

**Prediction modelling for factors associated with HIV/AIDS risk behavior among university students: an application of multivariate analysis a case of university of Dodoma Students in Dodoma Region**

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The study was conducted among University Students at the University of Dodoma; and sought to determine whether knowledge on HIV/AIDS, attitudes and beliefs can predict practices which render HIV infections.

A pre-designed questionnaire was administered in this cross-sectional study in a sample of 547 students. The data on responses of students to HIV/AIDS related knowledge, attitudes and beliefs were analysed using factor analysis and five clear interpretable factor structures emerged for these sets of questions. Similarly, based on responses of students to practice questions, two factors emerged. The standardized factor scores of students for each of these seven factors were computed and used in further analyses.

The common predictors in the Multiple Linear Regression (MLR) and Ordinal logistic Regression (OLR) for sex with high risk persons score ( $R^2=5.1\%$ ,  $p<0.001$ ,  $F=4.873$ ) and sex under the influence of alcohol ( $p<0.001$ ) respectively both had significant contribution from gender, knowledge on transmission through sexual contact, belief's about HIV/AIDS and attitudes toward VCT testing. The MLR and OLR for common risk sexual behaviour score ( $R^2=5.4\%$ ,  $p<0.001$ ,  $F=5.147$ ) and sex without condom ( $p<0.001$ ) respectively both had significant contributions from gender and attitudes toward condom use.

The findings conclude that, knowledge on transmission through sexual contact, beliefs about HIV/AIDS, attitudes toward VCT testing and attitudes toward condom use appeared to be common predictors of HIV/AIDS risk behaviour among students.