

Original Research Article

A study on prevalence of anaemia among reproductive age group females attending urban health center of Anakaputhur area of Kancheepuram district

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ABSTRACT

Background: Anaemia, a major public health threat and real challenge for the health care professionals, for the past several decades. The burden of anaemia is high especially among females of reproductive age group, who are a vulnerable population undergoing pregnancy and child birth at this stage of their life. Thus this study was aimed to find the prevalence of anaemia among the reproductive age group females attending an urban health center in Tamil Nadu.

Methods: A hospital based, cross sectional study was conducted among reproductive age group females, attending Urban Health Training Center. 292 patients, who gave written consent were included and interviewed using a questionnaire followed by haemoglobin assessment with venous blood sample.

Results: The mean age of the study participants were 34.6 ± 12.4 years with 9.6% uneducated and 7.2% graduate females. 26% gave history of symptoms of anaemia and prevalence of anaemia was reported to be 42.12% with 24.31%, 12.32% and 5.5% of mild anaemia, moderate anaemia and severe anaemia, respectively.

Conclusions: With immense efforts, prevalence of anaemia is still high, in this study. Prevention and treatment of anaemia in women is much essential at this point and therefore programmes and policies should be implemented based on the needs of the community and health education should be imparted with respect to measures that can prevent and helps in early diagnosis of anaemia.

Keywords: Anaemia, Reproductive age group, Urban females

INTRODUCTION

Anaemia is one of the major preventable public health problems in India. Since iron deficiency anaemia is more common, it can be very well prevented by providing required nutrition (Iron) to the vulnerable population. But still, the burden of anemia steadily increases not only in terms of mortality and morbidities but also it adds economic burden to the individual and also to the country.

Anaemia, defined as a low blood haemoglobin concentration, has been shown to be a public health problem that affects low-, middle- and high-income countries and has significant adverse health consequences, as well as adverse impacts on social and economic development and also anaemia is an indicator of both poor nutrition and poor health.¹ Anemia during non-pregnant (15 years of age and above) is considered severe when hemoglobin concentration is less than 8.0 g/dl, moderate when hemoglobin falls between 8.0–10.9 g/dl, and mild from 11.0–11.9 g/dl and thus haemoglobin

value less than 12 g/dl in non –pregnant women is considered as anaemia.²

Globally, two billion people were found to be anaemic, which includes 315 million in the South- East Asia Region (SEAR).³ Also in India, according to the World Health Organization report in 2011, the prevalence of anaemia was reported as 48% with confidence interval of 29 to 63%.⁴

Iron deficiency, the primary contributor to anaemia, is the most widespread nutritional disorder, globally and other micronutrient deficiencies including folate and vitamin B12 also contribute to anaemia. Recent evidence indicates a greater role for anaemia of inflammation caused by parasitic infections including malaria.⁵ Inherited disorders such as haemoglobinopathies also contribute to anaemia.¹

In 2012, the Sixty Fifth World Health Assembly passed a resolution favouring the endorsement of a comprehensive implementation plan on maternal, infant and young child nutrition (CIP), with six global nutrition targets for 2025.⁶ The second target is that, 50% reduction of anaemia in women of reproductive age (15-49 years). Anaemia is also interlinked with other Global Nutrition Targets; stunting, low birth weight, exclusive breastfeeding and wasting and focused actions are required to reach the anaemia target by 2025. With implementation of several programmes globally and also in India, anaemia remains a major burden in all parts of the country. Thus this study was planned to find the exact prevalence of anaemia among the reproductive age group females attending a urban health care center. With this background the study is planned with objective to find the prevalence of anemia among reproductive age group females attending a urban health center in Tamil Nadu.

METHODS

A hospital based, Cross sectional study was conducted to assess the prevalence of anemia among reproductive age group females, attending Urban Health Training Center (UHTC) of Sree Balaji Medical College and Hospital, Chennai, Sripuram, belonging to Alandur block in Kancheepuram district, Tamil Nadu. The study was conducted in the outpatient department (OPD) of UHTC, from January to March 2018. All patients between the age group of 15-49 years old, who attended the OPD, were included in the study. Pregnant females were excluded. 292 patients, who gave written consent for their participation in the study and they were included.

This study is registered with Institutional Research Ethics Committee. The principal investigator explained the purpose of the study to each participant and a written consent was obtained from the participants prior to the commencement of the study. The participants were also informed that their participation was voluntary and that they could withdraw from the interview at any time without consequences. Every effort was made, to be sure

that all information collected from the participants, remain confidential. The study was conducted using a self-structured questionnaire in the language English, which was translated to Tamil for better understanding of the participants and then their responds were again translated to English. Questionnaire includes details regarding demographic and clinical information about the participant and also following which the venous blood sample was taken and the same was analyzed. Data entry and analysis was done using Statistical Package for Social Sciences (SPSS) version 16.

RESULTS

This study was conducted among reproductive age group females (15-49 years). The mean age of the study participants were 34.6 ± 12.4 years. Majority of the study participants (36%) were belongs to age group 31-40 years. Among all participants, 9.6% were uneducated, 7.2% were graduates and majority of them (27.4%) had finished their high school education.

Table 1: Back ground characteristics of the participants.

Variables	No of participants (N=292)	Percentage (%)
Age		
15-20 years	33	11.2
21-30 years	96	32.9
31-40 years	105	36
41-49 years	58	19.9
Education		
Graduate	21	7.2
Higher secondary/ Diploma	48	16.4
High school	80	27.4
Middle school	59	20.2
Primary school	56	19.2
Uneducated	28	9.6
Occupation		
Employed	34	11.6
Unemployed	258	88.4
Marital status		
Married	238	81.5
Unmarried	54	18.5
No of child	264	90.4
Total family members		
≤4	165	56.5
5-9	109	37.3
>9	18	6.2
Per capita income (modified Prasad's classification 2017)		
Class I	44	15.1
Class II	101	34.6
Class III	71	24.3
Class IV	47	16.1
Class V	29	9.9

Also, 88.4% were unemployed and only 11.6% were employed. 81.5% were married and 56.5% were living in the family with less than or equal to four members and 6.2% were living in the family with more than 9 members. Based on Modified Prasad's socio economic classification, only 15.1% were belongs to class 1 and majority (34.6%) were belongs to class 2 and 9.9% were in the class 5 (Table 1).

Table 2: Particulars regarding factors of anaemia.

Variables	No of participants (N=292)	Percentage (%)
Participants with symptoms of anaemia	76	26
Diet pattern		
Vegetarian	24	8.2
Mixed diet	268	91.8
History of iron rich food consumption	121	41.4
History of passing worms in stools	18	6.2
History of taking deworming tablet	212	72.6
Deworming tablet taken in the past 6 month	26	8.9
Known case of anaemia	37	12.7
Ever taken iron tablets	256	87.7
Taking iron supplements at present	31	10.6
Ever undergone blood transfusion	2	0.7

Table 3: Prevalence of anaemia among study participants.

Variables	No of participants (N=292)	Percentage (%)	95% CI
Prevalence of anaemia	123	42.12	36.4-48
Mild anaemia	71	24.31	19.5-29.7
Moderate anaemia	36	12.32	8.8-16.7
Severe anaemia	16	5.5	3.2-8.7

Among the 292 study participants, 76 (26%) gave history of symptoms of anaemia. Only 8.2% were vegetarians and 91.8% were consuming mixed diet that includes both vegetarian and non-vegetarian foods. 41.4% gave history of consumption of iron rich food in the past two weeks and 6.2% gave history of passing worms and itching in the anal region in the past two weeks. Regarding consumption of de-worming tablets 72.6% and 8.9% gave history of consumption of de-worming tablet in their life time and in the past six months, respectively. Also

based on the history, 12.7% were already a known case of anaemia. 87.7% of the participants had taken iron supplement tablets at some point in their life time. Only 10.6% were taking iron supplements at present and 0.75 had undergone blood transfusion during their life time (Table 2).

In this study, prevalence of anaemia was reported to be 42.12% with 24.31%, 12.32% and 5.5% of mild anaemia, moderate anaemia and severe anaemia, respectively (Table 3).

DISCUSSION

In this study the prevalence of anaemia among reproductive age group females was reported as 42.12% and the prevalence of mild, moderate and severe anaemia being 24.31%, 12.32% and 5.5%, respectively. A study done by Raghuram et al in Karnataka reported that 34.8% of the females of reproductive age group were anaemic, which is almost similar to the prevalence reported by this study.⁷ In another study done by Malhotra et al in urban Haryana reported prevalence of anaemia as 50% among the females of reproductive age group with mild anaemia among 30.1% of females, moderate anaemia among 19.15% of females and severe anaemia among 0.7% of females in the reproductive age group.⁸ In a study done by Siva et al in Kerala, the prevalence of anaemia was reported as 21% with prevalence of mild and moderate anaemia in 19.1% and 1.9% of females, respectively.⁹

According to World Health Organization, if the prevalence of anemia at community levels is more than 40%, it is considered as problem of high magnitude.¹⁰ The problem of anemia is related to wider population than the traditionally considered vulnerable groups like pregnant and lactating females and children. With the onset of menstruation and associated blood loss, there is a further rise in prevalence and severity of anaemia in adolescent girls and this rise in prevalence continues throughout the fertile period, which is from 15-45 years of age.¹¹ There is an urgent need for improving overall nutritional status of adolescents through nutrition education, community awareness and supplementation programmes. The need for regular blood tests to check hemoglobin levels is emphasized. Nutrition component needs to be included in the school curriculum. Emphasis is needed for corrective measures of anemia and iron deficiency in girls before they enter into adolescent age group. Screening for anaemia, treatment of anaemic women, and availability of food fortification (wheat flour with iron and folic acid), milk sugar and salt with iron to build long term iron stores remains the key to reduce anaemia. Even cooking in cast iron utensils improves iron content in diet.¹²

CONCLUSION

Although anaemia has been recognized as a public health problem for many years, little progress has been reported

and the global prevalence of anaemia remains unacceptably high. Prevention and treatment of anaemia in women of reproductive age is essential to prevent low birth weight, peri natal and maternal mortality and associated risk of disease. It is therefore in the interests of policy makers to carry out necessary investments in prevention of anaemia as a means to promote human capital development, economic growth and long-term health. WHO and UNICEF therefore reemphasize the urgent need to combat anaemia and stress the importance of recognizing its multifactorial etiology for developing effective control programmes.

Recommendations

Food-based approaches like improving complementary feeding and fortification of food needs to be streamlined in order to reduce the burden of anaemia and to improve the quality of healthy life. Also health education should be encouraged with respect to the measures that can prevent anaemia.

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