Original Article

Frequency of Anemia in Patients Visiting a Tertiary Care Hospital in Multan, Pakistan

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ABSTRACT

Objective: To identify the frequency of anemia among the patients who visited the Medical Outdoor and Indoor of a Nishter Medical College and Hospital, Multan.

Study Design: Observational / descriptive / cross sectional study

Place and Duration of Study: This study was conducted at the Medical Outdoor and Indoor of a Nishter Medical College and Hospital, Multan from May to June 2015

Materials and Methods: All non-pregnant women, all female patients with Hb ≤ 10gm / dl and the children up to 14 years of age were included. All children above 14 years of age, all pregnant women, and patients with history of surgery within two months, and blood transfusions within two months before admission were excluded. The non probability convenient sampling technique was used. Total 120 anemic patients were included in our study, Out of which 84 were females and 36 were children.

Results: The Mean ± SD of Hb in female was 11.15 ± 2.10 and in children 12.25 ± 2.75 respectively. Total 120 anemic patients were included in our study, Out of which 84 were females and 36 were children. The 47 (56%), 20(23%), and 17(21%) females were suffering from mild, moderate and severe form of anemia respectively. The 23(65%), 9(24%), and 4(11%) children were suffering from mild, moderate and severe form of anemia respectively.

Conclusion: The frequency of anemia in patients visiting a tertiary care hospital Multan is high. The frequency of anemia is higher in female patients as compared with children even in the case of pregnant women and patients with a history of surgery within two months were excluded.

Key Words: Hemoglobin; Anemia; Children.

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INTRODUCTION

Anemia comes from ancient Greek: the lack or decreased of blood. Anemia is defined as a reduction in RBC or hemoglobin in the blood.[1] Anemia has been defined as "the number of red blood cells or their oxygen carrying capacity that is not sufficient to meet the physiological needs of the situation, which vary due to age, gender, and height, smoking and pregnancy status.[2] It is considered as an important global health problem consequences of the human health, social and economic well-being.[3] It is widely prevalent in the developing countries and according to World Health Organization (WHO); the world population of two billion is anemic [2].There are several complications of anemia, especially in pregnant women and children and most lethal complication observed in pregnant women and causes adverse effects on both mother and child.[4]

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The According to the World Health Organization estimates; non-pregnant women with age 15-49 years in Pakistan, 51% of the non pregnant had the hemoglobin concentration that is less than 12g / dl, the overall average hemoglobin concentration is 11.7g / dl. Out of the pregnant women age 15 to 49-year, 50% of the pregnant women had hemoglobin concentrations 11g / dl or less, the overall average hemoglobin concentration of pregnant women is 10.9gm / dl.[5].

MATERIALS AND METHODS

This cross sectional study was conducted among the patients who visit the Medical outpatient or inpatient department of a tertiary care hospital Multan, Pakistan, The sample was collected from patients (both indoors and outdoors) visited Nishtar Hospital Multan from May to June 2015.

All non-pregnant women, all female patients with Hb ≤ 10gm / dl and the children up to 14 years of age were included. All children above 14 years of age, all pregnant women, and patients with history of surgery within two months, and blood transfusions within two months before admission were excluded. The non probability convenient sampling technique was used. Total 120 anemic patients were included in our study, Out of which 84 were females and 36 were children..

RESULTS

This retrospective cross sectional study was conducted at a teaching hospital Multan. The samples were collected from patients (both indoors and outdoors) visited Nishtar Hospital Multan from May to June 2015. Hemoglobin levels below 10 gm / dl were considered anemic.

The Mean ± SD of Hb in female was 11.15 ± 2.10 and in children 12.25 ± 2.75 respectively. (Table 1) .Total 120 anemic patients were included in our study, Out of which 84 were females and 36 were children. The 47 (56%), 20(23%), and 17(21%) females were suffering from mild, moderate and severe form of anemia respectively. The 23(65%), 9(24%), and 4(11%) children were suffering from mild, moderate and severe form of anemia respectively. (Table 2).

Table No. 1: Hb in Study population

Hb (gm/dl)	Females	Children
Mean ± SD	11.15 ± 2.10	12.25 ± 2.75
Ranges	7.5-11.25	8.5-12.50
Total	84	36

Table No. 2: Grades of anemia in study population

Grades	Females	Percentage	Children	%age
Mild	47	56%	23	65%
Moderate	20	23%	9	24%
Severe	17	21%	4	11%
Total	84		36	

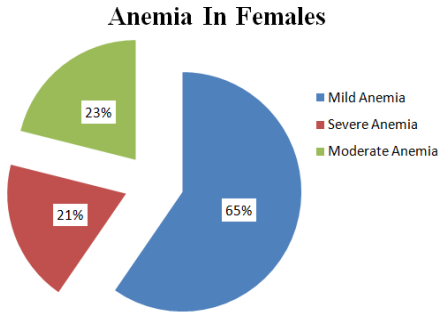

Figure No.1: Grades of anemia in females

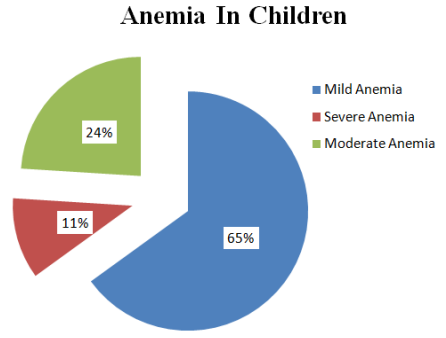

Figure No.2: Anemia in children

DISCUSSION

Anemia is prevalent in Pakistan, and its prevalence in males and pregnant women has been reported in many World health organization and local reports. In this study, we found that the frequency of anemia in children and non-pregnant women was very high. Pakistan National Health Survey estimates that the urban and rural differences and socioeconomic status, the prevalence rate of anemia among young men in Pakistan ranged from 12% to 28%, while anemia rate among women of childbearing age ranged from 3.8% - 51.5%.[6]

Several studies have been conducted on this issue. In South Asia anemia is (53%) more prevalence than in the rest of the world. A study in Taiwan highlights the prevalence of anemia among children and the adults as a public health problem in the people with intellectual disabilities.[7] A study conducted in the underdeveloped area of Vehari, showed that the prevalence of anemia among children was 47%.[8] The prevalence of anemia in pregnant women was 90.5%, indicating a physiological status of anemia.[9]

Iron fortification has been used to prevent anemia in certain countries, depending on the type of food being fortified.[10] According to Assuncao et al report in Brazil, there was no affect on Hb level or anemia reduction when used iron fortified wheat. Arcanjo et al reported that by using iron fortified rice, Hb levels increased, the prevalence of anemia decreased [11] .This difference in the different types of fortified results can be attributed to the fact that phytates present in wheat reduce iron absorption and lead to no improvement in hemoglobin levels.

Anemia during pregnancy is gaining attention more and more around the world; it applies not only to developing countries but also to the developed countries. According to a study by Adnan Bashir et al. (2015) that was conducted to analyze the frequency of anemia among pregnant women, the frequency of anemia was 57% in pregnant women who participated in prenatal clinics in tertiary care hospital in Pakistan.[12] This ratio is much higher (40.4%) than in Nigeria. This difference may be due to poverty, and people are less likely to have access to health education and health facilities.[13] However, Adnan Bashir's work rate was lower (91%) as compared to previous Pakistani studies.[14] In our study, we excluded reports from antenatal clinics, and the female population reported in this study was young women and the elderly population. The high frequency (48.33%) found in the female population in this study showed that women who are at increase the risk of pregnancy complication due to anemia, but women generally suffer from

anemia. All women should be encouraged / prescribed iron supplements before and after pregnancy to avoid the adverse effects of anemia in later life.

Anemia is also one of the major health problems prevalent in children, especially in developing countries. In our study, the frequency of anemia among children was 25%, compared with the frequency of anemia among school going children in Karak in Khyber Pakhtun khwah, Pakistan.[15] The proportion of anemia in Karak was 34%. The prevalence of anemia in children in the United States was (7%). This means that an appropriate diet is needed to reduce the incidence of anemia in children.[16].

CONCLUSION

The frequency of anemia in patients visiting a tertiary care hospital in Multan is very high. The frequency of severe and moderate anemia is more common in female patients, and mild anemia is common in children is more. The frequency of anemia is higher in female patients as compared with children even in the case of pregnant women and patients with a history of surgery within two months were excluded. The High frequency is very alarming and requires an effective strategy to prevent this public health problem.

Recommendation: This frequency of anemia is high. Most of the time, patients with mild and moderate anemia have little or no attention. This study shows a significant contribution to the incidence of anemia in both groups Therefore, we recommend revising the anemia control methods in our guidelines so that the prevention strategy must be directed to all patients, regardless of their hemoglobin levels or clinical status. Routine screening should be provided for anemia. A sustainable health education program should be developed. In children the prevention strategies are included continuous use of insecticide-treated nets, supplementation for low birth weight infants, and use of fortified foods. Foods such as meat, ascorbic acid-rich foods (fruits, juices) or both can eat as a variety of diets to enhance iron absorption. Avoid tea or coffee with meals.

Conflict of Interest: The study has no conflict of interest to declare by any author.

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