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Prevalence, risk factors and clinical correlates of chronic obstructive pulmonary disease in a rural setting in Tanzania

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Chronic Obstructive Pulmonary Disease (COPD) is an important contributor to mortality and morbidity in developed countries but there is limited data from Africa. Apart from tobacco smoking, household air pollution is a potential risk factor for COPD, but its contribution has not been adequately studied in Africa. We aimed to provide prevalence estimates of COPD in Tanzania and further identify factors associated with risk and disease exacerbations. In this cross-sectional, descriptive survey in the rural setting of Maswa district in Tanzania, adults aged ≥ 35 years were randomly selected from 150 households across 6 villages from 2 wards. We collected data on respiratory symptoms, occupation and exposure to biomass using the BOLD questionnaire. Spirometry was performed using a 3L-syringe daily-calibrated NDD EasyOne™ spirometer with COPD defined based on post-bronchodilator FEV1/FVC < 70%. Indoor carbon monoxide pollution levels were measured using the Langan T15x samplers. The pre-determined risk factors were tested for associations. A total of 869 participants (49.1% women) with a mean age of 51.8 ± 10.58 years completed the questionnaires. Of these 57% completed post-bronchodilator spirometry, with over 98% good quality spirometry and 25% were smokers. The prevalence of COPD was estimated at 17.5% (21.7% in men, 12.9% in women). COPD was associated with level of education ($p < 0.0001$) and cigarette smoking ($p < 0.002$). The severity of COPD was significantly associated with history of cough, phlegm production and wheezing ($p < 0.02$, $p < 0.03$ and $p < 0.002$). Half of COPD patients presented with cough and 85% had mild-to-moderate airway limitation. Furthermore, over 35% of women had dyspnoea and increased exacerbations while men had poor FEV1 and FVC. Pulmonary tuberculosis was reported in about 10% of COPD patients. Intermittent aminophylline was the most commonly prescribed drug for COPD.

Biography

Dr. Magitta received medical training from the University of Dar es Salaam in Tanzania in 2001. He obtained a PhD in Medicine from the University of Bergen in Norway in 2010, where he studied the genetics of Autoimmune Polyendocrine Syndrome Type 1. He is currently a Senior Research Scientist at Ifakara Health Institute (IHI) and a Lecturer of Biochemistry at the School of Health Sciences, University of Dar es Salaam in Tanzania. His research interest is on chronic non-communicable diseases of public health importance in Africa.

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