Xiaoyan Wang et al., Pediat Therapeut 2016, 6:4(Suppl)
http://dx.doi.org/10.4172/2161-0665.C1.034

Bone mineral density of the spine in 11,898 Chinese infants and young children: A cross-sectional study

Xiaoyan Wang and **Haiqing Xu**
Hubei Maternal and Child Health Hospital, China

Bone mineral density (BMD) increases progressively during childhood and adolescence and is affected by various genetic and environmental factors. The aim of this study was to establish reference values for lumbar BMD in healthy Chinese infants and young children and investigate its influencing factors. Healthy children aged 0 to 3 years who underwent regular physical examinations at the Child Health Care Clinic of Hubei Maternal and Child Health Hospital (N=11,898) were recruited for this study. We also chose 379 preterm infants aged 0 to 1 years to preliminarily explore the development of BMD in this special population. BMD (g/cm^2) measurements of the lumbar spine (L2–L4) were carried out with dual-energy X-ray absorptiometry and a questionnaire was administered to full-term children's parents to gather information on various nutritional and lifestyle factors as well as mothers' nutritional supplement use during pregnancy. Lumbar BMD significantly increased with age among both boys and girls (p=0.05), with fastest growth observed during the first postnatal year. There was no significant difference in lumbar BMD between boys and girls of similar age (p=0.05), either among healthy reference children or preterm infants. However, BMD values in preterm infants were significantly lower than those in term infants three to eight months old (p=0.05) after adjustment for gestational age. Multivariable linear regression analysis indicated significant positive associations between lumbar BMD of healthy children and the child's age and current weight, mother's weight gain during pregnancy, birth weight, children's outdoor activity duration and children's physical activity duration. Our study provides reference values of lumbar BMD for healthy Chinese children aged 0 to 3 years and identifies several influencing factors.

Biography

Xiaoyan Wang has completed her PhD from Shanxi Medical University. She has been a Developmental Pediatrician for nearly 20 years in Hubei Maternal and Children Health Hospital. Treatment specialties include: nutritional diseases (anemia, rickets, malnutrition, lead poisoning, loss of appetite, difficulty feeding, etc.), sleep disorders, high-risk children early intervention and potential development of infants and young children, growth retardation (intelligence, language, etc.), short stature, children's psychological clinic (ADHD, learning difficulties, tic disorder, autism, mood disorders, obesity, enuresis, etc.) of counseling, intervention and treatment. She has published more than 20 papers.

wxyask@163.com

Notes: