



## The Study to Assess the Prevalence of Iron Deficiency Anemia and Associated Risk Factors among Women

Mrs. Kavitha<sup>1</sup>, Nisha D.<sup>2</sup>, Radhika K.<sup>3</sup>

<sup>1</sup> Nursing tutor, Department of community health nursing, SIMATS, Thandalam

<sup>2,3</sup> PBBSC Nursing II Year, Saveetha college of nursing, SIMATS, Tandalam

### ABSTRACT

**Aim:** The present study aims to assess the Prevalence of Iron Deficiency Anemia and Associated Risk factors among women at SMCH.

**Methods and Materials:** A descriptive research design was used for the present study. A total 50 samples were collected using quota sampling technique. The demographic variable and level of prevalence of iron deficiency was assessed using structured questioner and, followed by that data was gathered and analyzed.

**Results:** The results the study revealed that there is a significant association with level of prevalence of iron anemia and associate risk factors among women at  $p < 0.05$ .

**Conclusion:** Thus, the present study assessed the prevalence of iron anemia and associate risk factors among women and it was evident there is a lack of awareness and knowledge.

**KEY WORDS:** Anemia, Iron deficiency, Prevalence, Risk factors, Women.

### INTRODUCTION

Anemia is defined as a decreased concentration of blood hemoglobin. It is a condition in which their oxygen-carrying agents capacity is insufficient to meet the body's physiological requirements, where they are affected by multiple factors such as age, sex, altitude, smoking habits, and during pregnancy.[1] Its prevalence is directly proportional to the higher countries growth development among developing nations, because of the poverty and low socioeconomic status and lack of awareness or indigent access to healthcare services.[2] Anemia affects an estimated 2.36 billion individuals globally, especially to the vulnerable women and children.[3] The prevalence of anemia is estimated to be higher in India without any fluctuation when compared to all other developing countries and the threshold percentage estimates the diseases frequency.[4] Also, it is the second leading cause of maternal deaths in the country.[5] According to the National Family Health Survey 4 (NFHS-4), 58.4% of children aged 6–59 months, 53.1% of no pregnant women aged 15–49 years, 50.3% of pregnant women aged 15–49 years, 53% of all women aged 15–49 years, 22.7% of men aged 15–49 years, 54% of adolescent girls and 29% of adolescent boys were anemic in India.[6] In the short run, anemia leads to tiredness, heart palpitations and difficulty in breathing.[7] when compared to other type of anemia iron deficiency anemia is common type that ends with secondary complications. Children, women of reproductive age and pregnant women are at high risk of developing anemia. Maternal anemia is associated with maternal and child morbidity and mortality such as increased risk of miscarriage, stillbirth, prematurity and low birth weight of the baby. [8] About 20% of perinatal mortality and 10% of maternal mortality in developing countries is attributed to iron deficiency. [9] iron-deficiency anemia is the most common type of nutritional anemia which results from long-term negative iron balance and is responsible for approximately 50% of all anemia (10). It is a severe stage of iron shortage in which hemoglobin (or hematocrit) falls below the normal range. It is more widespread and severe in young children and women of reproductive age but it can be found in people of any age-group. Deficiency of iron usually develops slowly and is not clinically evident until anemia becomes severe (11). Accelerated development, hormonal changes, malnutrition, and starting of menstrual periods in girls are the major causes of iron-deficiency anemia during adolescence, which may also lead to impaired perception and learning difficulties (12). In Bangladesh, nutritional anemia has long been identified as a serious public-health problem (13). The national vitamin A survey conduct in 1997-1998 showed that nearly 50% of pregnant women in rural Bangladesh had anemia (14). Moreover, many surveys conducted in the past stated that anemia is a severe problem among all across age, population and geographic groups in Bangladesh. In 2004, another survey conducted by Nutritional Surveillance Project of

7202 \*Corresponding Author: Mrs. Kavitha

Volume 06 Issue 11 November 2023

Available at: [www.ijcsrr.org](http://www.ijcsrr.org)

Page No. 7202-7206



Helen Keller International in collaboration with the Institute of Public Health Nutrition showed that 68% of under-five children were anemic. The survey also suggested that 40% of adolescent girls and 31% adolescent boys as well as 46% of non-pregnant and 39% of pregnant women were affected by anemia (15). The anemia prevention and control strategies have focused on correcting this deficiency by routine iron supplementation. However, the effectiveness of iron supplementation programs has generally been low (16).

## MATERIAL AND METHODS

After obtaining and ethical clearance from the institutional ethical committee of saveetha institute of medical and technical science and formal permission letter obtained from the head of the Saveetha medical college hospital, present study was conducted. For the present study descriptive research design was adopted. The data were collected using a quota sampling technique from 50 samples. The inclusion criteria for the study, participants, who are available during the study period and who are cooperative and who understand both Tamil and English. exclusion criteria for the study are, samples who not willing to participate in the study. The purpose of the study was explained by the investigator to each of the study participants and a written informed consent was obtained from them. The demographic variable and level of prevalence of iron deficiency was collected from the samples using semi structured questionnaire. The data were analyzed by biostatistics. The sample characteristics were described using frequency and percentage, Chi- square was used to associate the level of prevalence of diabetic with their selected demographic variables

## RESULTS AND DISCUSSION

### SECTION A: To Assess the demographic variables of women

Table1: Frequency and percentage distribution of demographic variables N=50

Demographic Variables	No.	%
<b>Age</b>		
10-15years	27	54.0
16-20years	17	34.0
21-25years	6	12.0
<b>Residence</b>		
Urban	10	20
Rural	40	80.0
<b>Marital status</b>		
Married	29	58.0
Unmarried	19	38.0
Divorced	2	4.0
<b>Religion</b>		
Hindu	34	68.0
Muslim	16	32.0
Christian	-	-
<b>Occupation</b>		
Housewife	24	48.0
Government employee	12	24.0
Private employee	10	20.0
School/college	4	8.0



Have you heard anemia		
Yes	22	44.0
No	28	56.0

The result shows that, 54% were in the age group of 10-15 years, 80% of them were residing at rural area, 58% of them were married, 68% of them were Hindu, 48% were housewife and 56% were not heard about anemia.

**SECTION B: TO ASSESS THE LEVEL OF PREVALENCE OF IRON DEFICICENCY ANEMIA AND ITS ASSOCIATED RISK FCATORS**

**Table 2:** Frequency and percentage distribution of level of prevalence among the women

Level of prevalence	Frequency (f)	Percentage %
Grade 1	7	14
Grade 2	5	10
Grade 3	38	76

Table 2 shows that, about 38(76%) of them had grade 1, 5(10%) of them had moderate grade 2 and remaining 7 (14%) of the were of grade 3.

**Table 3:** Frequency and percentage distribution of level of risk factors of iron deficiency anemia among the women

Level of risk factors	Frequency (f)	Percentage %
Mild risk	9	18.0
Moderate risk	15	30.0
Severe risk	36	72.0

Table 2 shows that, 18% were in mild risk, 30% were at moderate risk and 72% were in severe risk.

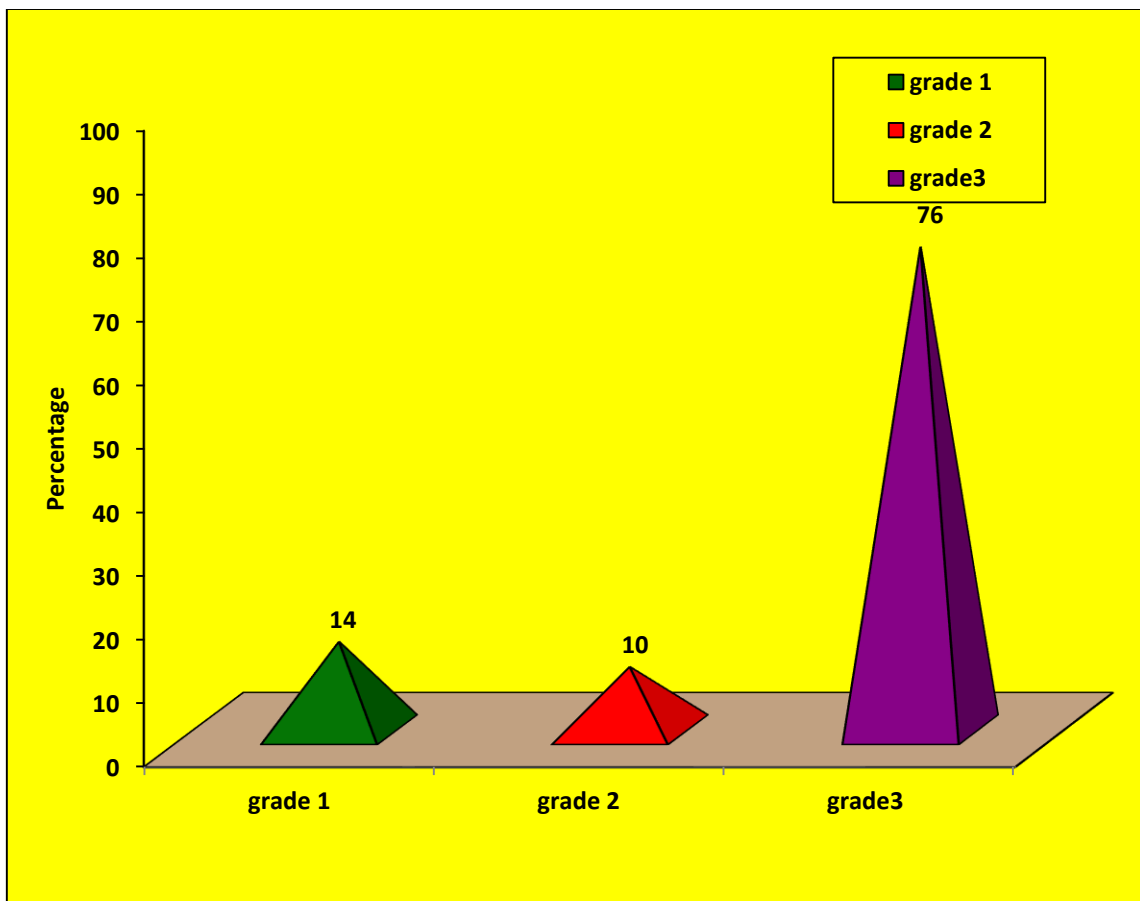
**Table 4:** Assessment of prevalence score among women n=150

Stress	Mean
Minimum Score	9.0
Maximum Score	15.0
Mean	13.79
Standard Deviation	17.48

The table 3 depicts that the mean score of on prevalence was 13.79, standard deviation is 17.48, with minimum score of 9.0 and maximum score of 15.0.



Figure 1



**SECTION C: TO FIND OUT THE ASSOCIATION BETWEEN THE LEVEL OF PREVALENCE WITH THE SELECTED DEMOGRAPHIC VARIABLES OF THE WOMEN**

The result depicts shows that the demographic variable occupation had shown statistically significant association with level of prevalence at  $p < 0.05$  level and the other demographic variables had not shown statistically significant association with level of prevalence

**CONCLUSION**

The study concluded that, about 38(76%) of them had grade 1 anemic, 5(10%) of them had moderate grade 2 and remaining 7 (14%) of the were of grade 3 anemic. Still need to have the awareness about the prevention of anemia and Nutritional management of anemia education is needed among community settings.

**ACKNOWLEDGEMENT**

Authors would like to appreciate participants for their cooperation to complete the study successfully.

**REFERENCES**

1. WHO |Anemia. WHO [Internet] 2018. [cited 2019 MARCH 20].
2. Sasidharannair A, Kumari C, Sinha P, Singaravelu SL, Jaikumar S. Prevalence of anemia among adolescent girls in a rural area of Tamil Nadu, India. J Family Med Prim Care. 2019;8:1414–7.



3. Stevens GA, Finucane MM, De-Regil LM, Paciorek CJ, Flaxman SR, Branca F, et al. Global, regional, and national trends in hemoglobin concentration and prevalence of total and severe anemia in children and pregnant and non-pregnant women for 1995–2011: A systematic analysis of population representative data. *Lancet Glob Health*. 2013;1:e16–25.
4. Ramachandran P, Kalaivani K. Time trends in prevalence of anemia in pregnancy. *Indian J Med Res*. 2018;147:268.
5. Vindhya J, Nath A, Murthy GVS, Metgud C, Sheeba B, Shubhashree V, et al. Prevalence and risk factors of anemia among pregnant women attending a publicsector hospital in Bangalore, South India. *J Family Med Prim Care*. 2019;8:37–43.
6. Government of India. National family health survey 4- key indicators: 2015-2016. National Family Health Survey. 2016;4:1–8.
7. Ezzati M, Lopez AD, Dogers A, Vander HS, Murray CJ. Selected major risk factors and global and regional burden of disease. *Lancet*. 2002;360:1347–60.
8. Gautam S, Haju M, Kim H, Jeong HS. Determining factors for the prevalence of anaemia in women of reproductive age in Nepal: Evidence from recent national survey data. *PLoS One*. 2019;14:e0218288.
9. Chellan R, Paul L. Prevalence of Iron-Deficiency Anemia in India: Results from a Large Nationwide Survey. Prevalence of iron-deficiency anemia in India: Results from a large nationwide survey. *J Popul Stud Soc Stu*. 2010;19:1–23.
10. Health Ministry organizes health camp for anemia. [cited on 2019 Mar 22]. Available from:
11. Anemia Mukht Bharat, Operational Guidelines, Intensified National Iron Plus Initiative, released on April 2018 by Ministry of Health and Family Welfare, GOI. [cited on 2019 Mar 22].
12. Abalkhail B, Shawky S. Prevalence of daily breakfast intake, iron deficiency anaemia and awareness of being anaemic among Saudi school students. *Int J Food Sci Nutr*. 2002;53:519–28.
13. Ramzi M, Haghpanah S, Malekmakan L, Cohan N, Baseri A, Alamdari A, et al. Anemia and iron deficiency in adolescent school girls in Kavar urban area, Southern Iran. *Iran Red Crescent Med J*. 2011;13:128–33.
14. Uddin MK, Sardar MH, Hossain MZ, Alam MM, Bhuya MF, Uddin M, et al. Prevalence of anaemia in children of 6 months to 59 months in Narayanganj, Bangladesh. *J Dhaka Med Coll*. 2010;19:126–30.
15. McClung JP, Marchitelli LJ, Friedl KE, Young AJ. Prevalence of iron deficiency and iron deficiency anemia among three populations of female military personnel in the US army. *J Am Coll Nutr*. 2006;25:64–9.
16. Haidar J. Prevalence of anaemia, deficiencies of iron and folic acid and their determinants in Ethiopian women. *J Health Popul Nutr*. 2010;28:359–68.
17. Helen Keller International. The burden of anemia in rural Bangladesh: the need for urgent action. *NutrSurveillProj Bull*. 2006;16:1–4.
18. Siegel EH, Stoltzfus RJ, Khatry SK, Leclercq SC, Katz J, Tielsch JM. Epidemiology of anemia among 4- to 17 -month-old children living in south central Nepal. *Eur J Clin Nutr*. 2006;60:228–35.
19. UNICEF/UNU/WHO. A guide for programme managers. Geneva: World Health Organization; 2001. Iron deficiency anemia: assessment, prevention, and control; p. 114 p. (WHO/NHD/01.3)
20. Stoltzfus RJ, Dreyfuss ML editors, editors. Guidelines for the use of iron supplements to prevent and treat iron deficiency anemia. Washington. DC: ILSI Press; 1998. p. 39 p.
21. Balci YI, Karabulut A, Gurses D, Covut IE. Prevalence and risk factors of anemia among adolescents in Denizli, Turkey. *Iran J Pediatr*. 2012;22:77–81.
22. Ahmed F, Mahmuda I, Sattar A, Akhtaruzzaman M. Anemia and vitamin A deficiency in poor urban pregnant women of Bangladesh. *Asia Pac J Clin Nutr*. 2003;12:460–6.
23. Helen Keller International. Vitamin A status throughout the lifecycle in rural Bangladesh: national vitamin a survey, 1997-98. Dhaka: Helen Keller International; 1999. p. 38 p.
24. Hyder SM, Persson LA, Chowdhury M, Lonnerdal BO, Ekstrom EC. Anemia and iron deficiency during pregnancy in rural Bangladesh. *Public Health Nutr*. 2004;7:1065–70.
25. HiMedia Laboratories. Technical data. Mumbai: HiMedia Laboratories.

*Cite this Article: Mrs. Kavitha, Nisha D., Radhika K. (2023). The Study to Assess the Prevalence of Iron Deficiency Anemia and Associated Risk Factors among Women. International Journal of Current Science Research and Review, 6(11), 7202-7206*