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Original Research

Knowledge about iron-rich nutrition andIron deficiency anemia among women of reproductive age group(15-49years) -A cross-sectional study

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ABSTRACT:

Background: Awareness regarding iron deficiency anemia and its etiology can serve as important tool for curbing this common nutritional deficiency and improving health status in general. This study aims to explore awareness regarding iron deficiency among women of reproductive age group living in Jammu district. **Objectives**: To assess gaps in knowledge about iron-rich nutrition and iron deficiency anemia among women of reproductive age group(15-49years) living in Jammu district. **Method and materials**: This was a community-based descriptive, cross-sectional study conducted inTrikuta Nagar and R.S. Pura which are urban and rural field practice areas respectively of PG Department of Community medicine, GMC, Jammu. After obtaining ethical clearance, women of reproductive age (15 to 49 years) were selected by purposive sampling. The eligible candidates were interviewed using semi-structured proforma which was adopted from FAO Guidelines and previous studies. The data so collectedwas first entered in a master chart on Microsoft Excel spreadsheet and analysed in terms of proportions and percentages for descriptive statistics. **Results**: Out of 448 women who participated in our study,87.5% had awareness regarding iron deficiency anemia. Surprisingly, only 2.67% opined that iron deficiency can lead to severe health problem. About 18.30% of the participant reported that they were taking tea/coffee with meals or immediately after meals. **Conclusions**: Awareness regarding Iron deficiency anemia and its prevention was not found to be much satisfactory in our study. There exists a large scope for providing health education and counseling for nutritional awareness to prevent Iron deficiency anemia through promotion of iron rich healthy and balanced diet.

Key words: Knowledge, Iron deficiency anaemia, Reproductive age women.

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INTRODUCTION

Iron deficiency accounts for half of all the cases of anemia, thereby, is among the most common nutritional deficiency globally.[1]As per WHO, about one third of all women belonging to reproductive ageare affected by anemia.[2]Despite availability of easy diagnostic tests,cost-effective prevention and treatment interventions, tremendous ongoing efforts and research, and advancement in the field of medicine,it remains a cause of concern in both developed and developing nations.[3]

Iron deficiency anaemia (IDA) can occur in all ages and sex. However, its prevalence is more among pregnant women, young children, and adolescents. It affects growth, learning and cognition, work performance, cardiac functioning, immunity apart from serious impact throughout the reproductive period and beyond.[2,4]Anaemia during pregnancy is associated with increased risk of mortality and morbidity along with risk of miscarriages, stillbirths, low birth weight, etc.[1]

To combat this public health problem ofIDA, nutritional awareness can play an important roleto acquire a lifestyle that is healthy and free from disease. Knowledge, Attitude and Practice(KAP) assessment is suitable to evaluate the effectiveness of intervention programs. Also, it can assess a target group's current knowledge, attitude, and practice regarding a specific topic to detect their needs, problems, and possible barriers before developing and implementing the desired intervention.

While reviewing the literature,we found that Iron deficiency anemia has been a frequent focus of research in pregnant and adolescent females. However, there was dearth of literature of Knowledge studies among females of reproductive age about IDA in the northern region of India and more so in UT of J&K. It was in this context that this study was planned with the aim to assess the awareness regarding Iron deficiency and associated anaemia in females of thereproductive age group.

METHOD AND MATERIALS

TYPE OF STUDY
Observational study

STUDY DESIGN
Community-based descriptive, cross-sectional study

STUDY SITE
Trikuta Nagar and R.S. Pura i.e.,urban and rural field practice area of PGDepartment of Community medicine, GMC,Jammu

STUDY POPULATION
Women of reproductive age (15 to 49 years)

ELIGIBILITY CRITERIA
INCLUSION CRITERIA
Allthose candidates who agreed to participate in study by giving their informed consent.

EXCLUSION CRITERIA
All those women who didn't give informed written consent were excluded. All those candidates who were not present at their respective houses at time of survey were also excluded.

SAMPLING TECHNIQUE
Purposive sampling

METHOD OF DATA COLLECTION
Data collection was conducted byhouse-to-house visit.After briefing about the purpose of the study and assuring confidentiality of the data to the eligible candidate,informed consent was sought.Thereafter. Self-administered Proforma was given to literate participants and interviews were called for illiterate participants.

STUDY TOOL
Semi-structured Proforma which was adopted from FAO Guidelines[5]and previous studies.

ETHICAL CLEARANCE
Ethical clearance was sought from Institutional ethical committee of GMC, Jammu and informed consent was taken from all the women who were included in this study.

STATISTICAL ANALYSIS
The data so collectedwas first entered in a master chart on Microsoft Excel spreadsheet and analysed in terms of proportions and percentages for descriptive statistics.

RESULTS
A total of 448 women participated in our study, majority of whom were in the age group of 25 to 35 years (47.3%). 66.5% were residing in urban areas and 69.6% belonged to Hindu religion. Only 26.3% women had gone to college or university while 46.4% had not completed secondaryschool education.(Table 1).

Table 1: Socio-demographic characteristics of study participants (n=448)

Parameters	Category	No.%
Age(Years)	<25	128(28.5)
	25-35	212(47.3)
	>35	108(24.1)
Residence	Urban	298(66.5)
	Rural	150(33.4)
Religion	Hindu	312(69.6)
	Muslims	108(24.1)
	Others	28(6.2)
Education status	Illiterate	61(13.61)
	Upto to Middle School	147(32.81)
	Upto to Secondary School	122(27.2)
	College/University	118(26.3)

Out of 448 women who participated in our study, 87.5% had heard regarding iron deficiency anemia. Fatigue (83.48%) and pale face (81.25%) are the most common symptoms of anemia reported by the participants. As per the study participants, low birth weight of the baby is the most common consequence of anemia during pregnancy (67.19%). 48.44% women reported inadequate diet as the major cause of anemia (Table 2).

Table 2: Distribution of responses of study participants regarding signs, symptoms, causes and complications of iron deficiency anemia

Statement	Option	N%
Heard about anemia	Yes	392 (87.5)
	No /Don't know	56(12.5)
Knows about symptoms of anemia	Pale face	36(81.25)
	Fatigue	374(83.48)
	Frequent infections	10(2.23)
	Spoon shaped nails	13(2.90)
	Breathlessness	41(9.15)
Knows causes of anemia	Due to excess bleeding	170(37.94)
	Due to any other disease	98(21.86)
	Lack of iron in food	154(34.37)
	Lack of adequate amount of diet	217(48.44)
Knows about consequences which occur during pregnancy due to anemia	Death during or after delivery	186(41.52)
	Complications in delivery	198(44.20)
	Low birth baby/Weak baby	301(67.19)

Surprisingly, only 2.82% opined that iron deficiency can lead to severe health problems. 34.37% of the participants knew that tea or coffee consumption inhibits iron absorption while 18.55% admitted that they were taking tea/coffee with meals or immediately after meals. 30.58% of the women knew that consuming iron-rich foods increases iron absorption. About 139 women reported pomegranate as the richest source of iron among fruits followed by apple reported by 89 women. However, nearly 35% of the study participants reported chicken as the richest source of iron among non-vegetarian food items (Table 3).

Table 3: Distribution of responses of study participants regarding prevention of Iron deficiency anemia

Statement	Option	N%
Knows about ways to prevent anemia	Consume iron rich foods	361(80.58)
	Consume vitamin C rich foods during or after food intake	129(28.80)
	Consume iron tablets	311(69.1)
Knows about foods helps in iron absorption	Vitamin C rich foods /tablet	137(30.58)
	Sweet/dessert after meal	53(11.83)
Knows about foods inhibiting iron absorption	Tea /Coffee	154(34.37)
	Milk	126(28.13)
Knows about iron rich foods	Non veg.	329(73.43)
	Leafy vegetables	313(69.86)
	Fruits	354(79.02)
	Dates	62(13.83)
	Jaggery	88(19.64)

DISCUSSION

Among the global public health problems, iron deficiency anaemia is a significant nutritional deficiency which ranks among the top 20 causes of disability-adjusted life years lost.[6]Iron deficiency anaemia affects all ages and categories.[7,8]

The current study aimed to assess awareness regarding iron deficiency,IDA and its prevention among females in both urban and rural field practice areas under Postgraduate Department of Community Medicine, Government Medical College, Jammu. The study results revealed that 87.5% of the respondents in the present study had heard about anaemia, These results agree with those reported in Qassim region of Saudi Arabia.[9] Similar results were also reported by Elhassan et al (2018)[10] and Angadi et al (2016)[11]. In another study conducted in Saudi Arabia Shehata et al. (2017)[12] reported that more than half of the respondents had good awareness about levels of iron deficiency anaemia.In contrast a study conducted among female adolescents in Gaza strip, Palestine reported that majority had poor awareness about causes of iron deficiency anaemia.[13]

In the present study, about two-third of the respondents knew about consequences of anaemia in pregnancy resulting in birth of low birthweight baby. Contrary to the results of the present study, authors from Palestine reported that 81.3% of the respondents had poor awareness regarding the outcome of iron deficiency anaemia among pregnant women.[13]

Although majority of respondents in the present study knew about the ways to prevent anaemia and iron rich foods, yet knowledge about foods helping/ inhibiting iron absorption was not up to desired levels. This could be due to one third of respondents belonging to rural background and half of them being educated up to secondary levels. The study conducted in Palestine also reported results where majority did not know which iron rich foods can be easily absorbed and about factors which reduce iron absorption[13]In another study conducted in Bhavnagar only 32.2% of respondents were aware about nutritious diet.[14]Tashara et al. (2019)[15] also reported inadequate knowledge on iron deficiency anaemia and its prevention among the women of reproductive age group. On the contrary Thenget al. (2019)[16] reported high levels of knowledge on consumption of iron supplements in pregnant women and it was ascribed to their higher literacy levels.In the rural areas of India, iron deficiency anaemia comprises of 70% of anaemia cases and it is likely due to high prevalence of vegetarianism and limited access to iron supplements.[17] It is pertinent to mention that besides role of dietary factors in iron deficiency anaemia, the role of social and economic factors which influence risk of anaemia by altering dietary consumption can't be overlooked. The study being a cross-sectional survey has its inherent limitations. Purposive sampling is another limitation due to which results may lack generalizability.

CONCLUSION

Based on the results of the present study, it can be concluded that majority of females in reproductive age group in Jammu district of UT J&K had not much satisfactory awareness levels regarding Iron deficiency and its associated anaemia. Authors recommend heath education programs targeted to adolescent girls, pregnant women and in fact for all the ages and sexes. There are many socio-cultural issues, especially in rural areas, which need to be addressed through health awareness and counselling in order to achieve our country's target of Anemia Mukt Bharat.

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