RSV hospitalization in winter and summer season stratified by CHD subgroups; a national study.

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Introduction: Respiratory tract infections are common and serious CHD is a risk factor for severe illness and hospitalization. Prophylactic treatment with palivizumab, recommended during winter, is known to reduce risks of severe RSV disease. The aim of this study was to compare the calculated relative risk for hospitalization due to RSV infection in winter and summer season in different types of CHD.

Methods: All children born in Sweden and less than two years old, in 2006-2011, were included in the study. Winter was defined as first of November to 30th of April each year. Rates of children with CHD (divided into eight subgroups) and hospitalization caused by RSV were retrieved from the National Inpatient registry. The relative risk of hospitalization due to RSV was calculated comparing each subgroup to other types of CHD and to healthy children.

Results: The relative risk of hospitalization due to RSV infection was increased for all CHD subgroups. For children with univentricular heart defects, systemic-pulmonary shunt defects, other complex CHD and Tetralogy of Fallot, the relative risk of RSV hospitalization was significantly higher during summer season compared to winter.

Conclusions: National guidelines of prophylactic treatment are recommended only during winter. The cost-benefit of such treatment throughout the entire year is low. We argue that health personnel must be aware of the increased risks of RSV infection for the sickest CHD-children throughout the whole year.