Sun in pregnancy builds stronger bones for baby

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(PhysOrg.com) -- New research from ALSPAC (Children of the 90s) indicates that children born in late summer and early autumn are slightly taller and have wider bones than those born in winter and spring.

All the Children of the 90s were born in 1991 and 1992, and the researchers studied meteorological data from those years to determine their mothers' likely sun exposure in the last three months of pregnancy.

Nearly 7,000 of their children were measured and given DXA scans at age ten to determine their bone density.

Those children born to mothers with the highest sun exposure were ½ cm taller on average, and had 12.75 cm^2 extra bone area due to increases in bone width, compared with children born in the darkest months.

Taller people tend to have wider bones, but these children had increased bone width over and above that accounted for by their extra height.

The researchers believe that this increase in bone mass is attributable to Vitamin D levels. Sunlight on the skin generates Vitamin D, which works together with calcium to build bones. For most people, sunlight is their main source of Vitamin D.

ALSPAC'S research indicates that Vitamin D is important for bone-building even in the womb.

In addition to studying the meteorological data, the researchers measured Vitamin D levels in the blood of 350 of the mothers in the 37th week of pregnancy, and the results closely mirrored levels of sun exposure.

Jon Tobias, Professor of Rheumatology at Bristol University and researcher on the project, said: "Wider bones are thought to be stronger and less prone to breaking as a result of osteoporosis in later life, so anything that affects early bone development is significant.

"Pregnant women might consider talking to their doctor about taking Vitamin D supplements, particularly if their babies are due between November and May, when sunlight levels are low."

Paper: Estimated maternal ultraviolet B exposure levels in pregnancy influence skeletal development of the child. Sayers A, Tobias J H. *Journal of Clinical Endocrinology and Metabolism* 2008 Dec 30.

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