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Frequency Of Anaemia In Pregnant Women Of Age B/W 18-30 In Opd Of Gynaecology Department Of Dhq Hospital Sahiwal

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ABSTRACT

Anemia is considered a severe public health problem by World Health Organization. The purpose of this study was to determine the prevalence of anemia with associated risk factors in pregnant women.This study was done in OPD of gyanecology department of DHQ HOSPITAL SAHIWAL by using cross-sectional study. The study was conducted from 10th June 2015 to 18th August 2015 with the sample size of 50 pregnant women, selected through convenient sampling. Data was collected through questionnaire comprising of close ended questions including history of hemorrhage, intake of iron supplements, green leafy vegetables and meat, status of pregnancy either primigravida or multigravida.

Anemia was more prevalent in 78% women who are uneducated, had poor sanitary condition, less intake of iron and meat, had history of heavy menstruation and postpartum haemorrhage.

Anemia in pregnant women is a public health problem, coexisting with iron, folate and vitamin B12 deficiency. Hence to overcome the prevalence of anemia, anemia control programs with reasonable care should be recommended.

Keywords:

Anemia, pregnancy, postpartum hemorrhage, iron supplements.

INTRODUCTION

Anaemia in pregnancy accounts for one fifth of maternal deaths worldwide and is a major factor responsible for low birth weight babies[1].According to the United Nations (UN) estimate, approximately half of pregnant women suffer from anaemia worldwide .Anaemia

prevalence during pregnancy differed from 18% in developed countries to 75% in South Asia[2].The World Organization definition for diagnosis of anaemia in pregnancy is haemoglobin concentration of less than 11gm/dl and a haematocrit of less than 0.33.Center for disease control, USA proposes a cut off value of 10.5gm/dl in the second trimester[3]. Anaemia is a major factor in women's health in developing countries. Severe anaemia during pregnancy is an important contributor to maternal mortality[4]. The causes of anaemia are multifactorial, including diet, infection and genetics, and for some of the commonest causes of anaemia there is good evidence of the effectiveness of simple intervention: for example iron supplementation[5]. Pathological anaemia of pregnancy is mainly due to iron deficiency[6].

There are marked physiological changes in the composition of the blood in healthy pregnancy, mainly to combat the risk of haemorrhage at delivery. Plasma volume and red-cell mass increase by 50% and 18-25% respectively, resulting in dilutional decrease in Hbconcentration called the physiological anaemia of pregnancy, maximum at 32 weeks of gestation[7].

Anaemia is the commonest medical disorder in pregnancy and has a varied prevalence, aetiology and degree of severity in different population. Maternal anaemia is important and is a common problem in pregnancy in developing countries like Pakistan. It is estimated that 1.20 million people are anaemic globally [8].Maternal anaemia in pregnancy is commonly considered as risk factor for poor pregnancy outcome and can threaten the life of mother and fetus[9]. However, the extent to which the maternal haemoglobin concentration affects the fetal outcome is still uncertain. Some studies have shown a strong association between low haemoglobin level before delivery and an adverse outcome, [10] while other studies have not found a significant association[11]. The health-conscious world community has come to realize that anaemia, the majority of which is

due to iron deficiency, has serious health and functional consequences[12], is widespread especially among tropical-low income populations and that most of its nutritional component is controllable with a very high benefit/cost ratio.

Women of fertile age and pregnant-lactating as well as their infants and young children are particularly affected [13, 14]. It is estimated that about 2,150 million people are iron deficient [15]. Anaemia is the commonest medical disorder in pregnancy and has a varied prevalence, aetiology and degree of severity in different populations, being more common in non-industrialized countries. The prevalence is 35% for non-pregnant women and 51% for pregnant women globally, and tends to be 3-4 times higher in non-industrialized than in industrialized countries [16]. Anaemia affects about 18% of women during pregnancy in industrialized countries while in non-industrialized countries prevalence varies between 35-75% with an average being 56% [17].

Out of an estimated 150 million deliveries occurring worldwide annually, approximately 600,000 women die from the complications of pregnancy and childbirth, 35-40 million suffer serious acute complications and 15-20 million have long term complications. It is responsible for 40-60% of maternal deaths in non-industrialized countries [18]. It causes direct, as well as indirect, deaths from cardiac failure, haemorrhage, infection and pre-eclampsia. It also increases prenatal mortality and morbidity rates consequent to preterm deliveries, intra-uterine growth retardation, low iron stores, iron deficiency anaemia and cognitive and affective dysfunction in the infant [19].

REVIEW OF LITERATURE

Anemia in pregnancy is thought to be one of the commonest problems affecting pregnant women in developing countries. In 1993, the World Bank ranked anemia as the 8th leading cause of disease in girls and women in the developing world. Data

collected from all over the world indicate that a total of 2170 million people (men, women and children) are anemic by WHO criteria. The most affected groups, in approximately descending order are pregnant women, the elderly, school children and adult men. In developing countries, prevalence rates in pregnant women are commonly estimated to be in the range of 40%-60%. Among non pregnant women this is 20%-40% and in school aged children and adult men the estimate is around 20%.[20]

Data from industrialized countries suggest that maternal anemia and iron deficiency

increases low birth weight and pre term birth risk. Low birth weight (either Intra Uterine Growth Retardation or prematurity) is the most important risk factor for infant mortality and significant detriment of childhood morbidity. [21]

The hemoglobin concentration, haematocrit and red cell count fall during pregnancy because the expansion of the plasma volume is greater than that of the red cell mass. However, there is a rise in total circulating hemoglobin directly related to the increase in red cell mass. This in turn depends partly on the iron status of the individual.[22]

Due to lack of resources and lack of staff motivation, screening of anaemia is often done solely by clinical examination of the conjunctivae or is not carried out at all. A new colour scale for the estimation of haemoglobin concentration has been developed by the WHO.

A study carried out in Malawi showed that the sensitivity using the colour scale was consistently better than for conjunctival inspection alone and intra observer agreement and agreement with coulter counter measurement was good. The haemoglobincolour scale is simple to use, well accepted, cheap and gives immediate results. It shows considerable potential for use in screening for anaemia in antenatal clinics in settings where resources are limited. [23] Further work is ongoing to assess the potential of this tool for wide spread use as a screening method in antenatal clinics.

Plasma volume rises progressively throughout pregnancy with a tendency to plateau in the last 8 weeks. Women with multiple pregnancies have

proportionately higher increment of plasma volume and in contrast women with poorly growing foetuses have a correspondingly poor plasma volume. Red cell mass increases steadily between the end of first trimester and term. As with plasma volume the extent of the increase is related to the size of the foetus. [24] Thus women with multiple pregnancies are also at increased risk of anaemia.

Although some studies have found that anaemia is more common among adolescents, this appears to be a result of the fact that adolescents are more often primigravidae. Two studies from Malawi confirm this finding.In a study carried out in Queen Elizabeth Central Hospital and Namitambo Health centre Malawi, university analysis showed an increased risk of anaemia for women under 20 years of age, but when corrected for gravidity and trimester at booking the increased risk with young age no longer existed. [25]

A study in the Shire valley area showed that adolescent primigravidae had the lowest mean haemoglobin concentration and the highest prevalence of anaemia (93.8%,n=495).Adolescent multigravidae, adult primigravidae and adult multigravidae had prevalences of 87.7% (n=144), 90.7% (n=322) and 88% (n=2614) respectively.[26]However, age was no longer associated with an increased risk of anaemia when adjusted for gravidity.

During pregnancy, anemia is most often believed to result from nutritional deficiencies, especially iron deficiency. The definition and identification of iron deficiency is problematic especially in situations in which chronic inflammation is present. The gold standard for identifying iron deficiency anaemia is still the examination of suitably stained bone marrow aspirates for storage iron as haemosiderin. This method is invasive, and therefore not suitable for population screening. [27]

OBJECTIVE

To study the frequency of anemia in pregnant ladies of age b/w 18-30 years

OPERATIONAL DEFINITION

World Health Organization defines anaemia in pregnancy as haemoglobin

Concentration of less than 11 g/dl and haematocrit of less than 0.33.

MATERIAL AND METHODS

STUDY DESIGN:

Cross-sectional study

SETTING:

OPD of gynaecology department of DHQ HOSPITAL SAHIWAL.

DURATION:

15th June 2015 - 18thAugust 2015. (2 months)

SAMPLE SIZE:

50 pregnant ladies.

SAMPLING TECHNIQUE:

Non probability convenient sampling

DATA COLLECTION PROCEDURE:

Face to face interview in the presence of interviewee

DATA ANNALYSIS:

Microsoft Excel spread sheet

QUESTIONNAIRE:

Closed ended questions

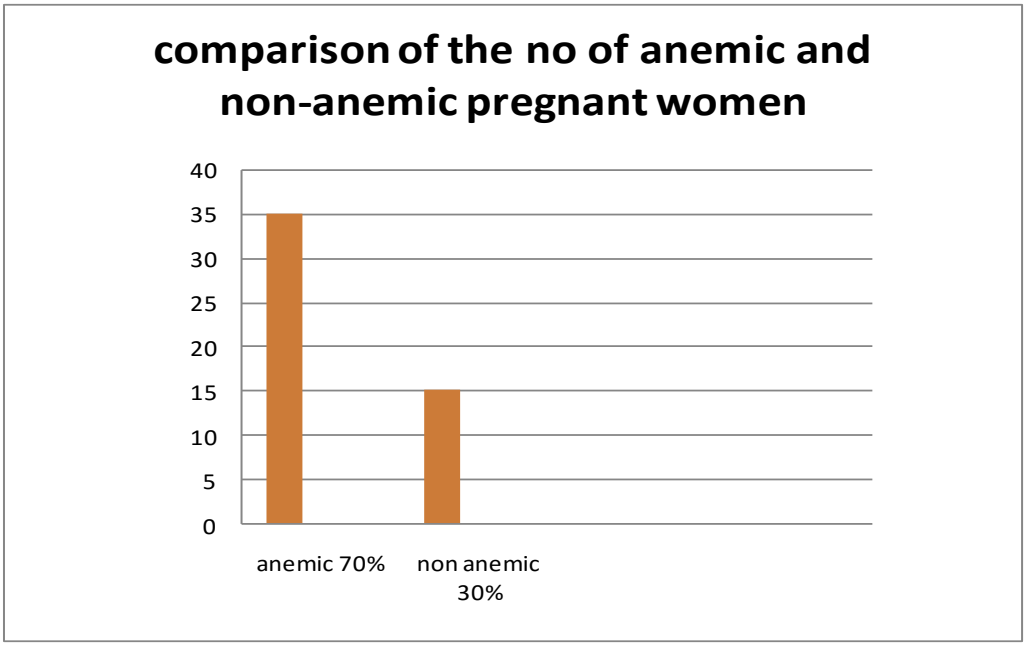
ETHICAL ISSUES: I have taken the informed consent from the participants and explained that all the data of patient will remain confidential. I have taken the permission from authorities (Head of departments).

RESULTS

Results show that 70% of females were categorized as anaemic. Among them anaemia was more prevalent in uneducated women of age groups 20-30years; living in rural population; having monthly income less than 10,000Rs.

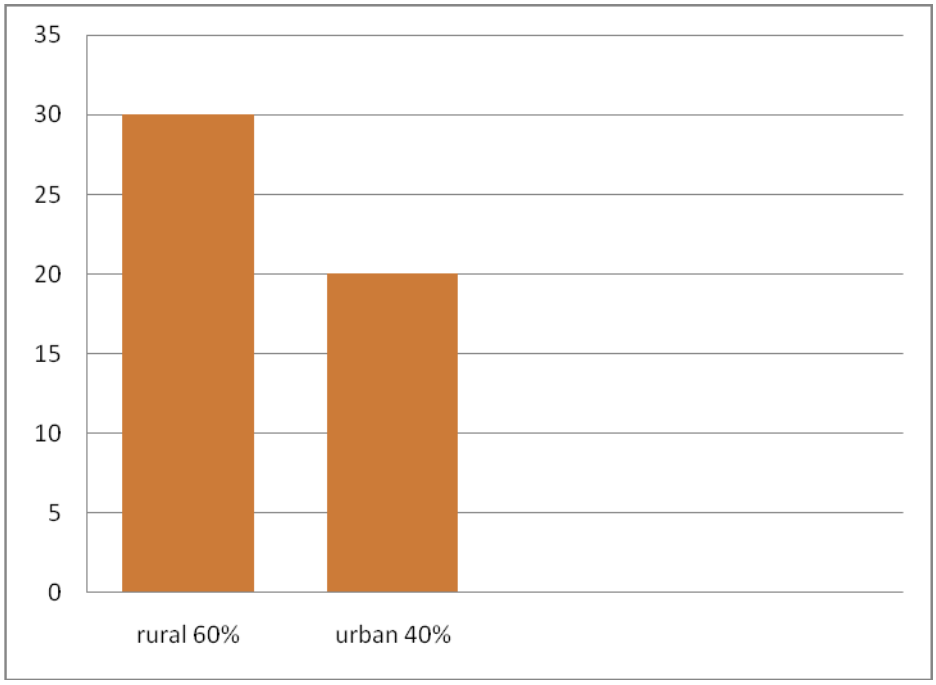
Parity plays an important role, multipara women were more anaemic, in addition excessive bleeding during menstrual period or post-operatively, low socioeconomic status, poor sanitary conditions at home resulting in hook worm infestation and less or no intake of iron supplements were found in more anaemic.

Bar chart-1: comparison of the number of anaemic and non-anaemic pregnant women



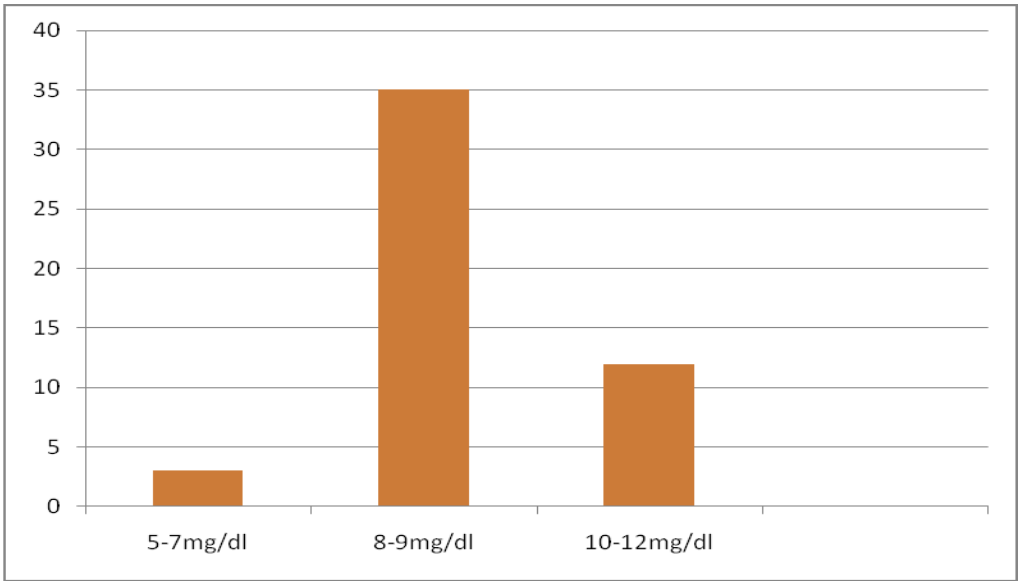
Inference: In a sample of 50 were found anaemic pregnant women 70%

Bar chart-2: percentage distribution of living in rural and urban population



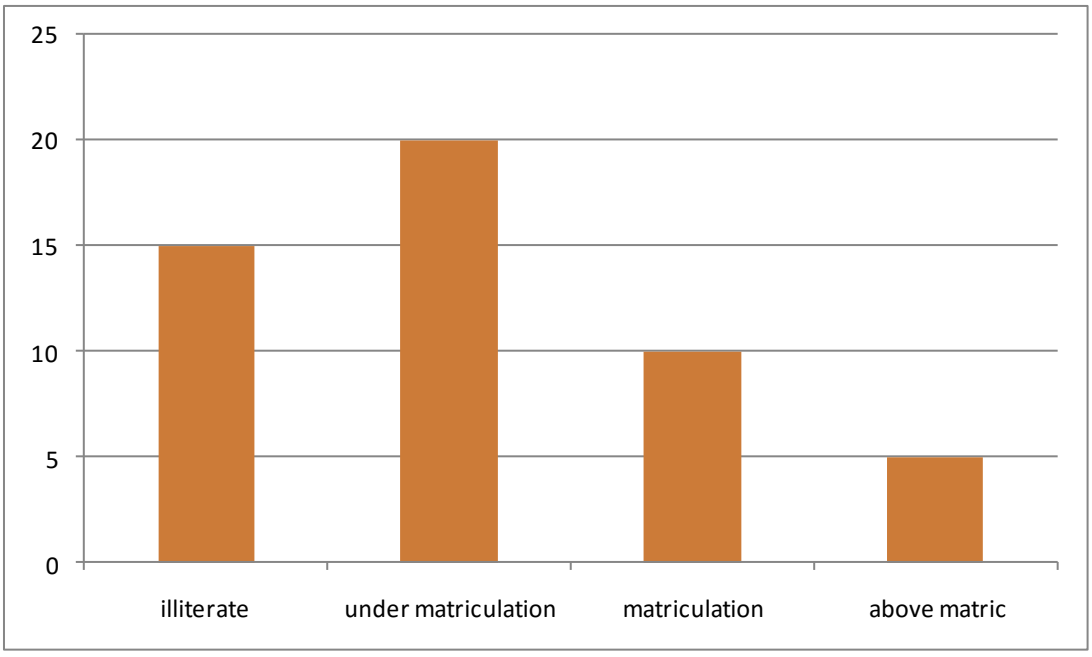
Inference: It shows that anaemia is more prevalent in women living in rural areas 60% (30women) as compared to urban areas

Bar chart-3: Hb levels of pregnant women



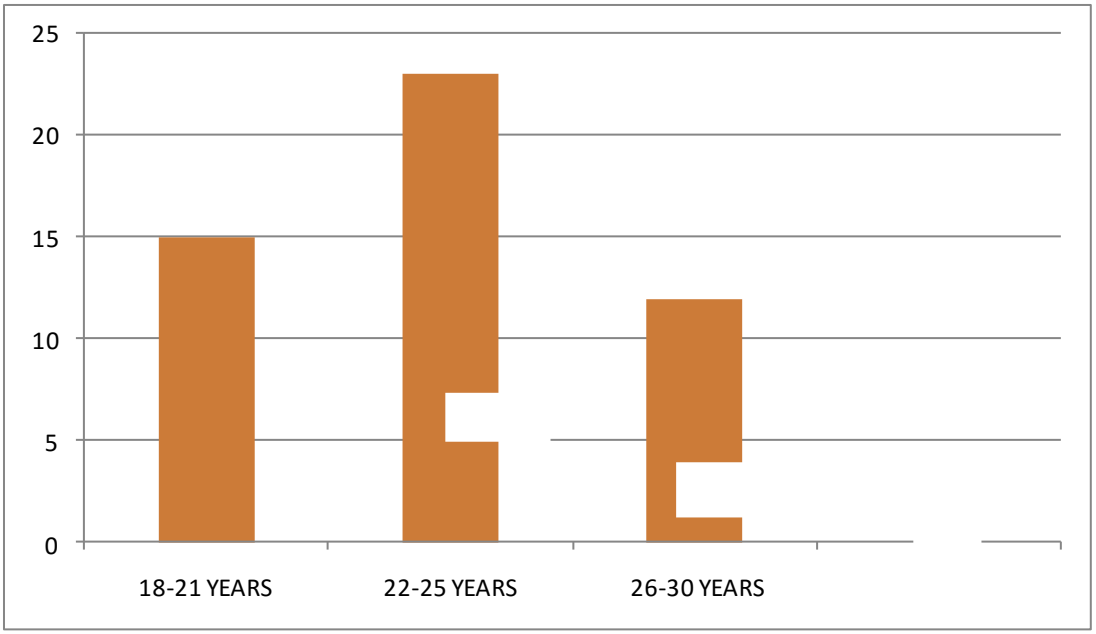
Inference: It shows 70% (35) women had their Hb levels between 8 to 9gm/dl. When sample size is 50.

Bar chart 4: Literacy level of pregnant women



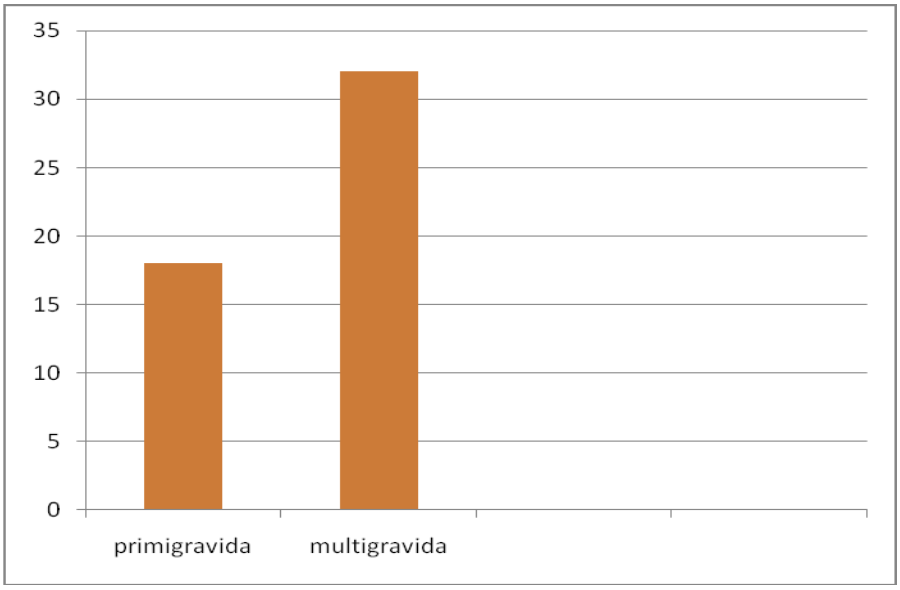
Inference: This shows that anaemia is prevalent among those women who had education less than matriculation (40%) according to above chart when sample size

Bar chart-5: Age at Marriage of sample



Inference: Women who were married b/w 22-25 years of age were more anaemic 46% according to above data when sample size is 50

Bar chart-6 percentage Distribution of sample according to pregnancy status



Inference: Anaemia was more common in multigravida (64%) as compared to primigravida.

DISCUSSION

Anemia is the most common cause of death of women in pregnancy worldwide. Moreover anemia is considered as a major cause of many fetal deformities. This may cause many anomalies in mothers as well. In our study conducted in year 2014, different area, population and time period make this research different from other studies conducted on same topic. This study was another randomized, cross-sectional, questionnaire based and multicentric study for anemia in pregnant women.

This study was in consistent with the study conducted on the same topic in India. That study showed a high prevalence of moderately severe anaemia (<10 g/dl haemoglobin) among young women of reproductive age attending health facilities. The values were highest among women with suspected pelvic inflammatory disease who had impaired fertility, probably as result of this disease [28].

A study in Indonesia reported a 27.9% prevalence of anaemia (<12.0g/dl haemoglobin) among non-pregnant working women, 21.1%

among adolescent girls, and 52.3% (<11.0 g/dl haemoglobin) among pregnant women [29]. In our study 82.2% of non-pregnant women and 79.6% of pregnant women fell below recommended value (<11.0 g/dl haemoglobin).It shows that women who don't have children had higher haemoglobin values than women having children.It supports the view that childbirth , lactation , and child -bearing tax a woman's nutritional condition . However , the magnitude of the effects of child – bearing on haematological status in this population was limited . The regression analysis showed a difference of -0.1 g/dl from the mean baseline haemoglobin value for each live birth, which is a small value. The explanation for this is probably the low mean number of children born to currently married women in Maharashtra State: 2.95, with a mean of 2.62 children still living [30]. In our study population, women had a mean of three pregnancies over an average reproductive Span of 10 years [31]. The short reproductive span as a result of tubal sterilization at an early age (mean, 28 years) and short-term measures such as iron supplementation during pregnancy are likely to have mitigated some of the effects of child-bearing on anaemia , and may account for the absence of severe anaemia (<8 g/dl haemoglobin).The results of this study suggest that in India , interventions that focus on reducing fertility or on iron supplementation during pregnancy will have beneficial nutritional effects but will still leave most women iron deficient. In Mumbai the women studied were largely from poor backgrounds and probably had inadequate diets. However, the problem of under nutrition generally started much earlier in life, with gender discrimination resulting in under nutrition of girls [32-34], which was exacerbated by menstrual iron losses after menarche [35].

Another study conducted on reproductive health in EUROPE also states that the prenatal process data of 43801 women delivering between 1993-

2008(91% of all deliveries) in the largest university obstetric department in Germany were analysed and the association of Hb<8g/dl with maternal characteristics, pregnancy risks delivery mode and estimated delivery blood loss were calculated, multi variable logistic regression models were applied to compute odds ratios. Additionally, the impact of these risk factors for delivery blood loss was estimated with multi variable linear regression analysis [36].

Another study in areas of Multan shows that on the basis of rural and urban distribution 60% belonged to rural and 40% to urban population. Anemia was more prevalent in rural areas probably because of lack of health education, inadequate nutrition and improper medication. Similar observations were made in a study of anemia in pregnant women of Railway Colony, Multan. They observed that microcytic, hypochromic anemia resulting from iron deficiency was the most frequent of anemia (76%) followed by folate deficiency was 20% and combined iron and folate deficiency (20%). Biochemical and haematological parameters correlate during pregnancy. The haemoglobin hematocrit and red cell count decreased during pregnancy. One factor may be the expansion of plasma volume. They were of the opinion that low level of haemoglobin might be due to inadequate food consumption, malabsorption, worm infestations or excessive menstrual bleedings [37].

Another study was found in consistence with our data conducted at Gilgit Pakistan. In a survey conducted to estimate the prevalence of anemia in females aged 14-65years. The haemoglobin was estimated in each patient and out of 447 patients 376 females were pregnant and 71 were non-pregnant showing different reproductive complaints.

Considering 11gm/dl as normal limit of haemoglobin level for the study population 43.1 % patients were found to be anemic[37]. On the

basis of blood picture, out of these 100 pregnant women, 80 were anemic and 20 nonanemic When the pregnancy status was studied, it was found that out of 80 anemic females 12.5% were primigravida, 87.5% were multigravida and majority had 4-5 children already. Therefore, parity is an important factor in anemia there was an increased prevalence in age group 36-50 years (62.5%) as compared to 18-35 years age (37.5%). Similarly as shown in above table, according to severity about 10% cases were severely anaemic with blood haemoglobin levels less then 5gm%, 75% were moderately anaemic with haemoglobin between 6-9gm%, 15% were mildly anaemic with haemoglobin levels less then 10gm%.The Symptoms frequently shown by the patients include easy fatigue-ability, pallor, headache and weakness(85%) each and fainting and breathlessness (10%).Infrequently observed symptoms include fainting, palpitation, nausea and abdominal pain (10%) each. A small number of cases exhibited symptoms as pica, craving for clay (5%) while almost 15% of cases were asymptomatic [38].

LIMITATIONS:

The sample size was 50 pregnant women. So larger sample size and multicenteric studies are needed. The research was conducted on localized area where mostly the people were illiterate.

CONCLUSION: After comparison and discussion of results it is concluded that anaemia is more prevalent in females of age group 18-30 years (78%), and females who are malnourished, multigravida, having poor sanitary conditions at homes, taking no supplements and belong to low socio-economic status.

RECOMMENDATIONS

We should conduct anaemia control seminars and introduce anaemia preventing programs and policies. We should do our level best to decrease

the prevalence of anaemia and do health education of people.

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