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Title: Airflow obstruction in the general population: Bronchodilation makes the difference

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Body: Introduction Although recommended, most lung function studies in the general population abandon bronchodilation when defining airflow obstruction and evaluating the prevalence of chronic obstructive lung diseases. The aim of the present study was to evaluate the prevalence of airflow obstruction pre and post bronchodilation in a general population. Methods The ongoing Austrian LEAD study intends to investigate the natural decline in lung function in a general population. Participant's lung function was assessed pre and post bronchodilation. Airflow obstruction was defined as FEV1/FVC<0.7. Fixed airflow obstruction was defined as FEV1/FVC<0.7 pre and post bronchodilation. Reversible airflow obstruction was defined as FEV1 ≤85% pre bronchodilation and increase ≥200ml or ≥12% of FEV1 pre bronchodilation. Results In total 1268 participants (male: 46%, age: 53±17 years) were included. Airflow obstruction was diagnosed pre and post bronchodilation in 15.3% and 10.4%, respectively (p<0.01). Of those 15.3% having airflow obstruction pre bronchodilation, 63.9% had fixed airflow obstruction and 54.6% had reversible airflow obstruction, representing 9.8% and 8.4% of the total population, respectively. Both, fixed and reversible airflow obstruction was seen in 36.6%. Conclusion When defining airflow obstruction in the general population, lung function including bronchodilation should be performed in order to accurately evaluate the prevalence of chronic obstructive lung diseases.