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Title: Heterogeneity in prevalence and underdiagnosis of COPD: Results from BOLD, EPI-SCAN, PLATINO, and PREPOCOL

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Background & Objective We evaluate heterogeneity in prevalence of COPD and factors associated with underdiagnosis using data from four general populations surveys: BOLD (Burden of Obstructive Lung Disease), EPI-SCAN (Epidemiologic Study of COPD in Spain), PLATINO (Proyecto Latinoamericano de Investigación en Obstrucción Pulmonar), and PREPOCOL (Prevalencia de EPOC en Colombia). Methods Representative samples of adults aged ≥40 yrs were randomly selected from well-defined administrative areas at studied sites. Post-bronchodilator spirometry and face-to-face interviews were performed. Post-BD
FEV1/FVC<LLN was used to define chronic airflow limitation consistent with COPD. Doctor-diagnosed COPD was self-reported. Underdiagnosed COPD was considered when participants had a FEV1/FVC<LLN and did not report previous diagnosis of COPD by a doctor or health professional. Results Among 30,874 participants with a mean age of 56 yrs, 55.8% were female, and 22.9% were current smokers. Prevalence of reported doctor-diagnosed COPD ranged from 0.1% in Pune (India) to 22.4% in Lexington (US). 26.4% of all participants reported having-had a lung function test before, with a major rate of 97.6% in Norway and the lowest rate of 0.5% in Nigeria. Prevalence of COPD ranged from 3.6% in Baranquilla (Colombia) to 19.0% in Cape-Town (SA). 81.4% were undiagnosed with the highest rate in Ile-Ife, Nigeria (98.3%) and the lowest rate in Lexington, US (50.0%). Male gender, lower age, current smoking, and less severe airflow limitation were associated with underdiagnosis. Conclusion There is substantial heterogeneity in prevalence and underdiagnosis of COPD worldwide. The majority of COPD cases remain undetected.