

Original Paper

Relationship between exercise during and before pregnancy periods and gestational diabetes mellitus

Moosavi SE (M.Sc)¹, Koushkie Jahromi M (Ph.D)^{*2}
Salesi M (Ph.D)², Namavar Jahromi B (M.D)³

¹M.Sc in Exercise Physiology, Sport Sciences Department, School of Education and Psychology, Shiraz University, Shiraz, Iran. ²Associate Professor, Sport Sciences Department, School of Education and Psychology, Shiraz University, Shiraz, Iran. ³Associate Professor, Infertility Research Center, Department of OB-GYN, School of Medicine, Shiraz University of Medical Sciences, Shiraz, Iran.

Abstract

Background and Objective: Pregnancy is a period of women's life which is usually associated with reducing maternal daily physical activity. However, maintaining adequate daily physical activity is important for mother and fetus. This study was conducted to determine the relationship between exercise before and during pregnancy and gestational diabetes mellitus (GDM).

Methods: This case-control study was conducted on 80 pregnant women with gestational diabetes mellitus and 57 non-diabetic pregnant women. Physical activity during one and eight years before, and first and second trimesters of pregnancy was recorded through interview.

Results: Regular participation in exercise activities in non-diabetic women were significantly more than diabetic women during all periods ($P < 0.05$). Regular participation in exercise during one year before and second trimester of pregnancy was inversely correlated to GDM ($P < 0.05$). Energy expenditure of second trimester of pregnancy was significantly correlated to reduce GDM ($P < 0.05$).

Conclusion: Regular exercise before and during pregnancy can be effective in reducing the probability of GDM. Exercise during one year before and especially second trimester of pregnancy are more important predictors of GDM.

Keywords: Gestational diabetes mellitus, Exercise, Pregnancy, Energy cost

*** Corresponding Author:** Koushkie Jahromi M (Ph.D), E-mail: mkoushki@rose.shirazu.ac.ir

Received 11 Jan 2015

Revised 24 Apr 2016

Accepted 1 Jun 2016