

Maternal thyroid function during pregnancy and parent-report problem behaviour of the offspring up to age three years. The Generation R Study.

Ghassabian A, Bongers-Schokking JJ, Henrichs J, Jaddoe VW, Visser TJ, Visser W, de Muinck Keizer-Schrama SM, Hooijkaas H, Steegers EA, Hofman A, Verhulst FC, van den Ende J, de Rijke YB, Tiemeier H.

Departments of Child and Adolescent Psychiatry [A.G, F.C.V., J.E., H.T.], and Clinical Chemistry [Y.B.R], Erasmus MC - Sophia Children's Hospital, Rotterdam, 3000 CB, the Netherlands; Departments of Endocrinology [J.J.B.-S., S.M.P.F.M.K.-S.], Pediatrics [V.W.V.J], Epidemiology [V.W.V.J, A.H., H.T.], Internal Medicine [T.J.V., Y.B.R.], Obstetrics and Gynecology [W.V., E.A.P.S.], and Immunology [H.H.], Erasmus MC - Sophia Children's Hospital, Rotterdam 3000 CA, the Netherlands; Institute of Psychology [J.H.], Erasmus University, Rotterdam, 3000 DR, the Netherlands.Org

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Maternal thyroid function during pregnancy is implicated in the neurodevelopment of the offspring, yet little is known about the effect of maternal thyroid parameters on the behaviour of children. We investigated the association of maternal thyroid function during the first half of pregnancy with parent reported problem behaviour of the offspring up to age three years. In the Generation R Study, a population-based cohort of 3736 children and their mothers, data on maternal thyroid function and child's behaviour were examined. The degree of Internalizing and externalizing problems in the children were assessed with the Child Behaviour Checklist at ages 1½ and 3 years. Higher levels of maternal TSH during pregnancy predicted a higher externalizing scores in children at 1½ and 3 years (B=0.22 per SD of TSH, 95% CI: 0.04, 0.40; B=0.10 per SD for internalizing scores, 95% CI: -0.01, 0.21). Maternal Free T4 (thyroxine) and total T4 were not associated with internalizing or externalizing scores of children. The linear relation with more externalizing scores was across the range of TSH; this implies that subtle impairments of maternal thyroid function may affect the child. The results suggest that thyroid function is crucial for fetal brain development, which determines problem behaviour later in life.

Address correspondence to: h.tiemeier@erasmusmc.nl