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## Introduction

The World Health Organization has classified the tobacco epidemic as one of the biggest public health threats worldwide. Second-hand smoke (SHS) is a mixture of the smoke from the burning tobacco product and the smoke exhaled by a smoker. This study aimed to measure SHS exposure in pregnant women using urinary cotinine measurements and to evaluate the association between paternal smoking and maternal urine cotinine, and birth outcomes in a birth cohort of Israeli mothers and children.

## Methods

We measured urinary cotinine in samples taken at birth from 96 non-smoking mothers participating in the EHF-Assaf-Harofeh-Ichilov cohort. Half of the partners were smokers, based on the self-reported data. Women were classified as exposed or non-exposed to secondhand smoke (SHS) based on urinary cotinine levels below or above the Limits of Quantification (LOQ).

## Results

In our study, 94% of women with a smoking partner and nearly 60% of those with a non-smoking partner had urine cotinine levels above the LOQ. Furthermore, paternal smoking was a significant predictor for maternal urinary cotinine levels above the LOQ: aOR 7.83 95%CI [2.01-30.57], p-value=0.003.

Maternal urinary cotinine levels were inversely associated with newborns' birth weight:

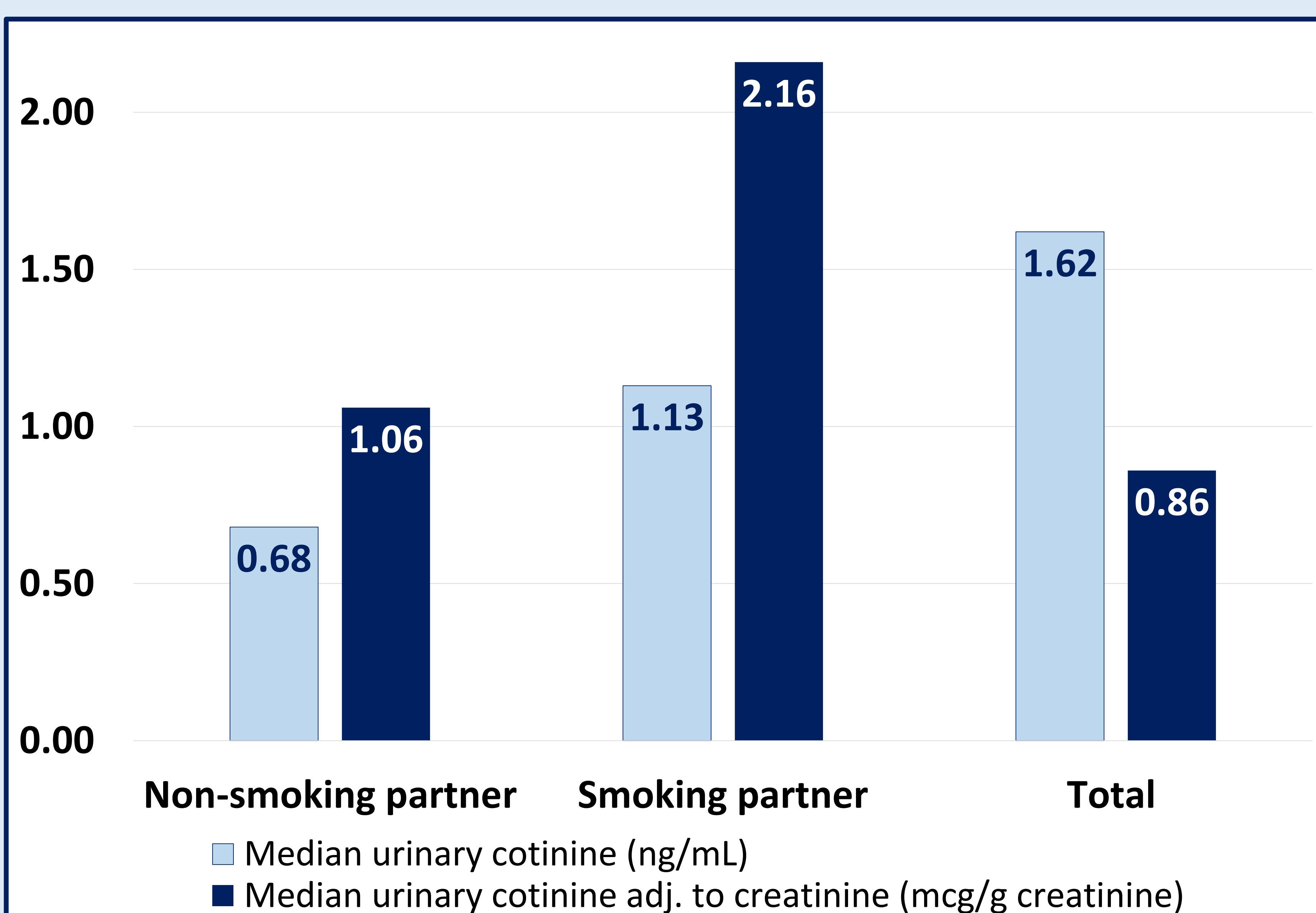
beta estimate -281.39, p-value=0.048.

When stratified by sex, only in male newborns, maternal urinary cotinine was inversely associated with newborns' birth weight:

beta estimate 470.22, p-value=0.014.

**Figure 1**

Maternal urinary cotinine levels



## Conclusions

Our findings confirm that partners play an essential role in creating and maintaining smoke-free environments since they are one of the primary sources of maternal secondhand smoke. Maternal urinary cotinine levels at birth were associated with lower birth weight; with male newborns seemingly more affected than females. However, additional studies, with larger sample size, are needed to confirm the latter finding.