

Greater neighborhood access to fast-food outlets linked to lower bone mass in infants

13 October 2015

New research from the MRC Lifecourse Epidemiology Unit at the University of Southampton in the UK indicates that neighbourhood exposure to fast food outlets is potentially linked to poorer bone development in early childhood.

The study looked at the [bone mineral density](#) (BMD) and [bone mineral content](#) (BMC) of 1107 children at birth and at four and/or six years of age and compared the data to the number of supermarkets, healthy specialty stores and [fast food](#) outlets within a child's neighbourhood.

After adjustments for other variables, they found that greater access to fast food outlets was associated with lower BMD and BMC in newborns. Associations between fast food outlet exposure and bone measures at four or six years of age were not significant. In contrast, increasing neighbourhood exposure to healthy specialty stores, such as greengrocers, was associated with higher BMD at four and six years of age.

A healthy diet with adequate intake of protein, calcium, vitamin D, fruits and vegetables is known to have a positive influence on bone health during [early childhood](#), and indeed throughout life. Professor Cyrus Cooper, Chair of the International Osteoporosis Foundation (IOF) Committee of Scientific Advisors, and study co-author, said, "These findings suggest that the exposure of mothers and children to more healthy food environments might optimize childhood bone development through its influence on the quality of the maternal diet and dietary choices during childhood."

He added, "More extensive research is needed, but if confirmed in further studies, this would imply that action to improve the food environment could have benefits for childhood bone development."

The results of the study provide some evidence to

support the introduction of zoning policies to increase the number of healthier food retailers and to decrease the number of fast food outlets within neighbourhoods. In some UK communities, efforts to support healthier food choices have already begun in the form of local planning laws to ban [fast-food outlets](#) within 400 metres of schools.

The study findings serve to reinforce the key messages of World Osteoporosis Day 2015, marked on October 20. The campaign's 'Serve up bone strength' messages point to healthy diet as a factor which contributes to optimal childhood [bone](#) development and sets the foundation for continued [bone health](#) throughout the life-course.

More information: C. Vogel et al. Greater access to fast-food outlets is associated with poorer bone health in young children, *Osteoporosis International* (2015). [DOI: 10.1007/s00198-015-3340-6](https://doi.org/10.1007/s00198-015-3340-6)

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