

LONGITUDINAL CHANGES IN ABDOMINAL FAT DISTRIBUTION IN THE FIRST TWO YEARS OF LIFE

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CONCLUSIONS

- At 3 and 6 months of age, breast fed infants have more SC fat than formula fed infants
- There is no difference in visceral fat between breast and formula fed infants at any timepoint

Background

Excessive abdominal visceral fat is associated with unfavorable adult metabolic health. Changes in abdominal fat distribution (AFD) in the first months of life might be critical for the development of unfavorable AFD as an adult. Type of feeding in early infancy might influence these changes.

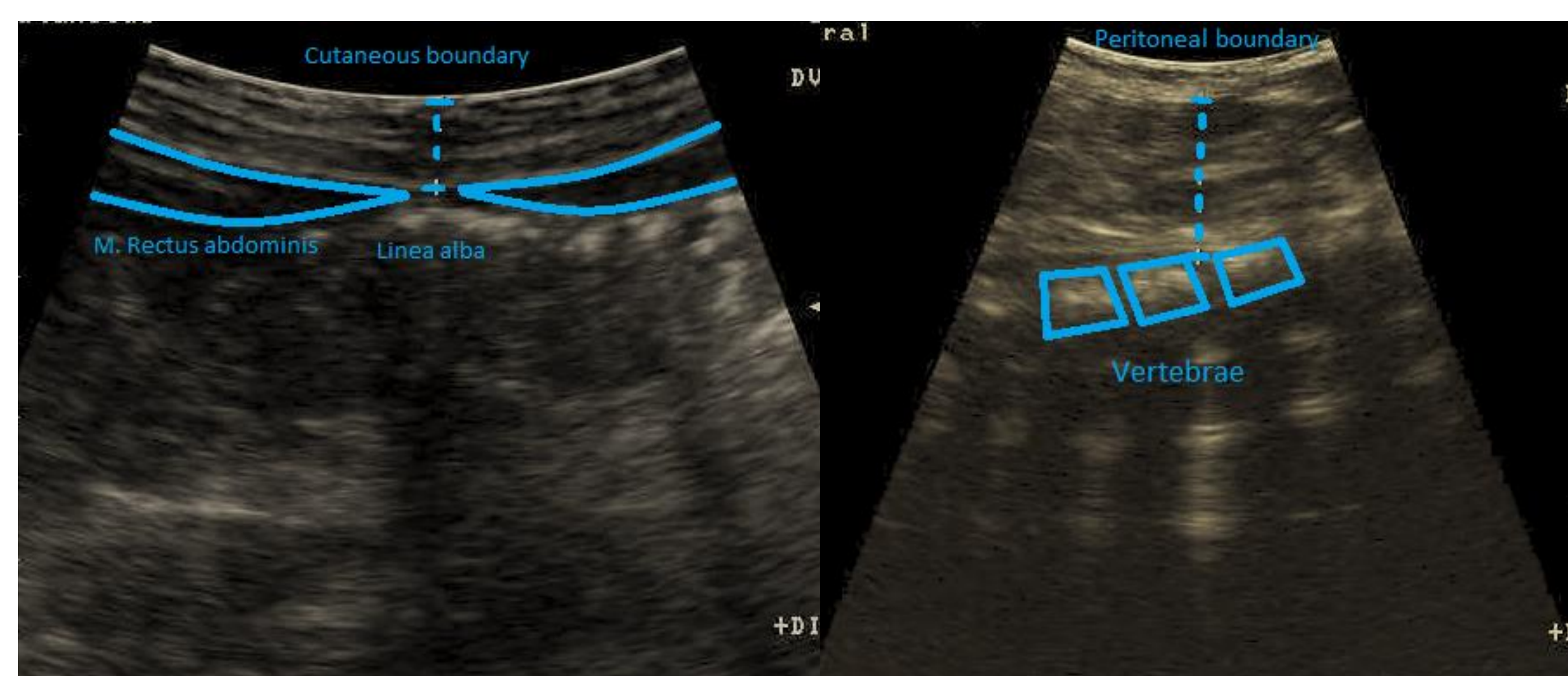
Objective

To determine if type of feeding is related to AFD and to determine if changes in early life are associated with AFD at 2 years of age.

Methods

In 336 term born, healthy infants (195 boys), AFD was measured during visits at 3, 6, 9, 12, 18 and 24 months of age by abdominal ultrasound.

Visceral fat (VF) was measured in longitudinal plane as the distance from the peritoneal boundary to the vertebrae. Subcutaneous fat (SCF) in transverse plan, from the cutaneous boundary to the linea alba.



Picture 1. Abdominal subcutaneous fat measurement

Picture 2. Abdominal visceral fat measurement

126 infants were exclusively breast fed (EBF) and 82 were exclusively formula fed (EFF) until 3 months of age. All data are expressed as medians (IQR).

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AHK received an independent research grant by Nutricia Research
DA is an employee of Nutricia Research

Results

Abdominal fat distribution (ADF) and feeding type

EBF infants have significantly more SCF at 3 and 6 months than EFF infants. Visceral fat was not different between both groups at any timepoint.

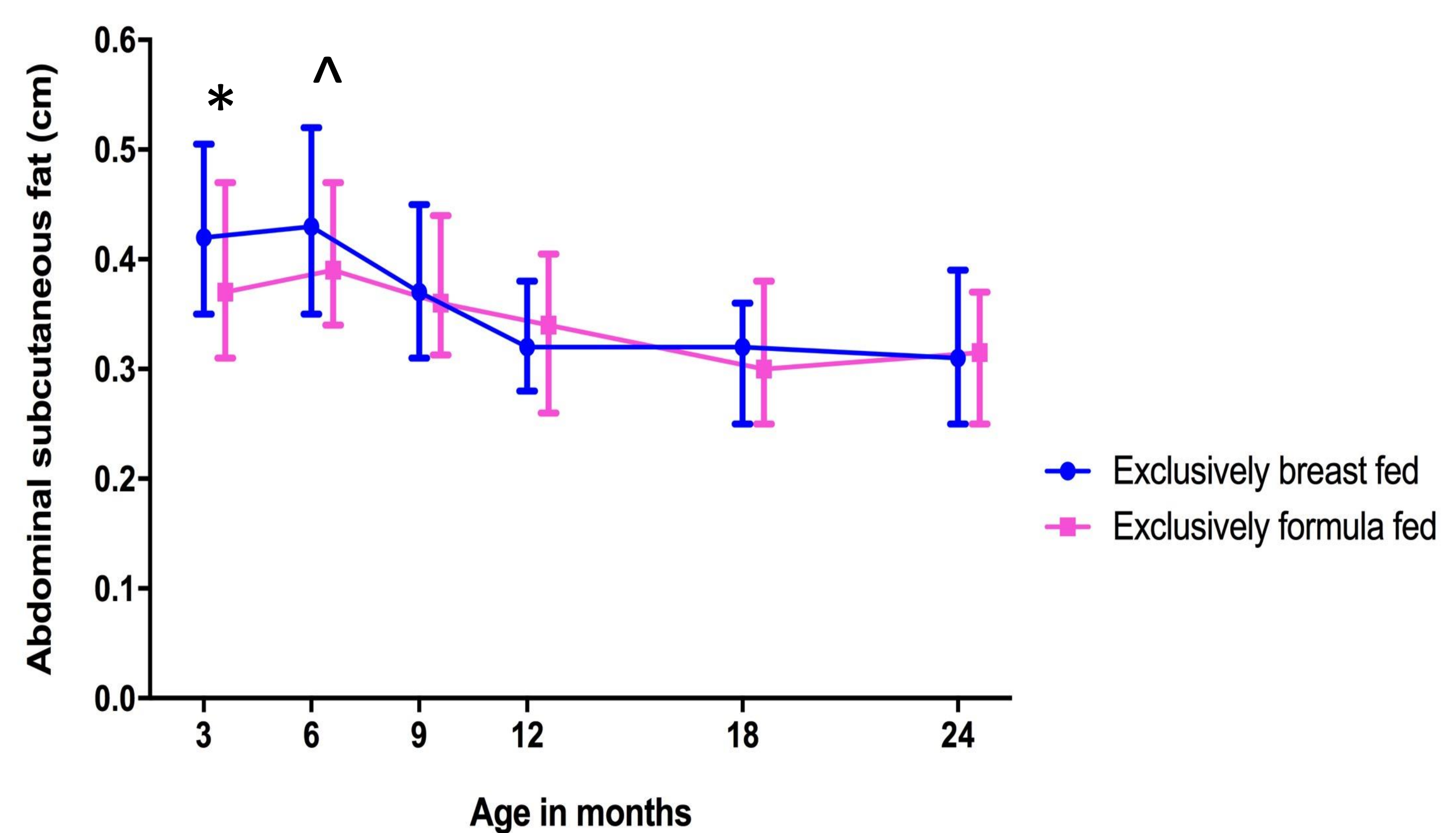


Figure 1: Median abdominal subcutaneous fat (IQR) in the first two years of life. *p-value <0.001, ^p-value =0.006

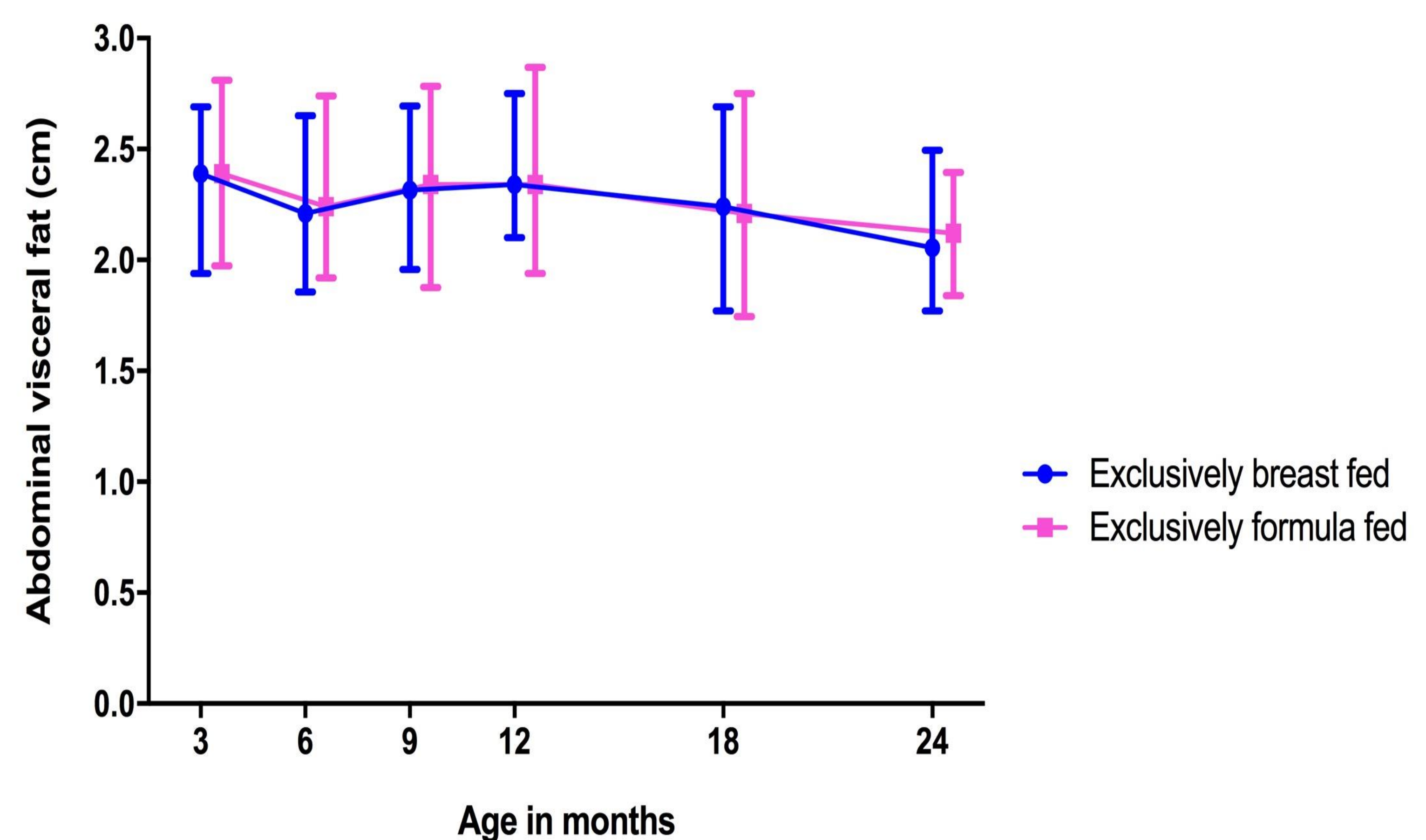


Figure 2: Median abdominal visceral fat (IQR) in the first two years of life. At 24 months p=0,576.

Relation AFD in early life and at 24 months of age.

In EBF infants, there was no correlation between SCF or VF in early life and at 24 months of age. In EFF infants, SCF at 3 and 6 months was correlated with SCF at 24 months of age ($r=0.294$, $p=0.011$ and $r=0.415$, $p<0,001$ resp). There was no correlation for VF.

