Breastfeeding duration and exclusivity associated with decreased healthcare utilization in children under two years of age

Shannon C. Conrey[1], Nandini R. Solanki[1], Allison R. Burrell[2], Daniel C. Payne[2,3], Mary A. Staat[2,3], Ardythe L Morrow[1,3]

[1]The University of Cincinnati College of Medicine, Department of Environmental and Public Health Sciences
[2]Cincinnati Children's Hospital Medical Center, Division of Infectious Disease
[3]University of Cincinnati College of Medicine, Department of Pediatrics

Background: Breastfeeding duration and exclusivity are associated with reduced risk of acute respiratory illness (ARI), but most studies include children seeking medical care, which may only measure protection against severe illness.

Objective: We compared ARI incidence and level of healthcare utilization by breastfeeding duration and status in PREVAIL, a birth cohort of healthy children in Cincinnati, OH (2017-2020).

Methods: From birth to age two, respiratory symptoms were caregiver reported *via* weekly text surveys. Participants were included if caregivers completed ≥70% of weekly surveys over ≥70 study weeks. Report of ARI (fever >99°F rectal or cough) triggered additional questions, including start- and end-date of symptoms and level of healthcare utilization, categorized as not medically-attended, primary-care, or emergency department/hospitalization (ED/Hosp). Breastfeeding status was categorized based on maternal report and analyzed as exclusively/mostly breastfed (EMBF, ≥½ of feeds human milk) *vs* not EMBF. The ARI incidence rate ratio (IRR) by breastfeeding duration was calculated using Poisson regression. Proportional odds of level of healthcare utilization for the first ARI by breastfeeding status were calculated using multinomial logistic regression, controlling for child age in weeks and out-of-home childcare attendance at the time of illness.

Results: 161/245 (66%) of PREVAIL participants met inclusion criteria; all had at least one ARI in the first two years of life, with a median incidence of 4.5 (IQR 2.5, 6.1) ARI/child-year. Median breastfeeding duration was 26 weeks (IQR 5, 56). ARI incidence did not differ by weeks of breastfeeding (IRR 1.00, 95%CI 1.00, 1.00). Children who were not EMBF at the time of their first ARI (median age 15 weeks, IQR 8, 23) were about 3X as likely to be ED/Hosp compared to those who were EMBF (OR 2.8, 95%CI 1.2, 6.8). Level of healthcare utilization did not differ by child age or out-of-home childcare.

Conclusion: In PREVAIL, no association was found between breastfeeding duration and ARI incidence, but EMBF provided protection against ED/Hosp on the first ARI when controlling for age and out-of-home childcare. Increasing breastfeeding duration and exclusivity may reduce healthcare burden of ARI in young children.

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