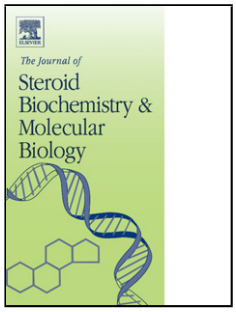

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Vitamin D levels in childhood and adolescence and cardiovascular risk factors in a cohort of healthy Australian children

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Highlights

- A cohort of children was measured into adolescence for 25OHD and CVD risk factors
- From age 8-15 mean serum 25OHD levels decreased significantly from 94 to 63 nmol/L
- 25OHD @ 8yrs in boys was associated with cholesterol and triglyceride levels @ 15yrs
- At 15yrs lower 25OHD was associated with higher body fat
- If confirmed in larger studies these findings may have public health consequences

Abstract

As the prevalence of obesity appears to be increasing in Australia's youth the overall objective of this study was to examine serum 25-hydroxyvitamin D (25OHD) concentrations in a cohort of 8-year-olds (n=249) followed up at age 15 (n=162) and explore associations between 25OHD with cardiovascular disease (CVD) risk factors in these populations. This was done in two stages: the first, two cross-sectional analyses (at ages 8 and 15); and the second, a prospective analysis from age 8 to 15. At both ages data on 25OHD, blood lipids, and anthropometry were measured. Date of blood draw was used as a surrogate of sunlight exposure. Results were then analysed by multivariate linear analyses taking into account interaction and confounding. Mean 25OHD concentrations decreased from 94 ± 25nmol/L to 63 ± 16nmol/L between age 8 and 15 years ($p<0.001$). On cross-sectional analysis of 8 year olds, no CVD risk factor was found to be significantly associated with 25OHD concentrations. On cross-