JETIR.ORG ISSN: 2349-5162 | ESTD Year : 2014 | Monthly Issue
JOURNAL OF EMERGING TECHNOLOGIES AND INNOVATIVE RESEARCH (JETIR)
An International Scholarly Open Access, Peer-reviewed, Refereed Journal

Prevalence of anemia among women in Virudhunagar district

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Abstract

Background: Anaemia remains a major nutritional-related health concern for women in developing nations like India. **Objective:** To assess the prevalence of anaemia among women. **Methods:** Descriptive survey design was used and 90 women were selected by using Non-probability purposive sampling technique. Hb estimation was done using Tallquist method. **Results:** 71% of subjects had normal haemoglobin level. 29% had anemia, wherein very few (1%, 2%) had severe and very severe anemia**. Conclusion:** The current study reveals that in spite of various efforts by Government of India, anemia still continues to be a major public health concern.

Introduction

Anemia is one of the major public health problems in India that particularly affects young children, menstruating adolescent girls and women, and pregnant and postpartum women. As per NFHS-5, 57% of women in the age group of 15-49 years are anaemic in India. In Tamilnadu the prevalence of anaemia in this age group is 53.4%. Cause of anemia is multifactorial which includes inadequate dietary intake, infections, chronic diseases, gynaecological and obstetric conditions and blood disorders. [1].

The commonest cause of anaemia is iron deficiency. Menstrual loss, abnormal uterine bleeding and pregnancy put women at risk of developing iron deficiency which can result in severe fatigue, reduced exercise capacity and poor work performance which in turn affects the economy and national development . Iron deficiency and anaemia during pregnancy are associated with adverse maternal and foetal outcomes, including neurocognitive deficits in children born to iron-deficient mothers [2]

India has a long history of various Government-run programs like Integrated Child Development Scheme (ICDS), National Nutritional Anemia Control Program (NNACP), Weekly Iron and Folic Acid Supplementation (WIFS), National Iron Plus Initiative (NIPI), etc. to combat anemia..

Anemia Mukt Bharat launched in September 2018 for combating anemia is one of the recent initiatives. The Anemia Mukt Bharat focuses on reducing anemia amongst pregnant women from 50% in 2016 to 32% by 2022. Intensive focus is given on interventions like providing prophylactic IFA supplementation, deworming, intensified year-round SBCC campaign, ensuring delayed cord clamping in new-borns, anemia testing through digital methods and point of care treatment, mandatory provision of IFA fortified foods in Government-funded health programs [3]

The fact is that in spite of all the programs, no marked improvement had been noticed in the magnitude of anemia.

Since the Socio-economic and cultural features varies across India, it is necessary to carryout region wise research works to have a baseline data to draft policies and strategies to combat anemia. Hence the researcher studied the prevalence of anemia and their correlates among women in Virudhunagar district which is situated in the southern portion of Tamilnadu.

AIM

The present study aimed at identifying the prevalence of anemia and their correlates among women attending the OPD of Government Medical College hospital, Virudhunagar

Methodology

Descriptive study design was used to collect data. By using Non-probability purposive sampling 90 women were selected. Permission was obtained from the hospital authority and oral consent was obtained from the study subjects.

Tool-Instrument for data collection consisted of three parts

A. Demographic Proforma which includes age , educational status, marital status, age at menarche, age at menopause, duration of menstrual cycle, Number of pads per day, number of children, Intake of iron rich food items, place of residence, religion, occupation, family monthly income, History of smoking and alcohol intake.

B. Checklist to assess the symptoms of anemia which consists of 5 common symptoms experienced by anaemic women.

C. Laboratory assessment of level of haemoglobin

Results

I. Demographic characteristics of the subjects

Among 90 respondents, majority of the subjects (52%) were between 36-55 years. More than half of the subjects (53.3%) had completed primary education. Most of the subjects (72.2%) were residing rural area. 85% of the subjects were married and their family monthly income was between Rs 5000 – Rs 10,000. Nearly all the subjects (95.6%) were Hindus. 58.9% of the subjects were coolie workers. Only one subject had the history of tobacco chewing.

Table 1: Distribution of subjects based on the menstrual history N=90

S.No	Variable	Group	Frequency	Percentage
1.	Age at menarche	<13 years	10	11%
		13-15 years	70	78%
		>15 years	10	11%
2.	Duration of menstrual cycle	<3 days	27	58.7%
		4-6 days	18	39.1%
		>7 days	1	2.2%
3.	Number of pads per day	<2 per day	20	43.5%
		3 per day	19	41.3%
		>4 per day	7	15.2%
4.	Age at menopause	40-45 yrs	22	50%
		46-50 yrs	18	40.9%
		>50 yrs	4	9.09%

Larger portion of subjects have attained menarche between 13-15 years. Duration of menstrual cycle was less than 3 days for more than half of the subjects (58.7%). Among 90 subjects 44 subjects have attained menarche (Table 1).

II. Distribution of subjects based on consumption of iron rich food items

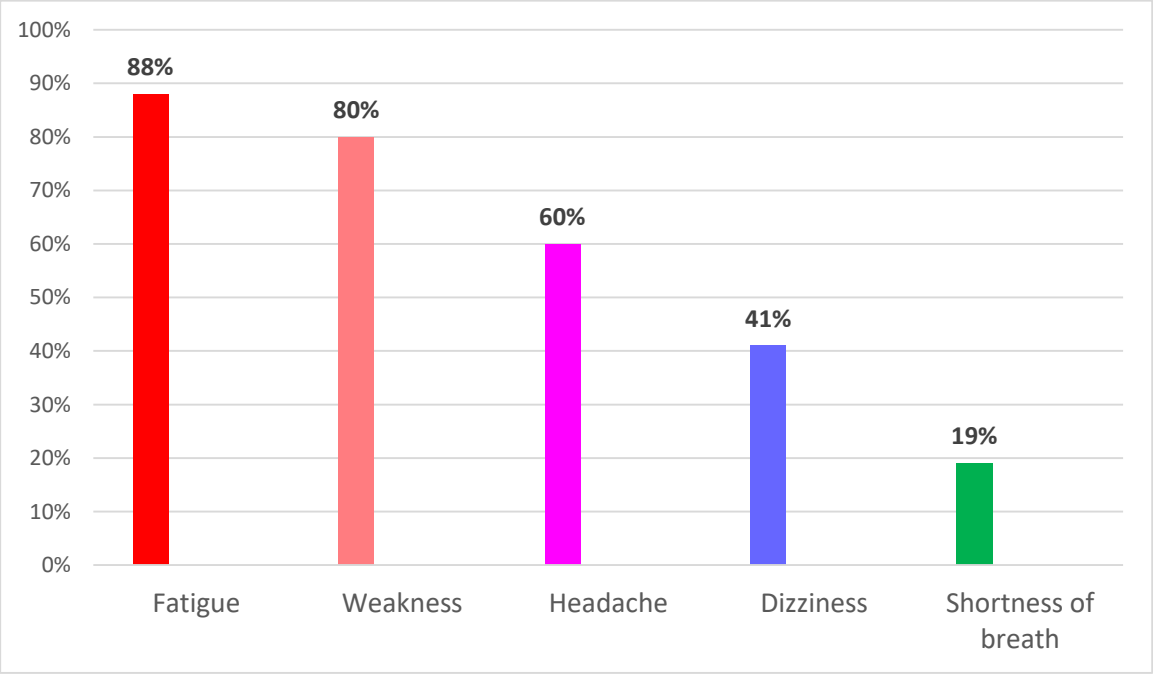
Table 2: Distribution of subjects based on consumption of iron rich food items N=90

S.no	Iron rich food items	Never		Daily		Weekly once		Monthly once		Rare	
		f	%	f	%	F	%	f	%	f	%
1.	Ragi	45	50%	3	3%	11	12.2%	12	13%	19	21%
2.	Drumstick leaves	13	14%	8	9%	57	63%	6	7%	6	7%
3.	Jaggery	34	38%	4	5%	13	14%	11	12%	28	31%
4.	Dates	23	26%	9	10%	30	33%	7	8%	21	23%
5.	Red meat	25	28%	2	2%	15	17%	20	22%	28	31%
6.	Green leaves	4	4%	7	8%	63	70%	7	8%	9	10%

Nearly one quarter of the subjects take ragi rarely. Greater part of the subjects consumes green leaves (70%) drumstick leaves (63%) once a week. 50% of subjects have reported that they have never consumed ragi. Very few percentage of subjects consume iron rich food items on a daily basis. This shows women in India give least priority to their diet and their health is least taken care of in Indian households. (Table 2).

III.Symptoms expressed by subjects with regard to anemia

Figure 1: Symptoms expressed by subjects with regard to anemia N=90



Greater portion of subjects experienced fatigue (88%) and weakness (80%) Anaemia can cause a range of non-specific symptoms including fatigue, weakness, dizziness and shortness of breath. Fatigue is one of the most common symptoms of iron deficiency. (Figure-1).

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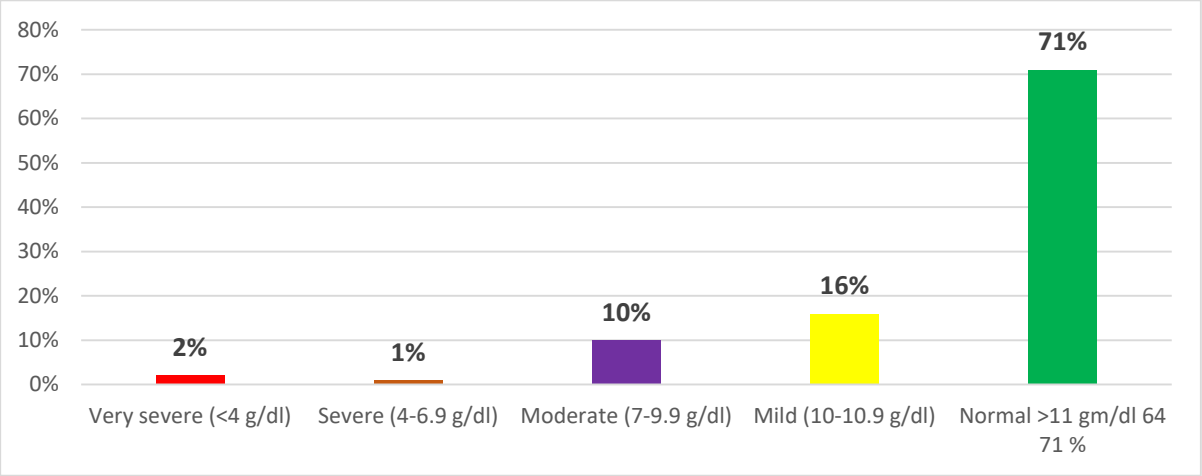
IV. Distribution of subjects based on the level of haemoglobin

Figure 2: Distribution of subjects based on the level of haemoglobin N=90



71% of subjects had normal haemoglobin level. 29% had anemia, wherein very few (1%, 2%) had severe and very severe anemia. The mean haemoglobin level was 11.62±1.76(Mean±SD). This data shows that the very severe and severe anemia is still prevalent in India. (Figure 2)

V. Association between level of anemia and selected demographic variables

Table 3: Association between level of anemia and selected demographic variables N=90

S.No	Demographic Variable	Level of Anemia					χ^2
		Normal	Mild	Moderate	Severe	Very severe	
1.	**AGE IN YEARS**						
	<25	3	1	0	0	0	12.799
	25-35	14	3	1	0	0	
	36-45	15	5	3	0	0	
	46-55	15	3	4	1	1	
	56-65	13	1	0	0	0	
	>65	4	2	1	0	0	
2.	**EDUCATIONAL STATUS**						
	No formal education	20	6	2	0	0	6.071
	Primary education	32	7	7	1	1	
	Completed schooling	2	0	0	0	0	
	Under graduate	9	2	0	0	0	
	Post graduate	1	0	0	0	0	
3	**MARITAL STATUS**						
	Married	16	14	9	1	1	0.741
	Unmarried	4	1	0	0	0	
4	**RELIGION**						
	Hindu	61	14	9	1	1	1.312
	Christian	1	0	0	0	0	
	Muslim	2	1	0	0	0	
5	**OCCUPATION**						
	Coolie	39	10	4	0	0	7.316
	Housewife	20	4	5	1	1	
	Private employee	4	0	0	0	0	
6	**FAMILY MONTHLY INCOME**						
	<5000	18	9	5	0	0	

	5000-10000	33	6	4	1	0	18.650
	10000-15000	9	0	0	0	1	
	>15000	4	0	0	0	0	
7	**MENSTRUAL DURATION**						1.636
	<3 days	18	5	3	1	0	
	4-6 days	13	4	1	0	0	
	>7 days	1	0	0	0	0	
8	**TYPE OF FLOW**						2.100
	2 pad per day	14	4	2	0	0	
	3 pad per day	13	4	1	1	0	
	>4 pad per day	5	1	1	0	0	
10	**CONSUMPTION OF REDMEAT AND LIVER**						14.109
	Never	18	4	2	0	1	
	Daily	1	1	0	0	0	
	Weekly once	12	2	0	1	0	
	Monthly once	14	2	4	0	0	
	Rare	19	6	3	0	0	
11	**CONSUMPTION OF DATES**						
	Never	16	5	1	0	1	12.010
	Daily	6	3	0	0	0	
	Weekly once	22	4	3	1	0	
	Monthly once	6	0	1	0	0	
	Rare	14	3	4	0	0	
12	**CONSUMPTION OF JAGGERY**						
	Never	24	6	3	0	1	14.559
	Daily	3	0	1	0	0	
	Weekly once	10	1	2	0	0	
	Monthly once	9	1	0	1	0	
	Rare	18	7	3	0	0	
13	**CONSUMPTION OF DRUMSTICK**						
	Never	8	2	1	1	1	29.935*
	Daily	6	2	0	0	0	
	Weekly once	44	10	3	0	0	
	Monthly once	4	0	2	0	0	
	Rare	2	1	3	0	0	
14	**CONSUMPTION OF RAGI**						
	Never	31	10	3	0	1	37.446*
	Daily	2	0	0	1	0	
	Weekly once	8	2	1	0	0	
	Monthly once	11	0	1	0	0	
	Rare	12	3	4	0	0	

Chi-square test was used to find out the association between level of anemia and selected demographic variables. There was a statistically significant association between intake of drumstick leaves (29.935*) and intake of Ragi (37.446*) and level of haemoglobin (Table-3)

Discussion

The overall prevalence of anemia in the current study is 29%. The mean Haemoglobin level was 11.6211, with the range from 3.90 g/dl to 16.30g/dl. The prevalence is lesser comparing to the NFHS-5, where the prevalence was 57%. In NFHS-5 it was also found that the prevalence of severe anemia in non-pregnant women was 1.16% , It is almost identical to the finding of the current study in which the prevalence of severe anemia was found be 1% [1].

Bhrathi (2023) studied the haemoglobin levels of 198 working women between 25 to 65 years residing at Kancheepuram district, Tamilnadu. It was observed that 31% of study participant's had hemoglobin values less than 12g/dl. This finding is similar to that of the finding of the current study in which 29% of subject had their haemoglobin level below 12g/dl. The same study also revealed that marital status, educational qualification and intake of dates were associated with the

prevalence of anemia, which is contradictory to the findings of the current study in which none of these three variables were associated with the level anemia.[4].

Jayaprakash., et.al.(2023) studied the prevalence of anemia among rural women in Karnataka and found that 60.1% had haemoglobin above 12mg/dl and 39.9% had less than 12mg/dl haemoglobin levels, which is also close to the finding of the current study[5].

Dietary diversity and its association with anaemia among adolescents of central India was studied by Surya et.al. (2022). The study found that those consuming occasional fruits, green non leafy vegetables, red and yellow vegetables, roots and tubers and milk products were at higher risk of developing anaemia compared to other food items regularly. This study supports the findings of the current study in which there was a statistically significant association (29.935*) found between intake of drumstick leaves and level of haemoglobin [6] .

With regard to consumption of iron rich food items by the study subjects, 3% , 4.5 % of subjects daily consumed ragi, Jaggery respectively. 4%, 26% subjects have reported that they never consume Greenleafy vegetables and dates respectively. It is similar to finding of the study conducted by P.Sathya., et.al(2017) to assess the prevalence of anemia among women in a selected urban area in Coimbatore district. The study finding revealed that 3.2%, 4.8% of the study subjects daily consumed ragi, jiggery respectively. It was also reported that 2.8%, 21.2% of subjects never consume Greenleafy vegetables and dates respectively [7].

Gejalakshmi S et.al (2022) studied the prevalence of anemia in adolescence female in Tamilndau and their study found that the commonest symptom being tiredness (65.1%) followed by dizziness (52%). The symptom experienced by most of the study subjects in the current study was fatigue (88%), followed by weakness (80%)[8].

Conclusion

Despite the measures taken to control anaemia in pregnancy, the severity of nutritional anaemia continues to remain a public health issue of great magnitude. The present findings showed prevalence of anaemia and poor dietary habits among women. It was evident from the study results that food preferences influence anemia quite significantly. Thus, awareness regarding the importance of intake of iron rich food items and use of iron utensils for cooking should be increased. Better nutrition, Improved access to healthcare services, socio-economic development and political commitment are crucial steps in eradicating nutritional anemia and enhancing the health of women.

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