

**Sero-Prevalence of HIV -1 Subtypes and Risk Factors Associated with
Infection among Truckers along Nairobi -Mombasa Highway, Kenya,
2009**

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**A Thesis Submitted in Partial Fulfillment for the Degree of Master of
Science in Laboratory Management and Epidemiology in the Jomo
Kenyatta University of Agriculture and Technology**



2010

ABSTRACT

Multiple drug resistant (MDR) strains could recombine to produce a pan-resistant, transmissible virus. This study investigated the subtypes of Human Immunodeficiency Virus -1 (HIV-1) circulating in a sample population of truckers in three towns along the Nairobi-Mombasa Highway in Kenya which is part of the main great western Trans-African Highway. A total of 330 participants were enrolled and counseled before and after HIV testing. A questionnaire regarding their social, demographic and sexual behavior was administered. Human Immunodeficiency Virus testing was done by rapid tests. Ten percent of the samples were retested using Enzyme Linked Immuno Sorbent Assay (ELISA) for quality control. Dried Blood Samples (DBS) were collected. Deoxyribonucleic acid (DNA) was extracted from the sero-positive DBS and analyzed for HIV-1 subtypes using subtype-specific primers in a nested polymerase chain reaction (PCR). The PCR products were sequenced using In-House method and phylogenetic analysis done. Data was analyzed descriptively and odds ratio (OR) used to identify the risk and protective factors. Out of the 330 participants, 19 (8.4%) were females while 311 (92.6%) were males. A total of 35 (10.6 %) participants tested HIV positive, of these 32 (91%) were males and 3(0.9%) were females. Out of the 35 DBSs, 26 produced PCR products and 21 were successful in phylogenetic analysis. Among the 21 there were 17 (81%) subtype A1, two (9.6%) subtypes D, one (4.8%) each for subtype C and circulating recombinant form AE. Infection by multiple variants was not found. Having multiple sexual partners was a risk factor independently associated with positive HIV status (AOR= 4.60; 95%CI=1.18-11.76; P=0.0014). Consistent condom use (AOR=0.22;

95%CI=0.09-0.58; P=0.0020) and living with a steady partner for the last six months (AOR=0.25; 95%CI=0.11-0.52; P=0.0003) were independent protective factors. The prevalence of HIV among truckers operating along Nairobi-Mombasa Highway is higher than that of the general population in the country. HIV-1 sub type A1 is the predominant subtype circulating among truckers along Nairobi – Mombasa Highway followed by D, C and recombined subtype AE.A policy on surveillance of circulating HIV sub-type should be enacted and enforced in Kenya. HIV prevention messages should be developed targeting truckers and other high risk groups along major highways. As an effort to curb risky sexual behavior among truckers, overnight Voluntary Counseling and Testing (VCT) services should be provided at a time when the truckers are not mobile. Programme interventions in the land transport sector should target not only truckers, but their sex partners, and risk zone “hot spots” and surrounding communities.