# Nutritional Problems among Pregnant Women in the GCC Countries

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**The aim of this paper is to highlight the nutrition status of pregnant women in the GCC countries. Iron deficiency anaemia is one of the main nutritional problems among pregnant women in the Gulf, with a prevalence ranging from 30% to 54%. Overweight and obesity are problems of concern in this group of women. It was estimated that 54%-70% of the women in this region were overweight and obese. On the other hand, underweight is prevalent among 3%-13% of the women. Gestational diabetes occurred in 5%-10% of pregnant women, which may be associated with significant pregnancy complications. Early age at marriage, multiple pregnancies, unsound food habits, traditional beliefs and attitudes, social change and lifestyle are the main factors associated with the nutritional status of pregnant women in the GCC countries. Recommendations to improve the nutritional status of pregnant women in the region were suggested.**

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The recent rapid increase in the wealth of Arab Gulf Countries is well known. What is less well appreciated is that the nutritional well being of their population has not improved accordingly. Women of reproduction age, pregnant and lactating mothers, and children are most susceptible to the development of nutritional problems than other groups. The objective of this paper is to highlight the current situation of the nutrition of pregnant women in the GCC Countries.

## Iron Deficiency Anaemia

Studies in the Gulf countries demonstrated that iron deficiency anaemia is one of the main public health problems among pregnant women. Using haemoglobin level less than 11g/dl, the prevalence of anaemia ranged from 30% to 54% in these women (Table 1). The lowest prevalence was reported in Qatar, which is largely due to estimating the anaemia in the first trimester. The requirements for iron during the first trimester are relatively small, but rise considerably during the second and third trimester[1]. A study in Kuwait showed that the prevalence of anaemia was 21% during the first trimester, increasing to 38% and 45% during the second and third trimester, respectively[2].

Using other blood parameters, iron deficiency anaemia among pregnant women was still high. In Saudi Arabia, Khoja et al[3] reported that 57% of pregnant women were anaemic, using transferrin saturation (< 16%). When serum ferritin (< 12 mg/ml) was determined for the same women, the prevalence of anemia was very close to that of transferrin saturation (54%).

Table 1. **Prevalence of anaemia among pregnant women in the GCC Countries (Hb < 11g/dl)**

| Country | Sample size | % Anaemia | Reference |
|---|---|---|---|
| Bahrain | 1200 | 54.0 | 15 |
| | 228 | 41.7 | 16 |
| Kuwait | 900 | 31.0 | 17 |
| | 1582 | 39.7 | 2 |
| Oman | 1000 | 54.0 | 18 |
| | 1310 | 48.5 | 19 |
| Qatar | 299 | 30.0 | 20 |
| Saudi Arabia | 272 | 25.6 | 21 |
| | 6539 | 31.9 | 22 |
| | 952 | 22.9 | 23 |
| United Arab Emirates | 274 | 44.0 | 24 |
| | 621 | 22.7 | 25 |

Iron deficiency anaemia can be caused by nutritional deficiencies, diseases, inadequate intake of usable iron and excessive blood loss[4]. The intake of food that inhibits iron absorption may also play a role in the prevalence of this anaemia. It is well documented that the consumption of tea inhibits the absorption of iron. Tea is widely consumed in this area particularly after a heavy lunch. The low consumption of food rich in vitamin C is another contributing

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factor, as this vitamin enhances the absorption of iron. Increase in the awareness of mothers towards the right food to be taken during pregnancy and lactation, fortification of some staple foods with iron, as well as iron supplementation, are the main activities to decrease the prevalence of iron deficiency anaemia.

**Obesity**

Obesity among women is considered a new problem associated with affluence. Recent studies in the GCC countries[5] reported a high prevalence of overweight and obesity among women ranging from 54% to 70%. These percentages are higher than those reported in many developed countries. Epidemiological studies have indicated that obesity is a risk factor for several chronic diseases such as hypertension, diabetes, heart diseases and some types of cancer[6].

The increased prevalence of overweight and obesity among Arab Gulf women has brought concern about the possible influence of these changes on pregnancy outcomes. During the past decade, the incidence of macrosomia (large infants weighing 4.0 kg or more at birth) has increased in the region. Maternal obesity may contribute to this incidence of high-birth weight babies. Maternal obesity and overnutrition sets up the cascading events of increased blood glucose that stimulates increased fetal insulin, resulting in abnormally increased lipogenesis and excessive adipose tissue deposit. Obese mothers as much as 150% overweight are at risk themselves for developing gestational diabetes, elevated blood pressure, and increased blood lipids[7].

**Underweight**

Although underweight is a less common problem in the Arab Gulf population than is overweight, it does occur in a small percentage. It was found that the prevalence of underweight among women in the Gulf ranged from 3% to 13%[5,8]. The underweight pregnant women presents special weight related problems and needs, especially of inadequate total weight gain during pregnancy and the pattern of the gain. Gestational weight gain, especially during the second and third trimesters is an important determinant of adequate fetal growth. For women who were underweight prior to pregnancy the greater the gain during pregnancy, the lower the neonatal mortality rate.

Underweight and low intake of essential nutrients are the main causes of low birth-weight (LBW) infants. The incidence of LBW in the GCC countries varies from country to country, with a range of 7% to 15%[9].

**Gestational Diabetes Mellitus**

Gestational diabetes appears during pregnancy in women who have no previous history of diabetes. Although studies on prevalence of gestational diabetes in the Gulf are scarce, indicators available from health records showed that the prevalence of this symptom is relatively high, varying from 5% to 10%. It is well documented that gestational diabetes is associated with significant pregnancy complications such as macrosmia, perinatal mortality and prematurity[7].

**Some Factors Associated with Nutritional status of Pregnant Women in the GCC Countries:**

***1. Early age at Marriage***

Early age at marriage is still one of the factors that is associated with some health problems during pregnancy among women in the GCC countries. This is particularly true in the rural and Beduin areas. Several studies showed that many women got married before 16 years of age[8,10].

The hazards of teenage pregnancy are that it can cause maternal death and infants with low birth weight (LBW < 2.5 kg), which in turn affects infant survival. In Bahrain, it was demonstrated that mothers aged 15-19 years were more likely to deliver low-birth-weight infants (11%) than mothers in other age groups (7%)[11].

In addition to teenage pregnancy, the risk of LBW increased with the first pregnancy. It was found that the incidence of LBW was 10.6% for Bahraini mothers who delivered for the first time compared with 6.3% for mothers who have one child or more[11].

***2. Multiple Pregnancies:***

Multiple pregnancies without enough spacing between the pregnancies may cause several health and nutritional problem among both the women and their fetus. Statistics showed that the fertility rate of the Gulf mothers is relatively high (ranging from 4.6 per 1000 women aged 15-44 years in Bahrain to 7.1 in both Oman and Saudi Arabia). Multiple deliveries tend to lower the haemoglobin level in mothers, because closely spaced pregnancies deplete the iron stores of the mothers, especially when there is no iron supplementation during pregnancy[12].

***3. Unsound Food Habits:***

There are many unsound food habits during pregnancy which may affect the weight of infants. Few mothers are interested in improving their diet during pregnancy. In Bahrain, it was reported that only 31% of mothers consumed more fresh fruit during pregnancy[13]. As a result the intake of some nutrients may be affected. In Kuwait, Prakash et al[14] found that the intake of calcium, iron and vitamin C by pregnant mothers was below 75% of US recommended daily allowances (RDA), while among lactating mothers, all nutrients (except protein) were below the RDA.

***4. Traditional Beliefs and Attitudes:***

Traditional beliefs related to nutrition are an important risk factor in pregnancy. For example, in some areas in the Gulf, mothers decrease their intake during pregnancy believing that extra food will cause an over large baby, while others believe that they should eat for two. Many pregnant women believe that the intake of iron supplement may cause enlargement of the fetus and the subsequent difficult delivery or even abortion[9].

***5. Social Change and Lifestyle:***

In general most of women in the GCC countries are unemployed and few of them practice exercise. These factors play an important role in increasing the risk of overweight and obesity. The availability of housemaids,

cars, television and sophisticated home appliances has decreased the physical activity of the women, and the sedentary lifestyle has become a norm. In addition the intake of fast foods and other food rich in fat has increased significantly. These factors lead to high increase in the weight of women during pregnancy.

## CONCLUSIONS AND RECOMMENDATIONS:

**The nutritional status of pregnant women in the GCC countries has not kept pace with the change in social, economic and health status in their countries. Nutritional disorders such as anaemia, overweight and obesity, underweight and diabetes mellitus are still common in pregnant women in the region. In order to improve the nutritional status of pregnant women in the GCC countries the following recommendations are suggested:**

1. **Health education through mass media should focus on the management of nutritional problems during pregnancy, and correction of unsound food habits and beliefs commonly wide spread in the community.**
2. **Introduce information on nutrition aspects for women in general and pregnant and lactating women in particular in school and college curricula.**
3. **Expand pre-marital counselling to include nutrition assessment and the counselling should be based on situation analysis.**
4. **Training health workers, especially community health nurses, in assessment and management of nutritional problems during pregnancy.**
5. **Carrying out research and studies on current nutrition problems of pregnant women in the GCC countries and socio-cultural factors associated with these problems.**

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