

# Faktor yang memengaruhi sensitisasi terhadap alergen hirup dan manifestasi klinis penyakit alergi pada populasi dewasa muda di Indonesia = Factors affecting sensitization to inhalant allergens and clinical manifestation of allergic diseases in Indonesian young adults

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## Abstrak

### **ABSTRAK**

Latar Belakang: Atopi yang ditandai dengan sensitisasi (produksi IgE) terhadap alergen merupakan faktor risiko untuk terjadinya penyakit alergi. Karena komposisi genetik cenderung stabil, peningkatan prevalensi penyakit alergi diduga disebabkan oleh faktor lingkungan yang berubah.

Tujuan: Mengetahui faktor yang memengaruhi sensitisasi terhadap alergen hirup dan munculnya manifestasi penyakit alergi pada populasi dewasa muda di Indonesia.

Metode: Penelitian potong lintang dilakukan pada mahasiswa baru Universitas Indonesia tahun 2019.

Mahasiswa diminta mengisi kuesioner berisi data demografi, kuesioner International Study of Asthma and Allergies in Childhood (ISAAC), menjalani pemeriksaan fisik dan uji cukil kulit terhadap lima alergen hirup (kecoa, *Dermatophagoides farinae*, *Dermatophagoides pteronyssinus*, bulu kucing, epitel anjing). Sensitisasi ditandai dengan terdapat setidaknya satu hasil positif pada uji cukil kulit. Jika terdapat hasil positif pada dua atau lebih alergen, subyek disebut mengalami polisensitisasi. Manifestasi alergi yang dinilai berupa asma, rinitis alergi, dan dermatitis atopi.

Hasil: Proporsi sensitisasi adalah 44,8% (128 dari 286 subyek), sedangkan proporsi manifestasi penyakit alergi adalah 57,7% (165 dari 258 subyek). Manifestasi penyakit alergi didapatkan pada 84 (65,6%) subyek dari subkelompok yang tersensitisasi. Sensitisasi ditemukan lebih banyak pada laki-laki (OR 2,25; IK95% 1,38-3,71; p=0,001) dan subyek yang lahir secara caesar (OR 2,46; IK95% 1,22-5,06; p=0,013), sebaliknya lebih sedikit pada subyek yang berasal dari urban (OR 0,54; IK95% 0,32-0,90; p=0,019). Subyek yang tersensitisasi cenderung untuk memiliki manifestasi penyakit alergi (OR 1,79; IK95% 1,10-2,95; p=0,020). Pada subkelompok yang tersensitisasi, manifestasi penyakit alergi ditemukan lebih banyak pada subyek yang tinggal di urban (OR 2,58; IK95% 1,15-6,01; p=0,024), obese (OR 5,25; IK95% 1,35-34,92; p=0,036), dan mengalami polisensitisasi (OR 2,26; IK95% 1,01-5,10; p=0,046).

Simpulan: Sensitisasi terhadap alergen hirup dipengaruhi oleh jenis kelamin lakilaki, status urban, dan riwayat persalinan caesar. Munculnya manifestasi penyakit alergi dipengaruhi oleh adanya sensitisasi. Pada subkelompok yang tersensitisasi, munculnya manifestasi penyakit alergi dipengaruhi oleh status urban, obesitas, dan polisensitisasi.

### **ABSTRACT**

Background: Atopy marked by allergen sensitization (IgE production) is a risk factor for allergic diseases.

Since genetic composition tends to be stable, the increase of allergic diseases prevalence is suspected due to changing environment factors.

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Purpose: To identify the factors affecting sensitization to inhalant allergen and allergic diseases manifestation in Indonesian young adults.

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Methods: Cross-sectional study done on Universitas Indonesia 2019 new students. Students were asked to fill in a demographic questionnaire, an International Study of Asthma and Allergies in Childhood (ISAAC) questionnaire, undergo physical examination and skin prick tests for five inhalant allergens (cockroach, *Dermatophagoides farinae*, *Dermatophagoides pteronyssinus*, cat hair, dog epithelium). Sensitization was marked by at least one positive result on the skin prick test. If there were two or more positive allergen results, subject was deemed as being polysensitized. Evaluated allergic manifestations were asthma, allergic rhinitis, dan atopic dermatitis.

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Result: Sensitization was found in 44.8% (128 out of 286 subjects), while allergic diseases clinical manifestation was found in 57.7% (165 out of 258 subjects). The manifestation was found in 84 (65.6%) subjects from the sensitized subgroup. Sensitization was found more on male (OR 2.25; 95%CI 1.38-3.71;  $p=0.001$ ) and subjects born by caesarean section (OR 2.46; 95%CI 1.22-5.06;  $p=0.013$ ), whereas fewer on subjects from urban (OR 0.54; 95%CI 0.32-0.90;  $p=0.019$ ). Sensitized subjects tended to demonstrate allergic diseases manifestation (OR 1.79; 95%CI 1.10-2.95;  $p=0.020$ ). In the sensitized subgroup, allergic diseases manifestation was found more on subjects living in urban (OR 2.58; 95%CI 1.15-6.01;  $p=0.024$ ), are obese (OR 5.25; 95%CI 1.35-34.92;  $p=0.036$ ), and are polysensitized (OR 2.26; 95%CI 1.01-5.10;  $p=0.046$ ).

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Conclusion: Sensitization to inhalant allergens was affected by male sex, urbanstatus, and caesarean section birth. Allergic diseases manifestation was affected by presence of sensitization. In the sensitized subgroup, allergic diseases manifestation was affected by urban status, obesity, and polysensitization.