

## LETTER

## Otitis media with effusion prevalence in mountainous/rural and urban environment in Greece

Tsitiridis I, Skoulakis C, Hajjioannou J

Department Otolaryngology - Head and Neck Surgery, University Hospital of Larissa, University of Thessaly, Larissa, Greece

Dear Editor,

Epidemiological data on otitis media with effusion (OME) in Greece are scarce and refer to OME prevalence over 20 years ago<sup>1</sup>. During this period, considerable worsening of environmental conditions has taken place in large Greek cities, mainly due to the economic crisis. We sought to estimate the prevalence of OME in mountainous/rural areas compared to urban areas in central Greece.

After obtaining approval from the local Bioethics Committee, we conducted a cross-sectional study during the 2016-2017 school year in the prefecture of Larissa. We selected three public schools and 586 children (from the center, periphery, and remote periphery of Larissa town), while from mountainous/rural areas, seven public schools from seven different villages (482 children) were included. Mountainous areas (altitude between 350 and 1150 m) were far from industrialized zones and mines (at least 20 km) with no evidence of considerable outdoor pollution. Children with chronic diseases (including allergies) were excluded from the study. After obtaining informed consent from parents, all included children underwent pneumatic otoscopy and tympanogram. Confirmation of OME diagnosis was made by the presence of a Type B Tympanogram, while a Type C Tympanogram was indicative of Eustachian tube dysfunction (ED). The chi-square method was applied to test for differences between the various groups.

The prevalence of OME and ED was highest among children aged 6-7 years old both in urban and rural areas (43.9 % and 16.3 % respectively in urban areas, and 38.1 % and 14.5 % respectively in rural areas) and declined gradually to its lowest value at the age of 11-12 years old (21.5 % for OME and 11.8 % for ED for urban children; 10.4 % and 1.9 % for mountain/rural areas). All differences were statistically significant among age groups ( $p < 0.001$ ). OME's prevalence in the sample from the rural/mountainous areas was 17.8 %, while the prevalence in the urban areas was 30.4 %. Differences were statistically significant ( $p < 0.001$ ).

The prevalence of OME in primary schoolchildren was considerably high, with a notable difference between urban and rural/ mountainous areas, allowing speculation that environmental factors and especially air pollution<sup>2</sup> may account for this prevalence gap. As all the children in the study were diagnosed with OME or ED for the first time, serious issues regarding access to medical services due to the economic crisis emerged. Our findings justify the onset of screening OME programs in school settings. However, the sample was derived from a single region, not representative of the Greek population, and the reported results should be cautiously generalized or treated for comparisons with other countries with economic austerity or air pollution issues.

**Keywords:** Otitis media with effusion, children, economic factors, urban, rural, Greece

### Conflict of interest

None declared.

### References

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**Corresponding author:** Ioannis Tsitiridis, ENT Consultant, University Hospital of Larissa, Viopolis, 41110, PO BOX 1425, Larissa, Greece, tel: +306977241261, fax: +302413501036, e-mail: [jotsitiridis@yahoo.gr](mailto:jotsitiridis@yahoo.gr)