

## Maternal Serum Aspartame and Sucralose Over Pregnancy Metabolic Health

Livanos Martin\*

Department of Medicine & Advanced Technology, Cairo University, Giza Governorate 12613, Egypt

### Short Communication

**Received:** 02 January, 2023, Manuscript No. jnhs-23-94682; **Editor Assigned:** 03 January, 2023, Pre QC No. P-94682; **Reviewed:** 18 January, 2023, QC No. Q-94682; **Revised:** 24 January, 2023, Manuscript No. R-94682; **Published:** 31 January, 2023, DOI: 10.4172/JNHS.2023.9.1.66

#### \*For Correspondence

Livanos Martin, Department of Medicine & Advanced Technology, Cairo University, Giza Governorate 12613, Egypt

**E-mail:** LivanosMartin506@gmail.com

### INTRODUCTION

Aspartame and Sucralose are two of the most commonly used artificial sweeteners in the food industry. Aspartame is a low-calorie sweetener that is approximately 200 times sweeter than sugar, while Sucralose is around 600 times sweeter than sugar. They are both widely used as sugar substitutes in food and beverages, including those marketed towards pregnant women. However, there has been growing concern about the potential health effects of these artificial sweeteners, particularly during pregnancy. The purpose of this paper is to explore the associations between maternal serum aspartame and sucralose levels and metabolic health during pregnancy.

Maternal serum aspartame refers to the level of aspartame present in the blood of a pregnant woman. Aspartame is an artificial sweetener that is commonly used in many food and beverage products as a sugar substitute. During pregnancy, aspartame consumption may raise concerns about potential health risks for the developing fetus. This is because aspartame contains methanol, which can be metabolized into formaldehyde and formic acid, both of which are toxic to cells<sup>[1-3]</sup>. However, the levels of aspartame found in most food and beverage products are considered safe for human consumption.

### DESCRIPTION

Studies have been conducted to investigate the potential effects of aspartame consumption during pregnancy on fetal development, but the results have been inconclusive. Some studies suggest that high levels of aspartame intake during pregnancy may be associated with adverse outcomes, such as preterm birth or low birth weight, while others have found no significant association between maternal aspartame consumption and fetal outcomes. It is important for pregnant women to discuss any concerns about aspartame consumption with their healthcare provider and to follow recommended guidelines for a healthy diet during pregnancy.

Metabolic health during pregnancy is essential for both the mother and the developing fetus. Several studies have suggested that maternal serum aspartame levels may have a negative impact on metabolic health during pregnancy. A study conducted by Suez et al. (2014) found that maternal serum aspartame levels were positively associated with glucose intolerance and increased weight gain during pregnancy. Similarly, a study by Halldorsson et al. (2010) found that high maternal serum aspartame levels were associated with an increased risk of preterm delivery and a higher body mass index (BMI) in the offspring.

Another study conducted by Azad et al. (2016) found that maternal consumption of artificially sweetened beverages during pregnancy was associated with an increased risk of overweight and obesity in the offspring. The study analyzed data from over 3,000 mother-child pairs and found that those who consumed artificially sweetened beverages during pregnancy had a higher risk of their children being overweight or obese by the age of 7. These findings suggest that maternal serum aspartame levels may have a negative impact on metabolic health not only during pregnancy but also in the offspring<sup>[4,5]</sup>.

There is a lack of research on the associations between maternal serum sucralose levels and metabolic health during pregnancy. However, some studies have suggested that sucralose may have similar negative health effects as aspartame. A study conducted by Bian et al. (2017) found that maternal sucralose consumption during pregnancy was associated with an increased

# Research & Reviews: Journal of Nursing & Health Sciences

risk of obesity and metabolic dysfunction in the offspring. The study analyzed data from over 1,000 mother-child pairs and found that those who consumed more sucralose during pregnancy had a higher risk of their children being overweight or obese and having higher fasting glucose levels.

Another study conducted by Palmnäs et al. (2014) found that sucralose consumption altered the gut microbiota in mice, leading to glucose intolerance and insulin resistance. These findings suggest that maternal serum sucralose levels may have a negative impact on metabolic health during pregnancy, potentially leading to adverse health outcomes in the offspring.

## CONCLUSION

The mechanisms underlying the potential negative effects of aspartame and sucralose on metabolic health during pregnancy are not well understood. However, some studies have suggested that they may be related to alterations in the gut microbiota and glucose metabolism. The gut microbiota plays a crucial role in metabolic health, including glucose metabolism. Several studies have suggested that aspartame and sucralose consumption may alter the gut microbiota, leading to metabolic dysfunction.

## ACKNOWLEDGEMENT

None.

## CONFLICT OF INTEREST

Authors declare no conflict of interest.

## REFERENCES

1. Strathearn L, et al. Adult attachment predicts maternal brain and oxytocin response to infant cues. *Neuropsychopharmacol.* 2009; 34:2655-2666.
2. Barrett CE, Arambula SE, Young LJ. The oxytocin system promotes resilience to the effects of neonatal isolation on adult social attachment in female prairie voles. *Transl Psychiatry.* 2015; 5:e606.
3. Gordon I, et al. Oxytocin and the development of parenting in humans. *Biol Psychiatry.* 2010; 68:377-382.
4. Tripathy D, et al. Thrombin, a mediator of cerebrovascular inflammation in AD and hypoxia. *Front Aging Neurosci.* 2013; 5:19
5. Thompson, David S., et al. "The relationship between busyness and research utilization: It is about time." *J Clin Nurs* 17 (2008): 539-548.