it increased human antioxidant capabilities. Thus, the fetuses of vitamin D-deficient mothers would be less able to bear the oxidative stress caused by gestational paracetamol exposure.

A recent review concluded that vitamin D deficiency may be a major risk factor for ASD, in part due to lack of the antioxidant properties of vitamin D. Three recent studies, using community controls, have found that vitamin D levels are significantly lower in children with ASD. Two of the studies (Mostafa et al. and Gong et al.) also found that ASD severity, as rated on standard ASD rating scales, is inversely correlated with vitamin D levels. Mostafa et al. found an R value of –.86 for the association of serum vitamin D with ASD severity on rating scales.

This model (oxidative stress triggering ASD in vitamin D-deficient pregnant women and young children) is one of the theories of ASD with significant support. Other insults that increase oxidative stress are implicated in ASD, such as infections, toxins, fever and inflammation. It may be that paracetamol exposure is one of several oxidative stressors that trigger ASD development in vitamin D-deficient pregnant women and young children.

Potential conflict of interest: J.J.C. is executive director of the non-profit Vitamin D Council and receives remuneration from Purity Products.

References
therefore important that our findings are replicated before too many implications are made. We are now seeing a new era of pharmaco-epidemiological studies focusing on long-term consequences of prenatal medication exposure. We agree with Cannell that paracetamol is one of many stressors in pregnancy that deserves more attention.

Reference