

Viral infections in infancy are not associated with wheezing symptoms in later childhood

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The number of viral infections during infancy is not associated with wheezing later in childhood, according to a new study from researchers in the Netherlands. While viral illnesses with wheezing in infancy predicted wheezing later in childhood, this association was due in part to decreased neonatal lung function.

"[Viral infections](#) in [infancy](#), particularly rhinovirus, are thought to be a risk factor for later asthma development, but it is unclear whether this association is due to the viruses themselves or whether rhinovirus-associated [wheeze](#) is merely an indicator of [disease susceptibility](#)," said Anne van der Gugten, MD, a researcher at the University Medical Center Utrecht. "Accordingly, we examined the association between viruses during the first year of life independent of symptoms and the subsequent development of wheezing symptoms in childhood."

The results of the study will be presented at the ATS 2012 International Conference in San Francisco.

In the prospective, population-based [birth cohort](#) study, 96 children were followed from infancy through age four. Nose and throat swabs were collected at the beginning of every month during the first year of life, independent of the occurrence of symptoms. Pre-symptomatic lung function was assessed at the age of two months using the single [occlusion](#) technique.

Of 96 children, 13 (13.5%) had wheezing illnesses at age four. Compared to children without wheezing at age four, those with wheezing had decreased neonatal lung function. Children with wheezing at age four had a median of four [human rhinovirus](#) (HRV) infections in their first year, compared with a median of five among children without wheezing.

Neither the number of HRV infections in infancy

nor the number of viral infections in general were associated with an increased risk of wheezing at age four. While a higher number of viral episodes with wheezing or a higher number of HRV episodes with wheezing was associated with an increased risk of wheezing at age four, these associations were not significant after adjustment for neonatal lung function.

"A number of prospective studies in high-risk cohorts have shown that viral wheezing illnesses, especially those caused by rhinovirus, are the most important predictors of the subsequent development of wheezing or asthma in childhood," said Dr. van der Gugten, "but it is unclear if rhinovirus is causally related to the development of asthma."

"Our study is the first to examine the association between viruses in infancy independent of symptoms and wheezing symptoms in childhood," said Dr. van der Gugten. "Our findings indicate that viral infections by themselves may not be associated with the development of asthma, but that children with reduced neonatal lung function are prone to experience wheezing during viral infections in infancy and to have asthma in childhood."

"Future research into the relationship between rhinovirus and wheezing disorders should account for factors that might modify this relationship, including neonatal [lung function](#)," Dr. van der Gugten concluded.

More information: "Viral Infections During Infancy And Wheezing In Childhood" (Session D26, Wednesday, May 23, 2012, Room 3009, Moscone Center; Abstract 26987)

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