Nutritional Emergency Among Women in Afghanistan: Anemia Prevalence and Associations with Contributing Factors in Reproductive-Aged Afghan Women

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Abstract

Background: Anemia is a silent global pandemic that has persuaded people worldwide that it has indeed affected socio-economic living and the health of people. It has had cascading and predominant effects as it has swept the future health and productivity of the active population in this world. It has equally affected both genders, and it has stronger implications for any economy if it affects women.

Method: Secondary data on Afghan nutrition were gathered for this study from various published government and international reports. These reports were collected in 2018, 2019, and 2020 only. At the first level, demographic analysis and its impact were assessed, and at the second level, objective-based analysis was conducted.

Result: Obesity increased by 59% in 30-year-old women, with a 40% prevalence of anemia in women. It was highest in non-pregnant women and slightly decreased in pregnant women. There was a strong association between anemia and no education, living in households with a size of 6 or more than 6, with no use of contraceptives, and residing in rural areas, with menstrual flow and anemia. 94% were anemic, those having tea or coffee with meals, and 90% were anemic, those eating less than three times per day. 84% were anemic among women with dietary habits such as avoiding food during pregnancy, craving for non-food substances, and inadequate women's dietary diversity.

Conclusion: The Afghan government should provide a health intervention strategy for women at a younger age

Keywords: Anemia, WRA • prevalence • contributing factors • nutrition

Introduction

Anemia occurs when the quantity of healthy red blood cells is insufficient to meet the body's physiological demands for oxygen transport to the brain, heart, muscles, and other vital tissues. Because hemoglobin is the primary oxygen-carrying molecule within red blood cells, anemia is usually measured in terms of hemoglobin content rather than red blood cell volume [1]. It could be worse if a pregnant woman were diagnosed with anemia. The condition could be fatal, which would affect the lives of both the mother and child. Suppose a pregnant woman is anaemic. This could have devastating effects on the nation as it could affect its growth, wealth, and welfare conditions. Different studies have reported that 29% of global non-pregnant women are anaemic in nature, which means around 496 million. About 38% of pregnant women-32 million pregnant women and 43% of children, accounting for 273 million people, are anemic in nature [2-7]. In 2010, about 68 million people all over the world lived with disability due to anemia. Women's-related anemia has many more dangerous consequences and implications than men's all over the world. This is very special and unique as women's anemia leads to women's mortality, morbidity, low birth weight, reduced cognitive development, and

productivity. Iron deficiency is the most commonly occurring reason for anemia, as it could lead to nutritional deficiency and other health-related disorders.

Anemia prevalence in Afghanistan

South Asia is the major contributor to the world's anemia problems, as we can find that more than 37.5% of the global population with anemia reside in this region. A national-level stratified two-stage sample among Afghan women was conducted by the Central Statistics Organization (CSO) and UNICEF-Afghanistan Multiple Indicator Clusters Survey.,2010-2011 [8], which included 22053 women, 13,314 households, and 8 major areas of the country. Women between the ages of 15 and 49 have also had their hemoglobin levels assessed. More than 33% of Afghan women were reported to have anemia in this study. Levit, et al. provide information on the prevalence of anemia in Afghanistan [9]. 60.5% of children under the age of 5 are anaemic. 40% of women who are of reproductive age are anaemic and 44% of pregnant women are anaemic in this country.

Country dynamics and prevalence of anemia

Afghanistan is grappling with enormous economic problems and crippling widespread poverty, with an estimated 16 million Afghans (out of 35 million) living below the poverty line. While there are significant gender disparities in Afghanistan [10]; the poverty gap ratio has expanded by more than 100 percent from 2007 (7%) to 2016 (15%) [11]. Afghanistan's overall poor economic situation has resulted from decades of conflict and instability. The United Nations Development Program Human Development Report (2019) [12] and the United Nations Economic and Social Survey of Asia and the Pacific (2019) [13] state that the UN human development index [14] is the lowest in the entire Sub-Saharan Africa region as it ranks 171 among 189 countries, and Afghanistan is at rank 169 in the world. In regional countries, Afghanistan has the second-lowest HDI after Yemen. Most of the macroeconomic indicators indicate slow progress and development during the last decades. Although agricultural activities prevail in this country, 80% of the total population and 90% of rural people live in absolute poverty. However, it is discovered that more research into the current prevalence of anemia in pregnant and non-pregnant women is required. There is also a need to assess the government's policies and the support provided to them. This study also included methods and measures for reducing anemia in pregnant women. Moreover, this research is being conducted to provide effective solutions to improve women's health, which would ensure the economic development and progress of Afghanistan.

Suitable suggestions, recommendations, and conclusions would be provided for the study to improve women's anemia-related health issues in Afghanistan, which would ensure economic prosperity and development too. The Afghan government should also be provided with a health intervention strategy for women at a younger age. This study is being conducted to find effective ways to promote women's health, which will help Afghanistan's economic development and growth. For the study to improve women's anemia-related health concerns in Afghanistan, appropriate suggestions, recommendations, and conclusions would be provided, which would ensure economic prosperity and progress.

Research Methodology

Objective

- This research is intended to investigate the nature and prevalence of anemia and its extent of risk in women in Afghanistan.

- The study provided strategies for individuals, families, and pregnant women who have anemia.

The study would also evaluate the role and responsibilities of government intervention and the extent of its effectiveness; present status, medical facilities, and support; challenges and problems associated with it; and futuristic strategies for women in Afghanistan to reduce anemic

women. Paragangliomas are rare hypervascular low-grade malignancies of neural crest origin (chief cells) arising within the autonomic nervous system. They are believed to store and secrete catecholamines in response to neuronal or chemical stimuli.

Study area and problem statement

Afghanistan's estimated population is around 38,928,346. Around 48.66% (2019) of the total population is female [15]. Around 20% of women of reproductive age are between 15 and 49 years of age. Afghanistan is characterized by a population growth of 2.34% and a GDP per capita of around 470 USD [16]. The total fertility rate in 2015 was 5.3 [17]. The Afghanistan nutrition cluster report [18] states that more than 40% of all women in Afghanistan are anemic in nature. A huge humanitarian crisis is facing this country, with a projected 18.4 million people needing humanitarian attention and support by 2025. 64% of all women in Afghanistan suffer due to a lack of vitamin D. Another 40% of women in this country suffer from Red Blood Cell (RBC) deficiency. It is found in a survey done in 2017 that 638 women out of 100,000 in this country die due to pregnancy-related complications. 74% of women in this country faced mental illness, and 59% of women had faced forced marriage problems. Access to Prenatal Health Care (PNC) services has increased from 10% in 2003 to 45% in 2013. Although this information could be consoling, the condition and plight of women and their health problems are very huge and are increasing day by day. These 40% anemic women would be providing the future generation of Afghanistan, which has to be productive, efficient, and contribute to the Afghan economy. As there is less support and help from family on nutrition and the government on aid and income for these women, there is an inherent need to study and investigate these anemic problems which are prevalent in Afghanistan. As there are social, health, and economic problems culminating in women's anemia in Afghanistan, this study is being investigated in this direction.

Ethical consideration

For the research to be carried out, approval letters were received from the Institute of Research Board, Public Health Afghanistan as well as the authorities of Maulana Azad University in Jodhpur, India. Privacy and confidentiality were upheld. Formal permission was obtained from the participants before any images or audio was captured. In performing the research, we followed all the rules and regulations of the Afghan government as well as the Maulana Azad University in Jodhpur, India.

Research design and sampling

The study intends to provide an empirical model for reducing anemia among non-pregnant women and pregnant women in Afghanistan. For this study, cross-sectional secondary data was collected from various published government and other international reports on Afghan nutrition. These reports were collected in 2016, 2018, 2019, and 2020 only. Level 1: Demographic analysis and its impact were assessed at the first level. Level 2: Objective-based analysis has been done. This secondary research is qualitative and quantitative in nature. Data analysis methods: Level 1, Demographic analysis and its impact were assessed at the first level. Level 2, Objective-based analysis has been done.

Results

Demographic analysis

From table 1, it is found that the percentage of women who are underweight, normal, or overweight was reduced in 2013 compared to 2004, but the obesity level of women over 30 years has been raised by 59% from 2004 to 2013 [19]. From table 1, it is inferred that anemia among

Table 1. Nutritional status among women of reproductive age in Afghanistan.

Factors	Measure	2004 (%)	2013 (%)
Weight (BMI)	Under weight (less than 18.5)	20.9	9.2
	Normal (18.5-24.9)	63.6	61.9
	Overweight (25-29.9)	29.7	12.2
	Obese (above 30)	3.4	8.3
	Anemia (<12 gm/dL)	24.7	40.4
Deficiency	Iron deficiency (<12 ng/mL)	48.4	24
	Iron deficiency anemia	15.8	13.8
	Severe Vitamin D deficiency (<8 ng/mL)		64.7
	Zinc deficiency (<60 ug/dL)		23.4
	Vitamin A deficiency (<0.7 unmold/L)		11.3

women of reproductive age in Afghanistan has increased from 25% in 2004 to 40.4% in 2013. But the iron deficiency among women of reproductive age in Afghanistan was reduced to half in 2013 (24%) compared to 2004 (48.4%) so the anemia due to iron deficiency was also slightly reduced from (15.8) in 2004 to (13.8) in 2013 [20].

From table 2, it is inferred that mothers in Afghanistan under 20 years old are more likely to have a low BMI score (21.7 KG/m2) and a 15.3% underweight category compared to mothers the above 20-year age group (23.2 KG/m2 and 8.3%). According to table 2, the average height of mothers under the age of 20 is 155.3 cm, while the average height of mothers over the age of 20 is 155.8 cm [20]. From table 2, it is found that 4.5% of mothers in the less than 20-year age group have short stature. 2.8% of the mothers in the above 20-year age group have short stature.

Objective-based analysis

Prevalence of anemia: Prevalence of anemia is the percentage of non-pregnant women whose hemoglobin level is less than 12 gm/dl and pregnant women less than 11 gm/dl at sea level.

According to the WHO, 2021 the prevalence of anemia trended higher in non-pregnant women, while this trended lower among pregnant women [21]. From figures 1 and 2, it is inferred that anemia among non-pregnant women in Afghanistan has gradually increased from 2000 to 2019 (34.2% to 43.2%), and for pregnant women it has decreased (44.4% to 36.5%) [22].

From table 3, it is found that there is a strong association between education and anemia among women in Afghanistan [23]. The women who have no school education are more anemic (80.4%) than the women who have completed their primary and secondary school education (at 7.8% and 11.8% respectively).

There is a link between anemia, family size, number of children, current pregnancies, and pregnancy intervals. Anemia was found in 9.9% of currently pregnant women. 24.2% were women who had given birth in the previous two years, 47.4% were women with more than three children,

Table 2. Nutrition and growth status of Afghan mothers.

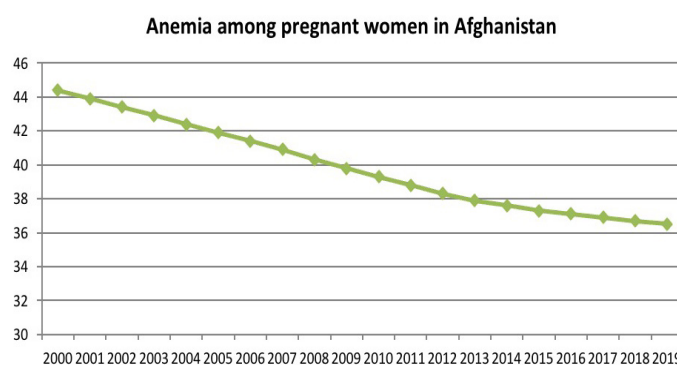| Factors	Less than 20 years	Above 20 years	Overall
BMI (Kg/m²)	21.7	23.2	23.1
Under weight (% to total)	15.3	8.3	8.6
Height (cm)	155.3	155.8	155.8
Short stature (%)	4.5	2.8	2.9

Anemia among pregnant women in Afghanistan

Figure 1. Depicts the annual trend in anemia prevalence among non-pregnant women (15-49 years) in Afghanistan.

Anemia among non-pregnant women (15-49 years) in Afghanistan
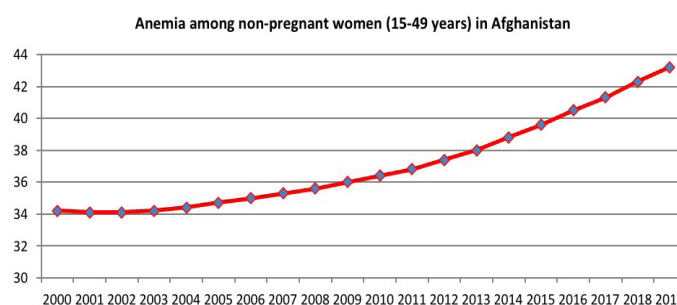

Figure 2. Annual trend in anemia prevalence among pregnant women (15-49 years) in Afghanistan.

Table 3. Association between education and anemia among women in Afghanistan.

Education level	Percent-age	AUA-Attitude Unadjusted		AA-Attitude Adjusted	
		Anemic (%)	Non-Anemic (%)	Anemic (%)	Non-Anemic (%)
Null-No school education	77.3	81.2	76.3	80.4	76
Primary school education	8.3	8	8.4	7.8	8.6
Secondary school education	14.4	10.7	15.3	11.8	15.4

Table 4. Prevalence of anemia among pregnant women, family size, and the number of children.

Family size and number of children	Percent-age	AUA-Attitude Unadjusted		AA-Attitude Adjusted	
		Anemic (%)	Non-Anemic(%)	Anemic (%)	Non-Anemic(%)
Currently pregnant	9.9	9.3	10	9.5	10
Gave birth in last two years	24.2	28.4	23.1	27.6	22.8
Having above 3 children	47.4	52	46.2	50	46.3
Below 5 household members	1.2	1.4	1.4	1.5	1.3

and 1.2% were women with fewer than five household members [23].

Tables 4 and 5 show both adjusted and unadjusted statistical findings to find the association between education, family size, and the number of children with the prevalence of anemia. It is found that uneducated (no schooling) women, who are more likely to have recently given birth and to have already given birth to 3 or more children, are highly anemic.

So, there is a significant association between education, family size, and the number of children with the prevalence of anemia. study results are shown in Table 5, which also strengthens the above results that there is a prevalence of anemia among women who are living in households with a size of 6 or more than 6, no use of contraceptives, and residing in rural areas [24].

The study's findings are shown in Table 6. Data was collected from 787 women at Bost Hospital in Afghanistan. The study results revealed that 51% of the women were anemic. Bivariate analysis is used to find the association between socioeconomic factors and anemia among pregnant women, and it is found that there is a significant association between factors like age (above 30 years), rural residence, unemployed/housewife, multi-parity, and no use of contraceptives. Also, the study found that there is no significant relationship between household monthly income and anemia. As a result of binary logistic regression analysis, multipara had an AOR of 3.09 [P=0.001 (CI=1.81-5.29)] and anemic women who did not use contraception methods had a significantly lower AOR of 1.53 [p=0.015 (CI=1.08-2.16)] [25].

Anemia was more prevalent in women with high or very high menstrual flow. The prevalence of anemia in individuals that reported high or very high menses was 41.7% and 25%, whereas the prevalence of anemia was 0% in those who reported low menstrual flow. More general symptoms of anemia were seen during low menstrual flow. The scores were 4 for low, 2.5 for high, and 3 for very high. Subsequently, more symptoms of anemia during menses were found in the high mensural flow. The scores were 10.8 in low menses, 18 in high menses, and 20.8 in very high menses [26].

From table 7, it is found that there is a high prevalence of anemia among women having a high flow of mensuration (41.7%). Hence, it is proven that there is a strong association between menstrual flow and anemia. Analyzing the symptoms of anemia concerning the flow of menstruation reveals that women with very heavy menstruation are at a higher risk of anemia.

From table 8, it is found that there is a strong association between the length of menstrual flow and anemia. 48% of the women having a menstruation day length of 4 to 5 days are anemic, and 58% of the women having a menstruation day length of more than 5 days are anemic [27].

Table 5. Association between family factors and anemia.

Factor	Categories	Having Anemia	
		Yes	No
Household size	1 to 2	2824	5075
	3 to 5	15050	29609
	6 and above	17588	31458
Distance from the health facility	Big Problem	15365	26239
	Not a big problem	20017	39903
Currently pregnant	Yes	3590	4922
	No	31792	61221
Modern contraceptive use	Yes	7321	20584
	No	28061	45558
Currently breastfeeding	Yes	10077	17613
	No	25305	48529
Residence	Urban	9802	19069
	Rural	25580	47073
Community poverty level	Low	17346	33499
	High	18036	32643
Community literacy level	Low	18554	33626
	High	16828	32516

Table 6. Association between household income, women occupation, and anemia.

Independent	Value	UA-Odds ratio (95% CI)	P value	AA-Odds ratio (95% CI)	P value
Age	<30	1	0.002	1	0.336
	≥ 30	1.19		1.18 (0.83-1.67)	
Occupation	Employed	1	0.017	1	0.019
	Unem-ployed	1.04		0.47 (0.25-0.88)	
Residency	Urban	1	0.002	1	0.317
	Rural	1.71 (1.09-2.45)		1.18 (0.85-1.64)	
Previous use of contraceptive	Yes	1	0.002	1	0.015
	No	1.15 (1.09-2.45)		1.53 (1.082-2.16)	
Parity	Single	1	<0.001	1	<0.001
	Multiple	2.80 (2.34-3.51)		3.09 (1.81-5.29)	

Table 7. Association between menstruation flow and anemia.

Factor	Menstrual Flow			
	L	N	H	VH
Anemic (%)	0	6.7	41.7	25
General symptoms of anemia (mean)-Low mean score->More general symptoms of anemia	4	3.6	2.5	3
Symptoms of anemia during menses (mean) High mean score->More symptoms of anemia during menses	10.8	8.8	18	20.8
Note: L: Light, N: Normal, H: Heavy, VH: Very High				

Table 8. Association between the length of menstruation and anemia.

Menstruation day duration	Anemic (%)
No	35.5
2 days-3 days	34.3
4 days-5 days	47.8
Above 5 days	57.6

From table 9 and figure 3, it is found that there is an association between dietary habits and anemia. 94% of the respondents are anemic, those having tea or coffee with meals. 90% of those polled are anemic, meaning they eat less than three times per day. 84% of the respondents are anemic for following dietary habits such as avoiding food during pregnancy, craving for non-food substances, and inadequate women's

Table 9. Association between dietary habit and anemia.

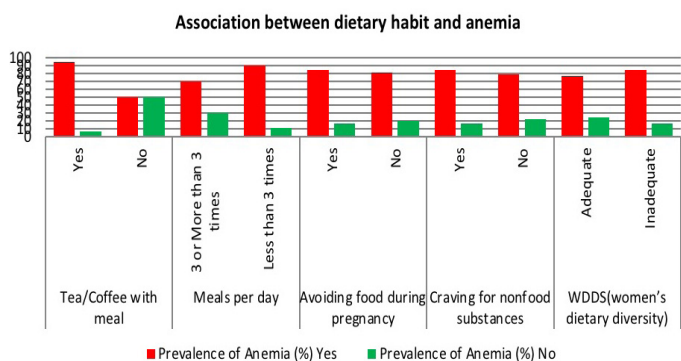| Factors	Category	Prevalence of Anemia (%)	
		Yes	No
Tea/Coffee With Meal	Yes	93.7	6.3
	No	50	50
Meals per day	3 or more than 3 times	69.9	30.1
	Less than 3 times	89.7	10.3
Avoiding food during pregnancy	Yes	83.9	16.1
	No	80.5	19.5
Craving for nonfood substances	Yes	84.2	15.8
	No	78.4	21.6
WDDS (Women's Dietary Diversity)	Adequate	75.8	24.2
	Inadequate	83.8	16.2

Figure 3. Association between dietary habit and anemia.

Table 10. Association between women & family history of anemia and anemia.

Types of anemia related to glitches in genes	Causes
Sickle-cell anemia	Blood protein hemoglobin to form abnormally
Thalassemia	Unable to produce enough hemoglobin
Congenital pernicious anemia	Person is born with an inability to produce intrinsic factor, a protein in the stomach that helps the body to absorb vitamin B12
Fanconi anemia	Inherited blood disorder
Hereditary spherocytosis	Passed from parent to child through the genes, is characterized by abnormal red blood cells called spherocytes that are thin and fragile
Thrombotic thromboccytopenic purpura	Certain faculty blood-clotting enzymes, leading to the clumping of platelets which are blood cells that help heal wounds.

Table 11. Shows the association between iron supplementation and anemia.

HB	Week	Daily		Weekly twice		
		n	g/L	n	g/L	Hg, g/L
Baseline	0	100	92.6 ± 14.1b	91	95.8 ± 10.6b	-3.2
1st assessment	4	84	101.6 ± 14.1a	76	96.2 ± 10.5b	5.3
2nd assessment	8	68	108.7 ± 17.2a	61	97.0 ± 11.4b	11.7
Final	12	55	113.6 ± 18.3a	50	100.9 ± 12.3a	12.6
SF (Serum Ferritin)		n	µg/L	n	µg/L	
Baseline	0	68	23.8 ± 29.7	61	23.0 ± 33.7	0.8
Last assessment	8 or 12	68	41.6 ± 34.9	61	27.6 ± 31.5	14

Note: Values are significantly greater than values marked b based on the student's t-test condition P<0.05. From table 11, it is found there was a 17.8 g/L increase in hemoglobin in the daily group (P<0.001), while in the twice-weekly group it was increased by 3.8 g/L (P=0.0037). Likewise, 17.7 go/L (P<0.001), the serum ferritin concentrations in the daily group were increased, whereas those in the twice-weekly group did not observe any change (P=0.16). Therefore, hemoglobin and serum ferritin significantly increased in the daily group [30].

Table 12. Details on Iron and Folic Acid Supplements in Afghanistan.

Individuals	Iron and Folic acid supplements
Children	Almost 1 million girls
Any antenatal iron supplementation	40.80%

dietary diversity [28].

From table 10, it is found that the various types of anemia are related to glitches in the genes of the same family. So, it is proved that there is an association between women and a family history of anemia and anemia [29].

From table 12, it is inferred that the providence of iron and folic acid supplements to children and for any antenatal care in Afghanistan was in very good conditions. Almost 1 million girls are getting iron and folic acid supplements, while 41% of any antenatal women are getting iron and folic acid supplements in Afghanistan [31,32].

Discussion

Anemia is a prevalent disease that disproportionately affects children and women of reproductive age across the world. Anemia is associated with impaired cognitive and motor development, as well as reduced work capacity. Iron deficiency anemia is linked to poor reproductive outcomes in pregnant women, including preterm birth, low-birth-weight newborns, and lower iron storage in the neonate, which can contribute to developmental delays. The most prevalent cause of anemia is iron deficiency, although there are other nutritional and non-nutritional factors as well [33]. Because of the increased demand for iron during pregnancy, breastfeeding, monthly bleeding, and nutritional insufficiency during the reproductive cycle, anemia is a serious public health concern among reproductive-age women [34]. This study looked at the prevalence of anemia and the variables that contribute to it in Afghan women of reproductive age.

The current study found that women of reproductive age in Afghanistan are in a nutritional emergency. Cluster-UNICEF,2020 report provides the nutrition status in Afghanistan, which is found to be very deplorable. There is a need for providing nutrition, which could ensure health, satisfaction, and happiness for the entire population. Adequate care and attention must be provided to women who can contribute to and produce healthy Afghan citizens in the future. The government and international community must be cognizant of this crucial issue and provide total support in the form of assistance.

The study found most indicators regarding nutrition and anemia had changed and were increasing. The obesity level of women over 30 years has been raised by 59% from 2004 to 2013, while the percentages decreased among women who were underweight, normal, or overweight. The same trend occurs in developed and developing countries. A study in India found that both being overweight and being obese were inversely associated with anemia [35]. This study was consistent with other studies in the USA, China, Egypt, and Peru [36,37]. The average height of the young mothers in the under-20 age group is 155.3 cm, and they have low BMI scores and belong to the underweight category.

Anemia among women of reproductive age in Afghanistan has increased from 25% in 2004 to 40% in 2013. The prevalence of anemia was similar to other relevant studies conducted by WRA in Afghanistan (NNS-2013) [38]. Consistent with findings from other research, anemia is quite prevalent in Eastern Africa, Individual and community-level variables were linked to the development of anemia in women of reproductive age. Afghanistan's anemia prevalence was nearly equal to that of many other Sub-Saharan African countries (5) and South and Southeast Asia [39]. It is considered a severe public health problem according to WHO criteria. In addition, according to WHO estimates, the prevalence of anemia in WRA in Afghanistan increased between the years 2000 and 2019 and varied across population subgroups. In this study, it was found to vary with age, marital status, pregnancy, level of education, women's occupation, husband or father's occupation, economic status (family income), province of residence, family size, number of children, and the type of contraceptive method used, as well as nutrition status (using meat, fruits, beans, and dairy products), using tea with the meal, usage of iron tablets, history of anemia, family history of anemia, mensural problems, abortions, use and types of contraceptive methods. The etiology of anemia is complex, and successful anemia reduction efforts must identify the major contributing factors, then develop and implement an evidence-based package of interventions to achieve effective results.

Anemia among non-pregnant women in Afghanistan has gradually increased from 2000 to 2019, and for pregnant women, it has decreased. There is a strong association between education and anemia among women in Afghanistan. Women who have no school education are more anemic than women who have completed their primary and secondary school education. Anemia among patients who were less educated was also found. In Afghanistan, it has been shown that there is a substantial link between schooling and anemia among women [23]. This result is supported by the research of Teshale, et al. This might be because educated mothers are more likely to eat a variety of foods rich in vitamins and minerals, thereby lowering the risk of nutritional deficiency anemia. Furthermore, obtaining an education may encourage women in adopting healthy lifestyle patterns, such as better health-seeking behaviors and hygiene measures, which can help minimize anemia in women. Additionally, women in Afghanistan are anemic due to a lack of good quality food, a lack of nutritional diet, and pregnancy. Indeed, the majority of the population suffers from a nutritional deficiency of 10%-14%, with certain parts experiencing a catastrophic nutritional emergency (>15 percent).

Prevalence of anemia among women who are living in households with a size of 6 or more than 6, with no use of contraceptives, and residing in rural areas. Most anemic patients have recently given birth, and they could have more than 3 or more children in the future. They also reported that 10% of women were currently pregnant, and 47.4% of those women had more than 3 children. In accordance with our findings and those of other studies being married and divorced, being separated or widowed, being from female-headed households [34], being from households with an unimproved toilet facility and an unimproved water source, having ever had a terminated pregnancy, having high parity, and being from a large household size were associated with a higher prevalence of anemia study results, which also strengthen the above results, that there is a prevalence of anemia among women who live in households with a size of 6 or more than 6, no use of contraceptives, and reside in rural areas. Anemia can impair cognitive and physical abilities and is linked to lower economic production (Horton S et al.) as well as higher morbidity and all-cause mortality [40]. Maternal iron deficiency can cause severe pregnancy and neonatal outcomes such as stillbirth, low birth weight, and infant mortality and anemia in pregnancy has been identified as a potential marker of increased risk of major hemorrhage as well as a risk factor for maternal death from major hemorrhage (CHERG Iron Report). There is a strong association between menstrual flow and anemia. 48% of the women having a menstruation day length of 4 to 5 days are anemic, and 58% of the women having a menstruation day length of more than 5 days are anemic. 94% of the respondents are anemic, those having tea or coffee with meals. 90% of those polled are anemic, meaning they eat less than three times per day.84% of the respondents are anemic for following dietary habits such as avoiding food during pregnancy, craving for non-food substances, and inadequate women's dietary diversity. Flores-Martinez *et al* and Cluster-UNICEF (2020) indicate the nature and extent of the nutritional crisis prevalent among pregnant women in Afghanistan. Indeed, the nutritional crisis levels have been very high across the various regions of Afghanistan, and there is a need for immediate attention towards this tragedy. In Afghanistan, there were very few empirical studies that had been conducted. This research attempted to highlight relevant gaps. More empirical studies must be conducted on these dimensions and issues that would lead to human welfare in Afghanistan in the future.

Limitations and scope

The study is confined to Afghanistan only, and other countries are not a part of this study. The aspects which are mentioned as objectives would be covered in this study, and the other aspects, other than objectives and conceptual framework, do not form part of this study.

Conclusions

Family and government support are mandatory to encourage Afghan women to self-care and to provide awareness about the moderate-intensity activities that would help them burn the calories from their bodies and prevent weight gain. Government health service executives must organize health camps for rural and uneducated women to raise awareness of iron-rich foods. Healthy families start with women's education, awareness of the use of contraceptives, and the involvement of women in family responsibilities. Family support is very important for providing a healthy and nutritious diet.

Acknowledgement

Conflict of Interest

There is no conflict of interest in this study.

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