

ORIGINAL RESEARCH COMMUNICATION

Maternal vitamin D intake during pregnancy and early childhood wheezing^{1, 2, 3, 4}

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Background: Maternal intake of vitamin D in pregnancy is a potentially modifiable but understudied risk factor for the development of asthma in children.

Objective: We investigated whether maternal vitamin D intake in pregnancy is associated with decreased risks of wheezing symptoms in young children.

Design: Subjects were from a birth cohort recruited in utero with the primary objective of identifying associations between maternal diet during pregnancy and asthma and allergies in children. A random sample of 2000 healthy pregnant women was recruited while attending antenatal clinics at the Aberdeen Maternity Hospital, Scotland, at ≈12 wk gestation. Maternal vitamin D intake was ascertained from a food-frequency questionnaire completed at 32 wk of gestation. The main outcome measures were wheezing symptoms, spirometry, bronchodilator response, atopic sensitization, and exhaled nitric oxide at 5 y.

Results: Respiratory details through 5 y and maternal food-frequency-questionnaire data were available for 1212 children. In models adjusted for potential confounders, including the children's vitamin D intake, a comparison of the highest and lowest quintiles of maternal total vitamin D intake conferred lower risks for ever wheeze [odds ratio (OR): 0.48; 95% CI: 0.25, 0.91], wheeze in the previous year (OR: 0.35; 95% CI: 0.15, 0.83), and persistent wheeze (OR: 0.33; 95% CI: 0.11, 0.98) in 5-y-old children. In addition, lower maternal total vitamin D intakes in pregnancy were also associated with decreased bronchodilator response ($P = 0.04$). No associations were observed between maternal vitamin D intakes and spirometry or exhaled nitric oxide concentrations.

Conclusion: Increasing maternal vitamin D intakes during pregnancy may decrease the risk of wheeze symptoms in early childhood.

Key Words: Vitamin D intake • pregnancy • wheezing • asthma

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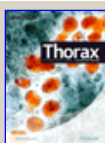
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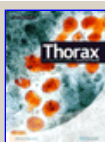
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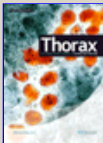


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