

## Maternal smoking during pregnancy: A review

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**Background:** Maternal Smoking During Pregnancy (MSDP) is greatly associated with serious health outcome for offspring. Citing from past studies to present, A majority of studies have focused more on indirect association and little or nothing on direct association. This review paper seeks to examine studies conducted on the direct relationship between maternal smoking and fetal brain development.

**Method:** A systematic search of, Psyc-INFO, Medline, Scopus, Web of Science and Embase was conducted (from 1977-2017) and 116 studies were identified with eleven studies meeting inclusion criteria gathering data from over 4,000,000 participants. All studies measured outcomes using either internalizing (anxiety, depression, cognition) or externalizing (overaction, aggressiveness, head circumference) behaviors or both.

**Results:** All the studies showed an indirect association between maternal smoking and fetal brain development and none could show how cigarette smoke affects fetal brain development directly. Six studies used internalizing behavior to show this indirect association and the remaining five used the externalizing behavioral outcome. Some studies predicted the smoke not to be the main cause for the abnormalities during brain development, but the confounding factors are responsible for the unhealthy outcomes on brain development.

**Conclusion:** However, heterogeneity in the timing of brain development, assessment measures used for mother smoking habit and inconsistencies in adjustment for confounders, limits the synthesis and interpretation of findings. Moreover, if direct affect is to be attained, different measures and designs of prospect studies be required to investigate this complex association between maternal smoking during pregnancy and fetal brain development.

### Biography

Molonga Simon is a fourth-year doctoral candidate in Public Health in the Department of Addiction Science. He is originally from Cameroon and earned his BSc from the University of Buea with a major in Life Science and a minor in Medical Laboratory Technology. In 2015, he earned his MA from Ajou University, with a concentration in global trade policies and how it affects local farmers income. He is interested in research that evaluates how maternal smoking habits during pregnancy retards fetal brain development, more specifically the direct relationship between the nicotine and the fetal brain, something which has not been proven. During his time in Ajou University he was elected as the student representative of his department and nominated as a teaching assistant for one semester. As a PhD student he worked as a research assistant for 2 years, which earned him his first published article in October 2018. Currently, he is doing final touches on his dissertation proposal which focuses on e-cigarette and South Korean youths.

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