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Acta Medica Iranica
2009;47(4) : 65-75

Original Article

The Effects of Maternal Cigarette Smoking on Infant Anthropometric Measurements

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Received:	April 23,2008
Accept :	November 17,2008
Available online:	December 27,2008

Abstract:

Background: The association between maternal smoking and poor pregnancy outcome, which is well established in medical literature, has also been corroborated by the results of this study conducted in a Turkish hospital. Our objective was to investigate the effects of cigarette smoking during pregnancy on infant head circumference, height, weight, and body mass index (BMI).

Methods: In this retrospective study, the data was collected from the Medical Live Birth Registry in a maternity hospital with the largest capacity of births in a city of northwest Turkey during 2002.

Results: We found that 16.4% (1040/6332) of mothers investigated had smoked during their pregnancy, with a mean of 5 cigarettes per day. Head circumference, height, weight and BMI values of male infants whose mothers smoked were found to be less than those of infants whose mothers did not smoke ($P > 0.05$, for each one). Head circumference, height, weight and BMI values of female infants whose mothers smoked were less than those whose mothers did not smoke ($P > 0.05$, $P < 0.01$, $P < 0.05$ and $P > 0.05$, respectively). According to analysis of variance, infant head circumferences, heights and weights in all infants decreased as the rate of the mother's smoking increased ($P > 0.05$, $P < 0.001$ and $P > 0.05$, respectively).

Conclusions: The results support that maternal smoking during pregnancy was associated with a linear reduction of height measurement, and the infants appeared to be more susceptible to the growth retarding effects of cigarette smoking on height. Thus, if cessation-of-smoking programs are initiated before conception, many of the harmful effects of smoking on fetal growth might be prevented.

Keywords:

Growth retardation ، *Intrauterine growth* ، *Low birth weight* ، *Maternal smoking* ، *Turkey*

TUMS ID: 12382

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