ORIGINAL ARTICLE

Frequency of Anemia Associated with Maternal Factors in Pregnancy

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ABSTRACT

Objectives: To determine the frequency and maternal risk factors associated with anemia in pregnancy in Nawabshah (SBA).

Methods: A community based cross-sectional study conducted in eight Union Councils of Nawabshah City District Shaheed Benazirabad from April 2016 to October 2016. Total 372 pregnant women from Nawabshah City were enrolled by simple random probability sampling. All were interviewed regarding parity, trimester or stage of pregnancy and birth spacing (family planning). Their blood sample was taken by aseptic measures. The blood samples were sent to Diagnostic Laboratory PUMHS Nawabshah (SBA) for Hemoglobin estimation (Hb%). Data was entered and analyzed by SPSS Software.

Result: 69.1% population of pregnant women were anemic among which 26.8% have mild, 47.4% have moderate and 25.6% have severe anemia.76.5% of pregnant women in first trimester were anemic, while 62% of pregnant women in third trimester. 71.4% of pregnant women with birth spacing less than 2 years were anemic, while 63.7% of pregnant women with birth spacing more than 2 years were anemic. 70.6% of prim-gravida women were anemic, among which 25.3% have mild, 46.2% have moderate and 28.3% have severe anemia. 67.3% of multigravida were anemic among which 27.2% have mild, 48.4% have moderate and 24.2% have severe anemia.

Conclusion: Maternal factors like parity, stage of pregnancy and birth spacing play vital role in prevalence of anemia in turn on the health status of both mothers and newborns.

Keyword: Prevalence of Anemia, Gravida, Trimester, Birth spacing, Nawabshah.

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INTRODUCTION:

Anemia is defined as a clinical condition characterized by reduction in hemoglobin concentration of blood below normal for the age, sex, physiological condition and altitude above the sea level of that person.[1] Iron deficiency is the most common cause of Anemia all over the world[2].

Anemia in pregnancy causes deteriorative effects to mother and fetus. It is a known risk factor for premature labor, poor weight gain and dysfunctional labor in mother and low birth weight, poor Apgar score and fetal distress in fetus[3].

Anemia in pregnancy is a major problem in nearly all developing and many industrialized countries. The World Health organization has estimated that 35-75% (56% on average) of pregnant women in developing countries are anemic. 20% of maternal deaths are contributed by anemia during pregnancy[4].

Various studies from different regions of Pakistan have reported the prevalence of anemia ranges from 54% to 91%[5,6]. Studies from Nawabshah reveal the prevalence of anemia among pregnant females up to 53.8%[7].

Pakistan with the population of 190 million among which 49% are female population bears only 100,000 lady health workers. More than 50% of basic health units and rural health centers don't

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have any female health care provider. Due to lack of staff and health education pregnant female population cannot receive proper antenatal care and advice for safe pregnancy. Presence of cultural, social and religious taboos and absence of proper awareness and follow up for family planning and birth spacing the women are unable to prepare themselves in healthy way for next pregnancy. Burden of small babies leads to ignorance from diet and rest which leads to anemia.[4]

In our population, the principle risk factors for high prevalence of anemia are multiparity, poor socioeconomic and nutritional status.[5,8] There are studies that demonstrate the prevalence of anemia in pregnancy in rural settings but the association of anemia in pregnancy with maternal factors is not being thoroughly studied.This study was carried out in urban area and reveals the association of maternal risk factors with anemia in pregnancy.

METHODS:

This cross-sectional study was carried out on 372 pregnant women from 8 union councils of city Nawabshah. The sampling technique was simple random probability sampling with exclusion criteria of having any bleeding disorder and on iron and folic acid supplementation. A well designed structured questionnaire was used for data collection and analyzed statistically. Hemoglobin estimation was done by hematology analyzer of all interviewed population. The data was analyzed by SPSS for windows version 21. The continuous variable parity and birth was analyzed by frequency, mean and standard deviation. The confidence level will be 95% and the level of significance was assessed by P-value at 0.05.

RESULTS:

In this study 69.1% population of pregnant women was anemic among which 26.8% have mild, 47.4% have moderate and 25.6% have severe anemia (Table I).

According to this study 70.6 % of primi-gravida were anemic among which 25.3% have mild, 46.2% have moderate and 28.3% have severe anemia. 67.3% of grand multipara women were anemic among which 27.2% have mild, 48.4% have moderate and 24.2% have severe anemia (Table II).

In this study 71.4% of pregnant women with birth spacing less than 2 years were anemic among which 28.1% have mild, 46.4% have moderate and 25.4% have severe anemia. 63.7% of pregnant women with birth spacing more than 2 years were anemic among which 27.7% have mild, 48.6% have moderate and 23.6% have severe anemia (Table III).

According to this study 76.5% of pregnant women in first trimester were anemic among which have 17.9% mild, 53.8% have moderate and 28.2% have severe anemia.62% of pregnant women in third trimester were anemic among which 36.8 have mild, 51.5% have moderate and 22.1% have severe anemia (Table IV).

Table I. Prevalence of Anemia

Survey Population	Non- Anemic		Anemia							
			Total		Mild		Moderate		Severe	
	Frequency	%	Frequency	%	Frequency	%	Frequency	%	Frequency	%
372	115	20.9	257	69.1	69	26.8	122	47.4	66	25.6

Table II. Effect of gravida on Anemia

Gravida	Non- Anemic		Anemia							
			Total		Mild		Moderate		Severe	
	Frequency	%	Frequency	%	Frequency	%	Frequency	%	Frequency	%
Primi	28	29.4	67	70.6	17	25.3	31	46.2	19	28.3
Multi	71	31.1	157	68.9	43	27.3	75	47.7	39	24.8
Grand multi	16	32.6	33	67.3	9	27.2	16	48.4	8	24.2

Table III. Effect of Birth Spacing of Anemia

Birth Spacing	Non- Anemic		Anemia							
			Total		Mild		Moderate		Severe	
	Frequency	%	Frequency	%	Frequency	%	Frequency	%	Frequency	%
< 2 years	74	28.5	185	71.4	52	28.1	86	46.4	47	25.4
> 2 years	41	36.2	72	63.7	20	27.7	35	48.6	17	23.6

Table IV. Relation of Trimester on Anemia

Trimester	Non- Anemic		Anemia							
			Total		Mild		Moderate		Severe	
	Frequency	%	Frequency	%	Frequency	%	Frequency	%	Frequency	%
1st	12	23.5	39	76.5	7	17.9	21	53.8	11	28.2
2nd	45	26.7	123	73.2	27	21.9	62	50.4	34	27.6
3rd	58	37.9	95	62	35	36.8	49	51.5	21	22.1

DISCUSSION:

Anemia is one of the most common nutritional deficiency disease observed globally. This study reflects that a high proportion of pregnant women (69.1%)from city Nawabshah are anemic (Table: I). Similar results are observed in many studies in Pakistan ranging from 30% to 75% hemoglobin in urban setting.[9,10]

Majority of women (70.6%)with first pregnancy were anemic due to young age, lack of knowledge and experience, cultural taboos from experienced women at home and society. (Table: II). It alarms to address this health issue among adolescent girls and to plan strategies for nutritional supplementation program for adolescent girls also for control of anemia.[11]

Few current study show that in Pakistan fertility rate has decline and contraceptive prevalence rate also going to be improved but still more than 50% of population desire more than 2 children with son preference.[12] Results of this study showed that great number of women (70%) who conceived with less than 2 years of birth spacing, 71.3% of them were anemic (Table:III).

Many studies and literature review show that anemia is more common in second and third trimester[13-15] but in this study 76.5% women in first trimester were anemic (Table:IV). It can be because this study was conducted with the help of lady health workers of city Nawabshah, they conducted interviews of those pregnant women who were registered to LHWs. Pregnant women with second and third trimester were advised for proper nutrition and antenatal care by LHWs but those with first trimester are newly registered and will get time to restore their health.

CONCLUSION:

Maternal factors like parity, stage of pregnancy and birth spacing play vital role in prevalence of anemia in turn on the health status of both mothers and newborns.

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