



35<sup>TH</sup> ANNUAL MEETING OF THE  
**EUROPEAN SOCIETY FOR  
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DISEASES**

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## SCIENTIFIC PROGRAMME

AE16a E-POSTER VIEWING MAY 24-26 EXHIBITION HOURS

**16A. EDUCATION: PUBLIC HEALTH: MOLECULAR EPIDEMIOLOGY AND OTHER ASPECTS**

24-May-2017 18:35 21:00

### Abstract:

*THE ASSOCIATION OF CNR2 GENE POLYMORPHISM IN INPATIENT AND OUTPATIENT CHILDREN WITH ACUTE RESPIRATORY TRACT INFECTION AND COMPARISON OF RSV FREQUENCY IN BOTH GROUPS*

### Background

Genetic single nucleotide polymorphism studies are important in showing the likelihood of risk development towards severe infections. We studied the possible role of cannabinoid receptor 2(CNR2) Q63R functional variant in respiratory disease severity and also the frequency distribution of RSV infection in children referred to the Children's Hospital.

### Methods

A total of 180 Iranian children under 2 years old, divided into 90 inpatients and 90 outpatients with acute respiratory tract infection during cold season of 2016 at Bahrami Children's Hospital, Tehran, Iran. Genomic DNA was extracted from nasopharyngeal swab using a DNA extraction kit. All samples were genotyped by using a TaqMan assay. Extracted viral RNA was analyzed through conventional nested PCR.

### Results

Patients' ages ranged from 1 month to 22 months with a median age of 4.65 month. We found a significant difference in genotypic and allelic distribution of CNR2 Q63R polymorphism between the inpatients and outpatients. Furthermore, the associated risk of developing severe respiratory tract infection following RSV infection increased more than three-fold for QQ homozygous children. 83/180 (46.11 %) of samples were positive for RSV infection. A higher prevalence of RSV was seen in inpatients (54.21%) than in outpatients (45.8%). Males (57.8%) were more affected than females in RSV positive patients. The most common clinical manifestations were runny nose, cough, sneezing, nasal congestion, dyspnea, pneumonia and fever. The highest rates of RSV infection were detected during winter season.

### Conclusions

The CNR2 Q63R variation is associated with the risk of hospitalization in children with acute respiratory viral infection. Children caring QQ genotype are more prone to develop severe acute respiratory tract infection. This study also provides much-lacking information on the prevalence of RSV in children less than 2 years old.

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