

Abstract

HIV/AIDS remains one of the leading causes of death in the world with its effects most devastating in Sub Saharan Africa due to its dual infection with opportunistic infections especially malaria and tuberculosis. An investigation of the prevalence level of Tuberculosis (TB) and malaria in the absence of any intervention strategy (treatment and counseling) for HIV/AIDS individuals when R_M and R_T is less than unity showed that the prevalence level of the two diseases rise with time. This unexpected rise in prevalence when $R_M < 1$ and $R_T < 1$ is due to the presence of HIV/AIDS. Administration of treatment and counseling for the HIV/AIDS individuals at this lower levels of the reproduction numbers of TB and malaria, reduces the prevalence levels of TB and malaria. The study further observed that when the reproduction number of TB and malaria is greater than unity, then counseling and treatment for the HIV/AIDS individuals is more effective in reducing the prevalence level of TB and malaria in the population both at the initial stages of the administration of the strategies and in the long run.