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Predictors of unsuccessful treatment outcome of tuberculosis in an urban DOTS clinic in Debre Tabor, Northwestern Ethiopia

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Background: With the aim of increasing successful treatment outcome of tuberculosis patients, the federal government of Ethiopia included the directly observed treatment short course (DOTS) in its national tuberculosis control program. The strategy, as evidenced by the federal government and studies conducted in the country, has improved the survival and treatment success rate of patients with tuberculosis. However, some patients failed to complete their treatments successfully. Failure to successfully complete treatments leads to increased morbidity and mortality, indicating the presence of treatment failure. Therefore, this study was aimed to identify predictors of treatment failure in an urban DOTS clinic in Debre Tabor, Northwest Ethiopia.

Methods: A retrospective medical review and analysis of 173 male and 130 female patients who started and followed their treatment at DOTS clinic in Debre Tabor from May 2008-April 2013 was done. Data were entered and analyzed using SPSS version 20.0. Bivariate analysis was used to identify predictors of treatment failure and variables with p-value <0.05 were considered predictors of treatment failure.

Results: Five factors were identified as predictors of treatment failure: Being female (OR=2.417, 95% CI=1.132-5.160; p=0.023), positive smear result at 7th month of treatment (OR=5.015, 95% CI=1.169-21.515, p=0.030) and adults in the age of 24-44 years (OR=2.642, 95% CI=1.199-5.818; p=0.016), treatment in the year from May 2009-April 2010 (OR=0.297, 95% CI=0.091-0.966; p=0.044), positive smear result at 2nd month of treatment (OR=0.054, 95% CI=0.011-0.256, p=0.000), positive smear result at 5th month of treatment (OR=0.028, 95% CI=0.003-0.284, p=0.003), and re-treated patients (OR=0.212, 95% CI=0.071-0.633, p=0.005).

Conclusion: Predictors of treatment failure for tuberculosis patients can be used to identify patients who could fail during treatment. The association between females, adults in the age of 24-44 years, re-treated patients and treatment failure should be further explored.

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Evaluation of zinc oxide (ZnO) based cotton waste growing media for oyster mushroom cultivation

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E dible oyster mushrooms are enriched with specific flavor and aroma. This study was done to evaluate the pattern of growth and yield behavior of oyster mushrooms strains P1 (*Pleurotus ostreatus*) and P3 (*Pleurotus sajor caju*) on waste of cotton with diverse formulation of zinc oxide (ZnO). A study was performed in the Medicinal and Mushroom Lab, Institute of Horticultural Sciences, University of Agriculture Faisalabad. Parameters i.e., mycelial growth at initial stage, completion days of mycelial growth, pinhead formation at initial stage, pinhead total number, yield, biological efficiency, total contents of nitrogen (N), potassium (K) and phosphorus (P) in substrates before and after cropping, total sugars (NRS, RS), substrates pH, TSS, vitamin C contents, etc., were measured. This experiment was carried out under completely randomized design (CRD). Recorded data was analyzed by using statistically analysis of variance (LSD) comparison. The results concluded that cotton waste fortified with 8 mM ZnO showed significant response and contributed greatly towards optimum growth of oyster mushroom with best growth and yield attributes. So, this conclusion can heavily contribute towards maximized growth of oyster mushrooms and combating food shortages in the world.

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