nutritional knowledge among the sufferers. Hence, to assess the nutritional knowledge especially about anaemia among female adolescents, present study has been undertaken.

### Material and methods

#### Locale of Study

The study was conducted on female adolescents residing near-by areas of Kurukshetra University, Kurukshetra (Haryana).

#### Sample Selection

260 adolescent females of age 13- 18 years were randomly selected from different schools and other government and non-governmental organizations situated in district

Kurukshetra. Selected subjects were classified according to their age (age of the respondents was confirmed from the school / institute's records) into two groups i.e., Early adolescence and Late adolescence as under:

**Table 1**

| S. No | Status                   | Range of Age in years | No. of the subjects |
|-------|--------------------------|-----------------------|---------------------|
| 1     | Early adolescence (E. A) | 13- 15                | 108                 |
| 2     | Late adolescence (L.A)   | 16-18                 | 72                  |

The subjects of above two groups were further classified into three ranges according to their family's monthly income (in rupees) as under:

**Table 2**

| Low Income Range         | Middle income Range   | High income Range       |
|--------------------------|-----------------------|-------------------------|
| Less than Rs. 5000/month | Rs. 5000-10,000/month | Rs. 10,000-20,000/month |

The total number of subjects in each income range of early adolescence group was thirty six, and in late adolescence group the number of subjects was twenty four.

To adjudge the level of nutritional knowledge regarding anaemia, questions were framed based on nutritional awareness, source of knowledge and knowledge about anaemia. These questions were well explained to the enrolled subjects in order to avoid misunderstanding.

### Results and Discussions

Perusal of the data (Table-1) points toward the knowledge of the enrolled females about nutrition as well as anaemia specifically explained as under:

**a. Nutritional knowledge:** Females of late adolescence group were having better nutritional knowledge than the girls of early adolescence group and among the income ranges, the nutritional awareness was found comparatively better in the subjects belonging to high income range with that of middle and low income ranges. In early

adolescence period, irrespective of income ranges, 25 per cent adolescents did not show any awareness about nutrition knowledge, 34.25 per cent of them knew marginally and 25.92 per cent were having average knowledge of nutrition, whereas only 3.70 per cent were having very good knowledge about nutrition. In early and late adolescence periods, 50 & 37.50 per cent girls from low income range and 25 & 33.33 per cent from middle income range did not possess any nutritional knowledge, whereas, rest of them were having marginal to average knowledge about nutrition.

**b. Source of nutritional knowledge:** The source of nutritional knowledge in all the selected females was mainly through books (30.55%) recommended in the schools and teachers (26.66%) followed by magazine (15.55%), television 15.55%) and friends/mothers (11.11%). Role of mothers and friends in enhancing their nutritional knowledge was observed only in the girls of

high income range of early (33.33%) and late (33.33%) adolescence periods (Table 4.8b). The reason may be the well qualified mothers of the subjects in high income range. However, all adolescent girls have the opinion that food is essential for nourishing the body.

**c. Does food nourishes body:** All the respondents of early and late adolescence period belonging to all the income ranges had the opinion that food is very essential part of the body as it nourishes the body.

**d. If heard the name of anaemia?:** It has been observed that only 60 per cent of all the selected girls heard the name anaemia and among them maximum girls were from high income range of early (88.88%) and late (100%) adolescence period. The respective figures in middle income range were 55.55 and 50 per cent and in low income range these figures was 33.33 per cent each for both the age groups.

**Table 3:** Level of nutritional awareness especially anaemia in female adolescents

| Parameters (1)   | Early Adolescence (n-108) |               |             |               | Late Adolescence (n-72) |               |             | Grand Total n-180 (10) |             |
|--|---------------------------|---------------|-------------|---------------|-------------------------|---------------|-------------|------------------------|-------------|
|  | Low 36 (2)                | Middle 36 (3) | High 36 (4) | Total 108 (5) | Low 24 (6)              | Middle 24 (7) | High 24 (8) | Total 72 (9)           |             |
| <b>a. Nutritional Knowledge</b>                        |                           |               |             |               |                         |               |             |                        |             |
| Nil  | 18 (50.00)                | 9 (25.00)     | -           | 27 (25.00)    | 9 (37.50)               | 8 (33.33)     | -           | 17 (23.61)             | 44 (24.44)  |
| Marginal   | 12 (33.33)                | 18 (50.00)    | 7 (19.44)   | 37 (34.25)    | 10 (41.66)              | 12 (50.00)    | -           | 22 (30.55)             | 59 (32.77)  |
| Average  | 6 (16.66)                 | 6 (16.66)     | 16 (44.44)  | 28 (25.92)    | 5 (20.83)               | 4 (16.66)     | 9 (37.50)   | 18 (25.00)             | 46 (25.55)  |
| Good   | -                         | 3 (8.33)      | 9 (25.00)   | 12 (11.11)    | -                       | -             | 10 (41.66)  | 10 (13.88)             | 22 (12.22)  |
| Very good  | -                         | -             | 4 (11.11)   | 4 (3.70)      | -                       | -             | 5 (20.83)   | 5 (6.94)               | 9 (5.00)    |
| <b>b. Source of nutritional knowledge</b>              |                           |               |             |               |                         |               |             |                        |             |
| Magazine   | 2 (5.55)                  | 2 (5.55)      | 9 (25.00)   | 13 (12.03)    | -                       | 5 (20.83)     | 10 (41.66)  | 15 (20.83)             | 28 (15.55)  |
| T. V.  | 6 (16.66)                 | 9 (25.00)     | -           | 15 (13.88)    | 4 (16.66)               | -             | 9 (37.50)   | 13 (18.05)             | 28 (15.55)  |
| Syllabus   | 4 (11.11)                 | 16 (44.44)    | 17 (47.22)  | 37 (34.25)    | 4 (16.66)               | 8 (33.33)     | 6 (25.00)   | 18 (25.00)             | 55 (30.55)  |
| Friends/ mother  | -                         | -             | 12 (33.33)  | 12 (11.11)    | -                       | -             | 8 (33.33)   | 8 (11.11)              | 20 (11.11)  |
| Teachers   | 6 (16.66)                 | 18 (50.00)    | 15 (41.66)  | 39 (36.41)    | -                       | 9 (37.50)     | -           | 9 (12.50)              | 48 (26.66)  |
| <b>c. Does food nourishes body?</b>                    |                           |               |             |               |                         |               |             |                        |             |
| Yes  | 36 (100)                  | 36 (100)      | 36 (100)    | 108 (100)     | 24 (100)                | 24 (100)      | 24 (100)    | 72 (100)               | 180 (100)   |
| No   | -                         | -             | -           | -             | -                       | -             | -           | -                      | -           |
| <b>d. If heard the name of Anaemia?</b>                |                           |               |             |               |                         |               |             |                        |             |
| Yes  | 12 (33.33)                | 20 (55.55)    | 32 (88.88)  | 64 (59.25)    | 8 (33.33)               | 12 (50.00)    | 24 (100)    | 44 (61.11)             | 108 (60.00) |
| No   | 24 (66.66)                | 16 (44.44)    | 4 (11.11)   | 44 (40.74)    | 16 (66.66)              | 12 (50.00)    | -           | 28 (38.88)             | 72 (40.00)  |
| (1)  | (2)                       | (3)           | (4)         | (5)           | (6)                     | (7)           | (8)         | (9)                    | (10)        |
| <b>e. Anaemia refers to-</b>                           |                           |               |             |               |                         |               |             |                        |             |
| Low blood  | 15 (41.67)                | 10 (27.77)    | 20 (55.55)  | 45 (41.66)    | 5 (20.83)               | 10 (41.66)    | 22 (91.66)  | 37 (51.39)             | 82 (45.55)  |
| Weakness   | 8 (22.22)                 | 18 (50.00)    | 16 (44.44)  | 42 (38.88)    | 13 (54.16)              | 10 (41.66)    | 2 (8.33)    | 25 (34.72)             | 67 (37.22)  |
| Don't know   | 13 (36.11)                | 8 (22.22)     | -           | 21 (19.44)    | 6 (25.00)               | 4 (16.66)     | -           | 10 (13.88)             | 31 (17.22)  |
| <b>f. Which gender group suffers more with Anaemia</b> |                           |               |             |               |                         |               |             |                        |             |
| Boys   | 7 (19.44)                 | 6 (16.66)     | 5 (13.88)   | 18 (16.66)    | 4 (16.66)               | 6 (25.00)     | 10 (41.66)  | 20 (27.77)             | 38 (21.11)  |
| Girls  | 20 (55.55)                | 30 (83.33)    | 27 (75.00)  | 77 (71.29)    | 12 (50.00)              | 18 (75.00)    | 10 (41.66)  | 40 (55.55)             | 117 (65.00) |
| Both   | -                         | -             | 4 (11.11)   | 4 (3.70)      | 3 (12.50)               | -             | 4 (16.66)   | 7 (9.72)               | 11 (6.11)   |
| Don't know   | 9 (25.00)                 | -             | -           | 9 (8.33)      | 5 (20.83)               | -             | -           | 5 (6.94)               | 14 (7.77)   |
| <b>g. In which age group Anaemia Is prevalent?</b>     |                           |               |             |               |                         |               |             |                        |             |
| Childhood  | 17 (47.22)                | 12 (33.33)    | 12 (33.33)  | 41 (37.96)    | 18 (75.00)              | 8 (33.33)     | 5 (20.83)   | 31 (43.05)             | 71 (39.44)  |
| Adolescence  | 15 (41.66)                | 18 (50.00)    | 20 (55.55)  | 53 (49.07)    | 6 (25.00)               | 16 (66.66)    | 19 (79.16)  | 41 (56.94)             | 94 (52.22)  |
| Adulthood  | 4 (11.11)                 | 6 (16.66)     | 4 (11.11)   | 14 (12.96)    | -                       | -             | -           | -                      | 14 (7.77)   |
| <b>h. Is Anaemia curable?</b>                          |                           |               |             |               |                         |               |             |                        |             |
| Yes  | 27 (75.00)                | 32 (88.88)    | 30 (83.33)  | 89 (82.40)    | 21 (87.50)              | 24 (100)      | 24 (100)    | 69 (95.83)             | 158 (87.77) |
| Don't know   | 9 (25.00)                 | 4 (11.11)     | 6 (16.66)   | 19 (17.59)    | 3 (12.50)               | -             | -           | 3 (4.16)               | 22 (12.22)  |
| <b>L Diet help to cure Anaemia</b>                     |                           |               |             |               |                         |               |             |                        |             |
| Yes  | 29 (80.55)                | 30 (83.33)    | 28 (77.77)  | 87 (80.55)    | 19 (79.16)              | 24 (100)      | 24 (100)    | 67 (93.05)             | 154 (85.55) |
| No   | 7 (19.44)                 | 6 (16.66)     | 8 (22.22)   | 21 (19.44)    | 5 (20.83)               | -             | -           | 5 (6.94)               | 26 (14.44)  |

Figures in parenthesis indicate percentage

**e. Anaemia refers to:** Among 180 girls, 45.55 per cent recognized anaemia as low blood, 37.22 per cent as

weakness, whereas 17.22 per cent did not possess any knowledge about anaemia. The girls hailing from high

income range had certainly better knowledge than that of low and middle income ranges. Education of high quality in public schools may be the reason for their better knowledge. It has also been noted that the girls of late adolescence period (51.39%) had good knowledge than the girls of early adolescence (41.66%) period.

**f. Which Gender group suffers more with Anaemia?:**

When asked about which gender group suffering from anaemia, among all the subjects, 65 per cent girls answered for girls and 21.11 per cent for boys. About 6.11 per cent of the girls answered for both boys and girls and interestingly these girls were from high income range whereas 7.77 per cent did not answer for the questions and all of them were from low income range in both early and late adolescence groups.

**g. In which age group Anaemia is prevalent:** About fifty per cent of the subjects in both age groups (early & Late Adolescence periods) stated that the most sufferer group (52.22%) with anaemia was adolescence, whereas 39.44 per cent mentioned the name for childhood. Only 7.77 per cent subjects of early adolescence period stated that anaemia was common only in adulthood.

**h. Is Anaemia Curable?:** About 88 per cent girls in both the age groups responded that anaemia could be cured through diet whereas 12.22 per cent did not react. Except three subjects of low income range, all the girls of late adolescence period stated that anaemia could be cured.

**i. L Diet help to cure Anaemia:** Among all the subjects of both age groups, 85.55 per cent of the girls admitted that good diet helped in curing anaemia and 14.44 per cent answered no. The subjects, who mentioned no, mostly were from early adolescence period (19.44%) and also in low income range (20.83%) of late adolescence period.

Over all, it has been deduced from the above facts that girls of late adolescence group possessed better knowledge of anaemia than the girls of early adolescence period, irrespective of various income ranges. However, the girls of high and middle income ranges confirmed better knowledge than low income range. This might be due to good educational exposure as well as better home environment.

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