Background

• Kenya is not on track to attain one or more of the three targets for reducing tuberculosis (TB) incidence, prevalence and morality.

• While HIV remains an important driver of TB in Kenya, 67% of cases are not HIV related suggesting the need to identify and address other drivers of the epidemic.

• Growing evidence describing the links between TB and a number of NCDs and their risk factors, such as diabetes mellitus, smoking- and alcohol-related conditions, chronic obstructive pulmonary disease (COPD), mental illness and malnutrition.

• The prevalence of diabetes mellitus in Kenya is 1.9%, while 11.6% and 19.3% adults smoke cigarettes and consume alcohol respectively.

Objective

• To determine the association of TB with cigarette smoking, alcohol consumption, diabetes mellitus and malnutrition in Kisii County, Kenya.

Materials and Methods

Study Design

• Unmatched case control study

Eligibility Criteria

• Cases: Current TB patients registered for treatment at the aforementioned health facilities

• Controls: Persons from the catchment areas of the facilities and did not have TB.

Variables’ Definition and Assessment

• Outcome variable: TB

• Exposure variables: Alcohol consumption, cigarette smoking, diabetes mellitus (RBS > 200 mg/ dL or FBS > 126 mg/ dL) and malnutrition (BMI<18.5 kg/ m2).

• Co-variates: Age, sex, household size and education level.

Data Sources/ Measurement

• Pretested structured questionnaire: Demographic, alcohol consumption and cigarette smoking data.

• Physical examination: Height (cm) & weight (kg)

• Cardiocheck PA ® machines (PTS Diagnostics Inc., USA): Blood glucose and cholesterol levels

• Data collected from 09/16/2015 to 01/25/2016

Sample Size

• 268 (67 cases & 201 controls), Kelsey formula

Data analysis

• STATA software version 12 (StatCorp LP, Texas, USA) used

Conclusions

• This study showed that diabetes is positively associated with a higher chance of getting TB and that malnutrition was associated with the highest likelihood of having TB among all the exposures assessed. While smoking and alcohol showed increased odds for TB that was not significant, their role cannot be ignored since we had a small sample size that was further thinned out by stratification.

Recommendations

• There is need to reconfigure our health systems to focus on tackling NCDs and the challenges they pose to public health. Such a realignment of services could be guided by four key principles of integration of services, innovation in service delivery, inclusion of communities and information and communication for better care.

References
