

Breastfeeding Behaviour and Cardiovascular Risk in Later Reproductive Age Women

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Introduction

Cardiovascular disease is the leading cause of death in women worldwide¹. There is a growing body of data supporting breastfeeding as a risk-reducing behaviour for women’s later cardiovascular health². In this study we examined whether lifetime breastfeeding behaviour was related to future cardiovascular risk in a cohort of later reproductive age women, as calculated by three commonly used risk scores.

Methods

- ROLO Preteen: A prospective longitudinal cohort study
- Secondary analysis of 168 parous women with mean age of 42
- Demographics, health behaviour data, anthropomorphic measurements and blood samples collected at baseline and 9-11 years
- Total body DEXA collected at 9-11 years
- Lifetime breastfeeding behaviour examined as ever vs. never breastfed, lifetime breastfeeding >/= 12 months vs <12 months, lifetime exclusive breastfeeding (weeks) and lifetime any breastfeeding (weeks)
- Validated online calculators for SCORE-2, QRISK-3 and ASCVD used to calculate cardiovascular disease risk
- Univariate and bivariate analysis used to test relationships between breastfeeding behaviour and 9-11 year study visit outcomes

References

- 1. Cho et al. Summary of Updated Recommendations for Primary Prevention of Cardiovascular Disease in Women: JACC State-of-the-Art Review, *JACC* 2020; 75(20): 2602-18,
- 2. Tschiderer et al. Breastfeeding Is Associated With a Reduced Maternal Cardiovascular Risk: Systematic Review and Meta-Analysis Involving Data From 8 Studies and 1 192 700 Parous Women. *J Am Heart Assoc* 2022;11(2):e022746.



Results: Associations between Lifetime Breastfeeding Behaviour and Markers of Cardiovascular Risk

9-11 Year Study Visit Outcomes	Ever Breastfeeding	Lifetime breastfeeding >/= 12 months	Longer lifetime exclusive breastfeeding (weeks)	Longer lifetime any breastfeeding (weeks)
Cardiovascular Risk Score				
Lower QRISK-3 Risk Ratio compared to healthy matched control	✔️ (p = 0.004)	✔️ (p = 0.005)	✔️ (p <0.001)	✔️ (p <0.001)
Lower QRISK-3 Lifetime % Risk of CVD	✔️ (p = 0.03)	✔️ (p = 0.01)	✔️ (p<0.001)	✔️ (p <0.001)
Blood pressure				
Lower diastolic blood pressure	-	-	✔️ (p = 0.02)	-
Less antihypertensive use	-	-	✔️ (p = 0.004)	✔️ (p = 0.04)
Serum markers				
Lower Glycoprotein A	✔️ (p = 0.007)	✔️ (p <0.001)	✔️ (p <0.001)	✔️ (p = 0.002)
Higher HDL Cholesterol	✔️ (p = 0.01)	-	-	✔️
Lower Non-HDL Cholesterol	-	-	✔️ (p = 0.03)	-
Lower Total Cholesterol:HDL ratio	-	-	✔️ (p = 0.04)	✔️ (p = 0.02)
Body Composition				
Lower Fat Mass Index	-	✔️ (p = 0.002)	✔️ (p <0.001)	✔️ (p = 0.003)
Lower total fat mass	-	✔️ (p = 0.005)	✔️ (p <0.001)	✔️ (p = 0.009)
Lower % body fat	-	✔️ (p = 0.002)	✔️ (p <0.001)	✔️ (p = 0.003)
Lower visceral adipose tissue volume	-	✔️ (p = 0.004)	✔️ (p = 0.002)	✔️ (p = 0.03)

Conclusion

Our findings support the growing evidence that breastfeeding for longer is beneficial for future cardiovascular health in women. Longer lifetime breastfeeding duration is associated with positive effects on lifetime cardiovascular disease risk, body composition, lipid profile and glycoprotein A levels. Appropriately powered prospective studies are required to further explore these associations.