Occup Environ Med . 2011 Sep;68(9):682-5. doi: 10.1136/oem.2010.059592. Epub 2011 Feb 5.

Reduced lung function among sisal processors

Akwilina Kayumba [1], Bente Elisabeth Moen, Magne Bråtveit, Wijnand Eduard, Yohana Mashalla

DOI: 10.1136/oem.2010.059592

Abstract

Objectives: The objective of this study was to examine lung function and chronic respiratory symptoms among sisal workers in Tanzania and compare the results with a control group.

Methods: A cross-sectional study on chronic respiratory symptoms and lung function was conducted in 2006 among male Tanzanian sisal processing workers from six sisal estates. Participants included 86 workers in decortication departments, 68 workers in brushing departments and 30 low exposed security guards. The response rate was 97%. Chronic respiratory symptoms and background information were obtained by structured interview. Forced ventilatory capacity (FVC) and forced expiratory volume in 1 s (FEV(1)) were estimated before and after a work shift, and FEV(1)/FVC ratio calculated.

Results: Workers were aged 19-85, with the oldest in the brushing and security departments. Chronic cough and chest tightness were experienced by 38% and 68% of workers in brushing departments, 20% and 6% of workers in decortication and 7% and 0% of security workers, respectively. A reduced FEV(1)/FVC ratio related to years of work was found among workers in brushing departments when adjusting for age, smoking, previous respiratory illnesses and body mass index, using regression analyses. Work in decortication departments was not related to reduced lung function parameters. The prevalence of FEV(1)/FVC<70 was above 50 for all three groups. Lung function parameters were similar before and after work shifts, except that peak expiratory flow increased among workers in brushing departments after work shifts.

Conclusions: The results indicate a relationship between work in sisal brushing departments and the development of obstructive lung disorders.