

To the Editor:

Signorello and McLaughlin¹ stated (p. 234): “Perhaps the most significant issue of confounding related to studies of caffeine and spontaneous abortion involves pregnancy symptoms. It is known that pregnancy symptoms like nausea (and aversions to tastes and smells) often influence the amount of caffeine consumption in early pregnancy. ... [H]igher caffeine intake could be interpreted as causally related to [a] spontaneous abortion, when caffeine in fact was simply a marker for nonviability.” This theory served as the hypothesis for our study, which was published in 2002.²

In our study, 92 non-smoking subjects enrolled by the ninth week from last menstrual period (LMP) recorded pregnancy symptoms and caffeine consumption on daily diaries, and reported reasons for changing consumption as a marker for aversion. Subjects also collected weekly, first-morning urine samples for the determination of human Chorionic Gonadotropin (hCG), estrone-3-glucuronid (E₁G), and pregnanediol-3-glucuronide (PdG). Fifty-nine percent reported decreasing coffee consumption due to an aversion to the smell or taste of coffee. Coffee consumption was significantly and inversely associated with weekly levels of E₁G and hCG. Nausea was significantly and directly associated with hCG. Weekly coffee consumption was not significantly associated with nausea, suggesting that coffee aversion is an independent phenomenon.

Based on these results, we strongly recommended measuring coffee aversion as a separate variable. We also encouraged researchers to collect repeated measures and analyze data longitudinally. Our other recommendations concur with Signorello and McLaughlin’s¹ “optimal” study design, and we hope to see this study conducted to answer this important public health question.

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References:

1. Signorello SB, McLaughlin JK. Maternal caffeine consumption and spontaneous abortion: A review of the epidemiologic evidence. *Epidemiology* 2004; 15: 229-239.
2. Lawson CC, LeMasters GK, Levin LS, Liu JH. Pregnancy hormone metabolite patterns, pregnancy symptoms, and coffee consumption. *Am J Epidemiol* 2002; 156: 428-37.