



Pregnancy Outcome of Pre-Diabetic Women in the South of Iran: Brief Report

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Abstract

Identification of pregnant women in the pre-diabetes stage is very important because changes in the lifestyle of these women and pharmaceutical treatment can prevent diabetes mellitus and reduced maternal and fetal complications. This study aimed to evaluate the pregnancy outcome of pre-diabetic women in the South of Iran. This study demonstrated the incidence of pre-diabetes was 12% in the South of Iran and was higher than gestational diabetes mellitus (GDM).

Keywords: Pregnancy, Pre-Diabetic, Women

1. Background

Diabetes and its problems remain the main causes of morbidity and mortality worldwide (1). Diabetes disease during pregnancy is becoming a growing concern and the prevalence of women with diabetes during pregnancy is rising (2). The prevalence of gestational diabetes mellitus (GDM) in developing countries is higher compared to developed countries because the malnutrition, economic status, and chronic diseases affect diabetes incidence. Pre-diabetes is the one stage before clinical diabetes that glucose levels are higher than normal level, but not yet high enough to be diabetes mellitus. The incidence of pre-diabetes is increasing globally. It is expected that about 470 million persons will be detected with pre-diabetes in worldwide until the year 2030. Presently, the incidence of pre-diabetes in some of the countries is approximately 30% among populations greater than 20 years old (3). Studies have shown the relationship between pre-diabetes condition and problems of diabetes such as nephropathy, retinopathy, and the risk of macrovascular disease. Some studies demonstrated the effectiveness of lifestyle involvements regarding diabetes prevention with a relative risk decrease of 40% - 70% in people with pre-diabetes status (4).

Identification of pregnant women in the pre-diabetes stage is very important because changes in the lifestyle of these women and pharmaceutical treatment can prevent

diabetes mellitus and reduced maternal and fetal complications. Hormozgan province is located in the south of Iran. The prevalence rate of GDM was reported at 8.9% in the South of Iran (5). There are no reports on pregnancy outcome of pre-diabetic women in Iran.

2. Objectives

Owing to the adverse outcome of diabetes and pre-diabetes status in pregnant women such as fetal death and congenital abnormalities, this study aimed to evaluate the pregnancy outcome of pre-diabetic women in the South of Iran.

3. Methods

This study is a brief report of a descriptive study. Data were extracted from 1,032 health files of pregnant women in health centers in Hormozgan province. To analyze the data, SPSS software version 21 was used.

4. Results

The average age of the participants was 29 years old. Most of the participants had a diploma degree and 63% had a good economic situation. The incidence of the pre-diabetic stage in pregnancy was 12%. Most of the women

had an abnormal body mass index (BMI). Mean of BMI in these women was 26.5. In this study, 40% had a history of diabetes in the family and 18.3% had diabetes during the previous pregnancy. Among pre-diabetic women, 30.6% of them had an abortion history. The average of fasting blood sugar (FBS) was 98 mg/dL in the first trimester and 111.5 mg/dL in the second trimester. During pregnancy, 15% of pre-diabetic women had clinical manifestations of diabetes in the second trimester. In 88% of pre-diabetic women, blood sugar was normal post-pregnancy. Among pre-diabetic women during pregnancy, 38% had large for gestational age (LGA) babies. Other fetal and maternal complications were not seen.

5. Discussion

This study provided the overall outcome of the pre-diabetes stage in women during pregnancy. It demonstrated the incidence of pre-diabetes was 12% in the South of Iran and was higher than GDM. Considering the results, special attention is needed for women with FBS higher than 98 mg/dL, in the first trimester. By using existing guidelines for controlling the pre-diabetic stage in pregnancy, women should be managed. After delivery, the evaluation of diabetes is important in pre-diabetic women. It is better that develop clinical guidelines for pre-diabetic women before pregnancy. Further studies are necessary in terms of the efficacy of guidelines for detection and intervention in the pre-diabetic stage in pregnancy.

Supplementary Material

Supplementary material(s) is available [here](#) [To read supplementary materials, please refer to the journal website and open PDF/HTML].

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