

Babies to mothers who smoke weigh 200 grams less at birth

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The babies of women who smoke during pregnancy are between 180 and 230 grams lighter than babies of women who do not smoke. Credit: SINC

Smoking during pregnancy has widely documented health repercussions both for mother and baby. A study at the University of Zaragoza on 1216 newly born babies confirms that those born to mothers who smoke weigh and measure less.

A new study lead by the University of Zaragoza evaluates the differences in body composition and proportional distribution of [body mass](#) between babies born to [mothers](#) who have or have not smoked during pregnancy.

Published in the *Early Human Development* journal, the study reveals that children of woman who did not smoke during pregnancy weigh and measure more. Their corporal dimensions are also significantly higher

compared to the children of mothers who did smoke during pregnancy. But, this is not the same as body weight index (the relationship between height and cubic weight).

In fact, the results highlight that mothers who smoke during pregnancy give birth to babies that are between 180 and 230 grams thinner than the [offspring](#) of mothers who do not smoke. In other words, this constitutes an average of 216 grams.

Furthermore, subcutaneous skinfolds, which show the amount of fat, are lower in children born of mothers who smoked. In this case however, differences were not as great as with body size. On the contrary, the authors of the study did not find any [correlation](#) between anthropometric measurements and the number of [cigarettes](#) smoked per day during pregnancy.

"Given the scarce bibliography on the subject, we had to assess the impact of [tobacco](#) on the [body composition](#) of babies born to mothers who smoked during pregnancy," as explained to SINC by Gerardo Rodríguez, lead author of the study.

For this purpose, the experts analysed the newly born full term babies with a gestational age of at least 37 weeks of 1216 Caucasian mothers (22.1% of whom smoked an average of almost eight cigarettes per day) in the University Clinical Hospital of Lozano Blesa in Zaragoza. The children of those mothers who had admitted to consuming alcohol or taking illegal drugs during pregnancy were excluded from the study.

"Tobacco consumption during pregnancy can cause a generalised reduction in the majority of parameters as a result of a decrease in foetal growth. Newly born [babies](#) to mothers who smoked during pregnancy are smaller and have less subcutaneous fat compartments," concludes Rodríguez.

Chronology of passive smoking

The first indication of the health consequences of 'passive smoking' arose at the beginning of the 1970's with the publication of works that verified the risk of inhaling a 'environmental tobacco smoke' by a non-smoker with respiratory or heart-related illness and by children whose parents were smokers.

In 1981 the *British Medical Journal* published a study by the epidemiologist Hirayama, who for the first time established that the passive smoker has an increased risk of developing lung cancer. For 14 years, Hirayama had studied a sample population of non-smoking women who lived with smoking families. During the following years, works were published that related this with other pathologies.

The environmental tobacco smoke is a mixture of the smoke exhaled by the smoker (main current) and the smoke of the cigarette through spontaneous combustion (secondary current). The main current comes from a combustion that has a higher oxygen content than that is filtered throughout the cigarette itself.

At present there is unanimity that "passive smoking" has adverse effects on the health. The scientific community has no doubt that in adults it causes an increased risk of lung cancer, cardiovascular disease and chronic obstructive pulmonary disease (COPD).

More information: Samper MP, Jiménez-Muro A, Nerín I, Marqueta A, Ventura P, Rodríguez G. "Maternal active smoking and newborn body composition". *Early Human Development* 88 (2012) 141-145.

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