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Trends and risk factors of HIV, HCV, and syphilis seroconversion among drug users in methadone maintenance treatment program in China: A seven-year retrospective cohort study

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Objective: This study explores the trends and associated factors of HIV, HCV and syphilis seroconversion among Chinese methadone maintenance treatment (MMT) clients over a follow-up period of up to seven years.

Design: Drug users from fourteen MMT clinics in Guangdong province were recruited during 2006-2014. Participants were seronegative with at least one of HIV, HCV and syphilis infections at baseline and had completed at least one follow-up test during the study period. We estimated HIV, HCV and syphilis seroconversion rates in follow-up years and identified the underlying predictors using a multivariate Cox regression model.

Results: Among 9, 240 participants, the overall HIV seroconversion rate was 0.20 (0.13-0.28)/100 person-years (pys), 20.54 (18.62-22.46)/100 pys for HCV, and 0.77 (0.62-0.93)/100 pys for syphilis over the study period. HIV seroconversion rate showed a moderate but non-significant annual decline of 13.34% (-42.48-30.56%) (Chi-2 trend test: $p=0.369$), whereas the decline of HCV seroconversion was 16.12% (5.53-25.52%) per annum ($p<0.001$). Syphilis seroconversion rate remained stable ($p=0.540$). Urine results positive for opioid predicted HIV seroconversion ($\geq 60\%$ versus $<60\%$: HR=3.40, 1.07-10.85), being unmarried (HR=1.59, 1.15-2.20), injection drug use in the past 30 days (HR=2.17, 1.42-3.32), having sexual intercourse in the past 3 months (HR=1.74, 1.22-2.47) and higher daily dosage of methadone (≥ 60 ml versus <60 ml: HR=1.40, 1.01-1.94) predicted HCV seroconversion. Being female (HR=3.56, 2.25-5.64) and infected with HCV at baseline (HR=2.40, 1.38-8.36) were associated with subsequent syphilis seroconversion.

Conclusion: MMT in China has demonstrated moderate to good effectiveness in reducing HIV and HCV incidence but not syphilis infection among participating drug users.

Biography

Xia Zou is a student in Sun Yat-sen University, P.R. China.

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