

## CARDIOLOGY NEWS

# From the American College of Cardiology 67th Annual Scientific Sessions

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### Lactation May Offer Heart Benefits for Women

Breastfeeding for  $\geq 6$  months may offer cardiovascular benefits for women in the first several years after delivery, according to an abstract presented at the American College of Cardiology's 67th Annual Scientific Session in March. However, these benefits only extend to those women with normal blood pressure during pregnancy.

In the study, Malamo Countouris, MD, chief cardiology fellow at the University of Pittsburg Medical Center Heart and Vascular Institute, and colleagues followed 678 women with singleton births who participated in the POUCH study (Pregnancy Outcomes and Community Health) for 7 to 15 years after a delivery. This follow-up study, which is being called POUCHmoms, tracked whether women breastfed their infants and how long, as well as blood pressure and lipid metabolism biomarkers. They found that women who never lactated had higher blood pressure (on average 117/77.3 mmHg versus 111/72.7 mmHg), lower high-density lipoprotein cholesterol (51.1 versus 58.5), and higher triglycerides (124 versus 96.7) compared with women who lactated for  $\geq 6$  months.

The findings bolster previous studies that found apparent cardiovascular benefits of lactation in the [near-](#) and [long-term](#). Although most of the data to date have found long-term cardiovascular benefits of lac-



A new study suggests that lactation may have heart benefits for women.

tation in postmenopausal women, Countouris and her colleagues show these benefits start to accrue early on in the 7 to 10 years after delivery.

"It's remarkable that we're seeing those changes in our outcome variables in such short term follow-up," she said. She noted that women with normotensive pregnancies aren't considered at high risk of cardiovascular disease in the years after pregnancy, yet this low-risk group is already reaping cardiovascular benefits.

The mechanisms driving these potential cardioprotective effects aren't known; however, Countouris said that 1 hypothesis is that hormones such as oxytocin released during lactation may have vasodilatory effects. She also noted that lactation may help reverse metabolic changes that occur during pregnancy, such as weight gain, elevated triglycerides, and mild insulin resistance. Although the authors adjusted for

some factors that might also be associated with lactation's benefits, an observational study can't fully rule out that factors other than lactation contribute to the changes.

Unfortunately, these cardiovascular benefits of long-term breastfeeding didn't extend to women who experienced high blood pressure or preeclampsia during pregnancy. This finding may suggest that the harm caused by these conditions isn't reversible or that the heart benefits of lactation simply aren't strong enough to counteract it, Countouris said. She said more study is needed to understand hypertensive disorders in pregnancy and any potential benefits of lactation on cardiovascular health.

"There's still a lot about the hypertensive disorders of pregnancy that we don't know," she said. "We need to evaluate what we can do to minimize the risk of developing cardiovascular disease in these women.

If we studied [the cardiovascular benefits of lactation] more, perhaps that would give us a clue why we don't see the same benefits in women with hypertensive disorders of pregnancy."

In the meantime, Countouris said the study highlights the importance of encouraging breastfeeding.

"We definitely need to be promoting lactation even more, not just for the babies, but for mothers as well," she said.

### Pre-eclampsia Poses Risks to Short-Term Heart Health

Pre-eclampsia greatly increases the likelihood that a woman will experience hypertension, diabetes mellitus, and hyperlipidemia in the first 5 years after birth, according to an abstract presented at American College of Cardiology's 67th Annual Scientific session in March.

The study looked for women in Pittsburgh's Allegheny Health Network who had a diagnosis of pre-eclampsia in 2012 and matched controls, for a total of 658 women. Lead author Karlee Hoffman, DO, a cardiology fellow at the Allegheny Health Network, and colleagues collected data on cardiovascular risk factors before the women's pregnancies as well as data on the incidence of

hypertension, diabetes mellitus, and hyperlipidemia in the 5 years after delivery. They found that women with pre-eclampsia were more likely to be obese during pregnancy and have a low-birth-weight baby, pre-term delivery, and postdelivery complications.

During the 5-year follow-up period, more women who had pre-eclampsia than controls had new-onset diabetes mellitus (21% versus 0%), hypertension (32.8% versus 0.3%), and hyperlipidemia (3% versus 0%) (all with  $P < 0.001$ ). Women with pre-eclampsia also had a higher incidence of metabolic disease than controls (12/329 versus 0/329). Women who were black, were older at the time of pregnancy, or had a history of hypertension or diabetes mellitus before pregnancy were particularly at risk of high blood pressure after pre-eclampsia, according to Hoffman.

Previous studies have shown that pre-eclampsia is associated with a higher risk of cardiovascular disease later in life, but this study shows that women are at risk even in the first few years after birth. Hoffman and colleagues also found that many women with a history of pre-eclampsia are not receiving follow-up care to address potential heart risks in the years after delivery.

"That was 1 of the biggest surprises of the study that these women were not being followed up with," Hoffman said. "Few were asked questions about pre-eclampsia. Most people think of pre-eclampsia as a disease of pregnancy and once you deliver it is over."

However, the early years after delivery, when women are health-conscious, is a good time to educate patients about the heart risks associated with pre-eclampsia, Hoffman said. She suggested that physicians consider lipid and diabetes mellitus screening, as well as recommending changes to diet and exercise to promote heart health.

"When we see these patients in the clinic, we should at least be asking them, 'Do you have a history of pre-eclampsia?' and if they do we should be educating them about aggressive lifestyle modifications," Hoffman said.

Hoffman noted that it is still not clear how pre-eclampsia contributes to heart risks, so more study of the mechanism is needed, as well as larger prospective studies to confirm her findings of elevated heart risks in the 5 years after delivery.

"There are a lot more questions that need to be answered," she said. ■

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