

An adequate maternal vitamin D level during pregnancy is important for childhood bone development and lean body mass. New research suggests that it may also influence muscle function during childhood and throughout life.

Adequate vitamin D status during pregnancy linked to stronger muscles in children

In a new study published in the *Journal of Clinical Endocrinology and Metabolism*, researchers investigated the associations between maternal serum vitamin D status and offspring lean mass and muscle strength.

This observational study included 678 British mother-child pairs that were part of the Southampton Women's Survey (SWS) research group. Maternal vitamin D levels at 34 weeks of gestation were analyzed and recorded. Grip strength and muscle mass were measured in the children at the age of 4 years.

A higher maternal serum vitamin D level during pregnancy was positively associated with height-adjusted hand grip strength in the children, even after adjusting for potential confounding factors such as duration of breastfeeding and physical activity in the children. There was also a less significant association between the mother's vitamin D status and muscle mass.

The results of this study suggest that intrauterine exposure to vitamin D during late pregnancy may influence offspring muscle development through an effect primarily on muscle strength rather than on muscle mass. Low serum vitamin D is common among young women, suggesting women should consume higher amounts of vitamin D during pregnancy.

Harvey NC et al. Maternal Antenatal Vitamin D Status and Offspring Muscle Development: Findings From the Southampton Women's Survey. *J Clin Endocrinol Metab*. 2014 Jan;99(1):330-7.