

## The studying of frequency of Anemia and its related factors among pregnant woman in Shahreza during (2010-2011)

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**Abstract:** More than half of pregnant women and one third of non-pregnant women suffer from anemia during pregnancy. This research has been carried out in order to examine the frequency of anemia resulting from iron deficiency in women who referred to health centers of Shahreza during (2010-2011). In this cross - sectional study, 170 pregnant women in their forth to ninth months of their pregnancy were selected as the sample. Data were collected through questionnaire and analyzed with SPSS. During the first half of their pregnancy 16.0% of the women suffered from anemia and 27.1 % had anemia during second half of their pregnancy. During the first three months of pregnancy ,there was a significant relationship between the number of deliveries( $p \leq .02$ ) ,the number of stillborn ( $p \leq .03$ ), the number of times red meat was used ( $p \leq .04$ ),the month at which iron pills were started being taken ( $p \leq .02$ ), family income ( $p \leq .03$ ) and taking folic acid before pregnancy( $p \leq .02$ ) and during the third three month of pregnancy had a significant relationship between anemia history before pregnancy( $p \leq .001$ ), the number of times red meat was consumed per week ( $p \leq .002$ ) and the number of eaten red meat slice in each meal (the amount of red meat eaten in each meal) ( $p \leq .01$ ). Anemia is very prevalent among pregnant women. Given that it results directly from iron deficiency, prescription of iron pills, removing influential factors such as malnutrition, pre-pregnancy anemia and numerous deliveries could greatly reduce the prevalence of anemia.

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### 1. Introduction

Anemia is one of the most prevalent difficulties during the pregnancy period and form 80% unphysiologically anemia during the pregnancy and cause to premature pregnancy, the low birth weight baby, fetal death increase, post delivery bleeding increase, and fetal distress (Tapiero et al., 2006).

The results of the extensive studies show that there is a significant relationship between the maternal serum conditions, especially anemia during the last trimester of pregnancy, and the negative consequences of pregnancy such as the low birth weight babies at the time of birth (Bondevik et al., 2001). the World Health Organization results indicates that about %58 of pregnant women suffer from anemia in developing countries (Gallowy et al., 2002) and the main part of this anemia results from the iron deficiency (3) that cause the high amount of death (%40) among the mothers in these countries (ghazi jahani, 2002). The results of the studies which have been done in Iran illustrates that there is the iron deficiency and anemia in women that about %30 - %50 occurs especially during pregnancy. Even women lose iron during their normal and

developmentally stages and now if this normal process is added by some events such as bleeding, poverty, contextual diseases, geographical conditions, and so on, the iron deficiency effects will be appeared in a severity and acute form (Vahidi niya and asghari, 2008). Two third of women show some symptoms of iron deficiency during their pregnancy ages (Helm, 2000) and a minimum of %50 of them suffer from anemia and %50 of the pregnant women show the symptoms of iron deficiency anemia (Bondevik et al., 2001). Taking this matter into account that women form the main part of societies, their health and wellbeing certainly affect the society health. To achieve such aim, we require to find those factors which put their health and wellbeing at risk.

Extensive universal attempts are being carried to diagnose and to treat iron deficiency anemia; it is necessary that all persons involved in offering midwifery and gynecological cares in all ages be informed of anemia and play a positive role in screening, diagnosis, and treatment (Helm, 2000).

### 2. Material and Methods

The current study was a cross-sectional research that its investigative samples included 170 pregnant women during the fourth to ninth

month of their pregnancy. The participants were selected among four Health centers in Shahreza.

Materials in this study consisted of a questionnaire with 26 questions about demographic data, and some information about the number of pregnancies, the number of abortion, stillbirth, the number of birth, the number of children, the interval between pregnancies, the amount of family income, the nutrition of individuals during pregnancy, duration and intensity of pica in pregnant women, manner of menses before pregnancy. Also, some information such as individuals' BMI in the early stages of pregnancy, pre-pregnancy cares, and Hemoglobin and Hematocrit of the patents' were elicited from patient's records. In order to determine the iron deficiency anemia in the study, less than 11g Hemoglobin per deciliter in the first trimester and less than 10/5 in the third trimester, respectively, were considered as an iron deficiency anemia. Data were analyzed by SPSS and Chi Square. P-value  $\leq 0.005$  were considered as significant.

### 3. Results

In this study, 170 pregnant women were studied that 84/1% were housemakers and 15/9% were employed. In terms of the educational level, 11/2% of persons had elementary educations, 12/4% secondary educations, 35/9% diploma, and 40/6% academic educations. 19/4% had abortion history. 17/6% suffered from anemia before pregnancy. 58/2% have taken iron pill after the fourth month of pregnancy. 90/60% have used iron pill (regularly). 7/60% have used iron pill irregularly.

1/8% have not used iron pill. 52/4% have used folic acid between one to three months before pregnancy. 27/1% underwent pre-pregnancy cares while 72/90% did not.

16/5% suffered from anemia during the first three months. 27/1% suffered from anemia during the third three months. 14/7% of house makers suffered from anemia during the first half of pregnancy. 25/9% of persons who were employed suffered from anemia. Also, the study showed that as people get older, their anemia exacerbates as well and a significant relationship have been observed between the number of childbirth (delivery) and anemia ( $P < 0.002$ ). And also, there was a significant relationship between anemia and the starting time of using the iron pill during the first three months. Consequently, there are little frequency of anemia by taking iron pill during the first trimester of pregnancy ( $P < 0.002$ ).

And there was a significant relationship between (anemia occurrence) and consumption of folic acid during the first three months of pregnancy. Pregnant women taken folic acid pill during the first three months were less afflicted with anemia ( $P < 0.002$ ).

There was a significant relationship between the family income and anemia during the first three months of pregnancy ( $P < 0.002$ ). Consequently, those whose income were less than 4,000,000 Rials in month, suffered from anemia more than other researchable cases during the first three months. There was a significant relationship between anemia history before pregnancy and anemia (occurrence) during the third three months ( $P < 0.001$ ) (Table 1).

Table (1) Anemia Frequency Distribution during the Third Month according to the Anemia Background in Individual

Anemia	Yes	No	Total
Anemia history	Number (percentage)	Number (percentage)	Number (percentage)
Yes	(%58.8)10	(%41.2)7	(%100)17
No	(%21.1)19	(%78.9)71	(%100)90
Total	(%27.1)19	(%72.9)78	(%27.1)29

P-Value  $< 0.001$ \*

Table (2) Anemia Frequency Distribution during the First Three Months according to the Weekly Used Meat

Anemia	Yes	No	Total
The number of weekly used meat	Number	Number	Number
No	3	0	3
Percentage	%100	%0	%100
One or two times	1	23	24
Percentage	%4.2	%95.8	%100
Two or three times	12	29	41
Percentage	%29.3	%70.7	%100
Four or more times	13	26	39
Percentage	%33.3	%66.7	%100
Total	29	78	107
Percentage	%27.1	%72.9	%100
P-Value<0.004*			

Table (3) Anemia Frequency Distribution during the Third Month according to the Weekly Used Meat

Anemia	Yes	No	Total
The number of weekly used meat	Number (percentage)	Number (percentage)	Number (percentage)
No	(%0)0	(%100)6	(%100)6
1 or 2 times in week	(%14.3)5	(%85.7)30	(%100)35
2 or 3 times in week	(%10.1)7	(%89.9)62	(%100)69
More than 4 times in week	(%26.7)16	(%73.3)44	(%100)60
Total	(%16.5)28	(%83.5)142	(%100)170
P-Value < 0.001*			

On the other hand, the results showed that there was a significant relationship between weekly consumption of red meat per week and anemia during the first three months and the third three ( $P<0.001$ ,  $P<0.004$ ). Also, those person who used red meat once or twice a Week, suffered from anemia more than others (Table 2, 3).

During the third half of pregnancy, there was not a significant relationship among the employment, education, the number of pregnancy, childbirth, abortion, stillborn, parasitic disease history, month of beginning taking iron pill, the

instruction of taking iron pill, month of beginning taking folic acid pill, amount of menses, duration and intensity of pica, amount of income, the frequency of meat, chicken, and fish intake, weekly consumed cereal, amount of consumed chicken, fish, and cereal in every meal per week, and caring for pregnant women with anemia ( $P<0.001$ ).

#### 4. Discussions

The results showed that 16/5% suffered from anemia during the first half of pregnancy and 27/1% suffered from anemia during the third half. The carried studies in Arak(1996) and Qazvin (1998),

on non pregnant women in their pregnancy ages (15-45) and by considering Hemoglobin, less than 12 gr/dl, as a diagnostic criteria of anemia, showed that iron deficiency anemia is prevalent 11/2% and 14%, respectively (Moshfeghi et al., 2005; Sheykholslami and kabiri, 2007). The obtained results of another study on women, who were in their pregnancy ages from urban and rural areas of country in 1374, showed that according to the indicator of ferritin serum index which shows the iron supply of body, %50 of all women is afflicted with slight degrees of iron deficiency. Also, the study showed that about one third of married women from 15 to 49 years old are afflicted with anemia according to Hemoglobin indicator and Hematocrit (Bandarianzadeh et al., 1997).

The carried studies in several countries showed that the prevalence of anemia in Peru country during 1993 to 1995 was 70/1% (Becerra et al., 1997), in Mexico, 21/6% (Gutierrez et al., 1997) in 1997, and in Spain Valencia 34/44% (Marti et al., 2002). There was a significant relationship between number of delivery and iron deficiency anemia so that the prevalence of iron deficiency anemia in women, who suffered three childbirths or less, was less than women with more childbirth. The carried studies in Peru in 1995 showed that there are a direct relationship between iron deficiency anemia and the number of previous pregnancies and also results showed that there are a reversed relationship between iron deficiency anemia and weight increase during pregnancy periods (Becerra et al., 1997). There was a significant relationship between family income and iron deficiency anemia ( $P < 0.02$ ). Women who did not use meat in their food program did not suffer from anemia during the first half but during the third half, all of them suffered from anemia.

The results of various studies shows that suitable regime, population regulation, observing the duration between childbirths, and using iron complements are helpful items to reduce the risk of iron deficiency anemia (Breyman, 2005).

### Conclusion

As iron deficiency anemia directly and indirectly increases the possibilities of low birth weight babies, premature childbirth, and prenatal death, and since it is preventable as an eating disorder, it was recommended that in prenatal care program, more attention should be paid to this matter. Also, attempt to remove anemia before pregnancy by doing family plans, providing a suitable duration

between children, suitable nutrient status, and doing health cares before pregnancy.

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