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Research Article

FACTORS PREDISPOSING PREGNANT WOMEN TO ANEMIA- AN EXPLORATORY STUDY AT TALUKA HOSPITAL THANO BULA KHAN DISTT; JAMSHORO SINDH

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Abstract:

Introduction: Anemia is a key public health problem distressing all ages of the population with its highest prevalence among pregnant women. Globally 20 percent of the maternal deaths are caused by anemia. The etiology of anemia during pregnancy in developing countries is multi factorial and varies by geographic region includes dietary deficiencies of iron, folate, vitamin B12 and parasitic infestation like malaria and hookworms, which co-relate to various factors like illiteracy, poverty, lack of awareness, cultural and religious taboos, poor dietary habits. The objective of this study was to determine the associated factors with anemia among pregnant women at Taluka hospital Thano Bula Khan.

Objective: For this research study, certain objectives are made including the Assessment of the hemoglobin level for anemia in pregnant women at Taluka hospital Thano Bula Khan, District Jamshoro. Another is including the determine factors predisposing pregnant women to anemia at a Taluka hospital Thano Bula Khan.

Method: A cross sectional study was conducted at Taluka Hospital Thano Bula Khan. A total 215 pregnant women were interviewed by using pre-structured questionnaire for data collection. Hemoglobin was measured by using hemoglobin analyzer. Anemia in pregnancy was defined as Hb <11g/dl.

Result: The overall prevalence of anemia in study population was 90.7 %. Almost 93.3% of the pregnant women were Muslims by Religion, belonged to low income and belonging to joint families. There was significant association of anemia with pregnant women education status, husbands education status, occupation, family's monthly income, location and with no of abortion.

Conclusion: Anemia is a major public health problem among the pregnant women of Taluka Hospital Thano Bula Khan. Awareness regarding this purpose should be generated by improving the educational status of the pregnant women and advice for dietary intake and consumption of iron and folic acid tablets is mandatory to prevent and treat anemia.

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INTRODUCTION:

Anemia is a major nutritional deficiency problem affecting all ages of the population with its highest prevalence among pregnant women. Anemia is defined as a decreased concentration of hemoglobin in blood, according to age and sex of the individual. Women in pregnancy are more prone to be anemic. Anemia is one of the common disorder observed worldwide and affects > a quarter of the world's population [1]. Worldwide anemia affects 1.62 billion people (25%), in which fifty six million are pregnant women [2]. Anemia in pregnant women considered severe when the hemoglobin concentration less than 7g/d, moderate when hemoglobin falls between 7.0–9.9 g/dl and mild when the hemoglobin concentration falls between 10-11 g/dl [3].

Anemia among pregnant women is a key health related problem and one of the most important causes of disability [4]. Pregnancy induces a some physiological changes in the body that often confuse with the diagnosis of several disorders and the assessment of the suitable treatments. This is especially true in case of anemia. Anemia in pregnancy is defined as a decreased hemoglobin concentration in blood below 11 g/dl, during which plasma volume enhanced as compared with red cell index which causes a physiological disorder. To produce red cells, the women body require (among other things) iron, vitamin B12 and folic acid. If there is a lack of one or more of these nutrient, anemia will develop [5].

There are many causes of anemia in pregnant women in developing countries and varies in different region includes dietary deficiencies of iron, folic acid, vitamin B12 and parasitic infestation like malaria and hookworms, which co-relate to various factors like low level of education, inadequate dietary intake, poverty, lack of knowledge, cultural and religious taboos. The prevalence in developing and developed nation is around 43% and 9 % respectively. According to World Health Organization (WHO) the total prevalence of anemia in pregnant women in developing nation is around 41.8% with the highest prevalence rate around 61.3% among pregnant women in African nation and in South East Asia its around 52.5% [6].

Most frequent cause of anemia is iron deficiency anemia (IDA) in both developed and developing countries. (WHO: 2008). In developed countries more common cause of iron deficiency due to insufficient iron intake. In developing countries major cause of iron deficiency due to poor dietary intake, repeated

infection, menstrual loss and repeated pregnancies [7]. According to the WHO total prevalence of iron deficiency anemia (IDA) in the United States (US) around 9%, the large incidence is found in Africa 47.5% and in South east Asia 35.7%. In the American people it's about (17.8%), United Arab Emirates its around 14 %, 11% in the Egyptian and its about 40% in Syrian Arab Republic and Oman peoples. After IDA, folic acid and vitamin B12 deficiency are main causes of anemia along with infections [8]. Maternal vitamin B12 deficiency causes neural tube defect, preterm labor and intrauterine growth retardation so this indicate that maternal vitamin B12 required for optimal growth of fetus and vitamin B12 deficiency seen in vegetarian people, because main source of vitamin B12 is animal foods [9].

Anemia as a different sign and symptoms like headache, vertigo, loss of sensation in both upper and lower limbs, disorientation, change in color of skin pale to yellow, decreased appetite, mouth and tongue ulcers etc. Anemia causes by two kind of factors, primary and secondary factors. Primary Factors are two types as exogenous and endogenous factors. Exogenous causes are commonly preventable, like education of mothers, household income, health services, marriage at early age and communicable diseases are prominent issues of exogenous factor. Exogenous causes are external factors to the body. Endogenous causes are internal factors of the body which causes biological harms to body and also degenerative disorders in afterward life. Excessive damage of RBCs, loss of blood and inadequate production of red blood cells (RBCs) are main concerns of endogenous factors. The number of pregnancies, age of mother, malnutrition, abortion and knowledge about diet are external factors of the mothers causing severe health complications [10].

Rational for the study

The prevalence rate of anemia in women is 51% in Pakistan, but this rate is high up to 60% in Sindh province (NNS-2011). Anemia during pregnancy if not prevented early leads to fatal complication for both mother and fetus. This study will be helped to explore the factors influencing the anemia in pregnant women of local Muslim and Hindu communities. The evidence in this regard for informed policy formulation, which will help to improve the health of pregnant women.

METHODS:

The researcher selected Cross sectional survey for formulating this study in a proper format. Further, the

study population consists of a sample of pregnant women who was visiting for antenatal care during the study period. The study area for this research is based on the antenatal clinics at a Taluka hospital Thano Bula khan District Jamshoro. Moreover, The study duration was three months. In addition, the current research study is depending upon the data collection tool that is pre - structured questionnaire. This data was Pre tested and necessary changes were done. For pretesting purpose, the research was based on validated questionnaire was adopted from safe motherhood need assessment kit (WHO) and weekly food frequency chart and modified according to study. Necessary changes were incorporated after field piloting of tool at Taluka hospital Kotri, in the same district of Jamshoro. Afterward, the sampling technique used for this study is universal sampling techniques. Whereas, for inclusion criteria us focused towards Pregnant women who were visiting for ANC during the study period was included as study participants. On the other hand, the exclusion criteria was concerned towards Pregnant women with acute illness (actively bleeding, acute febrile illness and diarrheal diseases), and revisits (follow up) was excluded.

The data collected method for this research study include two lady health workers were appointed for taking interviews. All pregnant women who visit for antenatal care at MNCH department Taluka hospital Thano Bula khan was interviewed by trained lady health workers after taking the written consent by telling about the aim of study. The structural

questionnaire was in English than converted into Sindhi (local language) and reconverted back into English make sure the correctness of the conversion. To assess the anemia of pregnant women, blood hemoglobin concentration was measured by Sahlis method. Hemoglobin level below 11g/dl was considered as anemic. Lab technician measured hemoglobin level of blood by taking 2ml blood in EDTA (ethylene dimine tetra acetic acid) vial for assessment of anemic stratus of pregnant women.

In addition, the ethical consideration for this research study is depending upon written permission that was taken from health services academy ethical comity, Islamabad. Permission to conduct the study was taken from concerned Head of Taluka Hospital Thano Bula Khan District Jamshoro. Written consent from each participant was taken by informing about the purpose of study. Confidentiality of all information was maintained; hence, all questionnaires were kept safe custody.

RESULTS:

This research is depending upon certain questions that were based on socio demographic, obstetrical, dietary & non-dietary habits, and other factors of anemia. These results are based on two different parts including descriptive and analytic parts. Further, descriptive part comprised of age, education status, husbands education status of pregnant women, occupation, and husbands occupation. Analytic part shows the association of different variables with anemia.

Descriptive part**Table 1 : Socio Demographic Factors**

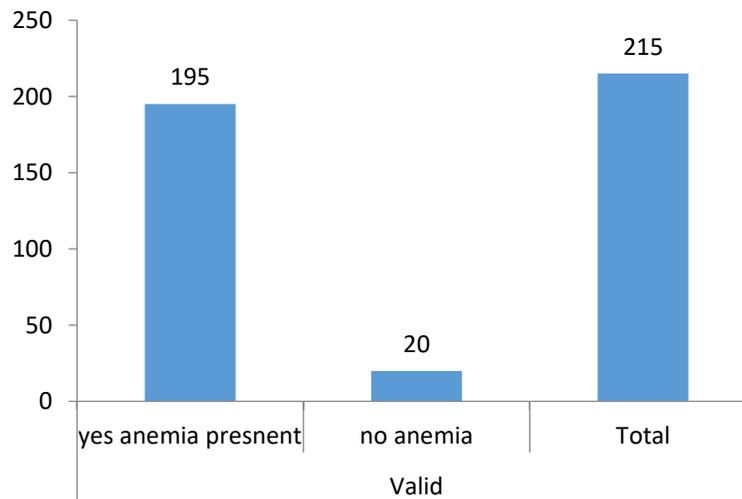
VARIABLES	FREQUENCIES (N=215)	PERCENTAGES (%)
Age of respondent		
15 to 25 years	87	40.5%
26 to 35 years	112	52.1%
> 35 years	16	7.4 %
Education status of husband		
Uneducated	147	68.4%
Primary pass	23	10.7%
Middle pass	22	10.2%
Matric pass	4	1.9%
Intermediate	18	8.4%
Others	1	0.5%
Occupation		
House wife	201	93.5%
Working women	14	6.5 %
Husbands occupation		
Own occupation	110	51.2 %
Govt; employee	17	7.9%
Private employee	35	16.3 %
Student	0	0 %
Unemployed	0	0 %
Farmer	53	24.7%
Others	0	0%

Table 2: Obstetrical variables of study population.

Variable	Frequency	Percentage
No of pregnancies		
0-1	41	19.1%
2-3	61	28.4%
More than 3	113	52.6%
No of abortion/miscarriages/still birth		
0	119	55.3%
1	82	38.1 %
2	13	6.1 %
3 or more	1	0.5%
No of Antenatal care visits		
1 st visit	26	12.1 %
2 nd visit	120	55.8%
3 rd visit	55	25.6%
4 th visit or more	14	6.5 %
Trimester		
1 st trimester	7	3.3 %
2 nd trimester	124	57.7 %
3 rd trimester	84	39.1 %
Birth spacing and family planning		
Yes		
No	88	40.9 %
	127	59.1%

Table 3: Weekly food frequency of study population.

variable	Frequency (n= 215)	Percentage (%)
Eat mutton/week		
1-2 times/week	8	3.7 %
≥ 3 times/week	0	0 %
Never /week	207	96.3 %
Eat Fish/chicken/week		
1 to 2 times/week	29	13.5 %
3 or > times /week	0	0%
Never /week	186	86.5 %
Eat eggs/week		
1 to 2 times/week	31	14.4 %
3 or > times/week	0	0 %
Never /week	184	85.6 %
Eat green vegetables/week		
1to 2 times/week	50	23.3 %
3 Or > times/week	165	76.7 %
Never /week	0	0%
Eat pulses /week		
1 to 2 times/week	15	7 %
3 or > time/week	197	91.6 %
Never /week	3	1.4 %
Eat fresh fruits/week		
1 to 2 time/week	67	31.2 %
3 or > times	0	0 %
Never /week	168	68.8 %

Figure 1: Frequency of Anemia Prevalence in study population

Analytical part

A. Association of pregnant women education and anemia.

Anemia was associated with education status of pregnant women. Anemia in literate pregnant women of study population was 81.25 % and in illiterate were 94 % and p value 0.002, which was significant.

B. Association of pregnant women husbands education and anemia.

Anemia was also associated with husband's education of pregnant women. Anemia in pregnant women of literate husbands of study population was 82.35% and in illiterate were 94.55% and p value 0.004 which were statically significant.

C. Association of pregnant women family monthly income and anemia.

Monthly family income has significant association with anemia. Anemia in pregnant women whose monthly family income up to 10 thousand were 93 % and above 10 thousand were 80 % and p value 0.028 which is statically significant.

D. Association of pregnant women no of abortion and anemia.

No of abortion have association with anemia in pregnancy. Anemia in pregnant women who ever abortion was 95 % and who have not ever aborted were 86.55 % and p value was 0.020, which was statically significant.

E. Association of pregnant women Location and anemia.

Rural and urban location also associated with anemia. Anemia in rural pregnant women of study population was 92.30 % and in urban population was 81.80 % and p value 0.023, which was statically significance.

F. Association of Occupation of pregnant women and anemia.

Occupation of pregnant women also associated with anemia. Anemia in house wife was 92 % and in working women was 66.6 % and p value 0.003, which was statically significant.

G. Association of pregnant women religion and anemia

Anemia not associated with religion in study population. P value was 0.469, which was not statically significant.

H. Association of pregnant women Trimester and anemia

Anemia was more in 2nd and 3rd trimester in study population as compare to 1st trimester. P value was 0.031, which was statically significant.

DISCUSSION:

Anemia is a preventable dietary deficiency disorder, which affect a large portion of the world in both developed and developing countries [14]. Pregnant women are most of the susceptible groups of a population to develop anemia mainly in under developing countries. Therefore, the objective of this study was to explore the associated factors of anemia in pregnant women attending antenatal clinics at Taluka hospital Thano Bula Khan, Distt; Jamshoro, Sindh. This study showed that the overall prevalence of anemia among the Pregnant women attending antenatal clinics at Taluka hospital Thano bula khan Distt; Jamshoro Sindh was 90.7%, which was significantly higher than the prevalence of anemia in Pakistan among pregnant women, which is 51% in Pakistan and 60% in province of Sindh (Pakistan National Nutritional Survey 2011). [11]

The high rate of incidence of anemia in this study population mostly observed due to lack of education, low monthly income and repeated pregnancies. The results of the present study is similar to study conducted by Naila Baig, et.,al in Hyderabad Sindh [12]. In another study conducted by Dr. Moushumi Biswas et al in Asam, India reported the total prevalence of anemia among pregnant women was 86.88% [13]. Out of 90.7% pregnant women, 59 %

were mildly anemic, 31% were moderately anemic and less than 1% suffered from severe anemia, although prevalence of severe anemia was little low in this study population as compared to other developed countries where severe anemia prevalence was 2 to 7 % [15]. The total prevalence of mild anemia in pregnant women of under developing countries about 35% to 81% (WHO: 1992). Almost more than half of pregnant women have a mild anemia, with hemoglobin concentration between 11g/dl to 9g/dl. These are hopeful finding for policy makers, because the effort required to reduce the prevalence of anemia in almost half of pregnant women should not be as great as that needed to produce normal hemoglobin level in with more severe anemia [16].

In this study, prevalence of anemia decreased with increase in family monthly income of the pregnant women and this association is statically significant. Anemia prevalence among low income families less than 10 thousands were 93 % as compared to higher income more than 10 to 20 thousands or higher were 80 %. The observation of the present study consistent with study reported by Addis Allene k et al in the urban area of Eastern Ethiopia 2014 [14].

CONCLUSION:

Anemia is a major public health problem among the pregnant women of Taluka Hospital Thano Bula

Khan. Pregnant Women's education status, husbands education, family monthly income, location, no of abortion, no of pregnancies, occupation and food intake of the women per week were statically significant variables for the anemia among pregnant women. Health issues related to socioeconomic status and literacy of women are the major determinant that related to the anemia. Risk of anemia among poor socioeconomic status pregnant women have higher as compared to high socioeconomic status. Family monthly income also associated with development of anemia in pregnant women, those who a low income are more prone to develop anemia as compared to high income. Anemia also frequently observed in rural population than urban population, these finding clearly linked to inadequate information regarding sufficient diet during pregnancy and inaccessibility of health care services in rural areas. There was no difference of religion was observed, anemia prevalence equally observed in Hindu and Muslim community residences.

Recommendation:

- High prevalence rate of anemia among pregnant women is alarming immediate action to compete this on emergency basis.
- Awareness regarding this purpose should be generating by improving the education status of pregnant women and also education status of husbands equally important.
- During Antenatal care visits, health education and counseling regarding dietary intake to consumed iron rich foods should be given and also during Antenatal care visits iron, folic acid and multivitamin tables should be given to prevent and treat anemia during pregnancy.
- Availability and accessibility of health care facilities with PHC services at doorsteps or at least within five kilometers of distance.
- Strengthen family planning programs up to gross root level with complete involvement of all stakeholders with special focus on maternal health and nutrition.

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