

First-year daycare and incidence of acute gastroenteritis ^[1]

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[Full report PDF](#) ^[2]

Abstract

Background: Daycare attendance has been associated with increased acute gastroenteritis (AGE) incidence in the first years of life. We investigated the effects of first-year daycare attendance on AGE incidence and primary care contact rate up to age 6 years.

Methods: Children enrolled in the Wheezing Illnesses Study Leidsche Rijn cohort were managed until age 6 years. Data on primary care diagnosed AGE episodes and number of associated contacts per episode were collected from health records. Children were categorized according to first year daycare attendance and age-month at entry when applicable. Generalized estimating equations were used to assess associations between first-year daycare and AGE incidence or primary care contact rate.

Results: A total of 1344 out of 2220 children (83%) attended daycare before age 1 year. Overall, the 6-year primary care AGE incidence rate (IR) among first-year daycare attendees and nonattendees was comparable (IR: 12.2/100 vs 13.3/100 child-years). First-year daycare attendees had a higher AGE incidence during the first year (IRR: 1.13; 95% confidence interval: 1.06–1.21) and lower during the third to sixth year of age compared with nonattendees ($P < .001$). The daycare-associated increase in AGE incidence was most pronounced during the first 12 months after enrollment into daycare and demonstrated clear seasonality. A similar pattern was observed for primary care contact rate per AGE episode.

Conclusions: First-year daycare attendance advances the timing of AGE infections, resulting in increased AGE disease burden in the first year and relative protection thereafter. Protection against AGE infection persists at least up to age 6 years. Future studies should address whether this protective effect persists during later childhood.

Related link: [Daycare may protect children from future stomach infections: study](#) ^[3]

Region: Europe ^[4]

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