

Maternal health benefits of breastfeeding

Diseases highly prevalent among women include type 2 diabetes, hypertension, and coronary artery disease, as well as breast, ovarian, and endometrial cancers. What single intervention can obstetrician-gynecologists recommend to their patients to reduce the risk of these major diseases?



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In the past decade, breastfeeding rates have increased substantially.

Between 2000 and 2015, the proportion of infants who continued to breastfeed at 12 months increased from 16% to 36%. The proportion of infants who had any breastfeeding increased from 71% to 83%.¹ While the infant health benefits of breastfeeding are widely recognized, the maternal health benefits of breastfeeding are many and likely underappreciated.

Infant health benefits of breastfeeding

There are no large-scale, randomized studies of the long-term health benefits of breastfeeding versus formula feeding. The evidence supporting the health benefits of breastfeeding is derived from case-control and cohort studies. Breastfeeding directly benefits newborn and infant nutrition, gastrointestinal function, host defense, and psychological well-being. Compared with formula-fed

newborns, breastfed infants have a reduced risk of infectious diseases including otitis media, gastroenteritis, respiratory infections, sudden infant death syndrome, and metabolic disease. These benefits alone strongly support the public health benefit of breastfeeding.² In addition, breastfeeding greatly benefits maternal health.

Maternal health benefits of breastfeeding

Breastfeeding reduces a woman's risk for type 2 diabetes, hypertension, and coronary artery disease, myocardial infarction, as well as breast, ovarian, and endometrial cancer. There are few exposures that have such a multitude of positive health benefits.

Type 2 diabetes

In a prospective cohort study of 1,238 women without diabetes in 1985–1986, 182 women developed type 2 diabetes after 30 years of follow-up. Compared with never breastfeed-

Instant Poll

Which potential maternal health benefits of breastfeeding do you routinely discuss with your patients?

- A. Decreased risk of diabetes
- B. Decreased risk of endometrial cancer
- C. Decreased risk of breast cancer
- D. Decreased risk of cardiovascular disease
- E. All of the above

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ing, breastfeeding for 0 to 6 months, >6 months to <12 months, or ≥12 months reduced the risk of type 2 diabetes by 25%, 48%, and 69% respectively.³ In the prospective Nurses' Health Study, among parous women, each additional year of breastfeeding decreased the risk of type 2 diabetes by 15% compared with women who did not breastfeed.⁴

Hypertension

In the Women's Health Initiative (WHI) study of postmenopausal women, a lifetime history of breastfeeding for 12 months or more was associated with a 12% decrease in the risk of hypertension.⁵ For parous women, the prevalence of hypertension among breastfeeding (≥12 months) and never breastfeeding women was estimated to be 38.6% versus 42.1%.⁵ Similar results were observed in the Nurses' Health Study II.⁶

In the prospective Nurses' Health Study women who had breastfed for ≥2 years had a **37%** decreased risk of MI compared with women who never breastfed

Myocardial infarction and coronary heart disease

In the prospective Nurses' Health Study, during 1,350,965 person-years of follow-up, 2,540 women had a myocardial infarction (MI). Women who had breastfed for ≥ 2 years had a 37% decreased risk of MI compared with women who never breastfed. After adjustment for family history, lifestyle factors, and

adiposity, the observed reduction in risk was 23%.⁷ In the WHI (observational study plus controlled trial), women with a single live birth who breastfed for 7 to 12 months had a lower risk of cardiovascular disease than women with a single live birth who did not breastfeed (hazard ratio, 0.72; 95% confidence interval, 0.53–97).⁵

In a systematic review and meta-analysis of 100 publications, breastfeeding >12 months reduced the risk of breast cancer by **26%**

Breast cancer

In a systematic review and meta-analysis of 100 publications, breastfeeding >12 months reduced the risk of breast cancer by 26%.⁸ In a systematic review of 47 studies, the relative risk of breast cancer decreased by 4.7% for every 12 months of breastfeeding.⁹ In a systematic review and meta-analysis of 3 studies, ever breastfeeding was associated with a 28% reduced risk for triple-negative (ER-, PR-, HER2-) breast cancer among parous women.¹⁰ Triple-negative breast cancer generally has a poorer prognosis than receptor-positive breast cancers.

Ovarian cancer

In a systematic review and meta-analysis of 40 publications, ever breastfeeding was associated with a 37% reduction in the risk of ovarian cancer.⁸ In a prospective study of 1.1 million women in the United Kingdom, 8,719 developed ovarian

cancer. Among parous women, ovarian cancer risk was reduced by 10% for every 12 months of breastfeeding.¹¹

In a meta-analysis of 15 publications with 6,704 cases, breastfeeding was associated with a **26%** reduction in endometrial cancer

Endometrial cancer

In a meta-analysis of 17 publications, including 8,981 cases and 17,241 controls, ever breastfeeding was associated with an 11% reduction in breast cancer risk.¹² In a meta-analysis of 15 publications with 6,704 cases, breastfeeding was associated with a 26% reduction in endometrial cancer. After controlling for hormone use and body mass index, the reduced risk was in the range of 35%. A linear relationship between breastfeeding and reduced risk of endometrial cancer was observed, with 1 month of breastfeeding being associated with a 1.2% reduction in the risk of endometrial cancer.¹³

Let's support our patients' health by encouraging successful breastfeeding

Obstetrician-gynecologists play an important role in helping women make informed decisions about breastfeeding. Most professional organizations, including the American College of Obstetricians and Gynecologists, recommend exclusive breastfeeding for the first

6 months of life, with continued breastfeeding and introduction of complementary food from 6 to 12 months.^{14,15} Birth practices that help to increase successful breastfeeding include:

- inform all pregnant women about the newborn and maternal health benefits and management of breastfeeding
- initiate skin-to-skin contact at birth
- encourage the initiation of breastfeeding within 1 hour of birth
- ensure that breastfeeding newborns do not receive any food

or drink other than breast milk, unless medically indicated

- encourage breastfeeding women to not use pacifiers or artificial nipples.¹⁵

When women are discharged from the maternity center, providing information about community-based lactation support is helpful in ensuring continuation of successful breastfeeding.¹⁶

Most patients know that exercise and maintaining a healthy weight can reduce the risk of developing many prevalent diseases. However, far fewer patients know that breast-

feeding can reduce the risk of developing type 2 diabetes, hypertension, and coronary artery disease, as well as breast, ovarian, and endometrial cancers. Educating our patients about these health benefits may help them to more fully commit to breastfeeding. ●



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References

1. Centers for Disease Control and Prevention. Breastfeeding Among U.S. Children Born 2009–2015, CDC National Immunization Survey. https://www.cdc.gov/breastfeeding/data/nis_data/results.html. Updated August 2018. Accessed November 19, 2018.
2. Ip S, Chung M, Raman G, et al. A summary of the Agency for Healthcare Research and Quality's evidence report on breastfeeding in developed countries. *Breastfeed Med*. 2009;4 (suppl 1):S17.
3. Gunderson Ep, Lewis CE, Lin Y, et al. Lactation duration and progression to diabetes in women across the childbearing years: the 30-year CARDIA study. *JAMA Int Med*. 2018;178:328-337.
4. Stuebe AM, Rich-Edwards JW, Willett WC, et al. Duration of lactation and incidence of type 2 diabetes. *JAMA*. 2005;294:2601-2610.
5. Schwarz EB, Ray RM, Stuebe AM, et al. Duration of lactation and risk factors for maternal cardiovascular disease. *Obstet Gynecol*. 2009;113:974-982.
6. Stuebe Am, Schwarz EB, Grewen K, et al. Duration of lactation and incidence of maternal hypertension: a longitudinal cohort study. *Am J Epidemiol*. 2011;174:1147-1158.
7. Stuebe AM, Michels KB, Willett WC, et al. Duration of lactation and incidence of myocardial infarction in middle to late adulthood. *Am J Obstet Gynecol*. 2009;200:138.e1-e8.
8. Chowdhury R, Sinha B, Sankar MJ, et al. Breastfeeding and maternal health outcomes: a systematic review and meta-analysis. *Acta Paediatr*. 2015;104:96-113.
9. Collaborative Group on Hormonal Factors in Breast Cancer. Breast cancer and breastfeeding: collaborative reanalysis of individual data from 47 epidemiological studies in 30 countries including 50,302 women with breast cancer and 96,973 women without the disease. *Lancet*. 2002;360:187-195.
10. Islami F, Liu Y, Jemal A, et al. Breastfeeding and breast cancer risk by receptor status—a systematic review and meta-analysis. *Ann Oncol*. 2015;26:2398-2407.
11. Gaitskell K, Green J, Pirie K, et al. Million Women Study Collaborators. Histological subtypes of ovarian cancer associated with parity and breastfeeding in the Million Women Study. *Int J Cancer*. 2018;142:281-289.
12. Jordan SJ, Na R, Johnatty SE, et al. Breastfeeding and endometrial cancer risk: an analysis from the epidemiology of endometrial cancer consortium. *Obstet Gynecol*. 2017;129:1059-1067.
13. Zhan B, Liu X, Li F, Zhang D, et al. Breastfeeding and the incidence of endometrial cancer: a meta-analysis. *Oncotarget*. 2015;6:38398-38409.
14. Kramer MS, Kakuma R. Optimal duration of exclusive breastfeeding. *Cochrane Database of Systematic Reviews*. 2012;CD003517.
15. ACOG Committee Opinion No. 756. American College of Obstetricians and Gynecologists. *Obstet Gynecol*. 2018;132:e187-e196.
16. McFadden A, Gavine A, Renfrew M, et al. Support for healthy breastfeeding mothers with healthy term babies. *Cochrane Database Syst Rev*. 2017;CD001141.