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Research Article

IMPACT OF IRON DEFICIT ANEMIA ON HEALTH AND LIFE OF FEMALE WITH PREGNANCY

¹Dr Ayesha Keren, ²Dr Hamayun Akhtar, ²Dr Ansar Ali Khan

¹Hebei North University China, ²Independent Medical College Faisalabad.

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Abstract:

Objective: The aim of this research work is to assess the impact of iron deficit anemia on the health of females with pregnancy and to observe the mortality rate among pregnant females suffering from this complication.

Methodology: This transverse research work was conducted at Gynecology department of Allied Hospital, Faisalabad. The duration of this research work was from July 2018 to December 2018 in the period of six months. In the duration of this research work, all females with pregnancy of 13 to 40 weeks with iron deficit anemia with level of hemoglobin lower than nine gram% were the part of this research work, whereas females with pregnancy and suffering from any other medical complication were not the part of this research work. SPSS V. 21 was in use for the collection as well as analysis of the information.

Result: Among total three hundred and five females with pregnancy with iron deficit anemia, majority of females 55.73% (n: 170) were young from 20 to 30 years of age, most of females were from poor social & economic class 83.27% (n: 254), most of females were multi-parous 34.09% (n: 104), females with very less level of hemoglobin between one to three gram% was available (n: 54) females and between four to six gram% in 53.11% (n: 162) females. These females were suffering from very high rate of abnormality as antepartum hemorrhage 16.06% (n: 49), kidney failure 15.73% (n: 48), scattered intravascular coagulation in 17.7% (n: 54) & 5.24% (n: 16) females met their death.

Conclusion: Iron deficit anemia is very frequent in females with pregnancy with very high frequencies of various complications.

Keywords: Complications, Anemia, Pregnancy, Multi-Parous, Hemorrhage, Hemoglobin, Coagulation.

Corresponding author:

Dr. Ayesha Keren,

Hebei North University, China.

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INTRODUCTION:

Anemia is a serious health issue of around the world. Approximately 1.62 billion persons are the victims of this complication in world, in recent times, females with pregnancy are most sensitive subjects corresponding to 24.80% [1, 2]. The high occurrence of this complication is available in the countries which are under development [3]. The occurrence of anemia is different in accordance with social & economic condition, nutritional deficit, customs, various infections, having multiple deliveries, low contraceptive incidence and with all those hemoglobin-pathies is other additional feature [4]. Very frequent kind of anemia is deficiency of iron, this is a complication of deficiency in nutritional habits & females with pregnancy are available with high vulnerable subjects especially with its common dangers even with the onset of 1st pregnancy [5].

Pregnant females with anemia are the victims of serious morbidity & mortality in the countries which are under development due to this complication [6]. The outcomes of very mild anemia are always silent with no symptoms. In extreme form of anemia, it has association with various signs and symptoms as tiredness, laziness, fatigue, drowsiness & weakness. The loss of routine color of skin as well as lips, nails & tongue is another sign of its severe condition. Anemia is responsible as second most main reason of the maternal mortality with 12.80% in Asia regardless the deaths because of hemorrhage after delivery [4]. Literature showed that 20.0% maternal mortalities are the outcome of anemia [7, 8]. There are 3 very important reasons of mortality because of anemia as it causes due to extreme loss of blood in the process of delivery, the decrease is the outcome of severe nature anemia which causes the increase of infection and level of hemoglobin lower than four g/dl has an association with high danger of heart failure & death especially in the delivery period [9]. The main idea of this research work was to find out the rate of morbidities due to anemia in pregnancy which are preventable and enforce new methods for the prevention of these complications as well as to increase the knowledge about these complications among general population.

METHODOLOGY:

In the duration of this research work, three hundred and five females with pregnancy were the subjects of this research work from various urban & non-urban regions suffering from the iron deficit anemia and related abnormalities at different pregnancy week, their level of hemoglobin was varying from one to nine gram% & their pregnancy period was from thirteen to forty weeks. The size of samples estimated by practical way with prevalence, 27.20% [10] CI, 95.0%, & application of standard formula $N = (Z)^2 (pq) / e^2 = 305$. We took the willing of females for their participation. Ethical committee of the hospital gave the approval to conduct this research work.

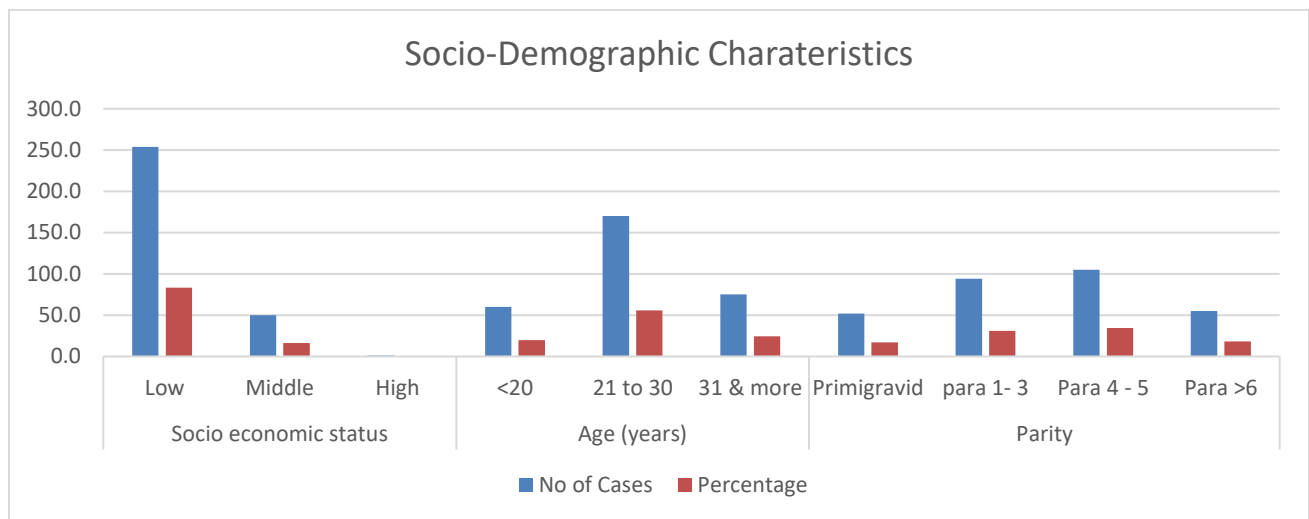
The evaluation of females carried out regarding age, parity number, social & economic condition, pregnancy duration, symptoms & physical checkup conducted to know skin and nails color for the determination of kind of anemia. We also conducted carried out such as completed the interrogation as level of serum ferritin, complete picture of blood and level of hemoglobin. The females suffering from any other disorders of metabolism were not the part of this research work. The management of these females carried out in accordance with the protocol of the institute. Performa was in use to gather information. SPSS V.21 was in use to analysis the collected information. Chi square method, frequencies & SD values were in use for the presentation of various variables.

RESULTS:

Among three hundred and five pregnant females with anemia, 83.270% (n: 254) females were from low social & economic class whereas females from middle class were 16.390% (n: 50). Most of the females were from twenty one to thirty year of age as 55.730% (n: 170), whereas 24.590% (n: 75) females were more than thirty one year of age and 19.670% (n: 60) females were less than twenty year of age, the average age of females were 26.5 ± 6.36 years. Most of females were multi-parous 34.420% (n: 105), prim-gravid females were 17.04% (n: 52) (Table-1).

Table-I: Sociodemographic Characteristics

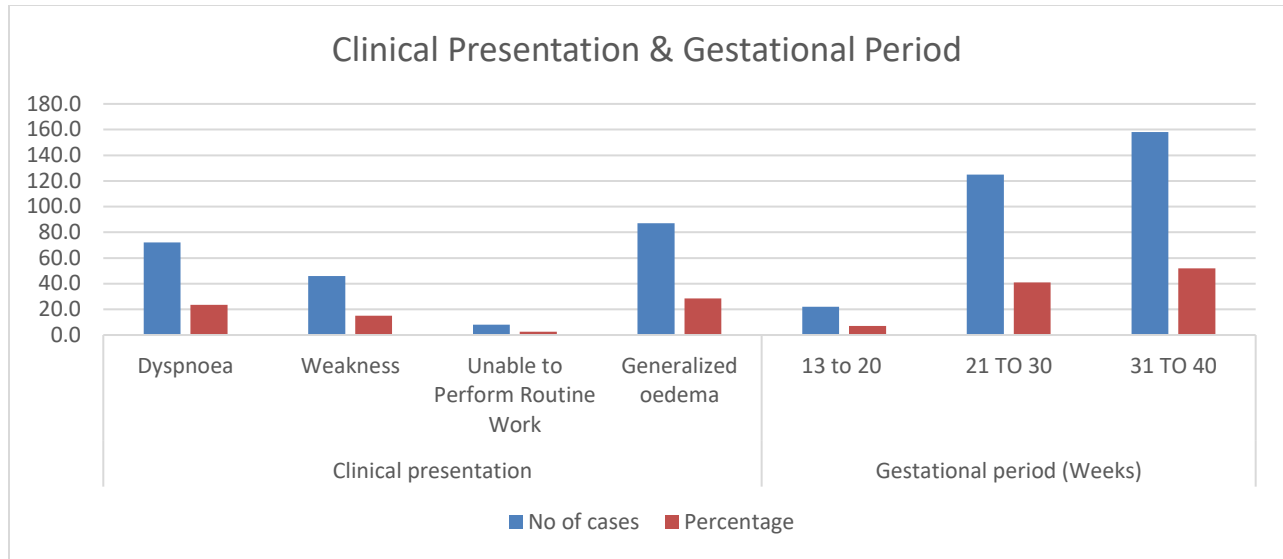
Characteristics		No of Cases	Percentage	P-value
Socio economic status	Low	254.0	83.270	0.2770
	Middle	50.0	16.390	0.3020
	High	1.0	0.327	0.0280
Age (years)	<20	60.0	19.670	0.0540
	21 to 30	170.0	55.730	0.0530
	31 & more	75.0	24.590	0.0240
Parity	Primigravid	52.0	17.040	0.5840
	para 1- 3	94.0	30.810	0.5560
	Para 4 - 5	105.0	34.420	0.5290
	Para >6	55.0	18.030	-



The clinical presentation of various abnormalities and symptoms with number of patients and their percentages are available in Table-2.

Table-II: Clinical Presentation and Gestational Period

Parameters		No of cases	Percentage	P-Value
Clinical presentation	Dyspnoea	72.0	23.600	0
	Weakness	46.0	15.080	0
	Unable to Perform Routine Work	8.0	2.620	0
	Generalized oedema	87.0	28.520	0
Gestational period (Weeks)	13 to 20	22.0	7.180	0
	21 TO 30	125.0	40.980	0
	31 TO 40	158.0	51.800	0

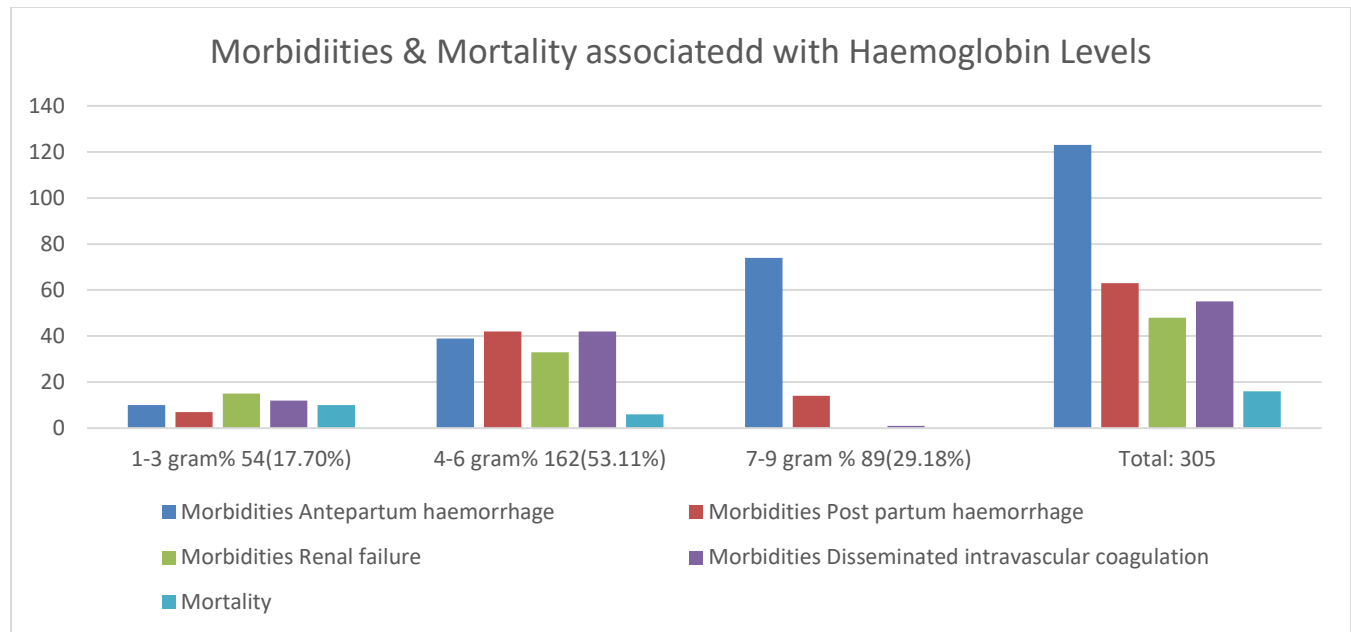


The level of hemoglobin was varying from four to six gram% in 53.110% (n: 162) females, seven to nine gram% in 29.180% (n: 89) females, whereas 17.7% (n: 54) females were available with level of hemoglobin between one to three gram%, most of these females were available with level of serum ferritin between twelve to seventy ng/ml (Table-2). Most common problems available were antepartum hemorrhage in 60.16% (n: 74) females & most of

females were available with level of hemoglobin between seven to nine gram%, whereas after delivery hemorrhage was present in 66.66% (n: 42) females these females were available with level of hemoglobin between four to six gram%, and among these females scattered rate intravascular coagulation was very common in 76.360% (n: 42). The rate of mortality was 5.24% (n: 16) with varying level of hemoglobin (Table-3).

Table-III: Hemoglobin Level Associations with Morbidity and Mortality

Hemoglobin level	Morbidity				Mortality	P-Value
	Antepartum hemorrhage	Post-partum hemorrhage	Renal failure	Disseminated intravascular coagulation		
1-3 gram 54.0 (17.700%)	10.0 (8.130%)	7.0 (11.110%)	15.0 (31.250%)	12.0 (21.810%)	10.0 (62.50%)	0
4-6 gram 162.0 (53.110%)	39.0 (31.700%)	42.0 (66.660%)	33.0 (68.750%)	42.0 (76.360%)	6.0 (37.50%)	0
7-9 gram 89.0 (29.180%)	74.0 (60.160%)	14.0 (22.220%)	0	1.0 (1.810%)	0	0
Total: 305	123.0 (40.320%)	63.0 (20.650%)	48.0 (15.730%)	55.0 (18.030%)	16.0 (5.240%)	



DISCUSSION:

Regardless the application of various programs for the control of iron deficit anemia, the incidence of this complication is increasing. The occurrence of iron deficit anemia is very high in poor social and economic group. In current research work, the incidence of iron deficit anemia was very high in the lower social & economic group *3.27% (n: 254) which is comparable with the findings of other research works [11, 12]. The most frequent reason of this complication was malnutrition, already deficit in iron store before the onset of pregnancy, high rate of infection concluded by Viveki and Judith AN [13-15]. The danger of anemia rises as the amount of the pregnancy number increases from three to five but it is also frequent in females with less than 3 pregnancies. This outcome is similar with the results of other research works carried out in Saudi Arabia & India, [6, 16].

The danger of development of anemia rises with increase in the gestation period especially in last trimester. The danger of the development of anemia was high in the 2nd & 3rd trimester in comparison with the females in their first three months of pregnancy this finding is same in comparison with the research work conducted in Saudi Arabia which concluded that the occurrence of anemia was much high in the patients of third trimester in comparison with the females of 1st trimester [6]. One research work done in India also showed that the incidence of anemia was much high in pregnant females with 2nd & 3rd trimester [16]. In addition, research works carried out

in Nepal, Malaysia & Vietnam discovered that the increase in the duration of pregnancy has an association with the risk to develop anemia [17]. The rate of mortality was much high in female with least level of hemoglobin and with linked comorbidities like hemorrhage after delivery, failure of kidney & scattered intravascular as concluded by many other research works conducted in various countries [7, 18-21].

CONCLUSION:

Anemia due to deficiency of iron is very frequent in the course of pregnancy, high occurrence of this complication was available in the last three month of pregnancy and severity of this complication has an association with the high prevalence of morbidity as well as mortality.

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