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Hemoglobin status and prevalence of anemia among the women of Jammu and Kashmir population: A cross sectional study

Dr. Nidhi Khajuria[1*], Dr. Mandeep Kaur[2]
[1] M.D.S Oralpathology, Registrar Department of Oralpathology, IGGDC, Jammu and Kashmir, India
[2] Assistant Professor, Department of Oralpathology, IGGDC, Jammu and Kashmir, India

Abstract
In the present study examined the hemoglobin status in women of jammu & kashmir population was done and compaired between differnt groups
Method: Total 500 women were tested for hemoglobin status. A hemoglobin level was then compared in population groups, and analyzed the hemoglobin %.
Result: The normal values of hemoglobin % were not observed in any age groups of total survey in women of jammu & kashmir population.
Conclusion: The results in our study suggested that innovative strategies like good education,improving health and hygiene awareness and up liftment in socioeconomic status might be helpful in reducing the prevalence of anaemia.

Keywords: Hemoglobin, Women, Jammu & Kashmir population

Introduction
The hemoglobin concentration of the blood is widely used as an aid in assessmetst of the state of health. A sound factual l)asis is therefore necessary for establishimig the tremsd of hemoglobims values its relatioms to age and sex. This is most important whets borderlimse states must be comsidered, as in msutritiots surveys [1-4]. This sex difference is independent of iron status — iron replete premenopausal women havemean haemoglobin levels approximately 12% lower than age & race matched men. The mean circulating erythropoietin (Epo) level does not differ between menand women, and in women does not differ between pre and postmenopausal women indicating that the sex difference is constitutive, and that women do not attempt to achieve male levels in health [4]
Anemia, even when mild to moderate affects the sense of well-being resulting in fatigue, stress and reduced work productivity (Haas and Brownlie, 2001). Hemoglobin levels. In each milliliter of blood there are approximately 4.5
Billion red cells and 150 milligrams of hemoglobin. The normal ranges for hemoglobin depend on the age and sex of the person.Newborns hemoglobin level is 17-22 grams/ 100ml of blood One month baby is 11-15 grams/ 100ml of blood Normal hemoglobin level for men is 14-18 grams/100ml of blood.
Normal hemoglobin level for women and children is 12-16 grams/100ml of blood. Men after middle age is 12-16 grams/ 100ml of blood
Women after middle age is 11.7-13.8 grams/100ml of blood
The aim of the study was to detect hemoglobin level and anemia in men and women of jammu &kashmir population.

Materials and Methods
A cross sectional study was performed. To evaluate hemoglobin status and the percantage, data was collected from the department of oral pathology, IGGDC JAMMU. On the basis of data, women were distributed in two groups each, Group 1 represents 250 female with the age group 10-20years, group 2 reprsents 250 female with the age group 21-35 years. All the data thus collected was compiled, tabulated and analysed statistically. The WHO classification of anaemia was used for classifying the subjects according to severity of anaemia [5] as shown in Table 1
Table 1. World health organization criteria for the classification of anaemia.
Grading Of Anaemia Non Pregnant Females
No anaemia >12 g/dl
Mild anaemia 10-11.99 g/dl
Moderate anaemia 7-9.99 g/dl
Severe anaemia <7 g/dl

Exclusion criteria
1. Pregnant females
2. Females with the blood transfusion history in last 3 months.

Results

Table 1

WHO classification of anaemia	Group 1 (10-20yrs)	Group 2 (21-35yrs)
No anaemia (Hb: >12 g/dl)	8%	10%
Mild anaemia (Hb: 10-11.99 g/dl)	79%	74%
Moderate anaemia (Hb: 7-9.99 g/dl	10%	14%
Severe anaemia (Hb: <7 g/dl)	3%	2%

The study included 500 female pateints which were divided into two group according the age. Table 1 shows the difference in the hemoglobin level between two age groups. Also the prevalence of mild, moderate, and severe anaemia is presented in table 2. The highest prevalence of mild has been seen in both the age groups were as severe anaemia was seen in the least cases in both the age groups. The highest Hb recorded was 12.4 gm%

Discussion

Prevalence of anaemia in all the groups is higher in India as compared to other developing countries. In India, anaemia affects an estimated 50% of the population [6]. The problem becomes more severe as more women are affected with it as compared to men. It is estimated that about 20%-40% of maternal deaths in India are due to anaemia and One in every two Indian women (56%) suffers from some form of anaemia [7-10].

According to National consultation on control of nutritional anemia in India anemia is defined as the hemoglobin of less than 12 g/dl in females. Mild anemia is defined as hemoglobin level of 10-11.9 g/dl, moderate anemia as hemoglobin level of 7-9.9 g/dl and severe anemia was defined as hemoglobin level of less than 7g/dl among females.

According to NFHS-3 2005-2006 data, prevalence of anaemia in women of reproductive age group was 55.3%. Out of these 39% were mildly anaemic, 15% moderately anaemic and 2% severely anaemic [10].

Dey *et al.*, analysed the NFHS-3 2005-2006 data for the state of Meghalaya and found that prevalence of anaemia in women of reproductive age group was 49.6% [11] They found that the women of age group 20-24 years were at high risk of anaemia. In age group 20-24 years prevalence of anaemia was 65.8% while in age group 25-29 years it was 47.2%. our study results are also in accordance with the result of this study as we also found more percentage of mild anemia in age group of 10-20 years of female. Study by Verma *et al*., had shown prevalence of anaemia in young college going female rural population (15-24 years) as 60.96% [14]. Out of the 187 girls, 83 (44.38%) were mildly anaemic, 26 (13.9%) were moderately anaemic and 5 (2.67%) were severely anaemic [12].

These results are also coinciding with the results of our study as in our study we also found that the mild anemia is common in both age group that is group 1 79% and group 2 74% respectavely. Overall, the majority of the above cited studies support the fact that the factors like area of residence i.e. rural or urban, socioeconomic status and level of education has effect on prevalence of anaemia in the community. Prevalence of anaemia is low in educated, urban and high socioeconomic status subjects [13]. In 1993, World Bank report has stated that improving the income and overall nutrition will have greatest impact on reducing anaemia in India [14].

Conclusion

Despite progress in the last decade for anaemia reduction in children and pregnant women, anaemia continues to be a major public health concern in India. high prevalence of anaemia in the young female population of India is a threat to the economic development of the country. Hence, there is need of multipronged new and innovative strategies like good education, improving health and hygiene awareness and upliftment in socioeconomic status for improving the overall health and nutritional status of the young females to build young healthy India. A large comprehensive study including data on anthropometry details, biochemical profile, pattern of dietary intake in young women may give a better insight into the situation.

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