



Assessment of the Anemic Conditions among the Females with Pregnancy at Tertiary Care Hospitals of Sindh Pakistan

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Authors' contributions

This work was carried out in collaboration among all authors. Author NFP designed the study, performed the statistical analysis, wrote the protocol and wrote the first draft of the manuscript. Authors BN, FU, SC, FW and TT managed the analyses of the study and managed the literature searches. All authors read and approved the final manuscript.

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ABSTRACT

Anemia is pathological disorder usually caused by mal nutrition and it was very common among feminine gender during gestational period, number of disease and death are also associated with this type of disorder during pregnancy. The major theme of the study is to evaluate the anemic condition along with prescribed medication among females during the period of pregnancy. Descriptive cross-sectional study was carried out for the period of 9 months at various tertiary care hospitals situated in rural areas of Sindh province. Total 273 females with pregnancy along with anemic condition, were selected by purposive sampling method. From total number of study

subjects 71% females were diagnosed as anemic, that were further categorized as mild, moderate and severe, depend on their medical condition. It was observed that anemic condition was more common among infancy pregnant females with ages 20-29 years, the number of patients were 209 (76.5%). females with primary or secondary education had more problem of anemia as compared to females with intermediate or graduation. Anemic females with primary education (126), secondary education (73) whereas anemic female with intermediate (46) and with graduation anemic females were only (28). Females with multipara had severe anemic condition as females with primigravida. Anemic condition becomes more severe among females with second or third trimester. Anemic condition among females with 1st trimester was 37, in second trimester 109 whereas in 3rd trimester 127 anemic females were reported. For management of anemia among females with pregnancy depends upon the medication taking by them, number of females was 142, which were taking 3 or 4 medicine, while females with mono pharmacy were 95 and only 36 females were taking various multi vitamin, intravenous Iron supplement and it was concluded that anemia was more common among females resident of rural area due to unawareness regarding anemia and its associated complication. Another major cause was observed was mal nutrition.

Keywords: Anemia; nutritional diseases; prevalence; pregnancy.

1. INTRODUCTION

Word anemia is actually taken from Greek word "anemia" that means "without blood" [1]. It is disorder associated with blood which can be defined as reduction in amount of haemoglobin blood [2]. In accordance with WHO, report, majority of population is affected by this fast growing disease around the globe. Anemia is blood disorder that affects the population of any age but majority of its prevalence is observed among children with less than 05 years of age and females with pregnancy [3]. Major route cause of anemia among females with pregnancy is nutritional deficits including Iron, Folate and vitamins mainly Mecobalamine (B-12) beside this various other factors are also responsible for the same that may include genetic disorders and infectious disease such as Malaria and Tuberculosis. World Health Organization (WHO) conducted numerous studies based on raising frequencies of anemia among pregnant females in different areas around the world [4]. The main purpose of this research is to evaluate the incidence of anemia, related risk issues, hindrances, dietary and investigational management. Data compiled by WHO was issued in various reports across the world [5]. Anemic condition among females enhances the rate of disease in mothers. Type of anemia may include iron, folic acid, Mecobalamine, sickle cell, aplastic and hemoglobinopathies [6]. Iron deficiency anemia is liable for number of complications for mothers and fetus as well. The complication may include preterm birth (before 37 weeks delivery), intrauterine growth restriction with chances of raising death rates, abruption, placenta previa and accreta, lack of iron among neonates, cardiac arrest, lactation deficits and

many more [7,8]. Folic acid commonly called as Vitamin B9, it is actually folate that is water soluble and synthetic type vitamin [9,10]. If the normal concentration of folic acid reduces within serum than folic acid anemia is most probability appears [11]. According to research conducted previously it is calculated that half of the anemic population is suffered from folic acid anemia that is root cause for various disorders related to mother and her fetus [12]. Such disorder may include abortion, neural tube defects, growth retardation, LBW, Still brain and nervous system damage [13,14]. For its management it is necessary to measure the concentration of hemoglobin and serum folate sometime specified techniques are used to evaluate its concentration among most severe patients with multiple pathologies [15,16].

2. METHODOLOGY

The descriptive cross-sectional study was carried out for the period of 09 months from September 2018 to May 2019 at various tertiary care hospitals situated in rural areas of Sindh province. Total 273 females with pregnancy along with anemic condition (diagnosed before sample selection), were selected by purposive sampling method and collected data was analyzed by following the standards criteria of WHO regarding anemic condition of females such as Mild, Moderate and Severe. A questionnaire (consist of two sections i.e. socio-demographic and study related questions) was given to all included research subject and they were facilitated that how to fill these proforma and Data was analyzed by using statistical software SPSS version 22.00.

3. RESULTS

Anemic condition of pregnant females was evaluated by compiling the data from questionnaire filled by them. According to research data females were categorized into various age groups, total 62 females were categorized in the age group of (20-24 years), 147 females were grouped in the age group of (25-29 years), and 56 females were assembled in the age group of (30-34 years) whereas only 08 females were reported in the age group of (35-40 years). Which are mentioned as under.

Beside this, frequency of anemia was measured by using standards of WHO and they are categorized as Mild, Moderate and Severe. Asit is mentioned in Table 2.

It was observed that number of anemic condition also depends upon the knowledge and qualification as literate people knows better, how to overcome the mal nutrition during the period of gestation. So education also matters for the management of anemia and the number of patients, who had primary qualification, was 126 (46.15%), patients with secondary education was 73 (26.73%), 46 (16.8%) females were having intermediate education whereas only 28 (10.25%) were having graduation. As described in Table 3.

It was observed that anemic condition was very much common among females with second or third trimester as compared to first trimester and they were categorized as shown in Table 4.

Table 1. Distributions of subjects based on age

Age Group	Number of Females	Percentage (%)
20-24	62	22.71
25-29	147	53.84
30-34	56	20.51
35-40	08	2.9

Table 2. Anaemic status among pregnant women

Anemic Condition	Number of Patients	Percentage (%)
Mild	27	13.91%
Moderate	94	48.45%
Severe	73	37.62%

Table 3. Distribution of subjects based on qualification

Qualification	Number	Percentage (%)
Primary	126	46.15
Secondary	73	26.73
Intermediate	46	16.8
Graduation	28	10.25

Table 4. Distribution of subjects based on trimester of pregnancy

Trimester	Number	Percentage (%)
First	37	13.55
Second	109	39.92
Third	127	46.52

Table 5. Occupational status of study subjects

Occupational Status	Number	Percentage (%)
House Wife	163	59.70
School Teacher	41	15.01
Indoor Job	33	12.08
Others	36	13.18
Total	273	100.0

Table 6. Diseases related to anemic condition in study subjects

Disease observed among study subjects	Number	Percentage (%)
Anemia	194	71.0
Thalassemia	03	1.09
Hepatitis	06	2.19
Cardiac Problem	13	4.76
DM	14	5.12
HTN	21	7.69
Fever	1	0.36
Anemia + Fever	1	0.36
Hypotension	3	1.09
Stomach Problem	1	0.36
Asthma + Stomach Problem	1	0.36
Anemia + DM + HTN	1	0.36
Epilepsy	1	0.36
Anemia + Insomnia	1	0.36
Malaria	1	0.36
Anemia + Cardiac problem	10	3.66
Thrombocytopenia	1	0.36
Total	273	100

Table 7. Drugs used by study subjects

Drugs used in anemic patients	Number	Percentage (%)
Multivitamins	34	12.45
Omeprazole+Zantac	04	1.46
Anti Tubercular Treatment	03	1.09
Aldomet+Insulin	15	5.49
PPI	02	0.73
Aldomet	13	4.76
Antimalarial drugs	02	0.73
Sangobion	13	4.76
Anti tubercular Treatment+Aldomet	04	1.46
Ascard	13	4.76
SurbexZ	34	12.45
Aldomet+Surbex z	08	2.93
Aldomet+Iron	04	1.46
Aldomet+Sangobion	09	3.29
Aldomet+Ascard	08	2.93
Aldomet+Multivitamin	02	0.73
Maltofer	90	32.96
Lysovit	12	4.39
Glucophage	02	0.73
Polymalt	01	0.36
Total	273	100

4. DISCUSSION

In accordance with current research the frequency of anemic females during pregnancy was 71% that demonstrate the burden of anemia in rural areas of the Sindh. And our research concludes the elevated in occurrences of anemic condition among females as compared to the studies conducted internationally. On the other hand resemble study was carried out in

KwaZulu-Natal, South Africa by Hoque, M. et al., which shows the rates of anemia during pregnancy is about 65% [17]. In addition to this comparative research was also carried out by Sohail R et al. In Lahore and according to their results the frequency of AIP was 73% [18]. Similar type of study was also carried out in Multan that reports 79% of AIP and a study related to our research was carried out in Finland by Räsänen, S, et al. that shows maximum

frequency that is up to 90% in AIP [19]. On the behalf of various causes' current research elaborate the maximum frequency of anemic condition as anemic condition among females was more common in second or third trimester. Second major reason for anemic condition was poverty observed among AIP patients as due to very limited resources of income AIP patients were unable to manage healthy foods and control mal nutrition during their gestation period, and majority of population due to poverty was not able to afford the expenses of medication used for anemia in pregnancy these reason are most common in Pakistan especially in remote areas. Number of pregnancies, gestational status (trimester wise) is the most conjoint factors for emerging anemia. Recent research concludes that with the enhancing the pregnancies number chances for anemia are also increased accordingly. Current study reports that anemic rate was 13.5% in 1st trimester, 39.9% in 2nd trimester whereas 46.5% was observed in 3rd trimester. As the time passed the pregnant women requires number of healthy foods including green vegetables and fruits and proper medication that eradicate the disorder of anemia and same conclusion was given by majority of scholars.

5. CONCLUSION

It was concluded that level of hemoglobin was very low in most of study subjects and severity of anemia was found mostly in third trimester. Education matters a lot in the management of anemia; if the patients were educated they can easily manage the deficiencies of mal nutrition, number of repeated pregnancies can also enhance the chances of anemia among pregnant females.

CONSENT

As per international standard or university standard, patient's written consent has been collected and preserved by the author(s).

ETHICAL APPROVAL

As per international standard or university standard written ethical approval has been collected and preserved by the author(s).

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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