

## ABSTRAK

**Latar Belakang:** Inflamasi kronis pada rinitis alergi dapat meluas sampai mukosa tuba Eustachius. Disfungsi tuba Eustachius berpotensi menimbulkan gangguan pendengaran. Kondisi ini pada usia anak sekolah dapat mengganggu proses belajar, komunikasi, serta perkembangan sosial. Data rinitis alergi dengan gangguan pendengaran pada anak usia sekolah belum banyak ditemukan.

**Tujuan:** Mengetahui hubungan antara rinitis alergi dengan gangguan pendengaran pada siswa sekolah dasar.

**Metode:** Penelitian observasional analitik dengan desain *cross-sectional* yang dilakukan pada 79 siswa kelas 4 dan 5 SDN Sumurboto, Kota Semarang. Data rinitis alergi diperoleh menggunakan kuesioner *Score for Allergic Rhinitis* (SFAR) dan *Total Nasal Symptom Score* (TNSS), sedangkan gangguan pendengaran dinilai menggunakan aplikasi *hearWHO*. Variabel bising akibat penggunaan *earphone* menjadi variabel perancu. Analisis bivariat dilakukan dengan uji *Chi-Square*.

**Hasil:** Sebanyak 60,8% responden menderita rinitis alergi dan 30,4% mengalami gangguan pendengaran. Terdapat hubungan bermakna antara rinitis alergi dengan gangguan pendengaran ( $p = 0,027$ ; PR = 2,45). Rinitis alergi berisiko 2,45 kali lebih besar mengalami gangguan pendengaran dibandingkan anak tanpa rinitis alergi. Responden yang mengalami gangguan pendengaran menderita rinitis alergi derajat sedang-berat sebanyak 52,6% ( $p = 0,212$ ). Tidak terdapat hubungan bermakna antara paparan bising dengan gangguan pendengaran ( $p = 0,372$ ).

**Kesimpulan:** Rinitis alergi berhubungan signifikan dengan kejadian gangguan pendengaran pada siswa sekolah dasar.

**Kata kunci:** rinitis alergi, gangguan pendengaran, anak sekolah dasar, *hearWHO*

## **ABSTRACT**

**Background:** *Chronic inflammation in allergic rhinitis may extend to the mucosa of the Eustachian tube. Eustachian tube dysfunction has the potential to cause hearing loss. In school-aged children, this condition may interfere with learning processes, communication, and social development. Data regarding allergic rhinitis associated with hearing impairment in school-aged children are still limited.*

**Objective:** *To determine the association between allergic rhinitis and hearing loss among elementary school students.*

**Methods:** *This was an observational analytic study with a cross-sectional design conducted on 79 students from grades 4 and 5 at SDN Sumurboto, Semarang City. Data on allergic rhinitis were obtained using the Score for Allergic Rhinitis (SFAR) and Total Nasal Symptom Score (TNSS) questionnaires, while hearing status was assessed using the hearWHO application. Noise exposure due to earphone use was considered a confounding variable. Bivariate analysis was performed using the Chi-Square test.*

**Results:** *Allergic rhinitis was found in 60.8% of respondents and 30.4% experienced hearing loss. A significant association was observed between allergic rhinitis and hearing loss ( $p = 0.027$ ;  $PR = 2.45$ ). Children with allergic rhinitis had a 2.45 times higher risk of hearing loss compared to those without allergic rhinitis. Among respondents with hearing loss, 52.6% had moderate-to-severe allergic rhinitis ( $p = 0.212$ ). No significant association was found between noise exposure and hearing loss ( $p = 0.372$ ).*

**Conclusion:** *Allergic rhinitis is significantly associated with hearing loss among elementary school students.*

**Keywords:** *allergic rhinitis, hearing loss, elementary school children, hearWHO*