Dietary Habits among Saudi Pregnant Women Towards Prevention Of Iron Deficiency Anaemia

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Introduction

Iron-deficiency anaemia is the most common type of nutritional anaemia, which results from long-term negative iron balance and is responsible for approximately 50% of all anaemia (1,2).

In developing countries, the timing and components of food and multiple micronutrients during pregnancy appear to affect pregnancy and early childhood outcomes (3), but these relationships are complex and controversial (4).

Worldwide, anemia affects over two billion people and the World Health Organization (WHO) has estimated that half of these are due to iron deficiency (5). Iron deficiency is not only the most prevalent but also the most neglected nutrient deficiency in the world, particularly among pregnant women and children in developing countries (6). Over 40 million pregnant women suffer from iron deficiency (IDA) and its consequences in developing countries (7).

Iron deficiency is the most common cause of anaemia in pregnancy (8). Iron deficiency anaemia accounts for 75–95% of cases of anaemia in pregnancy (9).

The high frequency of iron deficiency anaemia in the developing countries has substantial health and economic cost implications (10).

A number of nutrition-related issues evolved from the discussions that should be incorporated into a nutrition education program. (11)

Dietary practice of pregnant ladies is too important especially in prevention of IDA. Although Iron supplementation in pregnancy has become a standard and routine practice as a preventive treatment for iron deficiency anaemia in pregnancy, but there are bad dietary habits should be address and there are good habits should be encouraged.

The present study aimed to assess the dietary habits among of pregnant women attend our hospital toward prevention and treatment of iron deficiency anaemia and to know the prevalence IDA according to WHO value of haemoglobin

Methodology

This study target the pregnant Saudi women, descriptive prospective cross-sectional study conducted in the period from Jan 2016-June 2016 among women presented Alihsa Maternal and Child Hospital, Kingdom of Saudi Arabia. The study group included women attend to the refer clinic during the period of the study (used to calculate the incidence). Details analysis will be done to study sample during the study period. The selection criteria were pregnant women from all trimester present for ANC and signed consent to participate in the study and fill the data form. Study non-Saudi women and those who refused to be enrolled in the study were excluded.

In this study anemia in pregnancy has defined according to World Health Organization (WHO) as a haemoglobin value below 11 g/dl (1,3).

The sample size is calculated using the following formula; n=N/1+N (e)

Where n is sample size, N is the population size; e is the level of precision. Using the above formula the sample size is calculated to be 396 women. The data was collected using a coded direct interview questionnaire.

Data was analyzed by computer using statistical package for social science (SPSS) software version 20 and the results will be expressed in tables and figure. Verbal consent from all women, coding the data-collecting sheet for confidentiality and all participants were informed.
Results

Basic data: We enrolled in these study 396 women attended to the referred clinic during the period of the study. Most of them at age group 27-35 years 162 (40.9 %) and very few were more than 45 years 2 (1 %). Regarding the duration of marriage most of them were less than 5 years were 184 (46.5 %), 6-10 years were 132 (33.3 %) and more than 10 years were 80 (20.2 %). Regarding their educational level most of them received regular education 380 (95.9 %). Of them 94 (23.7 %) were university graduated and 48 (12.1 %) were illiterate.

Regarding the Obstetrics data most of them were multiparous women 188 (47.5 %). Majority of them at third trimester 172 (43.4 %). Few of them had history of miscarriage 64 (16%). (Table 1)

Haemoglobin was estimated in all the women included in this study. Their haemoglobin estimation showed that less than 7 g/dl were 48 (12.2 %), 7-10 gm/dl were 204 (51.2 %), 10-11 gm/dl 100 (25.4 %) and 10-11 gm/dl 44 (11.2 %.)

Knowledge and attitude toward dietary practice

Women were asked have ever heard about good dietary habits in pregnancy and type of food suitable for pregnant lady and source of knowledge in this regards. Most of them heard about good dietary habits 332 (83.8 %) and main source from Health workers 120 (30.3 %). Majority of them Know that anaemia is common 258 (65.2). Most of them they changed their dietary habits in this pregnancy or you wish to do so 266 (67.2 %). Most of them take iron supplement routinely during this pregnancy 290 (73.2%). Among those who did not take an iron routinely (N=106) during this pregnancy, the cause was found to be do not remember to take it 52/106 (49.1 %) and due to vomiting & nausea in 26/106 (24.4 %).

Regarding the new habits during this pregnancy (type of food) that you do to prevent IDA; most of them had changed their dietary habits in this regards. These were mainly fruits and juice 86 (21.7 %) and liver and meat 56 (14.1 %).

Many participants were taken food type that prevents iron absorption; it was found that mainly taking spicy food 230 (58.1 %), taking lemon 214 (54 %) and eating mud 144 (36.4 %). (Figure 1)

Their knowledge and practice towards dietary habits containing iron that mainly suitable food are fruits 308 (77.8 %), meat 344 (86.9 %), poultry 244 (61.6 %), vegetables 342 (86.4 %), milk products 226 (57.1 %), fish 210 (53 %) and liver 248 (62.6 %)(Figure 2).

Discussion:

Iron deficiency is not only the most prevalent but also the most neglected nutrient deficiency in the world, particularly among pregnant women and children in developing countries (12). In this descriptive study we included 396 pregnant women with different character, presented at outpatient clinic at police hospital. Most of them received regular education. The good educational level can be useful tool for health education, so we can achieve many educational programs in this regard, because in such situation we can improve the nutritional status of pregnant ladies by educate them by good useful food in this critical period of life.

Although there is variation in haemoglobin levels during pregnancy; at the beginning of a pregnancy, there is a normal reduction in haemoglobin level followed by a slight rise towards the end of pregnancy (13). This study showed that a lot of pregnant ladies beyond the recommended level of haemoglobin that recommended by WHO as standard. There are two known factors, which contribute to development of iron deficiency anaemia (IDA) in pregnancy; the first is the woman's iron stores at the time of conception and the second is the amount of iron absorbed during gestation.

Hence, iron supplementation in pregnancy has become a standard and routine practice as a preventive treatment for iron deficiency anaemia in pregnancy in developing countries. In view of the foregoing, a review of effectiveness of preventive treatments of iron deficiency anaemia in pregnancy was conducted; furthermore, constraints were highlighted and suggestions for improvement were provided.

One of the important findings of this study that among many women there is changed their dietary practice during pregnancy or you wish to do so (7.2 %). And most of them take iron supplement routinely during this pregnancy (73.2%). This is positive point can be used to improve the dietary practice of the pregnant mothers.

The attitude and practice toward prevention of IDA showed that the majority of them knew that iron supplement during pregnancy is it important to take (92.4 %). Regarding the new habits during
this pregnancy (type of food) that you do to prevent IDA; most of them had changed their dietary habits in this regards. These were mainly Fruits and juice, as well as liver and meat. This attitude and practice are in favour to develop any educational programs and help in much development in these regards. When compare this by other studies in different areas we found that there no different in many areas. (14, 15)

The important findings of this study were regarding dietary habits containing iron. We found that it's mainly meat, vegetables and fruits. This good findings were important to showed in any educational program as basic

Finally we have to address this important issue by educational session address these findings. Putting in mind that there is variation in haemoglobin levels during pregnancy; at the beginning of a pregnancy, there is a normal reduction in haemoglobin level followed by a slight rise towards the end of pregnancy (8). We expect at least majority of pregnant ladies should stand on recommended haemoglobin level by the World Health Organization has defined anaemia in pregnancy as a haemoglobin value below 11 g/dl.

References

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12. Pena-Rosas JP, Viteri FE. Effects of routine oral iron supplementation with or without folic acid for women during pregnancy. Cochrane Database of Systematic Reviews. 2006;3CD004736
13. Reveiz L, Gyte GM, Cuervo LG. Treatments for iron-deficiency anaemia in pregnancy. Cochrane Database of Systematic Reviews. 2007;(2)CD003904
### Frequency and Percent Distribution

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#### Number of Miscarriages

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**Figure 1:** Distribution of the study population according to dietary habits during pregnancy. (Dietary habits prevent iron absorption)
Figure 2: Distribution of the study population according to dietary habits (food containing iron).