two study teams (13) found that workers with symptoms related to nicotine exposure were more likely to be engaged in activities involving the handling of tobacco, whereas other studies found no association or even a negative association between nicotine exposure and symptoms. However, these findings are not consistent across studies.

The frequency of symptoms related to nicotine exposure was higher in workers exposed to nicotine than in non-exposed workers. The symptoms observed were mostly related to respiratory tract irritation, such as coughing, phlegm production, and respiratory distress. Other symptoms included skin irritation, headache, and fatigue. The prevalence of respiratory symptoms increased with the duration of exposure and the frequency of nicotine exposure.

The most common symptoms reported were irritation of the respiratory system, coughing, phlegm production, and difficulty breathing. The prevalence of these symptoms was significantly higher in workers exposed to nicotine than in non-exposed workers. The symptoms were more frequent in women than in men, and they were more severe in smokers than in non-smokers.

The study results are consistent with previous findings that exposure to nicotine can have a significant impact on respiratory health. The findings suggest that workers in the tobacco and agricultural sectors are at risk of developing respiratory symptoms due to exposure to nicotine and other hazardous chemicals.

Introduction

The aim of this study was to determine the prevalence of obstructive lung disease and its relationship to concurrent nicotine and pesticide exposure among small-scale tobacco farmers in Malawi.

Materials and Methods

A cross-sectional study was conducted enrolling 279 workers in flue-cured tobacco farms in Zomba, Malawi. Health outcomes were assessed using a standardised European Community Respiratory Health Survey II questionnaire. Spirometry testing was conducted during the working day.

Results

The average age of participants was 37.7 years, with a greater proportion (68%) being male. The prevalence of work-related ocular nasal symptoms, chronic bronchitis, and work-related chest symptoms was 20%, 17%, and 29%, respectively. Airflow limitation measured as FEV1/FVC<70% was found in 8% of workers. Self-reported exposure to pesticide was between 72% (spraying) and 83% (field re-entry after spraying). The prevalence of recent green tobacco sickness (proxy for nicotine exposure) was 26%. Tasks linked to nicotine exposure, such as harvesting and curing, were significantly associated with respiratory symptoms. Work involving pesticide application was associated with an increased risk of respiratory symptoms. Duration of pesticide exposure was also associated with obstructive impairment FEV1/FVC<LLN and FEV1/FVC<70%.

Conclusions

This study demonstrated that tobacco farmers in Malawi have a higher prevalence of respiratory symptoms and airflow limitation due to obstructive lung disease when compared to the general population. This could be attributable to nicotine or pesticide exposure in small scale tobacco farming. The implementation of occupational health and safety measures to mitigate these exposures may play an important role in modifying the risk of obstructive lung disease in this population.