

## Factors associated with Late Presentation of HIV in Kuala Lumpur and Putrajaya: A Cross-sectional Study

Raudah Abd Rahman, Ismawati Ismail, Mohd Erfan Edros, Azizul Payiman

HIV/STI/Hepatitis C Unit, Kuala Lumpur and Putrajaya Health Department, Kuala Lumpur

### **ABSTRACT:**

**Introduction.** National Plan of Ending AIDS (NSPEA) 2030 have set a target of 95% of key population get tested for Human Immunodeficiency Virus (HIV), 95% of people diagnosed with HIV are started on antiretroviral (ARV) treatment and 95% of those who on ARV achieve viral load suppression by 2030. Early diagnosis of HIV infection is important for early ARV treatment initiation, better disease control and outcome as undetected HIV viral load equals to untransmissible HIV infection. Late presentation of HIV which is defined as CD4 level at diagnosis of less than 350 cells/uL or an AIDS-defining event regardless of CD4 level, is associated with high morbidity and mortality, increase healthcare cost and increase transmission of HIV in the community. Aim of this study is to determine factors associated with late presentation of HIV in Kuala Lumpur and Putrajaya. **Methods.** A cross-sectional study using HIV care and treatment database in Kuala Lumpur and Putrajaya until December 2021 was conducted. Variables that were studied are ethnicity, nationality, sex, age group, key population of HIV, risk factors for HIV transmission, and co-infection of hepatitis C and B. Simple logistic regression and multiple logistic regression were performed to determine significant factors associated with the late presentation of HIV. **Results.** Out of total 5563 PLHIV, 3422 (61.5%) were categorised as late presenter. Factors that were significantly associated with late presentation of HIV in Kuala Lumpur and Putrajaya were young age (less than 30 years old) with adjusted odd ratio (aOR) of 1.38 (95% CI 1.22, 1.57;  $p < 0.0001$ ), sexual transmission with aOR of 2.09 (95% CI 1.53, 2.86;  $p < 0.0001$ ), and co-infection of hepatitis C with aOR of 1.48 (95% CI 1.08, 2.02;  $p = 0.01$ ). However, co-infection of hepatitis B was found to be less likely to be associated with late presentation of HIV with aOR of 0.57 (95% CI 0.39, 0.81;  $p = 0.002$ ). In this study, surprisingly injecting drugs was not significantly associated with late presentation of HIV, with aOR of 1.19 (95% CI 0.81, 1.76;  $p = 0.38$ ). **Discussion.** From this study, more than half of PLHIV in Kuala Lumpur and Putrajaya were late presenter. The main factors that found to be significantly associated with late presentation of HIV in Kuala Lumpur and Putrajaya are younger age group, sexual transmission, and co-infection of hepatitis C. This indicates that there is a need to strengthen awareness on early HIV screening among these groups especially among the young people with risk behaviour. The role of targeted test promotion is essential to enhance early HIV detection hence link them to HIV care and treatment.

### **KEYWORDS:**