

PREVALENCE OF CIGARETTE SMOKING AND ENVIRONMENTAL TOBACCO SMOKE (ETS) VS URINARY COTININE IN A SPANISH COHORT OF PREGNANT WOMEN

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Background and aims: To estimate the prevalence of smoking during pregnancy and establish the cut-off point for urinary cotinine (UC) that differentiates smokers from non-smokers, as well as assessing exposure to ETS.

Methods: A total of 2,263 women from the INMA cohort (www.proyectoinma.org) recruited between 2003 and 2008 were included in the study. Data concerning smoking was collected using a questionnaire, and UC was measured by immunoassay in week 32 of pregnancy. Validity was assessed and the area under the ROC curve was calculated. Factors associated with tobacco smoking and misclassification (nondisclosure) were analysed using logistic regression.

Results Fifty-five per cent of women reported having smoked at some point in their life, 32% smoked at the beginning of their pregnancy, 20% at week 12 and 18.5% at week 32. A cut-off value of 50 ng/ml UC was found to have 95.7% sensitivity and 95.2% of specificity, while the positive and negative predictive values were 81.6 and 99.0% respectively and the area under the ROC curve was 98.6% (89.2-99.0%). There were 18 cases of false negative results and 90 false positives, while the numbers of true positive and true negative cases were 400 and 1,755, respectively. Smoking status and nondisclosure were associated with: women age<24 years old, social class IV, a low level of education and being European. The median of UC in smokers was 1,744 ng/ml. A linear correlation was found between UC and tobacco smoking ($p<0.001$), while among non-smoking women with UC <50ng/ml, UC was linearly correlated with the number of sources of exposure to ETS ($p< 0.05$). **Conclusions:** In week 32 of pregnancy, 18.5% of women reported that they were smoking and a further 3.9% probably smoked, or nondisclosure. We propose 50 ng/ml as a cut-off point for UC among pregnant women. UC was significantly associated with ETS.