RESEARCH PAPER

A Study to assess the knowledge on anaemia among women between 15 - 35 years attending OPD at AVMC &H, Puducherry.

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ABSTRACT

Background: Anaemia is one of the most common nutritional deficiencies affecting women of reproductive age and remains a major public health problem in developing countries like India. Women between 15–35 years are particularly vulnerable to anaemia due to increased nutritional requirements, menstrual blood loss, and inadequate dietary intake of iron. Lack of awareness and insufficient knowledge regarding the causes, symptoms, prevention, and management of anaemia further increases the risk among women. Therefore, assessing the level of knowledge on anaemia among women is essential for planning appropriate health education and preventive strategies.

Aim: To assess the level of knowledge on anaemia among women between 15–35 years attending OPD at AVMCH, Puducherry.

Methods: A descriptive research design was adopted for the present study. A total of 100 women between 15–35 years attending the OPD at AVMCH, Puducherry were selected using a convenience sampling technique. Individual consent, both verbal and written, was obtained from the participants after providing the participant information sheet. Demographic variables were collected using a questionnaire. The level of knowledge on anaemia was assessed using a self-structured knowledge questionnaire. The collected data were coded, computerized, and analysed using SPSS version 25.

Results: The findings revealed that more than half of the participants had moderately adequate knowledge 54 (54%) regarding anaemia, while 39 (39%) had inadequate knowledge. Only a small proportion 7 (7%) demonstrated adequate knowledge regarding anaemia. The mean knowledge score was 9.04 with a standard deviation of 3.443, indicating a moderate level of knowledge among the participants.

Conclusion: The study concludes that although the majority of women possessed moderately adequate knowledge regarding anaemia, a considerable proportion still had inadequate knowledge. These findings emphasize the need for health education programmes and awareness initiatives to improve knowledge regarding the causes, prevention, and management of anaemia among women of reproductive age.

Keywords: Assess, Knowledge, Anaemia , Women, Puducherry.

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INTRODUCTION

Anaemia is a common haematological disorder characterized by a decrease in the number of red blood cells or a reduced concentration of haemoglobin in the blood, resulting in decreased oxygen-carrying capacity to body tissues. It is a major global public health problem affecting people of all age groups, particularly women and children. The condition may develop due to nutritional deficiencies, chronic diseases, genetic disorders, or blood loss. According to global health reports, iron deficiency is the most common cause of anaemia worldwide. Anaemia can affect physical growth, cognitive performance, and work productivity if left untreated. Early diagnosis and proper management are essential to prevent complications and improve overall health status.

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Anaemia can be classified into several types based on its underlying cause and red blood cell morphology. The major types include iron deficiency anaemia, megaloblastic anaemia, haemolytic anaemia, aplastic anaemia, and anaemia of chronic disease. Iron deficiency anaemia occurs due to inadequate iron intake or increased iron loss. Megaloblastic anaemia results from deficiencies of vitamin B12 or folic acid, which are essential for red blood cell production. Haemolytic anaemia occurs when red blood cells are destroyed faster than they are produced, while aplastic anaemia results from bone marrow failure to produce sufficient blood cells. Understanding the different types of anaemia is important for accurate diagnosis and appropriate treatment.

The causes of anaemia are varied and may include poor nutrition, chronic infections, genetic disorders, pregnancy, and excessive blood loss. Nutritional deficiencies, especially iron, vitamin B12, and folic acid deficiency, are among the most common causes worldwide. The signs and symptoms of anaemia vary depending on its severity and duration. Common manifestations include fatigue, weakness, dizziness, shortness of breath, pale skin, and headache. In severe cases, individuals may experience rapid heartbeat, chest pain, and difficulty in performing daily activities. Early detection through screening and proper dietary management plays an important role in preventing complications associated with anaemia.

NEED FOR THE STUDY

At worldwide level

Anaemia continues to be one of the most common nutritional disorders worldwide, particularly affecting women of reproductive age. According to the World Health Organization, approximately 29–30% of women aged 15–49 years globally are anaemic, indicating a major public health concern. Anaemia leads to fatigue, reduced work productivity, and increased risk of maternal complications. Global reports also show that anaemia contributes to poor pregnancy outcomes and increased maternal mortality. These statistics highlight the importance of improving awareness and knowledge about anaemia among women worldwide.

At India level

Anaemia among women of reproductive age remains a major public health problem in India. According to the **National Family Health Survey-5 (NFHS-5, 2019–2021)** conducted by the International Institute for Population Sciences, about **57% of women aged 15–49 years in India are anaemic**. This indicates a significant increase compared with previous national surveys. Nutritional deficiency, inadequate intake of iron-rich foods, and lack of awareness regarding anaemia are major contributing factors. These findings highlight the urgent need for improving knowledge and preventive practices among women in India.

At state level

Anaemia among women is also a major health concern in the state of Tamil Nadu. Studies conducted in different regions of the state have reported a considerable prevalence of anaemia among women of reproductive age. Hospital-based research has indicated that a significant proportion of women attending healthcare facilities suffer from mild to moderate anaemia. Nutritional deficiency, poor dietary intake, and lack of awareness regarding preventive measures were identified as important risk factors. These findings highlight the importance of educational interventions aimed at improving knowledge about anaemia among women.

At Puducherry level

In the Union Territory of Puducherry, anaemia among women of reproductive age continues to be an important public health issue. Regional health studies have reported that a considerable number of women attending healthcare facilities suffer from nutritional deficiencies, particularly iron deficiency anaemia. Women in the age group of 15–35 years are especially vulnerable due to increased nutritional requirements and menstrual blood loss. Lack of awareness regarding proper nutrition and preventive measures contributes to the persistence of anaemia in the region.

As per NFHS -5 (Puducherry fact sheet 2021)

39.6% of women aged 20-30 years are anaemia

Pregnant women with anaemia 40.2%.

Non pregnant women with anaemia: 39.4%.

Statement of the problem

A study to assess the knowledge on anaemia among women between 15-35 years attending OPD at AVMCH Puducherry.

Objectives of the study

- To assess the level of knowledge on anaemia among women between 15-35 years.
- To associate the level of knowledge on anaemia among women between 15-35 years with selected demographic variables.

RESEARCH METHODOLOGY

Research approach

The research design was used in this study is Quantitative research approach.

Research design

In this study, a descriptive research design was used.

Setting of the study

The setting of the study at OPD at AVMCH Puducherry.

Population

Population included in this study comprised of all women between 15-35 years attending OPD at AVMCH Puducherry.

Sample size

Sample size consists of 100 women between 15-35 years attending OPD at AVMCH Puducherry.

Sampling Technique
Convenience Sampling technique was used to select the participants.

Inclusion Criteria
The study will include the women who meet the following criteria:

1. Women aged 15–35 years attending the obstetrics and gynaecology Outpatient (OG) Department (OPD) at AVMCH, Puducherry.
2. Women who are willing to participate in the study.
3. Women who are available during the period of data collection.
4. Women who can understand and communicate in Tamil or English.

Exclusion Criteria
The study will exclude the following participants:

1. Women who are severely ill and unable to participate in the study.
2. Women who are not present during the time of data collection.

Data collection procedure
Following approval from the Institutional Research Committee (IRC) and the Institutional Ethics Committee (IEC), formal administrative permission was obtained from Aarupadai Veedu Medical College and Hospital (AVM&H), Puducherry to conduct the study. Prior to data collection a Written informed consent was obtained from each participant after explaining the purpose, objectives and expected outcomes of the study ensuring confidentiality and voluntary participation. The participants were assured that their responses will be used strictly for research purposes and they have the right to withdraw from the study at any stage without penalty.

A convenience sampling technique was adopted to select a total of 100 young women aged between 15 and 35 years who fulfilled the predefined inclusion criteria.

Baseline data collection included assessment of socio demographic variable along with knowledge questionnaire on anaemia. The data was obtained from the study participants for 4 days (18/02/2026 – 21/02/2026).

Table 4.1: Frequency and Percentage wise Distribution of Demographic Variables among Women between 15–35 Years (N = 100)

Demographic Variables	Categories	Frequency (n)	Percentage (%)
Age	15–20 years	23	23%
	21–25 years	37	37%
	26–30 years	40	40%
Religion	Hindu	74	74%
	Muslim	9	9%
	Christian	17	17%
Dietary Pattern	Veg	5	5%
	Non-veg	16	16%
	Egg + veg	56	56%
	Mixed	23	23%
Type of Family	Nuclear	40	40%
	Joint	50	50%
	Extended	10	10%
Educational Status	Illiterate	5	5%
	Primary	10	10%
	Higher secondary	35	35%
	Degree	50	50%
Occupation	Home maker	31	31%
	Business	14	14%
	Professionals	23	23%
	Any other	32	32%
Monthly Family Income	₹10,000–15,000	53	53%
	₹16,000–20,000	24	24%
	₹21,000–35,000	14	14%
	₹36,000–50,000	9	9%

Figure no : 4.1 Frequency and percentage distribution of demographic variables among women aged 15-35 years .

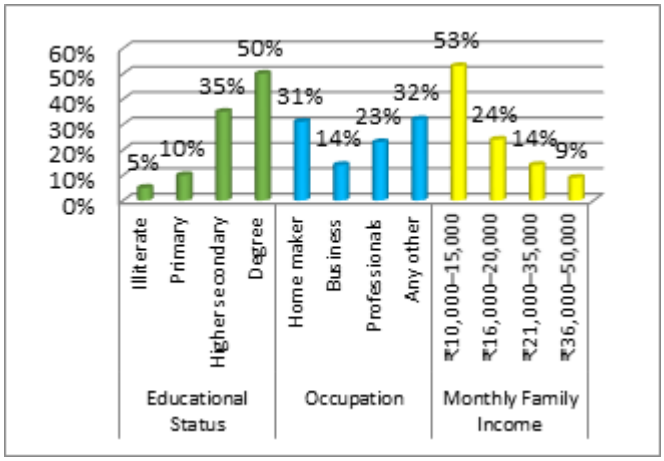


Figure no : 4.2 Frequency and percentage distribution of demographic variables among women aged 15-35 years

Table 4.2: Frequency and Percentage wise Distribution of Level of Knowledge on Anaemia among Women between 15–35 Years (N = 100)

Level of Knowledge	Frequency (N)	Percentage (%)
Inadequate Knowledge	39	39%
Moderately Adequate Knowledge	54	54%
Adequate Knowledge	7	7%
Total	**100**	**100%**

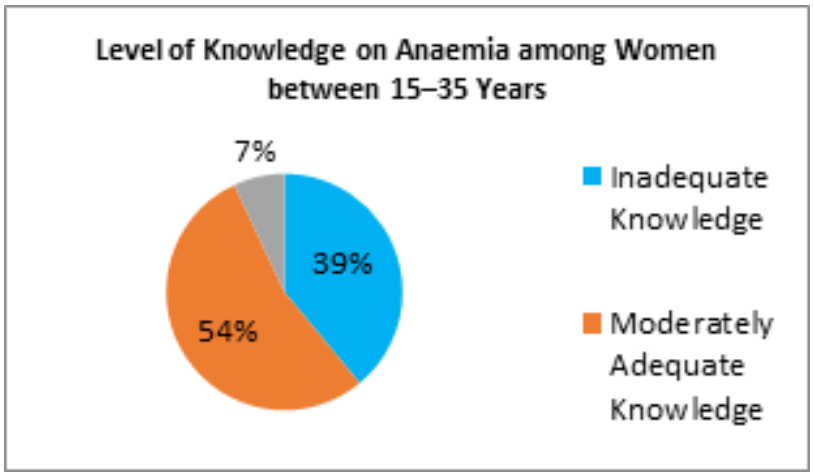


Figure no : 4.3 Level of Knowledge on Anaemia among Women between 15–35 Years

Table 4.3: Mean and Standard Deviation of Level of Knowledge on Anaemia among Women between 15–35 Years (N = 100)

Variable	Mean	Standard Deviation
Knowledge Total Score	9.04	3.443

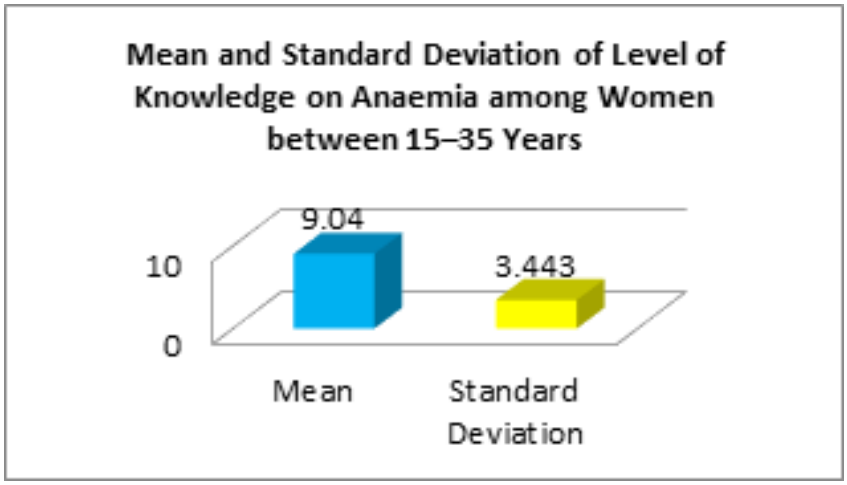


Figure no : 4.4 Mean and Standard Deviation of Level of Knowledge on Anaemia among Women between 15–35 Years

Table 4.4: Association between the Level of Knowledge on Anaemia among Women (15–35 Years) with Selected Demographic Variables (N = 100)

Demographic Variables	Category	Inadequate Knowledge	Moderately Adequate Knowledge	Adequate Knowledge	χ^2 Value	df	p-value
		n (%)	n (%)	n (%)			
Age	15–20 years	10 (25.6%)	11 (20.4%)	2 (28.6%)	2.112	4	0.715
	21–25 years	15 (38.5%)	21 (38.9%)	1 (14.3%)			
	26–30 years	14 (35.9%)	22 (40.7%)	4 (57.1%)			
Religion	Hindu	25 (64.1%)	45 (83.3%)	4 (57.1%)	8.025	4	0.091
	Muslim	4 (10.3%)	3 (5.6%)	2 (28.6%)			
	Christian	10 (25.6%)	6 (11.1%)	1 (14.3%)			
Dietary Pattern	Veg	5 (12.8%)	0 (0%)	0 (0%)	14.023	6	**0.029*** S
	Non-veg	6 (15.4%)	10 (18.5%)	0 (0%)			
	Egg + veg	16 (41.0%)	34 (63.0%)	6 (85.7%)			
	Mixed	12 (30.8%)	10 (18.5%)	1 (14.3%)			
Type of Family	Nuclear	13 (33.3%)	25 (46.3%)	2 (28.6%)	3.644	4	0.456
	Joint	20 (51.3%)	26 (48.1%)	4 (57.1%)			
	Extended	6 (15.4%)	3 (5.6%)	1 (14.3%)			
Educational Status	Illiterate	1 (2.6%)	4 (7.4%)	0 (0%)	8.140	6	0.228
	Primary	5 (12.8%)	5 (9.3%)	0 (0%)			
	Higher secondary	18 (46.2%)	16 (29.6%)	1 (14.3%)			
	Degree	15 (38.5%)	29 (53.7%)	6 (85.7%)			
Occupation	Home maker	6 (15.4%)	22 (40.7%)	3 (42.9%)	13.465	6	**0.036*** S
	Business	10 (25.6%)	3 (5.6%)	1 (14.3%)			

	Professionals	11 (28.2%)	10 (18.5%)	2 (28.6%)			
	Any other	12 (30.8%)	19 (35.2%)	1 (14.3%)			
Monthly Family Income	₹10,000–15,000	21 (53.8%)	27 (50.0%)	5 (71.4%)	3.182	6	0.786
	₹16,000–20,000	10 (25.6%)	13 (24.1%)	1 (14.3%)			
	₹21,000–35,000	6 (15.4%)	7 (13.0%)	1 (14.3%)			
	₹36,000–50,000	2 (5.1%)	7 (13.0%)	0 (0%)			

***Statistically significant at p < 0.05**

RESULTS

- With respect to religion, the majority of the participants were Hindu 74 (74%), followed by Christian 17 (17%), and Muslim 9 (9%)
- Regarding dietary pattern, more than half of the participants followed an egg + vegetarian diet 56 (56%), followed by mixed diet 23 (23%), non-vegetarian diet 16 (16%), and only 5 (5%) were purely vegetarian.
- In terms of type of family, half of the women belonged to joint families 50 (50%), followed by nuclear families 40 (40%), while extended families accounted for 10 (10%).
- With regard to educational status, half of the participants had degree level education 50 (50%), followed by higher secondary education 35 (35%), primary education 10 (10%), and only 5 (5%) were illiterate.
- Concerning occupation, 32 (32%) of the women were engaged in other occupations, followed by homemakers 31 (31%), professionals 23 (23%), and business 14 (14%).
- Regarding monthly family income, the majority of participants belonged to the ₹10,000–₹15,000 income group 53 (53%), followed by ₹16,000–₹20,000 24 (24%), ₹21,000–₹35,000 14 (14%), and ₹36,000–₹50,000 9 (9%).
- The findings reveal that more than half of the participants had moderately adequate knowledge 54 (54%) regarding anaemia. A considerable proportion of women 39 (39%) had inadequate knowledge. Only a small proportion of the respondents 7 (7%) demonstrated adequate knowledge on anaemia.
- The findings reveal that the mean knowledge score was 9.04, with a standard deviation of 3.443
- With regard to age, the majority of women aged 21–25 years had inadequate knowledge 15 (38.5%) and moderately adequate knowledge 21 (38.9%), while women aged 26–30 years showed the highest adequate knowledge 4 (57.1%). However, the association between age and knowledge level was not statistically significant

DISCUSSION

The present study revealed that 54% of women aged 15- 35 years had moderately adequate knowledge regarding anaemia ,

39% had inadequate knowledge, and only 7% had adequate knowledge. These finding are consistent with previous studies, which reported that the majority of woman had moderate or inadequate knowledge regarding anaemia prevention and awarenesses. The study also found a significant association between the level of knowledge and selected demographic variables, particularly educational status, parity, and social economic status($p<0.05$). This indicate that education plays an important role in improving women's knowledge about anaemia and highlights the need for health education programme to increase awareness and prevent anaemia among women of reproductive age.

CONCLUSION

The study concluded that most women aged 15-35 years had moderately adequate knowledge about anaemia, while a considerable number had inadequate knowledge. These findings highlight the need for effective health education and awarenesses programmes to improve knowledge on the prevention and management of anaemia among women of reproductive age.

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