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Opinion Article

Meta-Analysis and Bio Chemical Parameters of Chronic Obstructive Pulmonary Disease

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DESCRIPTION

A significant and rapidly spreading cause of morbidity and mortality globally, Chronic Obstructive Pulmonary Disease (COPD) is characterized by reduced airflow and a rapid deterioration in lung function. Although the condition may initially present with subtle symptoms, as it progresses, patients report increasingly severe symptoms and a decline in their physical and mental well-being. COPD was the sixth major cause of death in low- and middle-income countries in 2001, according to estimates from the WHO research on the global burden of illness and risk factors. COPD was the fifth leading cause of death in high-income countries. In 2020, COPD is anticipated to be the sixth major cause of mortality and the third leading cause of morbidity. Costlier medical treatment has already been significantly influenced by COPD. According to a retrospective research done in the United States, when matched with random controls by age, gender, region of residence, and index date, These costs increase with more in-patient care, ER visits, and drug treatments as the condition progresses, exacerbations occur, and symptoms worsen.

Numerous studies have calculated the prevalence of COPD. The Global Initiative for Chronic Obstructive Lung Disease (GOLD) Stage I and higher COPD prevalence, according to data from 12 Burden of Obstructive Lung Disease (BOLD) study centers, ranges from 11% in Guangzhou, China, to 26% in Salzburg, Austria. Utilizing the GOLD criteria, recent research from many Nordic nations reveal COPD prevalence rates of 9.4% in Finland, 12% in Denmark, 18% in Iceland, and 18.8% in Norway. According to a research by the OLIN-group (Obstructive Lung Disease in Northern Sweden), the prevalence of COPD varies from 8% to 34% depending on whether diagnostic criteria are employed. This demonstrates the value of using uniform diagnostic standards when comparing estimates of COPD prevalence from various research. The GOLD definitions of COPD and stringent spirometric standards are used in the BOLD trial, which was finished in Uppsala in late 2007. As a result, the BOLD article from 2007 did not contain the findings of this study.

With the participant seated and wearing a nasal clip and a disposable mouthpiece, the NDD Easy OneTM spirometer was used to measure the participant's Forced Expiratory Volume (FEV1) and Forced Vital Capacity (FVC) values. According to BOLD protocol, patients who had recently experienced a cold or upper respiratory infection were asked to participate later. Tests with and without bronchodilators were carried out. The main reference equations used for all participants were drawn from the third United States National Health and Nutrition Examination Survey's prediction equations for Caucasian adult men and women (NHANES III).

The seated participants' antecubital veins were used to take blood. Samples were obtained from Greiner in SSTs (Kremsmuenster, Austria). The samples were examined at the Landspitali University Hospital in Iceland's Department of Clinical Biochemistry. Enzyme-linked immunosorbent assays were used to measure the serum Interleukin 6 (IL-6) concentrations using IBL-obtained reagents (Hamburg, Germany). The IL-6 assay's lower detection limit was 0.074 pg/mL. Using a Roche Diagnostic Systems commercially available latex-enhanced immunoturbidimetric test, serum C-Reactive Protein (CRP) values were determined using a Kone 30 analyzer (Mannheim, Germany). The assay's lower detection limit was 0.1 mg/L.

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