

Long term association between breastfeeding and overweight in Norwegian schoolchildren

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INTRODUCTION

Increase in overweight and obesity among Norwegian children is reported. A convincing amount of evidence suggests that breastfeeding protects against the development of overweight in childhood (Lawrence, 2010). Norwegian health authorities recommend exclusive breastfeeding the first 6 months of life and continued breastfeeding the entire first year.

OBJECTIVE

The aim of this study was to investigate the long term association between maternal retrospective recall of breast-feeding and the prevalence of overweight in Norwegian children.

METHODS

Children and parents were recruited from primary schools in Telemark County, Norway. Children's height and weight were objectively measured by public health nurses at each school. Maternal self-reported height and weight data and their retrospective recall of breastfeeding duration (in months) and children's birth weight were assessed by questionnaires (registered at child age 9-10).

Overweight were defined using international standard cut-off points (Cole *et al.*, 2000; Cole *et al.*, 2007). Complete data on weight/height and breast-feeding was obtained for 506 children at age 9-10 and 12-13 years.

We used multiple logistic regression to calculate adjusted odds ratios (OR) and 95% confidence intervals (CI) for being overweight. The analyses were adjusted for maternal education, maternal overweight and birth weight of the child (<2500 g, 2500-4500 g, >4500 g).

RESULTS

Only six percent of the mothers reported no breast-feeding. The prevalence of overweight in breast-fed children was 16% at both time points, while in non breast-fed children the prevalence was 30% at age 9-10 and 27% at age 12-13.

In comparison with children who had not been breast-fed, children breast-fed for 1-6 months had lower odds for being overweight, with OR: 0.30 (95%CI: 0.11, 0.78) at age 9-10 and OR: 0.35 (95%CI: 0.13, 0.96) at age 12-13. Breast-feeding beyond 6 months also suggested lower odds, but did not reach statistical significance.

CONCLUSION

In spite of the ten years retrospective recall of breastfeeding, an inverse association between any breast-feeding and overweight was suggested both in late childhood and early adolescence.

Figure. 1: Prevalence of overweight in breast-fed and non breast-fed children of age 9-10 and 12-13. (n=506)

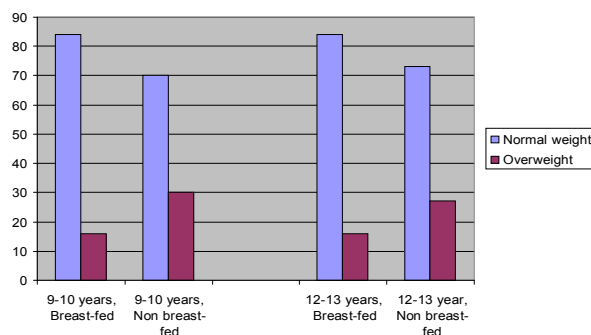


Table 1: Adjusted odds ratio (aOR) and 95% Confidence intervals (CI) for being overweight at 9-10 and 12-13 years by history of breastfeeding

Breastfeeding (BF)	*aOR (95%CI)	
	age 9-10 y	age 12-13 y
No	1	1
1-6 mo BF	0.30 (0.11, 0.78)	0.35 (0.13, 0.96)
7+ mo BF	0.48 (0.20, 1.18)	0.68 (0.27, 1.72)

*Adjusted for maternal education, maternal overweight and child birth weight

CONSIDERATIONS

This study assessed breastfeeding retrospectively and with a long recall period. It was not possible to distinguish between full and partial breastfeeding, and the study was not designed to focus on breast-feeding.

In spite of the limitations, the results indicate that even short duration of breastfeeding after birth was inversely associated with overweight in the children.

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