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Drug and patient factors contributing to mortality among patients in decentralised MDR-TB Units in the Zululand Health District

Background:

Despite advances in multi-drug resistant tuberculosis (MDR-TB) management, mortality remains unacceptably high in South Africa. This may in part be due to HIV driving severe disease. However, other patient characteristics and toxic effects of pharmacological therapies may add to the high death rates.

Purpose:

There was therefore a need to establish if certain patient and drug factors increase mortality risk in MDR-TB patients. Methods: After receiving ethics approval, a retrospective cohort study was conducted in decentralised MDR-TB units in Zululand, South Africa. MDR-TB patients who died while receiving medication were compared to patients who were cured in terms of age, sex, HIV status, co-morbidities, nutritional status, electrolyte abnormalities, renal impairment and hepatic dysfunction. Results:

A total of 615 MDR-TB patients comprising 54.31% males and 45.69% females, met the study inclusion criteria. Most (83.4%) of the participants successfully completed treatment (i.e. were cured), while 16.6% died. Mortality risk factors included the elderly, female sex, low body mass index and inadequate nutrition (low albumin and anaemia), hepatis B infection, chronic obstructive airway disease, cardiovascular disease and renal failure. Five anti-TB drugs showed significant associations with mortality.

Conclusion:

Adverse drug reactions associated with standard MDR-TB drugs could potentially be mitigated by tweaking dosing regimens. Supplementing nutrition and optimising treatment of chronic diseases could also improve survival.

Keywords: Multi-drug resistant tuberculosis, mortality predictors, anti-tuberculosis drugs, adverse drug reactions, decentralised TB units

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