Estimate the prevalence of anemia among women in Women College and influence of socio-economic- demographic factors

Digvijay Gotapagar, Rajashri Gorad, S. R. Kane* and C. S. Magdum

Rajarambapu College of Pharmacy, Kasegaon, Tal- Walwa Dist- Sangli(MS), India -415404
_____

ABSTRACT

The objectives of main study are to assess the prevalence of anemia among young adult female nursing students. To compare the prevalence of anemia among 12th and 10th standard students and to find out the association between prevalence of anemia with selected variables. Anemia remains a public health challenge over worldwide. Anemia is the most common disorder of blood in the world. According to a survey conducted by NFHS, the prevalence of anemia in young girls aged between 15-24 years is 56% with higher rates in rural than in urban India. Little is known about anemia among college female students. This study aimed to estimate the prevalence of anemia among unmarried female college students attending nursing college and influence of socioeconomic demographic factors.

Key words: Prevalence, Anemia, Socio-Economic, Demographic Factors, Women College.
_____

INTRODUCTION

Anemia is a common blood disorder associated with abnormal decrease in number of red blood cell or less than the normal quantity of hemoglobin in the blood. Since hemoglobin carries oxygen from lungs to the capillaries, anemia leads to hypoxia. All humans need oxygen for survival, varying degrees of anemia can have a wide range of clinical consequences. Anemia goes undetermined in many people, and symptoms can be minor. The signs and symptoms can be related to the underlying cause or the anemia itself. Most commonly, people with anemia report feelings of weakness, or fatigue, general malaise, and sometimes poor concentration. They may also report dyspnea (shortness of breath) on exertion. In very severe anemia, the body may compensate for the lack of oxygen-carrying capability of the blood by increasing cardiac output. The patient may have symptoms related to this, such as palpitations, angina (if pre-existing heart disease is present), intermittent claudicating of the legs, and symptoms of heart failure[1]

Anemia remains a serious public health challenge worldwide. According to World health Organization (WHO), an estimated 150 million individuals in the Eastern Mediterranean Region suffer from some type of anemia. There are many causes for anemia; these causes may simply be attributed to acquired or congenital disorders. Iron deficiency anemia is the most frequently acquired nutritional anemia and over 2 billion people- i.e., nearly one third-throughout the world have iron deficiency anemia.

Most of the anemia prevalence related studies have been performed on infants, children, adolescents and pregnant women. Very few studies concentrated on female college students as the target group. In this study we have focused on college female students, with the purpose of estimating the prevalence of anemia among female collage students and classify anemia severity according to hemoglobin concentration.[2]

_____

Prevalence of anemia:
Findings related to prevalence of anemia indicated that out of 320 study subjects, maximum (94.4%) were suffering from anemia. Based upon severity of anemia, out of total 302 anemic students, approximately half (51.3%) were having moderate anemia while (45.3%) were suffering from mild anemia. Only few (3.3%) were suffering from severe anemia

Association of prevalence of anemia with selected variables[3]:
Association of prevalence of anemia was find out with selected variables. According to age, most of the anemia (56.6%) as well as non anemic (50%) subjects were from age group of 20 – 23 years. Difference was found statistically non significant as p value was 0.553. Considering the residential area, maximum (82.5%) anemic and maximum (83.3%) non anemic subjects were belonging to rural area. This difference was also found to be non significant. Association was also found non significant with type of family as maximum of both anemic (72.2%) and non anemic (83.3%) subjects were from nuclear families. Difference was found in prevalence of anemia according to dietary habits, as anemia was found more (82.5%) among vegetarians, but this was also not statistically significant as most of the non anemic (66.6%) subjects were also vegetarian. Association with regard to frequency of taking junk food was also found non significant. In regard to family income, association was not found to be significant as maximum of the anemic (38.7%) and non anemic (27.7%) subjects were having family income between 10001- 20000. Association of prevalence of anemia was found highly significant with H/O chronic disease, as prevalence was found more among those who were having H/O chronic disease, while no anemia was found among those who didn't have any such kind of history. p value calculated was 0.000 which is considered highly significant. Similarly difference in prevalence was found according to H/O accident, But it was not statistically significant. Association in regard to worm infestation was also calculated, but found to be non significant as the p value was more than 0.05. Difference in the prevalence of anemia was found statistically significant in relation to any irregularity in the menstrual cycle. p value was 0.001 which is considered highly significant. Non significant difference was found between prevalence of anemia in association with duration of menstrual cycle.

Methodology[4-5]:
Through convenient sampling 320 degree students studying at Rajarambapu College of Pharmacy, Kasegaon were selected. Hb estimation was done using Sahli's method. Baseline information was collected from study subjects through self structured questionnaire.

Research Approach: Descriptive comparative approach

Research Design: Non experimental cross – sectional study design

Setting of the study: Kusumtai Patil Highschool, Islampur

Population: Students of Kusumtai Patil Highschool, Islampur

Sample and Sampling Technique:
Kusumtai Patil Highschool, Islampur. Convenient sampling technique was used for the sample selection.

Development of Tool:
Tool was divided into two sections
Section 1: Structured questionnaire was developed to collect the background information of the study subjects. Items included in this section were age, residential area, type of family, dietary habits, frequency of taking junk food, monthly income, H/O any chronic disease, H/O any accident, H/O worm infestation, any irregularity in menstrual cycle and duration of menstrual cycle.

Section 2: It involved Hb estimation of the subjects through Sahli's method. Criteria to indicate and classify severity of anemia were based on ICMR protocol

Data Collection procedure:
After taking ethical permission from the institute's authorities, data collection was carried out in the month of January – March 2016. Study procedure was explained to the subjects and written consent was also taken.

_____

Indicator	Hb (gm/dl)
Non anemic	$\geq$12
Grade 1 (mild) anemia	10.0 – 11.9
Grade 2 (moderate) anemia	7.0-9.9
Grade 3 (severe) anemia	Less than 7

RESULTS

It was found that as many as 84% of the female students were suffering from anemia. In regard to severity of anemia, approximately half (51.3%) were having moderate anemia while (45.3%) were suffering from mild anemia. Only few (3.3%) were suffering from severe anemia. Anemia was quite prevalent among 12th (96.2%) as well as 10th (92.5%) students. The study also depicted the association between prevalence of anemia with selected variables. Chi square was computed. Association of anemia was found statistically significant with H/O chronic disease and irregularity in the menstrual cycle among the study subjects.

CONCLUSION

Prevalence of anemia among young adult female nursing students was found to be 94.4%. Based upon severity of anemia, out o0f total 302 anemic students, approximately half (51.3%) were having moderate anemia while (45.3%) were suffering from mild anemia. Only few (3.3%) were suffering from severe anemia. Association of prevalence of anemia was found highly significant with H/O chronic disease, as prevalence was found more among those who were having H/O chronic disease. The findings corresponds to an ICMR study by Toteja GS and Singh P who obtained data from 16 districts of 11 states through District Nutrition projects, where prevalence of anemia among adolescent girls has been found to be as high as 90.1%. Similar, studies on anemia prevalence from different states of rural India, reported high prevalence of anemia from 46-98%. A study carried out among 265 adolescent girls of Amritsar in 2005 by Sharda Sindu also discovered high prevalence (70-75%) of anemia including 12.83% girls who had severe anemia. Taking all this into consideration, young adult female students should be made aware about high prevalence of anemia and regular checking of hemoglobin level should be ensured among them. Studies have also shown successful management of anemia with iron supplementation to adolescent girls which could also be tried out.

REFERENCES

[1] R. C. Paul, *Journal of population and social studies*, **2010**,19(1),2806.
[2] G. Kaur, J. Chhatwal, M. Verma, *Indian pediatric*, **1998**,35(12),1181-86.
[3] A. Saratha, Z. Singh, S.S. Datta, *Indian journal of maternal and child health*, **2010**, oct- dec, 12(4), 1-8.
[4] A.H. Sultan, *J. Egypt Public Health Association*, **2007**, 82,(3-4),1-8.
[5] M.C. Patil, S. Shailja, V. Algeer , *International journal of current research & review*, **2011**, 3(11),80.