

Factors associated with non-vaccination against mpox among MSM living with HIV in Hong Kong

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Background: There is continuous sporadic reporting of local and imported mpox cases in Hong Kong after the end of WHO's declaration of public health emergency of international concern in September 2025. To prevent mpox outbreaks, vaccination of people at higher risk, including men who have sex with men (MSM) living with HIV, plays a key role. This study aims to determine the coverage of mpox vaccination and factors associated with non-vaccination in MSM living with HIV in Hong Kong ever since free vaccination was introduced since 2022.

Methods: This study involves secondary analysis of data from a sexually transmitted infection (STI) epidemiology study conducted in 2023-2024, which recruited sexually active adult MSM from a major HIV specialist clinic. Data from an online self-administered structured survey were used, coupled with retrospective clinical data retrieved. Participants who reported having forgotten/unknown mpox vaccination history were excluded. Factors associated with non-vaccination (vs having vaccinated) were examined in multivariable logistic regression model, with age as the confounder.

Results: After exclusion of 8 ineligible subjects, totally 537 MSM living with HIV were included in the analyses, with a median age of 38 (interquartile range 32-47) years and 96% ethnic Chinese. Among them, 101 (19%) were unvaccinated. Adjusted by age, participants who had never been diagnosed with STI (adjusted odds ratio, aOR=2.14, P=0.004), HIV diagnosed within 1 year (aOR=16.14, P<0.001), had a CD4 count 201-500/ μ L (aOR=2.17, P=0.01; ref. with >750/ μ L), viral load $\geq$ 200/mL (aOR=29.18, P<0.001) were more likely to be unvaccinated. Socio-demographics and sexual behaviour were not significant factors.

Conclusion: Newly diagnosed MSM were less likely to be vaccinated, suggesting lower reach of mpox vaccination programme to MSM at higher risk in the community. As individuals without history of STI diagnosis was also a significant factor, the potential risk of infection through non-sexual transmission should be highlighted.

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