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ON THE ESTIMATION OF INTENSITIES, ILLNESS-DEATH PROBABILITIES AND EXPECTED DURATION OF STAY IN VARIOUS STATES OF AIDS PATIENTS UNDERGOING ANTI-RETROVIRAL THERAPY

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summary

This paper modifies the general illness-death model in order to study the impact of the Anti Retro-viral therapy on the AIDS patients. The patients are classified into two states C_1 and C_2 on the basis of their CD4 count ($= 200$ or > 200). Also, the states of mortality are put into either A_1 or A_2 depending on whether the death is due to opportunistic or other cause. The probability of transition from one state to another is expressed in terms of the intensities of morbidity and mortality. Also, the expected duration of stay in each state is obtained in terms of these intensities. A cohort of 543 patients who were administered Anti Retro-viral therapy was followed up for a period of 6 months. The model was applied to the data on these patients in order to derive the required parameters.

Keywords and phrases: CD4 count; Human Immuno Deficiency Virus (HIV); Anti Retro-viral therapy (ART); Illness-Death model; intensities; transient and absorbing states.

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