Seegaard and colleagues investigated whether prolonged exclusive breastfeeding (defined as ≥3 months) was associated with childhood cancer. Their register-based study included all children in the Danish National Child Health Register who were born between 2005 and 2018 and who had information about exclusive breastfeeding, defined as breast milk supplemented only by water or milk formula (maximum of once weekly). Until 2011, the reporting of exclusive breastfeeding in Denmark was voluntary (data available for 21% of births) but became mandatory in 2012 (data available for 62% of births). These data were linked to other population-based registers (Medical Birth Register, Civil Registration System, Population Education Register, Danish National Patient Register, and Danish Cancer Register). Children were followed up until diagnosis, loss to follow-up or emigration, death, age 15 years, or December 31, 2020 (ie, minimum of 2 years of follow-up). Using Cox proportional hazards regression and based on approximately 310,000 births and 1.6 million person-years of follow-up, the authors found that children who were exclusively breastfed for at least 3 months had a decreased risk of hematologic cancers (based on 124 cases), particularly B-cell precursor acute lymphoblastic leukemia (BCP-ALL; 74 cases), compared with those who were breastfed for less than 3 months. No such association was found for central nervous system (CNS) tumors (44 cases) or solid tumors (80 cases). The study was underpowered to investigate rarer cancers, such as acute myeloid leukemia (AML) or Hodgkin lymphoma.

The study by Seegaard et al is important, as it is, to my knowledge, the first population-based cohort study to report that prolonged exclusive breastfeeding may be associated with decreased risk of ALL. These findings support the existing literature based on case-control studies for both ALL and CNS tumors. A 2005 meta-analysis found an association of prolonged breastfeeding for more than 6 months with a decreased risk of ALL (13 studies) and acute nonlymphoblastic leukemia (9 studies) but no association with risk of CNS tumors (4 studies). Similarly, using pooled data from multiple case-control studies, the Childhood Cancer and Leukemia International Consortium recently reported decreased risks of ALL (>10,000 cases) and AML (approximately 1700 cases) associated with breastfeeding for 4 months or more but no association between CNS tumors and at least 6 months of breastfeeding. Childhood cancer research is challenging because of the rarity of disease, leading to sample size issues. The consistency of findings between cohort and case-control studies shows that case-control studies can play an important role in identifying potential risk factors for rare diseases despite the risk of recall bias.

The article by Seegaard et al highlights some of the benefits of linking routinely collected population-based data for epidemiologic research, especially when the linkages move beyond the domain of conventional registers (births and deaths, hospitalizations, and disease-specific registers) to broader sources of data on child health. However, despite having data from over 300,000 children over 14 years, their study had insufficient case numbers to draw conclusions about some cancers, such as AML. Hopefully, this study can be replicated in other settings or pooled with other data for the benefits of statistical power.

Both childhood cancers and exclusive breastfeeding are important child health issues. Childhood cancers remain a leading cause of early-life mortality, and the survivors can have long-term sequelae. According to the World Health Organization, breastfeeding is critical to achieving optimum growth and development, so it recommends exclusive breastfeeding (defined as breast milk only) for the first 6 months of life whenever possible. Prolonged breastfeeding has a multitude of short- and long-term benefits for the infant in all economic settings (low, middle, and high income).
including lower rates of infectious morbidity and likely lower rates of overweight and diabetes. It also has advantages for the mother, such as lower rates of breast and ovarian cancers and type 2 diabetes. All of these benefits equate to a strong economic benefit for the individual, family, and society. Because of the existing evidence, the World Health Assembly has a goal of reaching a prevalence of exclusive breastfeeding during the first 6 months of life of 70% globally by 2030, but progress is slow. Despite improvements in most regions, the current levels are still far below this target. Between 2000 and 2018, the rates of any breastfeeding increased in high-income countries, but trends for exclusive breastfeeding could not be calculated because of a lack of nationally representative data. Increasing breastfeeding rates is extremely complex. In a recent breastfeeding series, Pérez-Escamilla and colleagues presented a framework for a socioecologic model for breastfeeding to summarize all the target domains for both initiating and supporting breastfeeding. These include determinants such as the mother-baby dyad and a variety of settings, including health systems, families, communities, workplaces, and political, economic, and social structures. Based on a synthesis of reviews, the authors concluded that multilevel and multicomponent strategies can have rapid consequences for rates of successful exclusive breastfeeding.

This brings us back to the importance of the study by Søegaard et al. While BCP-ALL is one of the most common childhood cancers, it is still a rare condition. While the authors reported a reduction in the relative risk of BCP-ALL, there would have been minimal change in the level of absolute risk. Thus, it is unlikely that these findings alone would influence a woman’s breastfeeding practices. However, the findings add to the existing evidence about the critical importance of exclusive breastfeeding, including potential additional cost savings. More importantly, Søegaard et al. highlighted the existence of a population-based database that includes valuable information about breastfeeding practices in a high-income country, albeit with limitations in coverage and definitions of exclusive breastfeeding. Thus, the Danish National Child Health Register could be adapted to fill a major gap in knowledge. By linking to other population data sources, it has the potential to monitor strategies to support breastfeeding in Denmark, which may be applicable more broadly.

ARTICLE INFORMATION
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