

# **LARGE DATA MATRICES; RANDOM WALK MODEL AND APPLICATION OF ENTROPY IN HIV- MOTHER TO CHILD TRANSMISSION (MTCT)**

**<sup>1</sup>BASAVARAJAIAH D.M., <sup>2</sup>B. NARASIMHAMURTHY, <sup>3</sup>B.LEELAVATHY & <sup>4</sup>MAHESHAPPA .K.**

<sup>1</sup>National Institute of Epidemiology (NIE), ICMR, Affiliated Madras University, Chennai, India

<sup>2</sup>Scientist “G” National Institute of Epidemiology (NIE), ICMR, Chennai, India

<sup>3</sup>Professor, BMCRI, Bangalore, India,

<sup>4</sup>Associate professor, UAS (B), G.K.V.K, Bangalore, India

## **ABSTRACT**

Several factors influenced HIV –transmission from pregnant to Mother to child(MTCT), because of the not use of ARV-prophylaxis at the time of onset and before birth of neonatal baby, prolong breast feeding , placental absorption and high RNA Plasma viral load , drug induced toxicity; illness, lower CD4 count, WHO-Clinical stage IV, Opportunistic infection of pregnant women. Present study aims to fitting random walk on diseases free groups, free probability , and large deviation of entropy mathematical models of HIV, to reduce the large data matrices among HIV infected children and pregnant women with or without receiving ARV Prophylaxis single dose- NVP before and onset of birth of neonatal baby. The model was clearly demonstrated the new born child should underwent the HIV testing at different interval time, the probability were expected to meet the  $P(n, m)$ . entropy deviation model uses data coverage, density and Correlation to determine the reduced dimension.

**KEY WORDS:** HIV, MTCT, NVP, CD4, Free probability, WHO-Stage, ARV