



UNDERSTANDING AWARENESS OF IRON DEFICIENCY ANAEMIA AMONG WOMEN OF AMALAPURAM, INDIA: A QUESTIONNAIRE BASED STUDY.

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ABSTRACT

Anaemia Particularly iron deficiency (IDA), is a major public health concern affecting women worldwide, with a high prevalence in India. Despite government interventions and nutritional programs awareness about its causes, symptoms, prevention and treatment remains limited among women across different age groups and socio-economic backgrounds. A cross-sectional Survey will be conducted using a structured questionnaire distributed, gathering responses from 125 women from different age groups, educational backgrounds, geographical locations (urban, rural and semi-urban). The survey will consist of MCQs focusing on anaemia awareness, dietary habits and health-seeking behaviour. Data Will be analysed to identify trends in awareness and common misconceptions. Findings reveal that 77.6% of respondents have heard of anaemia, with doctors/hospitals (40%) and friends & family (33%) being the most common sources of information. While 81.4% recognize anaemia symptoms, 85.5% are aware that it can be diagnosed through a blood test. However, only 71.1% understand its impact on child growth, immunity, and intelligence. The leading identified causes include low iron intake (89%), pregnancy (32%), and vegetarianism (31%). Prevention awareness remains strong, with 85% acknowledging dietary iron intake as essential. Iron supplements (28%) are the most recognized treatment option. While 70.1% consider anaemia a serious health issue, 22.6% remain uncertain. Encouragingly, 93.8% recognize the importance of regular medical check-ups. The study highlights the need for targeted educational initiatives to address misconceptions and improve awareness, ultimately promoting better health outcomes for women.

KEYWORDS : Anaemia Awareness, Diagnosis, Vegetarianism, Education, Residence, Iron Deficiency, Treatment

INTRODUCTION

Iron deficiency anaemia is common type of anaemia, according to world health organization (who), anaemia effects over 800million women globally, due to various physiological factors and diet practises, with India reporting some of the highest prevalence rates¹.

Studies indicate that more than 50% of women of reproductive age in India suffers from anaemia, with adolescent and pregnant women being at highest risk. (Gillespie, 2023)[3]. The primary causes includes nutritional deficiencies, poor dietary habits, cultural food restrictions, low awareness (Balaji, 2022)[2]. A significant factor contributing to anaemia in India is the prevalence of vegetarian diets, which lack bioavailable iron sources. Research shows that haem iron from meat is absorbed more efficiently than non-haem iron from plant sources, making dietary patterns a key determinant of anaemia (A. Jenit Osborn, 2021)[1], (Rammohan, 2012)[6]. Despite several government interventions, including the Anaemia Mukh Bharat initiative and school-based iron supplementation programs, awareness about the causes, symptoms, and prevention of IDA remains suboptimal. Studies have consistently demonstrated that the level of awareness is strongly linked to education and socioeconomic status. For instance, (Balaji, 2022)[2] found that educated women were significantly more likely to have comprehensive knowledge about iron deficiency anaemia compared to their less educated counterparts. Similarly, (A. Jenit Osborn, 2021)[1] highlighted that inadequate knowledge about anaemia is a critical predictor of its high prevalence among rural women, suggesting that current interventions may not be reaching all segments of the population effectively. Furthermore, many women lack knowledge about iron-rich foods, the role of vitamin C in iron absorption. (A. Jenit Osborn, 2021)[1]

MATERIALS AND METHODS

A questionnaire-based study was conducted 125 female participants from different age groups and educational backgrounds in Amalapuram, Andhra Pradesh. The questionnaire was circulated using google forms through an online survey link. The survey will consist of MCQs focusing on anaemia awareness, The participants will be recruited voluntarily, ensuring informed consent before participation.

Confidentiality and anonymity of responses will be maintained, with no collection of personally identifiable information (name and whereabouts). ethical considerations include avoiding distressing questions. The questionnaire consists of 17 questions. The questionnaire consists of 2 sections, section 1 concentrates on age, educational level, diet preferences and area of residence to understand the background of the participants, section 2 questions concentrate on various aspects of anemia and their awareness over those aspects. The data obtained was recorded and analyzed for descriptive statistics using MS Excel and the results were obtained in the form of graphs, tables, pie charts/figures.

RESULTS AND DISCUSSION

The data contains 125 responses and 17 columns covering demographic details, awareness about causes, prevention and treatment of iron deficiency anemia in women. The age distribution of respondents ranges from 17 to 60 years, with an average age of 29.6 years. The median age is 24, indicating that half respondents are younger than 24. The standard deviation of 11.4 years suggests a fairly wide spread of ages among participants. Most respondents fall between the age 22 to 35 age group as shown in figure no.1

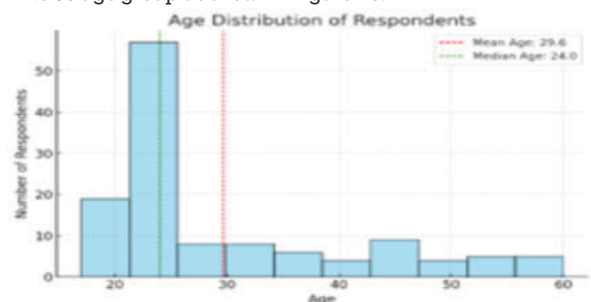


Figure 1(Age Distribution Of Respondents)

In terms of residence, participants come from both urban and rural areas, allowing for a comparative analysis of awareness levels, lifestyles and health related knowledge. Understanding the residence can provide insights into how factors like education, healthcare access and socioeconomic status influence awareness of anemia and its prevention.

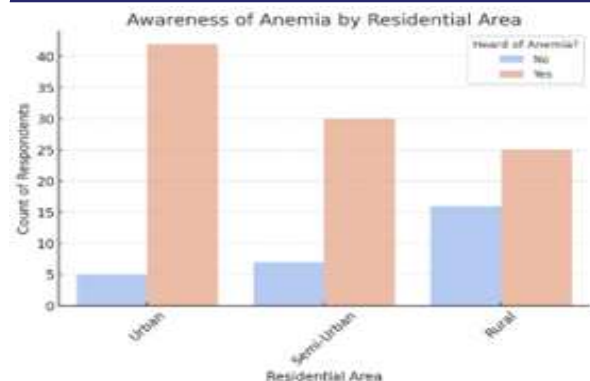


Figure 2 (Anemia Awareness Based On Residence)

A cross-sectional analysis on awareness of anaemia by age group and residence reveals that urban women have the highest awareness across all the age groups, rural women show the lowest awareness especially in younger (15-24) and older (50+) age groups, semi urban women fall between rural and urban groups but still have lower awareness than urban women

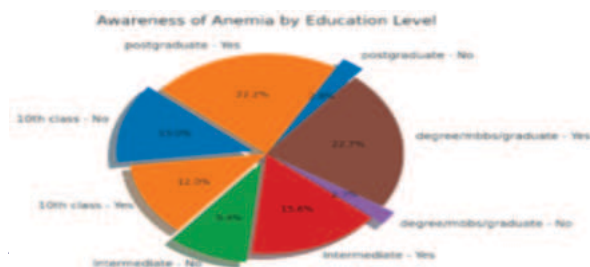


Figure 3 (Awareness Of Anemia By Age Group And Residence)

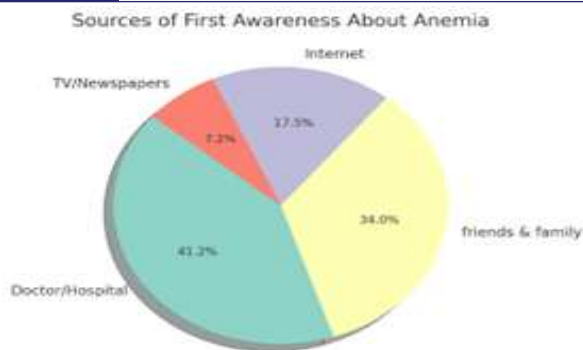
Younger rural women (15-24) are the least aware, emphasising the need for early educational programs.

Women with higher education levels show greater awareness of anaemia, less educated groups (primary school or below) have higher proportions of unawareness.

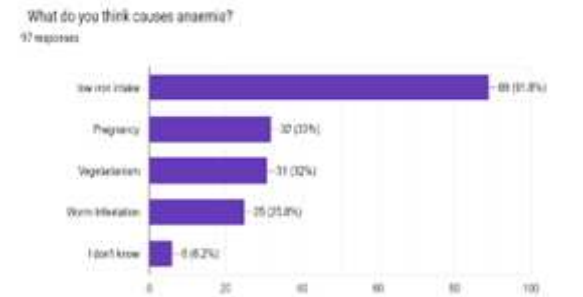
The need for targeted education and health awareness programs is evident, especially among women with lower educational levels.



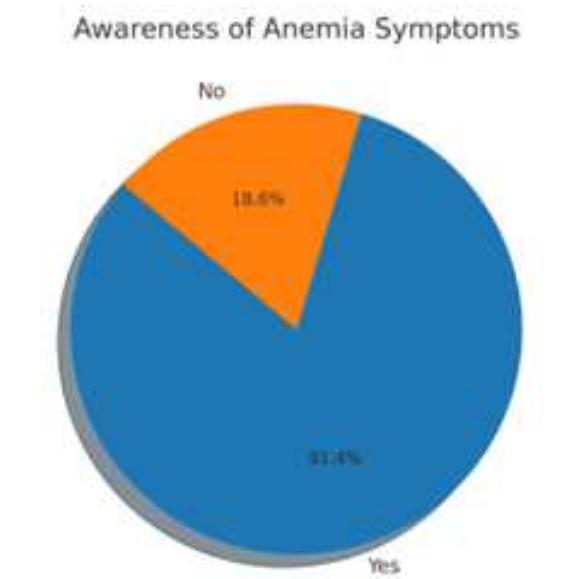
The most common sources of anaemia awareness include health professionals, media and family/friends. Social media and educational institutions also play a role but may need stronger outreach, the responses from rural and semi urban women suggests awareness mostly comes during medical visits rather than proactive public education.



The most perceived causes of anaemia are low iron intake, other common causes include poor diet(vegetarianism), genetics and blood loss during pregnancy. However, 6.2% women responded "I don't know" which suggests some women may lack awareness, highlighting a need for more education.



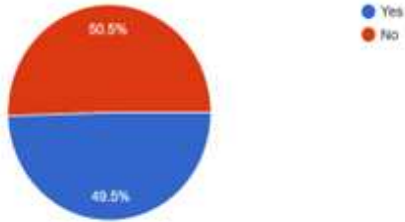
Majority (percentages shown in figure no.7) of women reported being aware of anaemia symptoms, which is a positive indicator of health awareness. However, a notable percentage of women are unaware, suggesting a gap in education and outreach.



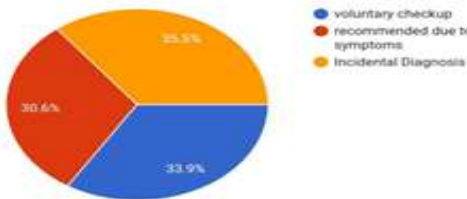
About 50.5% of 97 respondents have never been diagnosed of anaemia, while 49.5% were diagnosed of anaemia.

Have you ever diagnosed of anaemia

97 responses



How were you diagnosed of anaemia



Within 50.5% of women from figure no.8 who were diagnosed with anaemia, 35.5% were diagnosed through incidental diagnosis about 33.9% through voluntary checkup, 30.6% were recommended for a checkup due to prevailing symptoms.

If you had anaemia symptoms, would you visit a doctor?

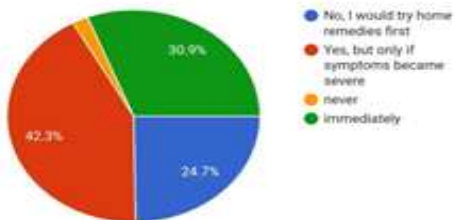


figure no 9 shows the prevailing resistance for consulting a doctor right away (24.7%), only (30.9%) were keen to consult a doctor immediately, majority (42.3%) have responded that they would consult a doctor but only if the symptoms were severe.

Anaemia during Pregnancy can increase the risk of having a preterm delivery and preterm baby have other health concerns like low birth weight. (Balaji, 2022)[2]

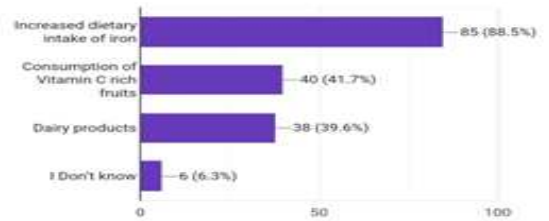
Do you know iron deficiency anaemia has an effect on a child's growth, immunity and intelligence?



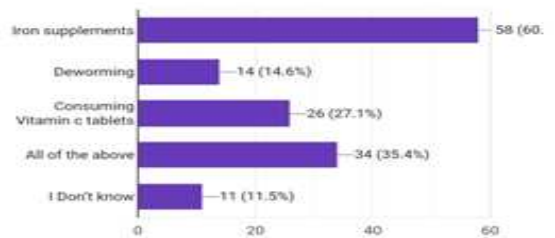
Figure 1
Figure 1 shows the awareness about anaemia as a hinderance to child growth and

development.

How do you prevent iron deficiency anaemia?



How do you think iron deficiency anaemia can be treated?



are you aware that anaemia can be detected through a simple blood test?

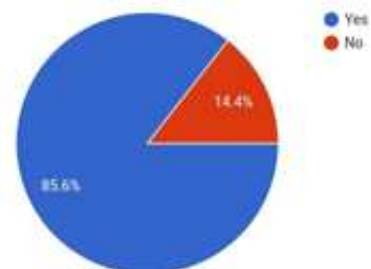
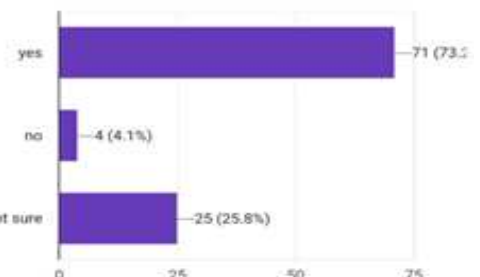


Figure 12

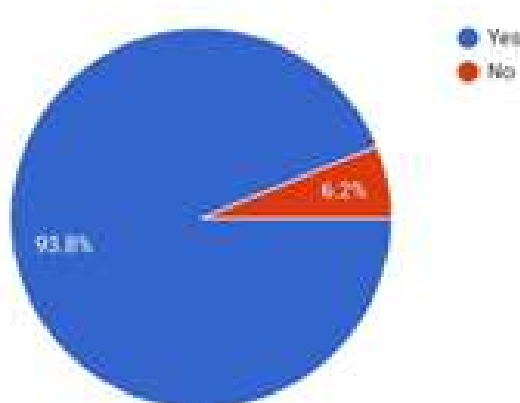
Do you think anaemia is a serious health issue?



diagnosis, treatment and seriousness of anaemia, there is

significant percentage of women who are unaware and require more awareness and education about accessing health checkups with ease and frequency of doing. (figure no 11.1, 11.2, 12)

Do you think regular medical check-ups are important for women?



The results of this study shows that knowledge and awareness among women towards iron deficiency anaemia varied according their level of education and place of residence. The results of this study are inconsistent with the results concluded by (Balaji, 2022)[2] The majority of the age groups (20-35), were the women who are educated and had the highest knowledge about IDA, showing that education plays a vital role in awareness (Li, 2003)[4]. multiple factors like age, socio-economic status and diet can determine the stores of iron in women of reproductive age (Mawani, 2016)[5] Promotion of food rich in iron as well as micro-nutrients such as folic acid deficiency, vitamin A, C, B-12 and Zinc help in iron absorption (Balaji, 2022) (Li, 2003)[2,4]. (figure no 13&14)

Therefore, anaemia is a serious health concern and it is vital to have adequate knowledge and awareness regarding IDA (Iron Deficiency Anaemia)

CONCLUSION

The study of anaemia awareness and diagnosis among women highlights significant trends and challenges, while considerable percentage of women are aware of anaemia and its symptoms, gaps remain in specific groups, particularly in rural areas and among those with lower levels of education. This shows education and place of residence plays a vital role in awareness levels. A targeted health education and early screening programs especially in rural and less educated communities is needed.

Acknowledgement

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Conflict Of Interest

There are no conflict of interests

Ethical Approval

Informed consent was obtained all the individual participants included in the study

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