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Factors Affecting Knowledge Attitude and Practice Related to Iron Rich Foods Among Females (30-45) Years in Urban Area of Panchkula

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ABSTRACT

Many a times iron deficiency is due to lack of nutritional information rather than unavailability of food. It is important to study about knowledge, attitude and practice regarding iron rich foods and factors affecting them among adult women as they are the key influence in planning menus, buying food items, preparing meals for the family and managing household. Their knowledge affects the health of the family and of their own. The purpose of this study was to know about factors affecting Knowledge, Attitude and Practice among women of 30 years - 45 years residing in Urban area of Panchkula. A descriptive, cross-sectional study was conducted on 362 women in urban areas of Panchkula to assess nutrition knowledge associated with iron rich foods and factors affecting them by using questionnaire specifically designed for the study in the language understood by the subject. 19.06% women indicated that iron from meat is better absorbed in the body. 11.6% knew that Calcium has negative impact on iron absorption. Knowledge about use of iron vessels was found to be 85.9% while actual use of iron vessels was 47.7%. 49.4% women had knowledge that vitamin C should be consumed but only 32.6% actually consumed it with meals. The findings of this study could be crucial in formulating appropriate health promotion program to tackle iron deficiency related nutritional problems in females of child bearing age group.

KEYWORDS

Anemia; Knowledge; Practice; KAP; Iron rich foods

INTRODUCTION

Many a times iron deficiency is due to lack of nutritional information rather than unavailability of food. It is important to study about knowledge, attitude and practice regarding iron rich foods and factors affecting them among adult women as they are the key influence in planning menus, buying food items, preparing meals for the family and managing household. Their knowledge affects the health of the family and of their own [1]. National Family Health Survey 2015-2016 shows that there is a rise in number of anaemic women in the period 2005-2006 to 2015-2016. The three Indian states that have shown highest increase in number of cases are Punjab (15.5%), Delhi (10%), Haryana (6.6%). Presently in Haryana 62.6% women were found to be anaemic [2]. In view of the high

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prevalence of anemia it is very important to focus on the knowledge of the women on the dietary factors, especially iron rich foods to reduce the incidence of anemia. Women/ mothers are the caregivers in the family, their awareness can lead to better hemoglobin in the children and also male members of their family [3].

A cohort study done in Hyderabad by Begum N, 2017 on pregnant women identified the causes for anaemia as nutrition related like less intake of haem iron, consumption of tea and pica. Cross sectional study in developed countries by Malek L, 2015 has shown increased risk of iron deficiency in obese individuals, but in developing countries, malnutrition remains the main cause [4].

Most of the studies conducted are related to anemia occurring in school aged children, adolescent girls and pregnant women, but the study about knowledge, attitude and practice among adult women regarding iron rich foods is not sought. This area is important as they are the key factor in planning menus, buying food items, preparing meals for the family and managing household. Their knowledge affects the health of the family and of their own. The work on awareness and intake of iron rich diet is scanty and needs attention.

OBJECTIVE

The purpose of this study was to identify factors affecting Knowledge, Attitude and Practice related to iron rich foods among women of 30 years - 45 years residing in Urban area of Panchkula.

MATERIALS AND METHODS

Study Design

The descriptive cross-sectional study design was used as study aimed at determining nutritional knowledge, attitude and practice at a specific point in time. The study subjects were selected through purposive sampling from different household. The study targeted female population in the age group 30 years - 45 years.

Sample Size

The total number of subjects selected were 362. The minimum sample size was obtained using the formula for estimating a population proportion with specified absolute precision. The sample size was fixed at 362 with 5% of marginal error and 95% of confidence level.

Sample size was calculated using formula,

$N = (z^2\ \alpha/2\pi(1-\pi))/d^2$

$z^2\ \alpha/2$ value for $\alpha = 0.05$ is 1.96 using Gaussian table

$d = 0.05$ min degree of precision

π = estimated prevalence of anaemia in women in Haryana, 62% (0.62)

Least confidence tolerated = 95%

$N = (1.96〗^2 X\ 0.62(1-0.62))/0.05〗^2$

$n = 361.76$

A structure questionnaire with close ended questions were administered to the subjects. The questionnaire was specifically designed for the study in the language understood by the subject. The questionnaire had demographic information including age, socio economic state and education level. Knowledge part of the questionnaire has 14 items consisting of questions related to awareness about importance of iron and Vitamin C rich food, deficiency and need of iron for women. It also had questions about consumption of tea, coffee, orange juice, milk products and their effect on iron absorption. Correct responses were marked ‘1’ and ‘0’ score was awarded for incorrect response. Attitude part of the questionnaire consisted of ten questions related to attitude towards eating of iron rich food, preparation of food and willingness to know about iron rich food. The respondents were queried about health state and medical checkups. Positive attitude was marked ‘1’ and negative attitude was marked ‘0’.

Practice part of the questionnaire consisted of ten questions related to practice towards presence of iron rich food in the diet, avoidance or inclusion of food which increase or decrease iron absorption.

The researcher visited the homes to collect data by giving the subjects prepared questionnaire to fill up after explaining the purpose of the study. Pre testing of survey questionnaire was done on 36 women (10% of sample size) to check whether the questions were understood by the participants. Questions which were difficult to comprehend, ambiguous were modified. These participants were excluded from study. The data was collected, sorted, entered and analyzed in MS Excel. Z score was used to find level of significance between knowledge and practice.

RESULTS

Socio Demographic Characteristics

362 participants were included in the study. Of the 362 participants, 43.09% were between 35 years - 40 years of age and majority (68.28%) were homemakers.

Demographic information	Number	Percentage
Age		
30-35	86	23.76
36-40	156	43.09
41-45	120	33.15
Religion		
Hindu	189	52.22
Muslim	12	3.31
Sikh	124	34.25
Christian	37	10.22
Other	-	-
Education		
Higher Secondary	24	6.63
Senior Secondary	49	13.54
Graduate	205	56.63
Post Graduate	84	23.20

Table 1: Socio demographic data of the participants of the study.

Nutritional Knowledge

The mean knowledge score of the subjects was found to be 12.90 (maximum score 18), the Standard deviation was 1.85. (Table 5) knowledge assessment showed that the percentage of participants above mean score were 42.2%.

Variables	Yes	Percentage	No	Percentage
Do you know iron is important for the body?	362	100.0	0	0.00
What does deficiency of iron cause	299	82.60	63	17.40
Do you think iron deficiency can be corrected by inclusion of green leafy vegetables/chicken/eggs?	278	76.80	84	23.20
Do you think iron from meat is better absorbed in the body than green leafy vegetables?	69	19.06	293	80.94
Is it good to consume milk products along with green leafy vegetables?	223	61.60	139	38.40
Does germination/ fermentation make any difference to iron absorption of a food?	214	59.12	148	40.88
Do you know use of iron vessels for cooking can increase iron content of food?	311	85.91	51	14.09
Do women need more iron rich food than men?	362	100.00	0	0.00

Table 2: Knowledge about Iron and factors affecting them.

Various food sources were included to know about the knowledge of the participants regarding enhancers/inhibitors of iron absorption. The 49.4% respondents were aware that enhancers like Vitamin C have effect on absorption, but when asked whether Orange/Lime juice had an effect on iron absorption 62.4% responded positively. Knowledge about absorption of iron from meat was low, only 19.06% women were aware.

Germination/fermentation increased iron absorption was known to 59.12% women. 85.9% were aware that cooking in iron vessels increases iron absorption. 49.1% women were aware that tea/ coffee with meals decreases iron absorption. Only 11.6% were aware that Calcium affects

iron absorption but the knowledge that green leafy vegetables and milk products consumed together was not good was known to 61.6% women. (Table 2).

Nutritional Attitude

The mean attitude score was 6.85 (maximum score 10), Standard Deviation was 1.35. (Table 5) 59.94% women had positive attitude towards iron rich food above the mean score. Attitude regarding health was generally good 96.9% women responded that anaemia is a cause for concern and iron rich food can make a difference in anaemia status. 51.3% women said that they feel tired most of the times and were willing to check haemoglobin regularly. These findings indicate that the participants had a positive attitude towards health (Table 3). 62.4% women liked to eat green leafy vegetables and 35.08% women tried to eat citrus fruits with meals. Whereas 53.59% enjoyed drinking tea/coffee with meals. Women had positive attitude towards eating green leafy vegetables but not for other foods/drinks. 70.9% women preferred cooking in iron vessels and 67.13% were positive about cooking iron rich food. 98.6% were willing to know more about iron rich food

Variables	Yes	Percentage	No	Percentage
I feel tired most of the times	186	51.38	176	48.62
Do you think anaemia is a cause for concern?	351	96.96	11	3.04
Do you think iron rich food can make a difference in anaemia status?	335	92.54	27	7.46
Have you checked your haemoglobin level anytime?	362	100.	0	0.00
I like to eat green leafy vegetables?	226	62.43	136	37.57
I like to drink tea/ coffee along with meals	194	53.59	168	46.41
I try to eat citrus fruits with meals	127	35.08	235	64.92
I am willing to know more about iron rich foods	362	100.0	0	0.00
I prefer non-stick cookware compared to iron vessels	105	29.01	257	70.99
I think cooking iron rich food requires extra planning	243	67.13	119	32.87

Table 3: Attitude towards iron rich foods and factors affecting them.

Nutritional Practices

The mean practice score was 5.58 (maximum score 9.25), Standard Deviation was 1.21. (Table 5) Women were aware about importance of iron and anaemia and had positive attitude towards health. It shows in practice too where 98.6% women check hemoglobin level routinely.

Variables	Yes	Percentage	No	Percentage
Do you consume Vitamin-C rich fruits?	349	96.41	13	3.59
Do you use lemon while having meals?	179	49.45	183	50.55
Do you consume tea/ coffee?	58	16.02	304	83.98
Do you use iron vessels for cooking?	215	59.39	147	40.61
Do you eat milk products (curd, paneer) with green leafy vegetables?	107	29.56	255	70.44

Table 4: Practices associated with iron rich foods and factors affecting them.

The overall score of the participants for knowledge, attitude and practice is tabulated below:

Attribute	Mean	Standard Deviation
Knowledge	12.90	1.85
Attitude	6.85	1.35
Practice	5.58	1.21

Table 5: KAP score.

CONCLUSION

This study shows that there is overall good knowledge about iron rich food, however women were not aware about foods which will aid or deter iron absorption if taken along with meals. This causes incorrect food combinations leading to reduced iron absorption thereby decreasing bio availability of iron. Attitude and practices also rest upon these criteria.

Women show negative attitude on few aspects like foods (citrus fruits) to be eaten with meals and milk products, tea/coffee to be avoided. Knowledge is a prerequisite for any change. Once knowledge is imparted on these issues, awareness will motivate women to change their attitude and subsequently change their practices.

The findings of this study could be crucial in formulating appropriate health promotion programme to tackle iron deficiency related nutritional problems in females of child bearing age group.

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