



BREASTFEEDING SUPPORT FOR WOMEN WITH DIABETES

Learning Objectives

By the end of this module, you will be able to:

- Explain how diabetes may adversely affect maternal outcomes
- Explain how diabetes may adversely affect newborn outcomes

 List at least five reasons why breastfeeding is recommended for mothers who have diabetes



Overview on Diabetes/Pregnancy/ Breastfeeding



Intention to breastfeed is lower in women with diabetes

 Intention to breastfeed is linked to selfefficacy/confidence and perceived barriers to breastfeeding

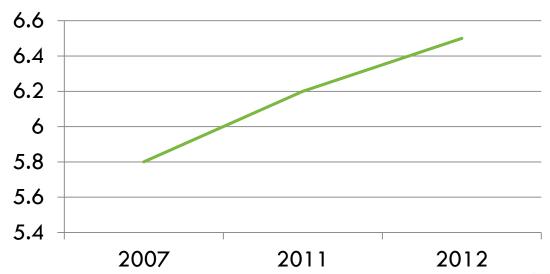
Breastfeeding duration and exclusivity is lower in women with diabetes

 May be due to difficulty latching infant, delayed milk production and inadequate breastfeeding support



Statistics

- The incidence of diabetes in Canada among the general population aged 12 years and older has increased from <u>5.8% to 6.5%</u> during 2007 to 2012 (see graph below)
 - Or approximately 2.4 million Canadians
 - By 2019, the number is expected to be 3.7 million
- The prevalence of GDM in Canada is approximately 4%
- Almost 50% of women with GDM will be diagnosed with T2DM within 5-8 years after pregnancy







Types of Diabetes

Accordion - 5 Panels (Including Introduction)

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PROPERTIES

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Prev/Next player buttons go to: Step in interaction







DIABETES & MATERNAL IMPLICATIONS



Maternal Implications Diabetes and Obesity

Bulletin Board - 2 Notes

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Long-Term Values of Breastfeeding for Mother's who have Di...

Media Panel - 3 Steps

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PROPERTIES

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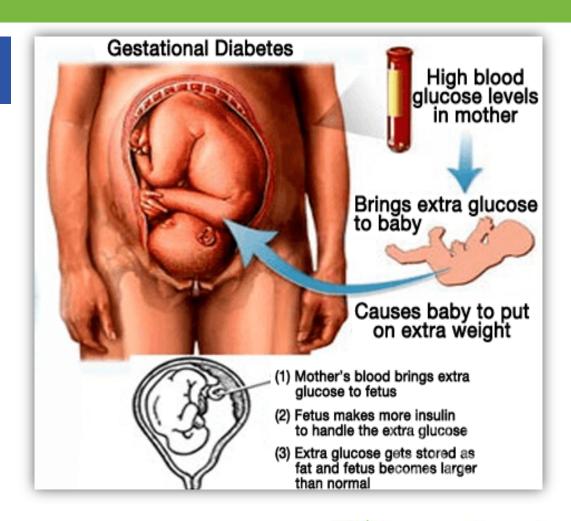


DIABETES AND IMPLICATIONS FOR INFANTS

Implications for Infants

Infant's born to mothers with diabetes are at a greater risk for:

- Hypoglycemia
- Respiratory distress
- Neonatal morbidity
- Prematurity







The value of Breastfeeding for Infants

Tabbed Image - 2 Tabs

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THE EFFECTS OF BREASTFEEDING FOR WOMEN WITH DIABETES AND THEIR INFANTS

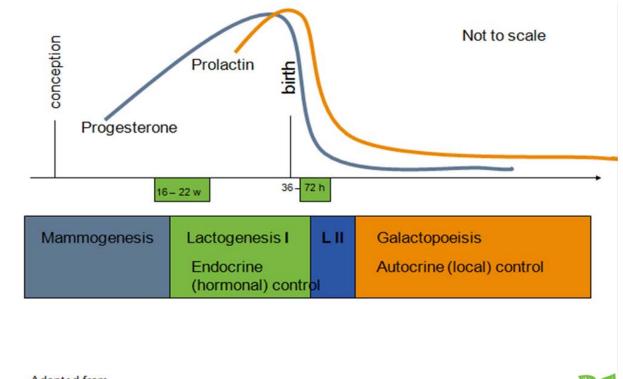
Lactation Terminology

Lactogenesis I

Prepares breast tissue for milk synthesis through colostrum production

Lactogenesis II

 Copious milk production beginning approximately 2 days after birth







Strategies to Create a Sufficient Milk Supply

Accordion - 4 Panels (Including Introduction)

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Delayed onset of Milk Production (after 72 Hours Postpartum...

Timeline - 2 Periods, 2 Events

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PROPERTIES

Show interaction in menu as: Single item

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Prev/Next player buttons go to: Step in interaction

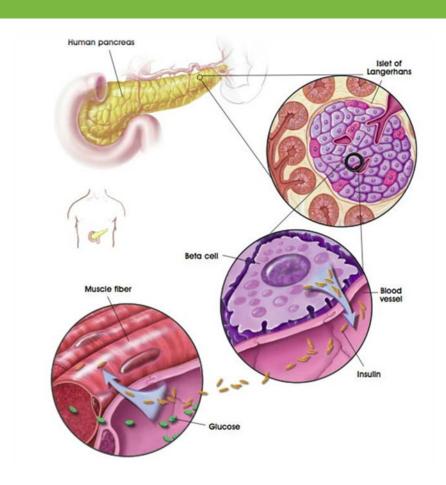




Long-Term Value of Lactation

Most lactating mothers lose body weight and subcutaneous fat during the postpartum period which decreases the risk of progression to T2DM

Lactation may reduce the load on the pancreatic β-cells through reduced demand for insulin secretion therefore decreasing progression toT2DM







NURSING IMPLICATIONS



Nursing Implications

Process - 4 Steps (Including Introduction)

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PROPERTIES

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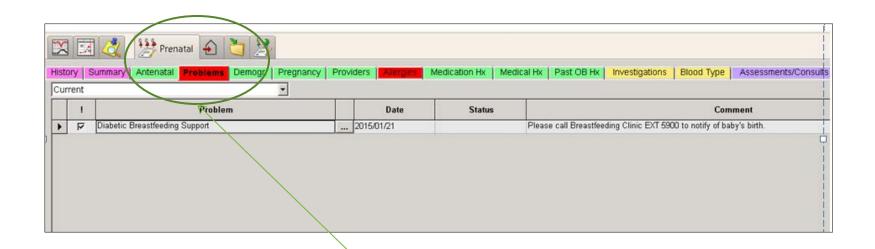
Allow user to leave interaction: At any time

Prev/Next player buttons go to: Step in interaction





Reminder in OBTV to call Breastfeeding Clinic



Please call the Breastfeeding Clinic to notify LCs of baby's birth so LCs can follow them closely



Sunnybrook's Experience

Exclusive Breastfeeding Rates for Women with Diabetes 2011-2013

Exclusive Breastfeeding Rates at Discharge (2011-2013)	
Breastfeeding Rate	75%
Type 2 Diabetes	8%
Type 1 Diabetes	16%
Gestational Diabetes	49%

Current Success

- Program was implemented in 2013
- There has been a 15% increase in breastfeeding exclusivity for women with diabetes since the Antenatal
 Breastfeeding program started
- The goal is to increase the rate of breastfeeding exclusivity to 75% for women with diabetes



Summary



- Diabetes rates globally and within Canada are rising sharply.
- Diabetes represents significant future health risks for both mothers and their children
- We need to support strategies that encourage women who have diabetes to breastfeed and to persist in breastfeeding as breastfeeding is a modifiable factor that may help reduce diabetes in both women and their children.



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The incidence of diabetes is increasing in the general population internationally and nationally. What is the percentage increase in incidence of diabetes in Canada age 12 years and older from 2007 to 2012?

- 0 21-255
- 0 32-399
- 0 58.656

Quiz

Quiz - 6 questions

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PROPERTIES

On passing, 'Finish' button: Goes to Next Slide

On failing, 'Finish' button: Goes to Next Slide

Allow user to leave quiz: At any time

User may view slides after quiz: After attempting quiz

Show in menu as: Multiple items





References

Alves, J.G., Figueiroa, J.N., Meneses, J., & Alves, G.V. (2011). Breastfeeding protects against type 1 diabetes mellitus: A case-sibling study. *Breastfeeding Medicine*, 7(1), 25-28.

Canadian Diabetes Association Clinical Practice Guidelines Expert Committee. Canadian Diabetes Association 2013 clinical practice guidelines for the prevention and management of diabetes in Canada. *Canadian Journal of Diabetes*, 37(suppl 1):S1-S212.

Canadian Diabetic Association. The prevalence and costs of diabetes fact sheet. Accessed at

http://www.diabetes.ca/diabetes-and-you/what/prevalence/. Accessed June 16, 2013.

Canadian Diabetes Association (2013). Clinical Practice Guidelines Expert Committee for the prevention and management of diabetes in Canada. Canadian Journal of Diabetes, 37(1), 1-227.

Chertok, I., Raz. I., Shoham, I., Haddad, H. & Wiznitzer, A. (2009). Effects of early breastfeeding on neonatal glucose levels of term Infants born to women with gestational diabetes. *Journal of Human Nutrition and Dietetics*, 22(1), 166-169.

Chouindard-Castonguay, S., Weisnagel, S.J., Tchernof, A., & Robitaille, J. (2013). Relationship between lactation duration and insulin and glucose response among women with prior gestational diabetes. *Eur J Endocrinol*, 168(4), 515-523.

Crume et al. (2011). Long-term impact of neonatal breastfeeding on childhood adiposity and fat distribution among children exposed to diabetes in utero. *Diabetes Care*, *34*(1), 641-645.

Feig, D., Lipscombe, L.L., Tomlinson, & G. Blumer, I. (2011). Breastfeeding predicts the risk of childhood obesity in a multi-ethnic cohort of women with diabetes. *The Journal of Maternal-Fetal and* Neonatal *Medicine*, 24(3), 511-515.

Finkelstein, S., Keely, E., Feig, D., Tu, X., Yasseen, A. & Walker, M. (2013). Breastfeeding in women with diabetes: Lower rates despite greater rewards. A population-based study. *Diabetic Medicine*, 30(1), 1094-1101.

Flaherman, V., Gay, B., Scott, C., Avins, A., Lee, K. & Newman, T. (2012). Randomised trial comparing hand expression with breast pumping for mothers of term newborns feeding poorly. *British Medical Journal*, *97*(1), 18-23.

Government of Canada, Statistics Canada (2012). Retrieved January 29, 2015, from

http://www.statcan.gc.ca/pub/82-625-x/2013001/article/11835-eng.htm

Gunderson, E., at al. (2007). Lactation and Changes in Maternal Metabolic Risk Factors. Obstetrics and Gynecology, 109(3), 729-738.



References

Gunderson, E., et al. (2010). Duration of Lactation and Incidence of the Metabolic Syndrome in Women of Reproductive Age According to Gestational Diabetes mellitus Status: A 20-Year study in CARDIA (Coronary Artery Risk Development in Young Adults). *Diabetes*, *59*(1), 495-504.

Gunderson, E. (2013). The role of lactation in gdm women. Clinical Obstetrics and Gynecology, 56(4), 844-852.

Gunderson, E. (2014). Impact of breastfeeding on maternal metabolism: Implications for women with gestational diabetes. *Diabetes and Pregnancy,* 14(1), 460-469.

Hannon, T. S., Rao, G., & Arslanian, S.A. (2005). Childhood obesity and Type 2 Diabetes Mellitus. Pediatrics, 116(2), 473-480.

Jevitt, C., Hernandez, I. & Groer, M. (2007). Lactation complicated by overweight and obesity: Supporting the mother and newborn. *Journal of Midwifery Womens Health*, 52(1), 606-613.

Maayan-Metzger, A., Schushan-Eisen, I., Lubin, D., Moran, O., Kuint, J. & Mazkereth, R. (2014). Delivery roombreastfeeding for the prevention of Hypoglycaemia in infants of diabetic mothers. *Fetal and Pediatric Pathology.* 33(1), 23-28.

Moore, E.R., Anderson, G.C., Bergman, N. & Dowswell, T. (2012). Early skin-to-skin contact for mothers and their healthy newborn infants. Cochrane Systematic Review.

Morton, J., Hall, J. Y. & Pessl, M. (2013). Five steps to improve breastfeeding care. *Nursing for Women's Health.* 17(6), 478-488.

O'Reilly, M., Avalos, G., Dennedy, M.C., O'Sullivan, E.P., & Dunne, F. P. (2012). Breastfeeding is associated with reduced postpartum maternal glucose tolerance after gestational diabetes. *Irish Medical Journal*, 105(5), 31-36.

Provincial Council for Maternal and Child Health . *Mother-Baby Dyad Care Implementation Tool Kit. Downloaded from http://pcmch.on.ca/initiatives/mother-baby-dyad-care.*

Public Health Agency of Canada, (2011). Diabetes in Canada, Facts and Figures from Public Health Perspective: Types of Diabetes. Retrieved January 29, 2015, from

http://www.phac-aspc.gc.ca/cd-mc/publications/diabetes-diabete/facts-figures-faits-chiffres-2011/introduction-eng.php#Typ

Sadauskaite-Kuehne, V., Ludvigsson, J., Padaiga, Z., Jasinskiene, E., & Samuelsson, U. (2004). Longer breastfeeding is anindependent protective factor against development of type 1 diabetes mellitus in childhood. Diabetes/Metabolism Research and Reviews, 20(1), 150-157.

Visram et al. (2013). Breastfeeding intention and early post-partum practices among overweight and obese women in Ontario: A selective population-based cohort study. The Journal of Maternal-Fetal and Neonatal Medicine, 26(6), 611-615.



Conclusion

- Thank you for completing Breastfeeding Support for Women with Diabetes eLearning module.
- Your results have been saved and updated in the Learning Management System (LMS).
- Your Manager, Clinical Educator or Advanced Practice Nurse will have access to your results.
- Please ensure you click the "EXIT" button on the top right hand corner.

