DECLARATION

I certify that this dissertation is my original work and submitted for the Master in Public Health Program. It has not been submitted in part or in full to any University and or any publication.

Student:

Signature _____Date _____

Takura Matare

I having supervised and read this dissertation. I am satisfied that this is the original work of the author in whose name it is being presented. I confirm that the work has been completely satisfactory for presentation in the examination.

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Abstract

Factors Associated with Human Immunodeficiency Virus First Line Treatment failure in Zvishavane District, Midlands Province, 2014

Introduction: Globally, first line HIV treatment failure remains a challenge particularly in resource constrained settings. Midlands Province 2013 data showed that Zvishavane district had the highest prevalence of first line treatment failure at 16% against a national average of 1%. First line ART failure comes with poor treatment outcomes. We conducted a study to determine factors associated with first line HIV treatment failure in Zvishavane district.

Methods: A 1:1 unmatched case control study was conducted. A case was an HIV positive patient who was on first line ART for ≥6 months in Zvishavane district and was switched to second line ART regimen because of treatment failure in 2013/2014. A control was an HIV patient in Zvishavane district who had been on first line ART for ≥6 months and had not failed first line ART. Pretested interviewer administered questionnaires were used to collect data from randomly selected participants from health facilities registers. Logistic regression analysis was conducted.

Results: A total of 246 participants, 123 cases and 123 controls, were recruited. Independent risk factors were poor adherence (<80% adherence) to ART [AOR=5.14, 95%CI (2.75-9.62)], drug stock outs [AOR=3.02, 95%CI (1.20-6.98)], baseline CD4 count of <50 cells/mm^3 [AOR=3.25, 95%CI (1.47-7.16)] and baseline WHO Stage 3 or 4 [AOR=1.95, 95%CI (1.05-3.61)]. Drug stock outs were a significant determinant of poor ART adherence [OR=3.09, 95%CI (1.83-5.21)].

Conclusion: Low baseline CD4 count and WHO stage 3 or 4 at ART initiation is associated with treatment failure. Improving adherence and avoiding ART drug stock outs may reduce treatment failure.

Key words: First Line Treatment Failure, Zvishavane district

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ART-Antiretroviral Therapy

CD4-Cluster Differentiation Four

DRV/$_r$-Duranavir/Ritonavir

EWI: Early Warning Indicator

HIV-Human Immunodeficiency Virus

HIV/AIDS-Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome

HIV-DR-Human Immunodeficiency Virus Drug Resistance

HIV RNA- Human Immunodeficiency Virus Ribonucleic Acid

HR-Hazard Ratio

MDG-Millennium Development Goal

MRCZ-Medical Research Council of Zimbabwe

NDTAC-National Drug and Therapeutics Committee

OI/ART-Opportunistic Infections/Antiretroviral Therapy

PI-Protease Inhibitor

pVL- plasma Viral Load

RH-Relative Hazard

STI-Sexually Transmitted Infections

VL-Viral Load

WHO-World Health Organization