Does being born via caesarean section increase the likelihood of childhood obesity?

Caesarean sections have become increasingly common nationally and globally. Despite World Health Organization (2015) recommendation that only 10-15% of births be via caesarean section, the global average is currently 27.6% of all births. In New Zealand, 25.5% of all births in 2015 were undertaken via caesarean delivery.

Also rising is the childhood obesity rate. Childhood obesity is one of the most serious public health challenges facing New Zealand - the Ministry of Health (2017) estimates that in 2016/17, 1 in 8 children between ages 2-14 were obese, and a further 21% of children were overweight.

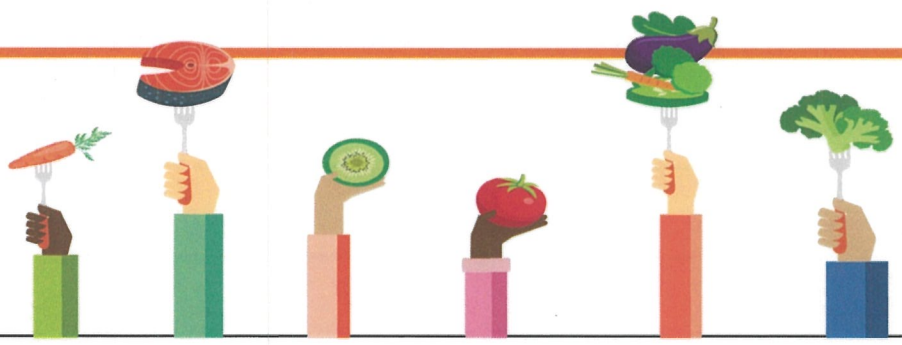
This leads to the speculation – is there a link between the two factors?

Research:

Research suggests that there is **not a significant link** between the two factors. However, there is:

- Some evidence of association of caesarean section with obesity in *early* childhood.
- Some evidence suggesting that in cases where the mother who is having a caesarean section is obese, or undergoing a second caesarean delivery, there is a higher chance of obesity in the offspring.
- Evidence that children born via cesarean delivery do have lower levels of Bifidobacteria and higher counts of Clostridium difficile (a potential obesogenic microbiota) than vaginally delivered children which has been shown to have a small impact on metabolism.

- **Overall**, evidence suggests that factors such as maternal obesity, social status, location at birth and types of antenatal care appear to have far bigger impact on childhood obesity than birth via caesarean section.



Recommendations:

1. Health practitioners should discuss with patients factors such as maternal obesity during pregnancy, as evidence does suggest that this can be a cause of obesity in offspring – both genetically and as an influence on ongoing lifestyle choices. Ongoing support and advice should be provided to new or expectant mothers on healthy diets and exercise for their children as they grow up, to decrease their likelihood of developing childhood obesity.

2. When focusing on combating increasing rates of childhood obesity in New Zealand, the Ministry of Health should continue to focus on external factors, such as accessibility to junk foods, increasing the appropriateness of community exercise areas, and introducing food advertising regulations and sugar taxes. Prevention in high risk, lower socioeconomic areas should be at the forefront of strategies focusing on at-risk populations, as this was shown from the evidence to be a significant factor in childhood obesity.

Summary:

If not targeting caesarean section rates, what should be done to prevent childhood obesity?

- Support pregnant women to maintain a healthy weight during pregnancy.
- Educate families on healthy lifestyles for the ongoing health of their child, particularly in early childhood.
- Introduce government level reforms such as sugar taxes which discourage the consumption of high calorie foods.
- Encourage the accessibility and appropriateness of community shared areas to play and exercise in.

References

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Images:

https://www.npr.org/sections/health-shots/2015/03/09/390977656/the-gentle-cesarean-more-like-a-birth-than-an-operation

https://www.healthscopemag.com/health-scope/preventing-childhood-obesity/

Hannah Lockie

PECOT category	Information relating to question	Explanation
Population	Children between the ages of 0-14 who have a BMI within the overweight or obese range.	I chose this population as the Vulnerable Children's Act 2014 (Ministry of Education, 2014) classifies children as "a boy or girl under the age of 14 years". By using this age range, my results will be relevant to New Zealand childhood obesity statistics as the age range will be within the New Zealand definition of children. Furthermore, BMI is regarded as the standard measurement for assessing health and weight (Ministry of Health, 2015). By using BMI measurements, the age, height and weight of a child is accounted for. This is not a perfect measure, but does offer more insight than weight measurement alone.
Exposure	Children born via caesarean section.	I will be focusing on articles which investigates health outcomes for children born via caesarean section.
Control	Children born vaginally.	I want to research whether there is a strong correlation between childhood obesity and caesarean delivery. To do so, I will use studies that include children who were not delivered via caesarean section in order to ascertain the connection between caesarean section and the rising levels of obesity.
Outcome	To determine the impact caesarean delivery has on the BMI of children.	We want to know whether caesarean delivery is associated with childhood obesity, or whether this is speculation.
Time	At the time of measurement.	Time is not relevant to this research question. Given that as children grow their weight changes, I will be focusing on articles that offer a snapshot of time using a BMI measure of children between the ages of 0-14.

Research question: Does being born via caesarean section increase the likelihood of childhood obesity in children aged between 0-14, compared with children born vaginally?

Rationale

I have chosen to present the findings of my literature review in a poster format due to the accessibility of a poster to all members of a healthcare team and the general public. A poster can be presented in a professional forum, and/or simply placed on walls of clinics or waiting rooms – therefore they are a very accessible resource. I feel that the content of my poster, caesarean sections and their possible link to childhood obesity, is appropriate for a poster, as there is often speculation in the media about this topic and thus a wide range of individuals may be interested in reading the findings in a variety of settings.

Posters are a particularly effective means of knowledge transfer, as they allow a reader to gain insight into the 'overall' findings and recommendations of a literature review within a few minutes, as opposed to reading a lengthy report. To most effectively transfer knowledge to a reader, Briscoe (1996) recommends "planning your poster around three to four key points that you want your audience to walk away with" and "designing the title, charts, and text to emphasize those points." Hence, after outline my research and detailed recommendations, I have summarized my findings into four simple, 'take home' messages that any reader can understand in the 'summary' section.

As stated by Rowe & Ilic (2009), "posters are designed to give a visual representation of an issue that firstly attracts attention, and then conveys an intended message. Therefore, much of the poster's success as an educational tool relies upon the design of the poster." As such, I have chosen to use simple, bright colours to keep the content clear and readable whilst still being visually appealing. The artwork and images chosen are inoffensive/non graphic and therefore the poster could be presented in a multitude of settings.

In conclusion, as Christenbery and Latham (2013) stated, "effective poster presentations are critical to the dissemination of scholarly knowledge." As new graduate nurses coming into the field, we bring with us new information, techniques and outlooks which can be critical to the development and success of future nursing practice. By being able to utilize effective means of communication, such as poster presentations, we will be able to share knowledge with our co-workers and communities in a safe, effective manner.

References

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