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### Pattern of viral infection in acute asthma exacerbation and association with the severity of the episode

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**Objectives:** To identify the prevalence of certain viruses in asthmatic children during acute asthma exacerbation and identify any correlation between certain virus and severity of the episode.

**Methods:** A retrospective cross-sectional study was carried out including all children aged between 2 to 12 years who were admitted in royal hospital between January 2015 to October 2017 with acute exacerbation of asthma and who had nasal swab. Nasal swab were collected, which can detect 18 viruses like Rhinovirus, Boca virus, RSV A/B, Adenovirus respiratory, Human metapneumovirus, Coronavirus OC43, Parainfluenza 1, Parainfluenza 4, Influenza, Coronavirus 229E, Coronavirus HKU1, Parainfluenza 2, Parainfluenza 3, Influenza A(H1N1), Influenza A, Coronavirus NL63, Influenza B and Para echovirus.

**Results:** Among the 108 enrolled patients, viral infections were detected in 82 patients (75.9%). Rhinovirus is the most frequently detected virus (41%) followed by adenoviruses (13%), RSV (11%), Boca virus (7%) and human metapneumovirus (6%). According to severity of asthma, viruses were detected in 6.1% of mild cases, 61% of moderate and 32.9% of severe cases. No association between asthma severity and presence of virus ( $P=0.062$ ). No significant difference in severe asthma exacerbation with or without viral infection. (32.9% vs 53.8%) ( $P=0.066$ ). Among the viral positive patients, Adenovirus has significant association with asthma severity ( $P=0.021$ ). In our study, age, respiratory rate and Oxygen saturation were significantly different between viral positive and viral negative group. ( $P$  values respectively: 0.0001, 0.036 and 0.01).

**Conclusion:** Respiratory viruses were identified in 75.9% of patients with acute asthma exacerbation. Rhinovirus is the most frequently detected virus (41%), but adenovirus has significant association with asthma severity ( $P=0.021$ ).

#### Recent Publications

1. Factors associated with pediatrician attitudes over the use of complementary and traditional medicine on children in Muscat, Oman Muna Ahmed Al Saadoon<sup>1\*</sup>, Mohammed Suweilem Al Jafari<sup>2</sup>, Bader Darwish Al Dhouyani<sup>2</sup>, Syed Rizvi<sup>3</sup>: 2 January 2015.

#### Biography

Badar Al Dhouyani has completed his MD at the age of 25 years from medical school at Sultan Qaboos University in Oman. Currently I am Paediatric resident at Oman Medical Specialty Board (third years, R3).

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