

Original Paper

Relationship between self-reported exposure to passive smoking and maternal urinary cotinine level in pregnant women

Baheiraei A (PhD)¹, Banihosseini SZ (MSc)*², Heshmat R (PhD)³, Mohsenifar A (PhD)⁴

¹Assistant Professor, Department of Reproductive Health, Tehran University of Medical Sciences, Tehran, Iran.

²Academic Instructor, Department of Midwifery, Babol University of Medical Sciences, Babol, Iran. ³Assistant Professor, Center for Community-Based Participatory Research, Tehran University of Medical Sciences, Tehran, Iran.

⁴Assistant Professor, Department of Toxicology, Tarbiat Modares University, Tehran, Iran.

Abstract

Background and Objective: Passive smoking during pregnancy increases the risk of pregnancy complications. The purpose of this study was to determine the relationship between self-reported exposure to passive smoking and urinary cotinine level of the pregnant women.

Materials and Methods: This cross-sectional study was done on 108 non-smoker pregnant women referred to Arash hospital in Tehran, Iran for delivery during 2010. A questionnaire including smoke exposure during pregnancy was completed for all the participants. Urine samples were collected from the mothers in the delivery room. The urinary cotinine levels was measured by ELISA method. Data were analyzed using SPSS-16, Student t-test, Chi-Square and one-way ANOVA tests. The Kappa test was used to evaluate the variability of mothers which report exposure to passive smoking with maternal urinary cotinine level.

Results: The geometric mean cotinine of the maternal urine in the exposed group (27.4 ± 29.96 ng/ml) was significantly higher than the non-exposed group (0.75 ± 2.29 ng/ml) ($P < 0.05$). There was a significant association between maternal reports of cigarette smoke exposure and urinary cotinine (Kappa=96%) ($P < 0.05$).

Conclusion: This study indicated that there is a relationship between maternal self-reporting and urinary cotinine level during pregnancy.

Keywords: Passive smoking, Urinary cotinine, Pregnancy

* **Corresponding Author:** Banihosseini SZ (MSc), E-mail: zbanihoseini@gmail.com

Received 8 May 2011

Revised 21 August 2011

Accepted 27 August 2011