

Exploration of the harm reduction effects of methadone treatment in Hong Kong 探討香港美沙酮治療的緩害效果

Aim and Objectives. The aim of the study was to assess the harm reduction impacts of methadone treatment in Hong Kong with the objectives of (a) determining the HIV incidence in methadone users, (b) exploring their patterns of methadone utilisation and connectivity patterns, (c) characterising the intensity of harm reduction delivered and its association with HIV spread. **目的和目標。** 是項研究的目的是評定美沙酮治療在香港的緩害影響，目標是：(甲) 確定美沙酮使用者的愛滋病毒感染率；(乙) 探討接受治療人士的美沙酮使用情況和相互連繫模式；(丙) 表徵美沙酮的緩害程度及其與愛滋病毒傳播的關係。

Project design. Analyses focusing on anonymous data retrieved from the attendance records of methadone clinics over a 10-year period in Hong Kong. **項目設計。** 研究重點是從香港十年來美沙酮診所的就診記錄中檢索的匿名數據作出分析。

Target population. People who inject drugs (PWID). **目標人口。** 注射毒品人士。

Main achievements. The major accomplishment of the project was to retrieve computerised methadone clinic data for epidemiological analyses. The study has led to the processing of over 19,000,000 methadone clinic attendance records from drug users attending the service between 2007 and 2016. Their adherence pattern showed a bimodal distribution with two peaks. Most of the methadone users either had high adherence with daily attendance or merely attended the clinic once in a calendar year. Of 15,889 users with at least one HIV antibody test result, 151 (0.95%) were positive. A case-control study was conducted to compare between HIV+ and HIV-ve methadone users. While the methadone utilisation pattern did not differ, HIV-negative methadone users had a higher minimum dose throughout the year. A spatio-temporal co-occurrence model was developed to infer the social network of methadone users based on their clinic attendance records. HIV-positive methadone users had lower odds of being connected with another user. It was found that the length of methadone use and number of visits determined the connectivity of methadone users. The overall weak and sparse linkages of HIV positive PWID may explain the generally low HIV prevalence and incidence in PWID in Hong Kong. Results of the studies were published in scientific journal and presented in international conferences. **主要成就。** 研究項目最重要成效是處理龐大的美沙酮診所電腦數據，進行流行病學分析。2007年至2016年期間，研究涉及吸毒者超過19,000,000份就診記錄。就診者服用美沙酮的依從性顯示雙峰分佈，大多數使用者若然不是高度堅持每日服藥，便是僅在一年內就診少達一次。在至少有一次愛滋病毒抗體檢測結果的15,889名美沙酮使用者當中，151(0.95%)為陽性。以病例對照研究比較，發現愛滋病毒陽性和陰性人士的美沙酮使用模式沒有差異，但愛滋病毒陰性美沙酮使用者全年的最低劑量較高。研究亦開發了一個時空共現模型，根據就診記錄推斷美沙酮使用者的社交網絡。愛滋病毒陽性美沙酮使用者與其他使用者聯繫的可能性較低。結果發現美沙酮的使用時間和就診次數決定了美沙酮使用者的連繫性。愛滋病毒陽性吸毒者總體聯繫薄弱

和稀疏，解釋了香港吸毒者社群普遍較低的愛滋病毒流行率和發病率。研究結果在科學期刊和國際科研會議發表。

Conclusions. HIV prevention is an important outcome of methadone treatment. An understanding of the networking patterns of methadone users is important in deriving maximum public Health impacts from the harm reduction efforts. **結論。** 預防愛滋病毒傳播是美沙酮治療的重要成果。了解美沙酮使用者的網絡模式對於從緩害中獲得最大的公共衛生影響至為重要。