



Prevalence of anemia among reproductive age women at selected health centre, Alahsa

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INTRODUCTION

Anemia is a major public health concern and it is one of the most widespread nutritional deficiency problem globally which is affecting all the ages and both gender. It is also one of the most prevalent among women especially in reproductive age group.¹

Anemia is a condition in which blood do not have adequate healthy red blood cells to carry the sufficient oxygen to the tissues. And the number of red blood cells, or the hemoglobin

concentration, or the size of cells falls below a normal value. Anemia is an indicator of both poor nutrition and poor health.²

The global statistics evidenced that, the prevalence of anemia was 12% between 1995 and 2011, in non-pregnant women it was from 33% to 29% and from 43% to 38% in pregnant women. This was indicating that progress can be possible but presently insufficient to meet these goals. It is therefore urgent that countries review national policies, infrastructure and resources and act to implement strategies for the prevention and control of anemia. The World Health Organization (WHO) has published revised guidelines to support policies for the prevention and control of anaemia.³

Iron deficiency anemia is the most common type of anemia. It occurs when the iron mineral is low in the body. Iron deficiency is defined as a condition in mobilizable iron stores will not present and the signs of a compromised supply of iron to tissues especially it is including the erythron.⁴ Iron deficiency anemia is most common in women other than men. The normal hemoglobin level in women should be between the rate of 12-14 g/dl.

The reasons of low iron in women are that they do not eat enough iron sources in their meals; For women of reproductive age, the principle reason is the excessive blood loss during menstruation or during birth. During pregnancy, there is a significant increase in iron requirement due to the rapid growth of the placenta and the fetus and the expansion of the gravid uterus.⁵

According to a research, there are two billion people have anemia globally. People live in the developing countries are most affected because there are no availability of resources and treatment. Globally, the prevalence of anemia in non-industrialized nations is three to four times higher than developed countries. Africa, Eastern Europe and the Western Pacific have a large load of disease. Southeast Asia has more prevalent of IDA than any other region in the world, with nearly 800 million affected.⁶ As per the World Health Organization global estimates of anemia prevalence was averaged 56%, with a range of 35%–75% depending on geographic location.⁷

Estimates from the World Health Organization report that from 35% to 75% (56% on average) of pregnant women developing countries and 18% of women from industrialized countries are anemic.⁸

Prevalence of anemia among women of reproductive age (% of women ages 15-49) in Saudi Arabia was 42.9% reported in 2016, according to the World Bank collection of development indicators, compiled from officially recognized sources.⁹

The causes of anemia are multi-factorial, that are including diet, infection and genetics. Some of the commonest causes of anemia are diet lacking in certain vitamins.¹⁰ Having a diet that is consistently low in iron, vitamin B-12 and folate increases the risk of anemia. Intestinal disorders, menstruation, pregnancy, chronic conditions such as cancer, kidney failure, family history and the use of some medications can affect red blood cell production and lead to anemia.

In view of this, the study aim is to determine the prevalence of anemia among reproductive aged women from the region of Alahsa, Kingdom of Saudi Arabia, and to associate selected demographic variables with the prevalence of anemia.

METHODOLOGY

A descriptive cross-sectional study was conducted to assess the prevalence of anemia among women in the age group of reproductive periods. The study was conducted in female wing of health centers in Alahsa. It was distributed to women who come to the primary health centers. The four government primary health centers were included in this study. The women were selected by random sampling method by using numbers of assigned random tables. The estimated sample size was 200.

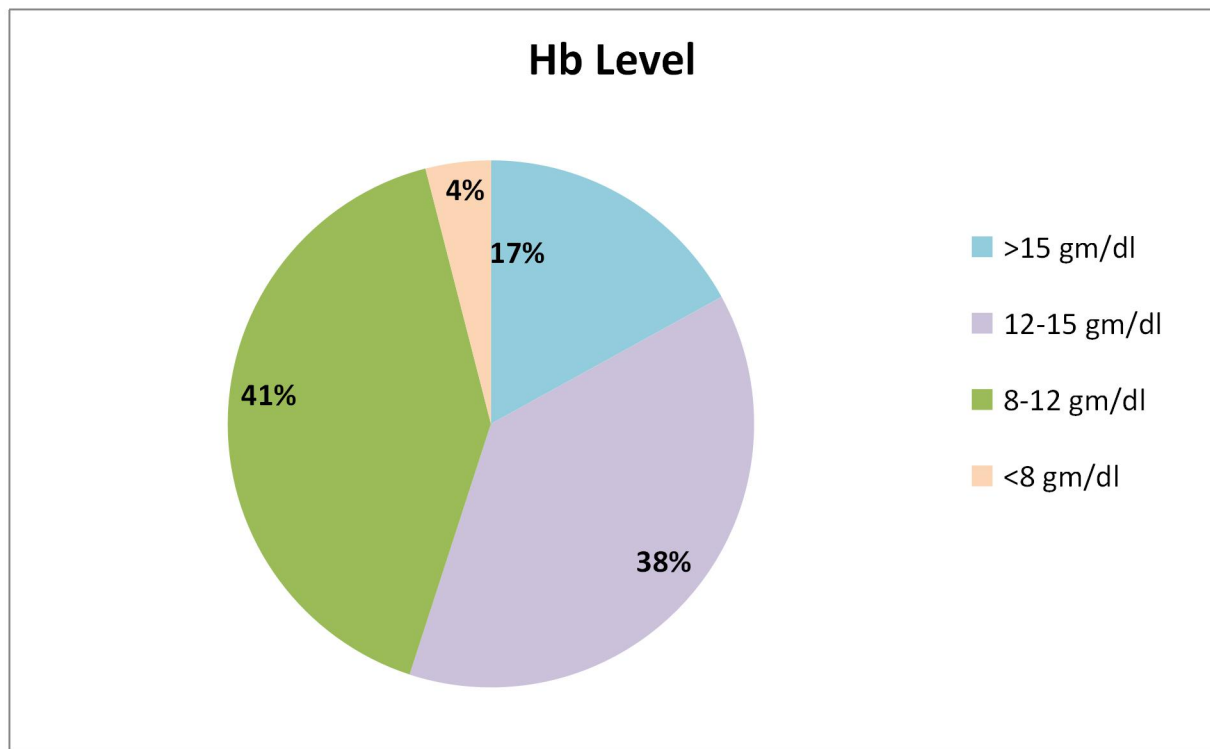
Women in reproductive age group attending the selected primary health center and who agreed to do hemoglobin test were included in the study. The women with other severe illnesses or chronic sickness were excluded from the study. Informed consent was obtained from all women after explaining the study with proper information. The demographic data was collected by structured interview and then blood test was done for all women. The data was analyzed by using descriptive and inferential statistics (SPSS version).

RESULTS

In demographic profile of present study, among 200 women 44 (22%) were in the age group of less than 20 years and 90(45%) were in 20-30 and very few 20(10%) were in more than 40 years old. Regarding education none of them were non-literate, and majority 108(59%) were studied higher secondary schools and others and 148(79%) of them were housewives. Totally 128(64%) of them were married, 72(36%) were unmarried and 24(12%) were pregnant and 37(18.5%) were lactating, 66(33%) women were having children more than 3 and above.

All the women were living in urban area only. Regarding their menstruation history 138(69%) were getting regular menstrual period and 62(31%) were irregular. But 160(80%) women were having normal blood flow during their menstruation. All the women were belonging to Non-vegetarian in their diet pattern except one. All were in Joint family system. Regarding the sources of health information, 44(22%) were getting information from family members and majority 92(46%) was receiving from mass media.

Figure.1 Prevalence of anemia among women (n=200)



About the prevalence of anemia among women, 34(17%) women were having hemoglobin level more than 15 gm/dl, 76(38%) were having 12-16 gm/dl, 82(41%) were having 8-12 gm/dl and eight

(4%) of them were having less than 8gm/dl. So, the prevalence of anemia considering that out of 200 women 45% was anemic. The mean Hemoglobin value was 11.32 gm/dl.

Regarding the association between the prevalence of anemia among women and their demographic variables, there was only significant association between prevalence of anemia with menstrual period and menstruation at P <0.05%.

Table 1: Association between the prevalence of anemia among women and their demographic variables
n=200

S. No	Socio demographic variables	Prevalence of Anemia				Chi square
		Normal		Anemic		
		No.	%	No.	%	
1	Age in years					$\chi^2 = 0.7856$
	a) <20	24	12	20	10	P= 0.852906
	b) 20-30	48	24	42	21	P<0.05
	c) 30-40	22	11	24	12	NS
	d) >40	8	4	12	6	
2	Education					$\chi^2 = 0.0963$
	a) Non-literate	0	0	0	0	P= 0.952975
	b) Primary school	10	5	10	5	P<0.05
	c) High school	32	16	30	15	NS
	d) Higher secondary& others	64	32	54	27	
3	Occupation					$\chi^2 =1.0543$
	a) House wife	78	39	80	40	P= 0.590272
	b) Government worker	20	10	12	6	P<0.05
	c) Private worker	6	3	4	2	NS
	d) Business	0	0	0	0	
4	Marital status					$\chi^2 = 0.6423$
	a) Married	62	32	64	32	

	b) Unmarried	42	21	30	15	P= 0.422875 P<0.05 NS
5	Children					
	a) None	50	25	42	21	$\chi^2 = 2.9539$
	b) 1	12	6	6	3	P= 0.39879
	c) 2	8	4	16	8	P<0.05 NS
	d) 3 and above	30	15	36	18	
6	Menstrual period					$\chi^2 = 13.282$
	a) Regular	98	49	40	20	P= 0.000268
	b) Irregular	20	10	42	21	P<0.05 S*
7	Menstruation					$\chi^2 = 7.9235$
	a) Normal	96	48	64	32	P= 0.01903
	b) Excessive	6	3	20	10	P<0.05
	c) Inadequate	4	2	10	5	S*
8	Source of health information					
	a) Family members	20	10	24	12	$\chi^2 = 0.8718$
	b) Friends	2	1	4	2	P= 0.832228
	c) Mass media	40	20	46	23	P<0.05
	d) Health care team	42	21	36	18	NS

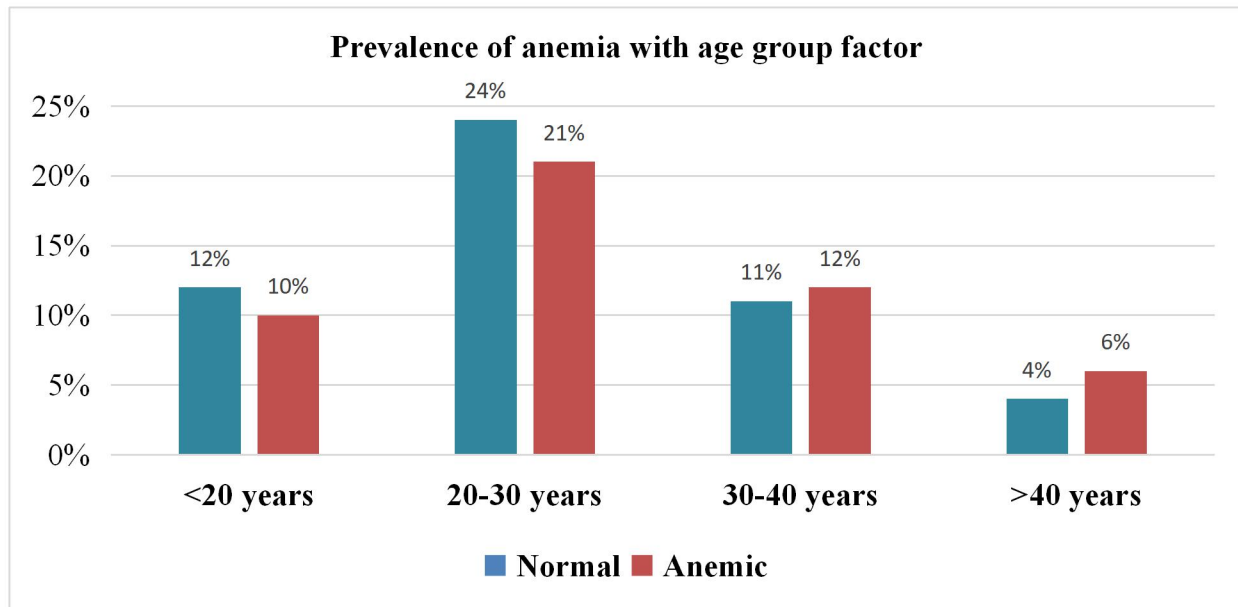
* Significant

DISCUSSION

Anemia is a nutritional issue as well as one of the most important health problems among women in reproductive age especially from 18 to 45 years of age in the world, and particularly in developing countries.^{11,12}

Out of the total sample of currently married women in the age group 15 to 49 years, around 4% were pregnant while 18% lactating and 78% were Non-Pregnant, Non-Lactating at the time of the survey (Mohammad et al.).¹³ The present study, among 200 women 44 (22%) were in the age group of less than 20 years and 90(45%) were in 20-30 and very few 20(10%) were in more than 40 years old.

Figure.2 Prevalence of anemia among women with age group (n=200)



Within the total sample, the overall prevalence of anemia in the US population was 5.6% with 95% confidence interval of 5.1–6.1%. In addition, the rate of moderate-severe anemia was 1.5%, and the 95% CI was 1.4–1.7%(Chi Huu Hong Le).¹⁴

Anemia is a condition in which the number of red blood cells becomes insufficient to meet the body's physiologic needs and it is one of the major public health problems in India. The study conducted on prevalence of anemia among the women of childbearing age belonging to the tea garden community of Assam, India: A community-based study. The aim of this study was to find the prevalence and determinants of anemia among the adult females of tea garden community of Assam. Out of 770 patients, 19.7% were severely anemic. Hb S and β -thalassemia were the only hemoglobin types detected in the study.¹⁵

A cross-sectional study was conducted in three paediatric outpatient clinics of New Delhi, India by Fotedar A et al. A predesigned questionnaire was used from 66 mother and child pairs to elicit information on socio-demography, complementary feeding, and intake of IFIC. The study

evidenced that the prevalence of anemia (hb% <11 g/dl) was 42.4% (95% confidence interval (CI): 30.5%-55.2%, n = 28).¹⁶ All the participants of this group had severe anemia. An increase in ferritin levels combined with an increase in transferrin saturation usually is a sign of iron overload.^{17,18,19}

The current study proved that among total women surveyed, 17% women's hemoglobin level was more than 16gm/dl, 38% were having 12-16gm/dl, 41% were having 8-12gm/dl and four percent of them were having <8gm/dl. Figure.2 is showing that prevalence of anemia among women with age group factor. When years of age increasing, the anemic rate is also increasing.

A community-based cross-sectional study was conducted on anemia severity among children aged 6-59 months in Gondar town, Ethiopia by Melku et al., The study results proved that primary maternal educational status, unmarried maternal marital status, and home delivery were factors associated with severity of childhood anemia.²⁰

The study was conducted to investigate the prevalence and the risk factors for menstrual pain in a sample of rural married women of reproductive age in Anhui Province of China. The prevalence of anemia with no menstrual pain was 80.1%, moderate menstrual pain was 18.7% and severe menstrual pain was 1.2%.²¹

In the present study There were the statistical significant association between the regularity of menstrual period and the prevalence of anemia at $P=0.000268$ (99.99% confidence interval). Also, the flow of menstruation is significantly associated with the prevalence of anemia at $P= 0.01903$ (<0.05%). And there was no significant association between the prevalence of anemia and age group, education, occupation marital status, number of children and sources of health information.

CONCLUSION

Anemia is a public health problem that affects all kind of populations in both rich and poor countries. Its primary cause is iron deficiency, but other conditions, such as malaria, parasitic infection, other nutritional deficiencies, and haemoglobinopathies are also responsible, often in combination. A descriptive research design was undertaken in this study to assess the prevalence of anemia among women. Totally 45% women were anemic with different categories. There were

the statistical significant association between the regularity of menstrual period and the flow of menstruation with the prevalence of anemia at $P = <0.05\%$.

In conclusion, it is believed that improving access to education, providing regular health education about anemia and its prevention, proper maintenance of balanced diet, appropriate feeding practices to combat nutritional deficiencies, strengthening the socioeconomic support for conducting regular community-based screening are recommended to reduce the prevalence of anemia.

CONFLICTS OF INTEREST

There are no conflicts of interest.

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