Analisis Korelasi Tingkat Konsumsi Rokok Berdasarkan Pack-Years, Skor Implementasi Kawasan Tanpa Rokok (KTR), dan Faktor Demografis Terhadap Risiko Penyakit Paru Obstruktif Kronis (PPOK) pada Penduduk Usia ≥40 Tahun di Pulau Jawa Tahun 2022

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Abstrak

Latar Belakang: Penyakit Paru Obstruktif Kronis (PPOK) merupakan penyakit utama dan masih menjadi beban kesehatan besar di Indonesia, terutama akibat tingginya perilaku merokok dan paparan asap rokok yang melebihi rata-rata global. Implementasi Kawasan Tanpa Rokok (KTR) telah diterapkan secara nasional, tetapi pelaksanaannya belum merata sehingga efektivitas pengendalian rokok antarwilayah bervariasi. Pulau Jawa memiliki tingkat konsumsi rokok tinggi, perbedaan kekuatan implementasi KTR, serta variasi karakteristik penduduk yang berpotensi memengaruhi risiko PPOK. Penelitian ini bertujuan menggambarkan dan mengetahui korelasi antara tingkat konsumsi rokok (pack-years), skor implementasi KTR, rasio jenis kelamin, dan tingkat melek huruf dengan proporsi penduduk berisiko PPOK di tujuh wilayah Pulau Jawa. Metode: Penelitian ini menggunakan desain studi ekologi dengan unit analisis kabupaten/kota dengan total sampling (n = 7) berdasarkan data Uji Coba Deteksi Dini PPOK 2022, dashboard Implementasi KTR, dan publikasi BPS. Analisis dilakukan secara deskriptif sederhana dan uji korelasi Spearman untuk menilai hubungan antara variabel independen dan proporsi penduduk berisiko PPOK usia ≥40 tahun. Hasil: Proporsi penduduk berisiko PPOK berkisar 0,6–6,3 per 100.000 penduduk, dengan rata-rata 2,8 (95% CI = 1,28–4,40). Rata-rata pack-years adalah 30,8 (95% CI = 21,01–40,39), skor implementasi KTR 33,1 (95% CI = 14,36–51,08), rasio jenis kelamin 96,3 (95% CI = 94,50–97,77), dan tingkat melek huruf 96,7 (95% CI = 94,67–98,57). Hasil uji Spearman menunjukkan tidak ada variabel yang berhubungan signifikan dengan risiko PPOK: pack-years (r = 0,036; p = 0,939), skor KTR (r = –0,179; p = 0,702), rasio jenis kelamin (r = –0,607; p = 0,148), dan tingkat melek huruf (r = 0,214; p = 0,645). Kesimpulan: Tidak ditemukan hubungan signifikan antara pack-years, skor KTR, rasio jenis kelamin, maupun tingkat melek huruf dengan proporsi penduduk berisiko PPOK di Pulau Jawa. Temuan ini menunjukkan bahwa variasi risiko PPOK kemungkinan dipengaruhi faktor lain di luar variabel yang diteliti. <hr /> Background: Chronic Obstructive Pulmonary Disease (COPD) remains a major disease and a substantial public health burden in Indonesia, primarily due to high smoking prevalence and exposure to tobacco smoke exceeding the global average. Smoke-Free Area (SFA) policies have been implemented nationally, however, their enforcement has been uneven, resulting in regional variation in the effectiveness of tobacco control. Java Island exhibits high levels of cigarette consumption, differences in the strength of SFA implementation, and diverse population characteristics that may influence the risk of COPD. This study aimed to describe and examine the correlation between smoking consumption level (pack-years), SFA implementation score, sex ratio, and literacy rate with the proportion of the population at risk of COPD across seven regions of Java Island. Methods: This study employed an

ecological study design with districts/cities as the units of analysis, using total sampling (n = 7). Data were obtained from the 2022 COPD Early Detection Pilot Program, the SFA Implementation Dashboard, and publications from Statistics Indonesia (BPS). Analyses included simple descriptive statistics and Spearman’s correlation test to assess the associations between independent variables and the proportion of the population aged ≥40 years at risk of COPD. Results: The proportion of the population at risk of COPD ranged from 0.6 to 6.3 per 100,000 population, with a mean of 2.8 (95% CI: 1.28–4.40). The mean pack-years was 30.8 (95% CI: 21.01–40.39), the mean SFA implementation score was 33.1 (95% CI: 14.36–51.08), the mean sex ratio was 96.3 (95% CI: 94.50–97.77), and the mean literacy rate was 96.7 (95% CI: 94.67–98.57). Spearman’s correlation analysis indicated no statistically significant associations between any variables and the risk of COPD: pack-years (r = 0.036; p = 0.939), SFA implementation score (r = −0.179; p = 0.702), sex ratio (r = −0.607; p = 0.148), and literacy rate (r = 0.214; p = 0.645). Conclusion: No significant associations were found between pack-years, SFA implementation score, sex ratio, or literacy rate and the proportion of the population at risk of COPD on Java Island. These findings suggest that variations in COPD risk are likely influenced by other factors beyond those examined in this study.