

APrON Newsletter

Spring 2019

WHAT'S NEW WITH APrON?

APrON 10th Anniversary

With the arrival of 2019, APrON is officially celebrating its 10th anniversary. We would like to take this opportunity to express our gratitude for the time commitment that you and your family have given to the APrON study over the past decade. Through your commitment, we have been able to study the impact of maternal prenatal nutritional intake and status on child development and maternal & child mental health.

APrON Data Collection Update

Since the last update, the Eight is Great questionnaire has continued arriving in participants' mailboxes. The Eight is Great questionnaire is part of the Alberta Births Common Data (ABCD), which has been looking into topics such as socioeconomic status, child behaviour, child health and development, early childhood experiences, parenting, maternal health and wellbeing, and much more among APrON participants. If you haven't received an email to complete this questionnaire yet, look for this around the time your child turns eight.

[Read more](#)



Join APrON's Participant Advisory Committee

The APrON team is always looking for participants to join our advisory committee meetings and we want you to be a part of it! Share your ideas on how we can keep participants, like you, engaged and interested in our research. We want to hear from you. Sessions will be 1.5 hours long and will take place at

the Owerko Centre at the Child Development Centre in Calgary. If you would like to learn more about this exciting opportunity, please contact us by email at apron@ucalgary.ca

RESULTS

Study Title: Prepartum and Postpartum Maternal Depressive Symptoms Are Related to Children's Brain Structure in Preschool



Feelings of sadness, anxiety, hopelessness, and irritability are common among pregnant women, and are often associated with depression. Almost one in five women will experience bouts of depression sometime during their pregnancy or shortly after the birth of their child. Research has shown that children whose mothers experienced depression during or after pregnancy are more likely to develop mental health problems, struggle in school and/or have difficulties relating to others compared to children whose mothers were not depressed. However, it is still unclear how or why a mother's depression surrounding pregnancy affects her children. The goal of this study was to look at how mother's depression symptoms during or after pregnancy affected their young child's brain.

Using magnetic resonance imaging (MRI), researchers studied the brains of fifty-two children 2 - 5 years old. Children's brain structure was then compared to their mother's depression symptoms during and shortly after pregnancy.

The results from this research study showed that maternal depression symptoms are related to their children's brain structure in areas that control attention and inhibition. Specifically, higher depression symptoms either in the middle of pregnancy (2nd trimester) or shortly after birth (~3 months postpartum) were related to more mature brain structure in these areas. While brain plasticity is life-long, adaptability is greatest during early childhood. The results of this research may indicate that children whose mothers had more depression symptoms have a shorter window of optimal brain plasticity during which they are most able to learn and adapt to their environment.


This study demonstrates the importance of screening for maternal depression during pregnancy and immediately after childbirth, and offering mental health treatment services to depressed mothers. Other APrON investigations have examined how social support and supportive interventions for depressed mothers

might improve child development outcomes. Overall, we anticipate that the APrON study will continue to promote early intervention for depressed mothers and their children in order to improve their health and long-term potential.


Reference: Lebel, C., Walton, M., Letourneau, N., Giesbrecht, G.F., Kaplan, B.J., & Dewey, D. (2016). Prepartum and postpartum maternal depressive symptoms are related to children's brain structure in preschool. *Biological Psychiatry*, 80, 859-868.

Too old too soon?

How maternal depression affects children's brains



Approximately **18%** of women experience depression sometime during pregnancy and **13%** experience it post-partum



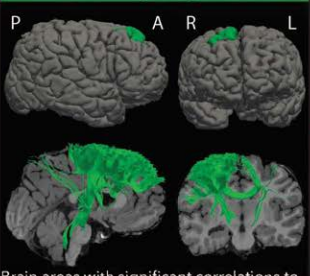
That is almost one in every five women

Children whose mothers experience depression during and/or after pregnancy might be more likely to:

- Develop mental health problems
- Have trouble relating to others
- Struggle in school


Compared to children whose mothers were not depressed

Researchers from University of Calgary used MRI to look at brain structure in young children



Brain areas with significant correlations to maternal post-partum depression scores


They found that children whose mothers experienced more depressive symptoms had more mature brain structure earlier in life. For children learning about the world, a more mature brain too early may mean less flexibility and adaptability, and more difficulty learning.





While we still have a lot to learn about how mental health affects brain structure, we do know that investing in parental mental health has critical and long-term positive impacts on our children's development

Research from Dr. Lebel's Developmental Neuroimaging Lab, University of Calgary

Infographic presented by the



Funding Provided by



Access the full article online version:
<http://dx.doi.org/10.1016/j.biopsych.2015.12.004>

To request the above or any other APrON publication please contact us at apron@ucalgary.ca

Click here to view all of the APrON publications to date, or by following the link below:

https://scholar.google.ca/scholar?hl=en&as_sdt=0%2C5&q=apron+study+team&btnG=

Send Us Your Feedback!

If you have any comments or questions about the APrON Newsletter, we want to hear them! We would also like to hear your ideas for future newsletters.

Please contact us at apron@ucalgary.ca. We truly value your feedback!

Help Keep Our Files Up-To-Date

Staying in touch with our participants is a key part of our work. When we lose touch with people we lose our ability to answer important health questions. If you have moved, changed your phone number or have a new email address, please take a moment to let us know of these changes. Keep in mind that we can send you surveys and keep you up-to-date with the APrON Leaflet no matter where you live, even if you are outside of Alberta or Canada.



apronstudy.ca

Questions? Email us at apron@ucalgary.ca

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