Exclusive Lactation: an intervention associated with improved lipid profile postpartum

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INTRODUCTION

- Pregnancy increases triglycerides (TG) and low-density lipoprotein (LDL-c) levels in response to fetal development[1-3]
- Lactation is associated with improved maternal cardiometabolic health year(s) postpartum (PP) and may be explained by the reset hypothesis[4-9]
- Our objective was to assess maternal lipid levels and BMI trends, comparing exclusively (EBF) and non-exclusively breastfeeding (NEBF) participants during the first 6-7 months PP

METHODS

- Longitudinal study of 94 healthy participants aged 18 to 45 with term infants
- Participants followed 6-7 months PP, with up to 3 study visits
- Visits included:
  - Questionnaires – EPDS (depressive symptoms), PSS-14 (stress symptoms), PRIME (diet), PSQI (sleep quality), IPAQ (physical activity)
  - Anthropometric measurements
  - Sample collection
- Lipid measurements: Total cholesterol (TC), high-density lipoprotein (HDL-c), TG, and LDL-c
- Exclusive lactation classification: 100% of feeds being breastmilk excluding medications or vitamins[10]
- Analysis: Inverse Probability Weighting in a linear mixed model[11]

RESULTS

Table 1: Participant demographics

	Overall N=94	NEBF N=19	EBF N=75
Race (p = 0.673)			
White or Caucasian	65 (69.15%)	12 (63.16)	53 (70.67)
Black or African American	14 (14.89%)	3 (15.79)	11 (14.67)
Asian or Pacific Islander	2 (2.13%)	0 (0.0)	2 (2.67)
Other	13 (13.83%)	4 (21.05)	9 (12.00)
Education (p = 0.764)			
High School Graduate	19 (20.65%)	14 (19.18)	19 (20.65)
College Graduate	41(44.57%)	32 (43.84)	41 (44.57)
Postgraduate	28 (30.43%)	24 (32.88)	28 (30.43)
Others	4 (4.35%)	3 (4.11)	4 (4.35)
Marital status (p = 0.019)*			
Married	76 (81.72%)	12 (63.16)	64 (86.49)
Non-married	17 (18.28%)	7 (36.84)	10 (13.51)

Scan here for more detailed information on demographics

Fig. 1: BMI trend in EBF vs. NEBF 6-7 months PP

Fig. 1: Significant BMI decrease in EBF group (p=0.0133)

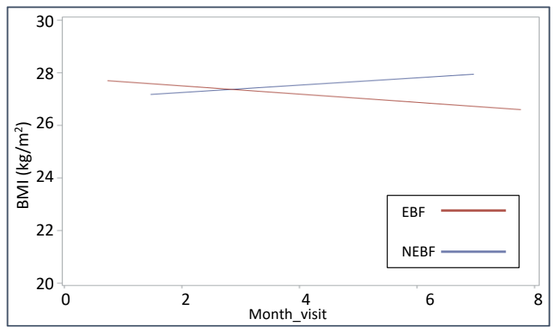

Fig. 2 (A-D): Lipid trends in EBF vs. NEBF 6-7 months PP

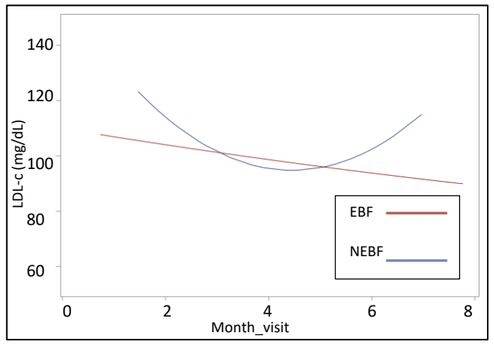

Fig. 2A: There was a significant difference in LDL-c trends between groups, with lower levels in the EBF group at 6-7 months PP (p=0.0147)

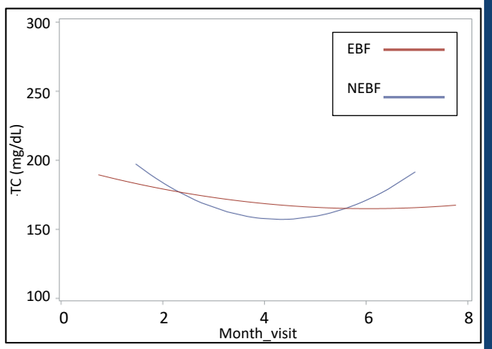

Fig. 2B: There was a significant difference in TC trends between groups, with lower levels in the EBF group at 6-7 months PP (p=0.0012)

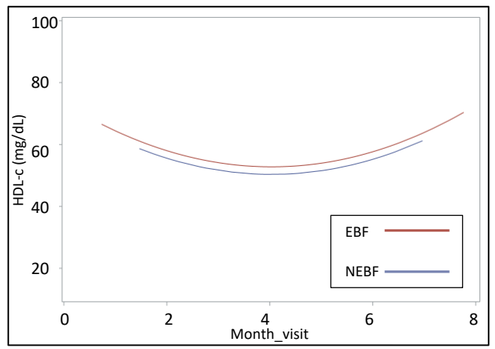

Fig. 2C: HDL-c had a significant quadratic trend over time (p=0.0002); but no differences between groups

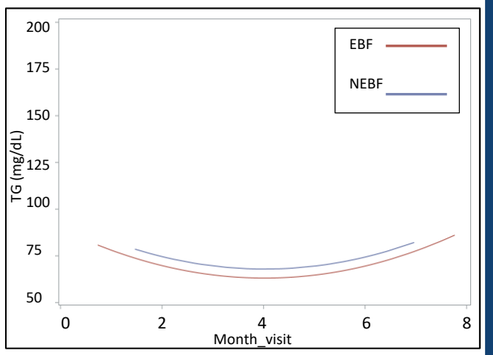

Fig. 2D: TG had no significant trends over time or between EBF and NEBF groups (p=0.0989)

CONCLUSION

- EBF for 6 months PP, recommended duration by WHO, is associated with decreased LDL-c, TC and BMI[12]
- Our results add to the limited literature on the association of lactation exclusivity and lipids within the first year PP and provides further evidence for the association between lactation and improved maternal cardiometabolic health[13]
- Our study's breastfeeding groups disregard partial breastfeeding and suggests the need for larger studies to ascertain the necessary dose and duration of lactation to optimize maternal cardiometabolic benefits

REFERENCES