Sex-related trends in non-conversion of new smear-positive tuberculosis patients in the Free State, South Africa

CITATION

Heunis JC, Kigozi NG, Van der Merwe S, Chikobvu P, & Beyers N. 2014. Sex-related trends in non-conversion of new smear-positive tuberculosis patients in the Free State, South Africa. *Public Health Action, 4*(1): 66-71.

ABSTRACT

Setting: Free State Province, South Africa

Objective: To examine sex-specific trends in 2-month sputum smear non-conversion in new sputum smear-positive tuberculosis (TB) cases during a period when the DOTS strategy was operative.

Design: A retrospective cohort study of TB cases registered between 2003 and 2009 was conducted. Non-conversion was indicated by a positive 2-month sputum smear result. Descriptive and generalised linear model analyses were performed and sex-specific trends in 2-month sputum smear non-conversion rates estimated.

Results: Overall, 2-month sputum smear non-conversion rates were 12.5% in males and 9.3% in females. Non-conversion was significantly associated with age in males ($P < 0.001$). Non-conversion rates declined significantly between 2003 and 2009: from 15.9% to 10.8% in males ($P < 0.001$) and from 12.0% to 6.6% in females ($P < 0.001$). The average rate of decline of non-conversion was higher among females (1.0%, 95%CI 0.8-1.2) than among males (0.8%, 95%CI 0.5-1.0). By 2009, males had a 60% higher risk of non-conversion than females (RR 1.60, CI 1.37-1.86).

Conclusion: The decline in the trend of 2-month sputum smear non-conversion confirms the relative success of the DOTS strategy in TB control, with better performance among females than males. Interventions should consider the sex and age of patients to improve the 2-month sputum smear-conversion rate.