SUMMARY

Worldwide, and especially in countries with lower per capita income, acute respiratory infections (ARI) rank high among children's leading causes of illness and mortality. Acute respiratory infections (ARIs) in children are most often caused by enteroviruses, which include Human Rhinoviruses (HRV) and EV-D68. The purpose of this study is twofold: first, to identify children in Batur District, Banjarnegara Regency who have contracted Enterovirus (EV) using real-time polymerase chain reaction (RT-PCR); and second, to examine epidemiological risk factors for Acute Respiratory Tract Infection (ARI). The study also aims to determine the frequency of ARI and how it correlates with the severity of respiratory symptoms. The RT-PCR method approach, this study associated the prevalence of EV in nasopharyngeal swab samples from children with ARI with the severity of their respiratory symptoms.

In Batur District, Banjarnegara Regency, researchers looked for signs of Enterovirus in nasopharyngeal swabs taken from children with an ARI diagnosis using the The RT-PCR technique refers to the reverse transcription-polymerase chain reaction. In addition to examining epidemiological risk variables that contribute to ARI, we evaluated the viral prevalence and its association with the intensity of respiratory symptoms.

The research found that RT-PCR was a very accurate way to detect EV in clinical nasopharyngeal swab samples; However, the frequency of EV in Batur Regency was low, with only 6 out of 50 samples (or 12%) actually testing positive. The primary variables impacting the incidence of ARI in children are inadequate immunization and environmental hazards, including secondhand smoking and polluted air. Children who are around secondhand smoke or who reside in areas with a history of severe respiratory infections are more likely to become sick. The importance of controlling environmental factors and making sure children are vaccinated against severe acute respiratory infections is emphasized by these results.

Keyword: *Acute Respiratory Infection, children, epidemiology factor, Enterovirus, RT-PCR.*