DECLARATION

I hereby declare that except for references to other people's work, which have been duly acknowledged, this thesis is a result of my own research. Neither all nor part of this thesis has been presented for another degree elsewhere.

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ABSTRACT

Human Immunodeficiency Virus (HIV) and Hepatitis B virus (HBV) share similar routes of transmission and therefore are more likely to co-exist in individuals. With the emergence and wide usage of Highly Active Antiretroviral Therapy (HAART), diseases associated with the Liver are increasingly becoming of much importance in the management of HIV infected patients. This

study was therefore conducted in the Holy Family Hospitals in Techiman and Berekum to determine the general prevalence of HIV/HBV co-infection in the two areas and also to determine whether HBV infection affects the treatment outcome of HIV infected individuals.

Eighty-nine (89) HIV infected patients who consented to the study were enrolled. Of the 89 HIV patients, 46 were from the Techiman Holy Family Hospital while 43 were from the Berekum Holy Family Hospital. Blood samples were taken from them for testing for Hepatitis B surface antigen (HBsAg). Immunological, haematological and biochemical tests were also conducted on all the subjects.

The prevalence of HIV/HBV co-infection was 32.6% (15 out of 46) and 37.2% (16 out of 43) for Techiman and Berekum respectively. The general prevalence of HBV infection among HIV patients for the two municipalities was found to be 34.8% (31 out of 89).

Majority of the participants were between the ages of 21 and 50, and were females. Most of the participants were of low economic status, but most of the co-infected subjects were of medium economic status. Haemoglobin and White blood cells levels of the co-infected group and the mono-infected groups showed similar changes after the start of the treatment. Mean liver enzymes were higher in the mono-infected group than the co-infected group. Changes in the liver enzymes after the initiation of the ART were similar for both groups of subjects. After the initiation of the treatment, CD4 counts of mono-infected subjects showed significant ($p=0.022$) improvement by the second follow up while co-infected subjects showed significant ($p=0.006$) reduction.

It was therefore concluded that, HBV infection affects negatively the (immunological) response to the antiretroviral therapy by the HIV infected patients.

Dedication

This work is dedicated to my dear wife, Rakia Adamu, my lovely daughter, Newert Amo-Yeli Mills and my entire family for the sacrifice and unflinching support.

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Jehovah bless you all.

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LIST OF ABBREVIATIONS

ALP	Alkaline phosphatase
ALT	Alanine aminotransferase
AST	Aspartate aminotransferase
ART	Antiretroviral therapy
FACSCount	Fluorescence Activated Cell Sorting and Counting
DNA	Deoxyribonucleic acid
GGT	Gamma-glutamyl transpeptidase
HB	Haemoglobin
HBsAg	Hepatitis B surface antigen
HBV	Hepatitis B virus
HIV	Human Immunodeficiency Virus
LFT	Liver Function Test
RNA	Ribonucleic acid
WBC	White blood cells