*Iranian J. Publ. Health, Vol. 30, Nos. 1-2, PP. 53-56, 2001*

# A Study on Knowledge, Attitude and Practice of Secondary School Girls in Qazvin on Iron Deficiency Anemia

***D Shojaeizadeh**

*Dept. of Public Health Administration, School of Public Health and Institute of Public Health Research, Tehran University of Medical Sciences, P.O.Box 14155-6446, Tehran,Iran.*

***Key Words:*** Knowledge, attitude, practice, iron deficiency anemia

## ABSTRACT

A research was carried out to determine the factors affecting knowledge, attitude and practice of secnodary school girls concerning Iron deficiency anemia, in Quazvin city. The study population consists of 218 Students who were randomly selected form ten secondary schools in a selected area. Aquestionnaire was prepared to collect the data and statistical tests of $X^2$ and regression were employed to analyse the data. The results of the study indicated that 57.3 percent of students had poor knowledge, 54.1 percent unfavorable attitude and 44.5 percent weak practice on iron deficiency anemia. The results also showed that the field of education, the level of education, age, fathers' job and mothers, job had significant relation with knowleadge. There is significant relationship between knowledge and attitudes. It was found that knowledge had significant relationship with practice.

## INTRODUCTION

Iron deficiency anemia is a serious problem for the health of individuals. It has an effect on mental and physical health of the people.

It reduced the physical ability of children and youngsters (3,10). World wide prevalance rate of anemia among pregnent women and preschool children is 40 to 60 percent (13). In developing countries the prevalence rate is higher (44%) whereas it is lower in developed countries (12%) (16).

The results of many researches showed that the prevalance of anemia in West Africa is 31%, in China 26.61%, in South Asia 467% and in South America 20.9% (1). According to WHO data, half a million pregnant women die because of abortion, sever anemia and infection (14). Anemia not only has influence in physical development but has an effect on mental development too (2). Some studies showed that nutritional patterns have influence in anemia (8).

The results of the study showed that 10-50% of Iranian pregnent women have iron deficiency anemia (6). Many studies showed that there is significant relationship between incomes, Menarchy age, social and economical situations, jobs, education of parents and iron deficiency anemia (7,12).

The results of a research which was carried out by the Ministry of Helath in Iran, demonstrated that the prevalance rate of Iron deficiency and anemia among women aged 15 to 49 is 34% and 33.34%, respectively (11). According to the FAO, iron deficiency anemia is one of the most important factors affecting and causing malnutrition in Iran (4). Therefore, it is essential to find out what factors contribute to iron deficiency anemia.

In Iran, more than 20 percent of women aged 15-45 suffer from iron dificiency anemia (15). With respect to this issue it is very important to run health education programmes for women in order to prevent iron deficiency anemia. It is also important to conduct health education programs for women before marriage. Health education in schools plays a vital role in increasing knowledge, of the students. The objective of this research is to study the knowledge, attitude and practice of the students on iron deficeincy anemia an factors affecting their KAP.

## MATERIALS AND METHODS

This is a cross-sectional study. The study population consits of 5059 secondary school girls in Qazvin city. The preparatory study showed that the knowledge of study population is 50 percent, with respect to this issue, it was planned to take a sample of 250 students with confidence of 95% 218, students for study.

The method of sampling is stratified and the stratified sampling was all secondary schools in Qazvin city. There is 10 secondary girl schools in Qazvin city and from each school, 25 students randomly selected for study.

A questionnaire was developed to gather data. The questionnaire consists of 53 questions: 11 questions on demographic characteristics, 25 questions on knowledge, 11 questions on attitude and 6 questions on practice. Chi-square ($X^2$) and Regrassion have been used to analyse the data.

## RESULTS

The results of the study indicated that 57.3 percent of students had poor knowledge on iron deficiency anemia, 54.1 percent unfavorable attitude towards iron deficiency anemia and 44.5 percent did not perform appropriate behaviour to prevent iron deficiency anemia (Table 1).

The results of the study showed that the knowledge of students who were 15-17 years old is higher than those who were less than 15 and more than 17 years old. There was statistically significant relationship between knowledge and the age of student (Table 2).

The findings of the study indicated that theknowledge of sutdents whose field of education was natural sciences, was higher than those whose field of education was non-natrual

*Corresponding author, Tel:+ 98 -21-8951319; Fax:+ 98-21-6462267; E-mail: shojaes@yahoo.com

sciences. There was statistically significant relationship between knowledge and the field of education of students (Table 3).
The results also indicated that the knowledge of those who their mothers were employed was higher than those who their mothers were. There is significant relationship between mothers' job and students' knowledge on iron deficiency anemia (Table 4).
The results of the study showed that sutdents whose level of education was high (year 3-4), had more knowledge about Iron deficiency anemia in comparison with other students. There was significatn relationship between level of education and knowledge (Table 5).
The findings showed that students who had poor knowledge on iron deficiency anemia, had unfavorable attitude, the students who had good knowledge had favorable attitude. There was statistically significant relationship between knowledge and attitude (Table 6).
The results of the study indicated that students who had poor knowledge on iron dificiency anemia, had weak practice and those who had good knowledge had appropriate behaviour. There was significant relationship between knowledge and practice (Table 7).
No significant relationship was found between students' attitude and independent variables of the study. The findings showed that the more mothers were illiterate the less students performed preventive behaviour on iron defficiency anemia.

## DISCUSSION

The results of the study showed that there was a need for education of individuals concerning iron deficiency anemia. The findings indicated that there were poor knowledge, unfavorable attitude and poor practice about the iron deficiency anemia, among the students. It was found that the main source of information for the students were family members and school teachers. The teachers and family members training will likely increase students' knowledge, influence their attitudes and motivate their practice. Health educators, therefore, should be involved in education of paretns and teachers.
The results indicated that students with inappropriate beliefs and habits were more likely to have unfavorable attitude. The students who were in need of education on iron deficiency anemia, are ranked as follows:

1. The students whose educational subject was experimental.
2. The students of first and second grade in secondary school.
3. The students whose mothers are house wives or unemployed.
4. The students whose fathers were workers or unemployed.

Table 1. **Relationship between KAP and mothers' Job**

| KAP Score | | Mothers' Job | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | Housewife | | Employed | | Total | | Test |
| | | N0 | % | N0 | % | N0 | % | |
| Knowledge | 0-50 | 116 | 60.4 | 9 | 34.6 | 125 | 57.3 | $X^2 = 6.23$ |
| | 50-75 | 66 | 43.3 | 15 | 57.6 | 81 | 37.2 | df=1 |
| | 75 + | 10 | 5.3 | 2 | 7.8 | 12 | 5.5 | P= 0.0125 |
| | Total | 192 | 100 | 26 | 100 | 218 | 100 | |
| Attitude | 0-50 | 106 | 55.2 | 12 | 46.2 | 118 | 54.1 | |
| | 50-75 | 80 | 41.8 | 14 | 53.8 | 94 | 43.1 | $X^2 = 0.76$ |
| | 75 + | 6 | 3.3 | 0 | 0 | 6 | 2.8 | df=1 |
| | Total | 192 | 100 | 26 | 100 | 218 | 100 | P=0.3 |
| Practice | 0-50 | 87 | 45.3 | 10 | 38.5 | 97 | 44.5 | |
| | 50-75 | 87 | 45.3 | 16 | 45.3 | 103 | 47.2 | $X^2 = 0.4$ |
| | 75 + | 18 | 9.4 | 0 | 0 | 18 | 18.3 | df=1 |
| | Total | 192 | 100 | 26 | 100 | 218 | 100 | P=0.5 |

Score : 0 – 50 : Poor
50 – 70 : Intermediate
70 + : good

Table 2. **Relationship between knowledge and age of students**

| Knowledge | Age | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Less then 15 | | 15 – 17 | | 17+ | | Total | | Test |
| | No. | % | No. | % | No. | % | No. | % | |
| **0 – 50** | 39 | 70.9 | 79 | 51.6 | 7 | 70 | 125 | 57.3 | $X^2 = 5.54$ |
| **50 – 75** | 11 | 20 | 67 | 43.8 | 3 | 30 | 81 | 37.2 | df=1 |
| **75 +** | 5 | 9.1 | 7 | 4.6 | 0 | 0 | 12 | 5.5 | P=0.02 |
| **Total** | 55 | 100 | 153 | 100 | 10 | 100 | 218 | 100 | |

Table 3. **Relationship between knowledge and field of education of students**

| Knowledge | Field of education | | | | | | Total | |
|---|---|---|---|---|---|---|---|---|
| | Natural Sciences | | Non – natural Sciences | | Not clear | | | |
| | No. | % | No. | % | No. | % | No. | % |
| **0 – 50** | 25 | 39.6 | 41 | 54.4 | 59 | 72.8 | 125 | 57.3 |
| **50 – 75** | 34 | 54 | 30 | 40.5 | 17 | 20.9 | 81 | 57.3 |
| **75 +** | 4 | 6.4 | 3 | 4.1 | 5 | 6.3 | 12 | 5.5 |
| **Total** | 63 | 100 | 74 | 100 | 81 | 100 | 218 | 100 |

$X^2 = 16.1$ ; df=2 ; P=0.0001

Table 4. **Relationship between knowledge and mothers' job**

| Knowledge | Mothers' Job | | | | | | |
|---|---|---|---|---|---|---|---|
| | Housewife | | Employed | | Total | | Test |
| | N0 | % | N0 | % | N0 | % | |
| **0-50** | 116 | 60.4 | 9 | 34.6 | 125 | 57.3 | $X^2 = 6.23$ |
| **50 -75** | 66 | 43.3 | 15 | 57.6 | 81 | 37.2 | df=1 |
| **75 +** | 10 | 5.3 | 2 | 7.8 | 12 | 5.5 | P= 0.0125 |
| **Total** | 192 | 100 | 26 | 100 | 218 | 100 | |

Table 5. **Relationship between knowledge and students' level of education**

| Knowledge | Level of education | | | | | | |
|---|---|---|---|---|---|---|---|
| | Year 1-2 | | Year 3- 4 | | Total | | Test |
| | No. | % | No. | % | No. | % | |
| **0 – 50** | 89 | 64.4 | 36 | 42.8 | 125 | 57.3 | $X^2 = 11.72$ |
| **50 – 75** | 38 | 28.3 | 43 | 51.2 | 81 | 31.2 | df=1 |
| **75 +** | 7 | 5.3 | 5 | 6 | 12 | 5.5 | P=0.001 |
| **Total** | 13 | 100 | 89 | 100 | 218 | 100 | |

Table 6. **Relationship between knowledge and attitude toward iron deficiency anemia**

| **Knowledge** | **Attitude** | | | | | | |
|---|---|---|---|---|---|---|---|
| | **0 – 50** | | **50 +** | | **Total** | | **Test** |
| | **No.** | **%** | **No.** | **%** | **No.** | **%** | |
| **0 – 50 *** | 86 | 72.8 | 39 | 39 | 125 | 57.3 | $X^2 = 25.4$ |
| **50 +** | 32 | 27.2 | 61 | 61 | 93 | 42.7 | df=1 |
| **Total** | 118 | 100 | 100 | 100 | 218 | 100 | P = 0.001 |

0 – 50 : Poor knowledge ; 50 + : Knowledge

Table 7. **Relationship between knowedge and practice on iron deficiency anemia**

| **Knowledge** | **Practice** | | | | | | |
|---|---|---|---|---|---|---|---|
| | **0 – 50** | | **50 +** | | **Total** | | **Test** |
| | **No.** | **%** | **No.** | **%** | **No.** | **%** | |
| **0 – 50** | 49 | 50.5 | 76 | 62.8 | 125 | 57.3 | $X^2 = 3.3$ |
| **50 +** | 48 | 49.5 | 45 | 37.2 | 193 | 42.7 | df=1 |
| **Total** | 97 | 100 | 121 | 100 | 218 | 100 | P = 0.05 |



## REFERENCES


1. ACC/SCN Second Report on the World Nutrion/ Situation (1993): Methods and Statistics, Vol. II6, Chop.2, PP: 116, March.
2. Bararom BA, Kovitz RH and Meytes D (1992): Iron State in Female Adolescents, *Am J Dis Child*, **146**(83): 3.
3. Enwonwu G (1993): Functional Significance of Iron Deficiency, nnual Nutrion Workshop series, Volume II, Center for Nutrition Meharry Medical College.
4. ESN-Nutrition Country Profile (1991): Iran, FAO, PP: 9.
5. Fairbanks VF (1994): Iron in Medicine, and Nutriton, Modern Nutrition in Health and Disease, Shils, ME Olson, J A and Shine, M. &th ed. Lea and Febige, London, PP: 196.

Food and Nutrition Situation in the Islamic Repuiblic of Iran (1991): ICN Reparatory Meeting, 18-21 August.

Hagshenass M, Mahloudgi RJ and Mohammadi N: Iron deficiency Anemia in Iranian Population Associated with high intake of Iron, *Am J ClinNutr*, **25**: 143-6.

8. Jumesje J (1989): Preventing Iron Deficiency in Preschool Children by Implementing and Educational and Screening Programme in an Inner CityPractice, BMJ, 209.
9. Karani, Chanad, Combatting Anemia in Adolescent Girls (1994): Report from India, Mothersa Children.
10. Major Issues for Nutrition Strategies (1992):International Conferences on Nutrition, PP: 21.
11. Multi-Centre Study on Iron Deficiency Anemia 15 to 40 Years old (1995): Ministry of Health and Medical Educationand Unicef. Women in the Islamic Republic of Iran Characteristics of for Selected Village and Tibal Communication Fars, Iran, PP: 12-16.
12. Petrosina A, Shayan K, Bash K and B(1969): Report of the Health
13. Preventing Specific Micronutrient Deficiency and Related' Wajessup(1992): International conference on Nutrition, PP: 21
14. Smyke P (1991): Women and Health, 2nd Book Company, London, PP: 61.
15. WHO/Geneva (1989): The Reproductive Health of 0A dolescents, PP: 5-15.
16. WHO (1992): Women's health. A Cross Age and frontier, WHO, Geneva, PP: 1-6.
17. WHO (1994): Women's Health: Age and Frontier, WHO Geneva.