

## COMMENTS AND RESPONSES

### Predictors of Overweight During Childhood in Offspring of Parents With Type 1 Diabetes

Response to Rodekamp et al.

We thank Rodekamp et al. (1) for their interest in our article (2) on predictors of overweight during childhood in offspring of parents with type 1 diabetes. In our study, we analyzed overweight risk in children participating in the German BABYDIAB study, including both the offspring of mothers with and without type 1 diabetes. Plagemann et al. (3) have previously suggested that the beneficial effects of breast-feeding on childhood obesity are lost when mothers are affected by diabetes. The authors have advised caution with respect to encouraging breast-feeding in mothers with diabetes. Rodekamp et al. have raised some questions on this issue, which we will attempt to answer by reporting data on overweight prevalence at 8 years of age in the 433 offspring of mothers with type 1 diabetes as compared with the 232 offspring of nondiabetic mothers in the BABYDIAB cohort.

At 8 years of age, the prevalence of overweight was comparable between offspring of mothers with and without type 1 diabetes (11.5% vs. 10.3%,  $P = 0.6$ ). Nevertheless, there were differences in the factors affecting overweight prevalence. In offspring of nondiabetic mothers, overweight prevalence was significantly affected by birth size: 38.9% of children born large for gestational age (LGA) were

overweight compared with 7.4% ( $P < 0.0001$ ) of children born appropriate for gestational age (AGA). In contrast, LGA status only slightly affected overweight prevalence in the offspring of mothers with type 1 diabetes (LGA vs. AGA: 16.9% vs. 11.1%,  $P = 0.1$ ).

Both cohorts showed a similar effect of full breast-feeding (>4 months) on overweight prevalence. In the offspring of nondiabetic mothers, prevalence of overweight was 15.4% in children who were not breast-fed and 5.0% in those fully breast-fed (>4 months;  $P = 0.07$ ). Similarly, it was 16.3% (nonbreast-fed) and 6.9% (fully breast-fed >4 months) in the offspring of mothers with type 1 diabetes ( $P = 0.03$ ). The breast-feeding dose response on prevalence of overweight raised by Rodekamp et al. was not obvious in the offspring of nondiabetic mothers in our cohort with significant protection observed only in offspring breast-fed for >4 months. More important, although not significant, was the fact that it was more evident in the offspring of mothers with type 1 diabetes (16.3% in non-breast-fed offspring, 11.2% in offspring breast-fed  $\leq 4$  months, and 6.9% in fully breast-fed >4 months;  $P = 0.1$ ).

Finally, the protective effect of full breast-feeding was particularly (but not only) observed in the LGA offspring of mothers with type 1 diabetes. Of non-breast-fed LGA offspring of mothers with type 1 diabetes, 31.6% were overweight, while full breast-feeding for any duration reduced overweight prevalence to 11.9% ( $P < 0.05$ ). This was comparable with overweight prevalence in AGA offspring of mothers with type 1 diabetes (11.1%). Of note was the fact that the prevalence of overweight was also lower in fully breast-fed AGA children of mothers with type 1 diabetes (9.1%) as compared with non-breast-fed children (15.7%). Therefore, on the basis of our data, which are derived from a considerably larger cohort than previous reported, we do not share the hypothesis that the protective effect of breast-feeding in the offspring of mothers

with type 1 diabetes may be reduced. We do support the conclusion of Mayer-Davis et al. (4) that mothers with type 1 diabetes should be encouraged to breast-feed their children.

SANDRA HUMMEL, PHD<sup>1</sup>  
MAREN PFLÜGER, MSC<sup>2</sup>  
SUSANNE KREICHAUF, MPH<sup>2</sup>  
MICHAEL HUMMEL, MD<sup>3</sup>  
ANETTE-G. ZIEGLER, MD<sup>1,2,3</sup>

From the <sup>1</sup>Forscherguppe Diabetes der Technischen Universität München, Munich, Germany; the <sup>2</sup>Institut für Diabetesforschung der Forschergruppe Diabetes e.V. am Helmholtz Zentrum München, Munich, Germany; and the <sup>3</sup>Klinik für Endokrinologie, Diabetologie und Suchtmedizin, Klinikum Schwabing StKM, Munich, Germany. Corresponding author: Anette-G. Ziegler, anziegler@lrz.uni-muenchen.de.  
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