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Patterns and predictors of low-calorie sweetener consumption during pregnancy: findings from a national survey in Australia

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Emerging evidence has indicated that perinatal exposure to low-calorie sweeteners (LCSs) might be associated with adverse pregnancy outcomes and offspring health[1]. The aim of the study was to examine the patterns and predictors of LCS consumption among pregnant women in Australia. A web-based survey was conducted among 422 pregnant women aged 18-50 years between September and October 2022. Participants were recruited by a reputable consumer panel provider, Qualtrics. Sociodemographic, lifestyle, dietary intake (including LCS consumption), pregnancy-related characteristics, and participants' awareness regarding the potential health effects of LCS were assessed. We assessed LCS consumption from twelve food groups that are common sources of LCS[2]. To identify LCS consumption patterns and predictors of the patterns, a latent class analysis and hierarchical multinomial logistic regression was employed, respectively. The women's mean (SD) age was 30 (4.6) years. Overall, 95% of the women reported consuming any LCS in the current pregnancy. Three different LCS consumption patterns were identified. Infrequent or non-consumers, representing 50% of the women, included those who rarely or never consumed LCS-containing foods and beverages (with a probability of less than 10%). The second pattern, moderate consumption, which encompassed 40% of the women, indicated low to moderate consumption of LCSs (for instance, the likelihood of consuming LCS-containing drinks ranged from 18% to 50%). The third pattern highlighted habitual consumption. These individuals (10%) had a high likelihood (ranging from 75% to 95%) of consuming foods from all food groups that contained LCS. The majority of women (71%) were unaware of the potential adverse effects of LCS, and only 25% expressed concerns about the potential impacts of LCS on their health and the health of their offspring. Moreover, women who frequently consumed sugar-sweetened beverages (SSBs) ($\geq$2 times/week) or had gestational diabetes were over three times more likely to adopt a habitual LCS consumption pattern compared to those who consumed SSBs less often [adjusted relative risk ratio (aRRR) = 3.17, 95% CI: 1.39-7.21] and those without gestational diabetes [aRRR = 3.53, 95% CI: 1.03-12.10]. Additionally, having a medical condition was linked to a 55% lower chance of moderate LCS consumption compared to infrequent or non-consumption. These findings indicate LCS consumption is widespread, but awareness of its potential adverse health effect is low among pregnant women in Australia. Public health interventions to increase the awareness of potential adverse effect of LCS consumption, particularly among pregnant women with moderate and habitual consumption are warranted.

Keywords: non-nutritive sweetener; pregnancy; consumption pattern; Australia

Ethics Declaration

Yes

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References

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