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PREVALENCE OF ANEMIA AMONGST WOMEN OF REPRODUCTIVE AGE

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ABSTRACT

Background: *Anemia causes high rates of morbidity and death in mothers and infants, making it a serious public health problem for women of reproductive age. Anemia is a condition in which the hemoglobin concentration or the quantity and size of red blood cells fall below a certain threshold, hence reducing the blood's ability to carry oxygen throughout the body.*

Objective: *To determine the frequency of anemia amongst women of their reproductive age at our setting.*

Methodology: *This cross-sectional study was carried out at the Department of Medicine CMH Abbottabad. The study duration was one year from November 2022 to November 2023. A total of 200 women of reproductive age were included in the current study. The inclusion criteria for our study were all the women in the reproductive age (15-40 years) and both married and unmarried women. All the data was collected by using a specialized questionnaire developed for this study. All the data was analyzed by using SPSS version 24.*

Results: *In the current study, a total of 200 women were enrolled based on inclusion criteria. The means age (±Standard deviation) of participants was 29 (±8.11) years. The frequency of anemia in our study participants was 140 (70%). Based on the type of anemia, the microcytic anemia was observed in 100 (50%) participants while macrocytic anemia was observed in 40 (20%) participants.*

Conclusion: *Our study concludes that the frequency of anemia amongst women of reproductive age is high. These results highlight the need for focused interventions to alleviate anemia in this population, especially in pregnant women, younger women, and women from lower socioeconomic backgrounds.*

Key words: *Prevalence; Anemia; Women: Reproductive age*

INTRODUCTION

Anemia causes high rates of morbidity and death in mothers and infants, making it a serious public health problem for women of reproductive age. Anemia is a condition in which the hemoglobin concentration or the quantity and size of red blood cells fall below a certain threshold, hence reducing the blood's ability to carry oxygen throughout the body (1). All age groups are impacted by its detrimental health effects, but women of their reproductive years are disproportionately affected (2). The World Health Organization (WHO)

estimates that 20.2 million women of reproductive age are extremely anemic, out of 528.7 million (29.4%) anemic women globally (3). Furthermore, about 50-70% of pregnant women in poor nations suffer from anemia (4). More precisely, the highest prevalence of anemia amongst women of reproductive years is found in South-East Asia (41.9%), followed by Africa and the Eastern Mediterranean (3). In Pakistan, 51% of women who are of reproductive age suffer from anemia. Compared to pregnant women, non-pregnant women had a comparatively lower burden of anemia (5). A recent National Nutritional Survey in Pakistan found that around 41.7% of women of reproductive age suffer from anemia, with the percentage being somewhat higher in rural areas (44.3%) than in urban areas (40.2%) (6). According to this study, iron deficiency is the most prevalent form of anemia amongst Pakistani women, affecting 18.2% of women who are of reproductive age. It is more frequent in rural areas (18.7%) than in urban areas (17.4%) (6). With 23.8% of all women of reproductive age suffering from iron deficiency anemia, Sindh province in Pakistan has the greatest prevalence, Balochistan (19.0%) and Punjab (18.7%) (6). 77% of women of reproductive age are anemic, with 7.8%, 48.7%, and 20.8% being categorized as severely, moderately, and slightly anemic, accordingly, according to a recent research carried out in a rural region of Pakistan (7). The effects of anemia on women's and children's health are multifaceted (8). For both pregnant and non-pregnant women of reproductive age, the effects of anemia differ depending on its type and severity (9, 10). Women who suffer from anemia may have many negative outcomes, including a decline in their capacity for reproduction and productivity (11). Mothers with anemia have less energy and are less able to work, which might exacerbate the problem by influencing family income and food security (12). Furthermore, severe anemia during pregnancy disrupts normal intrauterine development and reduces oxygen supply to the baby, which leads to low birth weight, neonatal mortality, and intrauterine growth retardation (13). Anemia during pregnancy has been linked to a number of negative outcomes for both the mother and the fetus, including low birth weight, preterm delivery, intrauterine fetal death, abortion, perinatal mortality, postpartum hemorrhage, and puerperal pyrexia, according to many studies (5, 14). According to a study of observational studies, maternal anemia and maternal mortality are linearly correlated; a 29% decrease in maternal mortality is linked to a 10 g/L rise in maternal hemoglobin (15). In low-income nations, anemia during pregnancy has been linked to 21% of perinatal deaths, 44% of preterm births, and 25% of low birth weights (16). Research has been done to determine the prevalence, severity, and contributing causes of anemia in pregnant women in underdeveloped nations (4, 5 ,17-20). A new research on the frequency of anemia amongst women of reproductive age in our setting is necessary, given the burden and effects anemia has on mothers and their offspring.

Materials and methods

This cross-sectional study was carried out at the Department of Medicine CMH Abbottabad. The study duration was one year from November 2022 to November 2023. The study approval was given by the ethical committee of the hospital. A total of 200 women of reproductive age were included in the current study. The inclusion criteria for our study were all the women in the reproductive age (15-40 years) and both married and unmarried women .The exclusion criteria were all the women who had been transfused. All the data was collected by using a specialized questionnaire developed for this study. Data collection was the responsibility of the members of the research group. In addition to getting informed permission from adult participants, all participants under the age limit of 18 were asked for their approval before data collection started. The members of the study group interviewed participants in-person throughout the data gathering procedure. Based on the participants' answers, the members of the study group manually filled up a questionnaire. Members of the study team used laptops or mobile devices to efficiently capture and save data while protecting the information gathered. Additionally, images of complete blood count (CBC) results were collected and entered into the questionnaire in order to acquire precise laboratory values. All the data was analyzed by using SPSS version 24.

Results

In the current study, a total of 200 women were enrolled based on inclusion criteria. The means age (±Standard deviation) of participants was 29 (±8.11) years. The minimum age of the participants was 15 years and the maximum age was 40 years. Based on the age wise distribution, the frequency of patients in age group 15-20 years were 20 (10%), 60 (30%) participants in age group 21-25 years, 70 (35%) in age range of 26-30 years and 50 (25%) participants were 31-40 years. (Figure 1) The mean (±Standard deviation) hemoglobin in our study was 11.1 (±2.1) g/dl. The frequency of anemia in our study participants was 140 (70%). (Figure 2) Based on the type of anemia, the microcytic anemia was observed in 100 (50%) participants while macrocytic anemia was observed in 40 (20%) participants. (Figure 3)

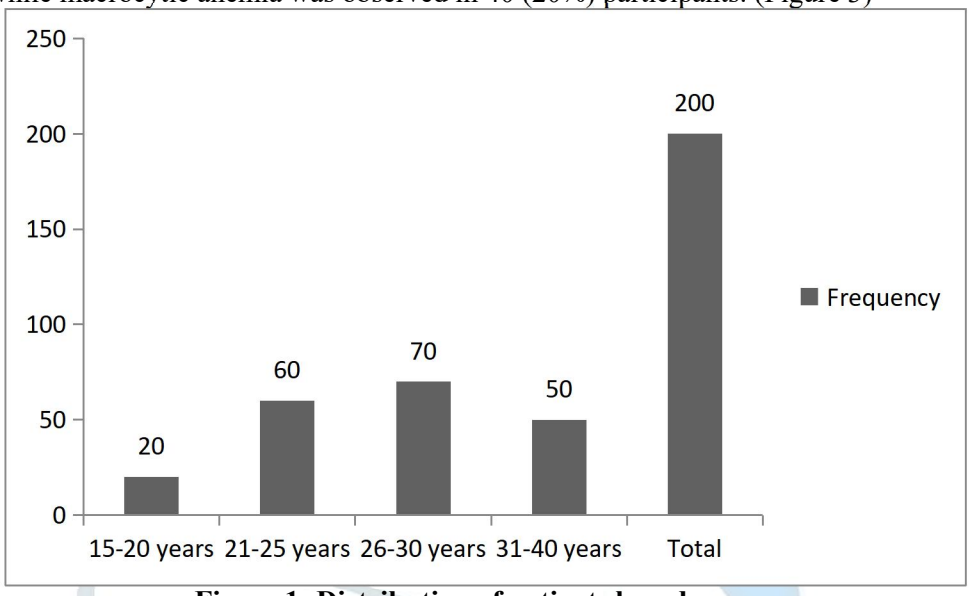

Figure 1: Distribution of patients based on age

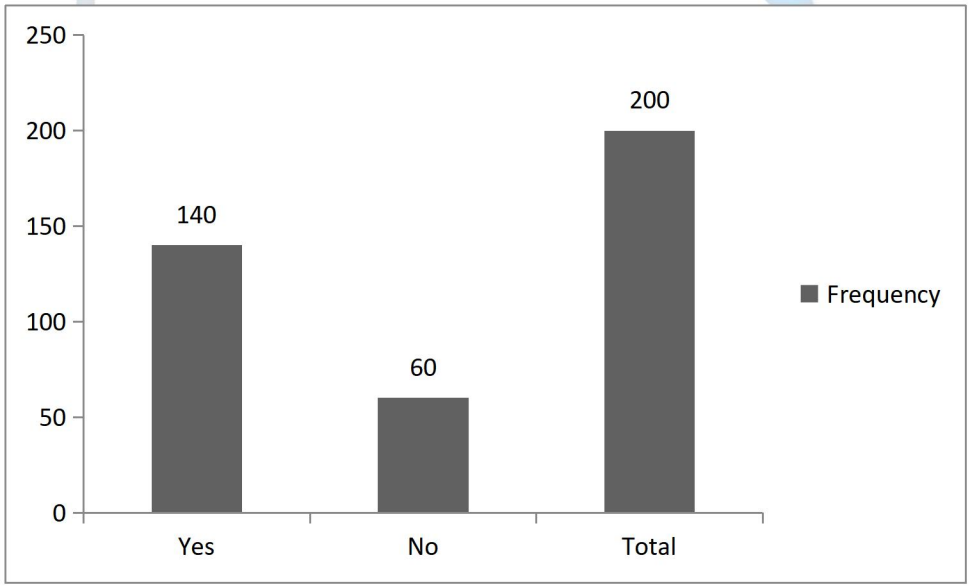

Figure 2: Frequency of anemia amongst women of reproductive age

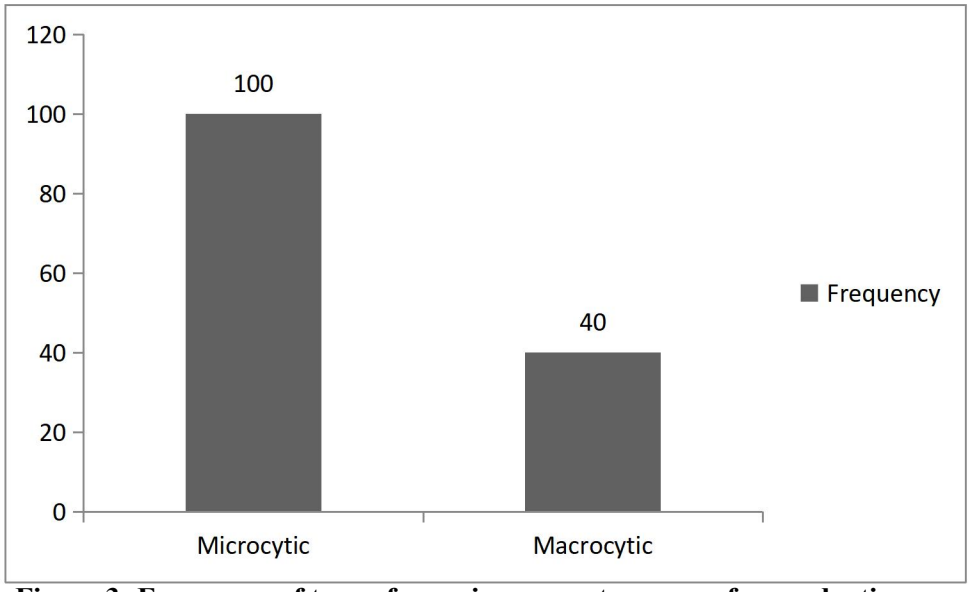

Figure 3: Frequency of type of anemia amongst women of reproductive age

Discussion

The study examined the prevalence of anemia in female patients treated at ……hospital who were between the ages of 15 and 40. Anemia is caused when the concentration of hemoglobin or the size of red blood cells falls below a pre-established threshold, which hinders the blood's capacity to carry oxygen throughout the body (12). The health of women and children depends on reducing anemia, yet difficulties still exist in the world's poorest areas. (13) In South Asian countries, anemia prevalence varies; reports from Bangladesh, the Maldives, Nepal, and India have shown prevalences of 41.8%, 58.5%, 40.6%, and above 55%, respectively (18,19). About 41.7% of Pakistani women of reproductive age suffer from anemia, according to the country's 2018 National Nutritional Survey (2). In the current study, a total of 200 women were enrolled based on inclusion criteria. The means age (±Standard deviation) of participants was 29 (±8.11) years. The minimum age of the participants was 15 years and the maximum age was 40 years. Based on the age wise distribution, the frequency of patients in age group 15-20 years were 20 (10%), 60 (30%) participants in age group 21-25 years, 70 (35%) in age range of 26-30 years and 50 (25%) participants were 31-40 years. The mean ((±Standard deviation) hemoglobin in our study was 11.1 (±2.1) g/dl. The frequency of anemia in our study participants was 140 (70%). These findings are in accordance with a previous study done by Farheen Ashraf et al. who reported almost similar frequency of anemia in women of their reproductive (21).

According to one research, the most common kind of anemia among Pakistani women is iron deficiency (2). Based on the type of anemia in our study, the microcytic anemia was observed in 100 (50%) participants while macrocytic anemia was observed in 40 (20%) participants. These findings are in accordance with a previous study done by Farheen Ashraf et al. who reported that microcytic anemia predominate macrocytic anemia in women of their reproductive (21).

Anemia is often believed to be age-dependent; evidence from Bangladesh suggests that aging is a major factor (22), but an Indian study found that those between the ages of 15 and 29 were more likely to have severe anemia (23). Our study's results are limited in their capacity to be applied to broader socioeconomic groups since the majority of participants were from lower socioeconomic backgrounds. Future research should think about using a wider range of data sources in order to overcome this problem. Additionally, our research did not include all likely causes of anemia, such as consanguineous unions that result in thalassemia or B12/folate deficiencies that induce macrocytic anemia. These elements could be successfully covered by a more thorough survey. Furthermore, our study's diagnostic methodology was constrained since we did not conduct particular B12, folate, or iron profile studies; instead, we relied only on CBC tests to ascertain the

prevalence of anemia. This restriction made it more difficult for us to distinguish between the individuals' anemia's nutritional and non-nutritional causes.

Conclusion

Our study concludes that the frequency of anemia amongst women of reproductive age is high. These results highlight the need for focused interventions to alleviate anemia in this population, especially in pregnant women, younger women, and women from lower socioeconomic backgrounds. It is essential to comprehend the various aspects that contribute to anemia in order to create public health initiatives that effectively address this widespread condition in the area.

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