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Type: Oral presentation

Risk Factors Associated with Mpox Infection: A Case-Control Study in Masaka City and District, Uganda, February–April 2025

Monday, October 13, 2025 3:30 PM (15 minutes)

Background:

In early 2025, Masaka City was identified as the epicenter of a rapidly growing Mpox outbreak in Uganda, reporting 105 and 125 confirmed cases in February and March, respectively. Preliminary evidence suggested that transmission was driven by close interpersonal contact and specific behavioral and environmental exposures. We conducted a case-control study to identify risk factors for Mpox infection to inform targeted public health interventions.

Methods:

A matched case-control study was conducted between February and April 2025, involving 86 laboratory-confirmed Mpox cases and 172 age- and neighborhood-matched community controls without Mpox history or symptoms. Data were collected using structured questionnaires on demographics, clinical history, behavioral risks, comorbidities, sexual practices, and household structure. Environmental assessments were conducted at case residences. Data were analyzed using Epi Info™ Version 7, and logistic regression was used to estimate crude and adjusted odds ratios (cOR, aOR) with 95% confidence intervals.

Results:

Eighty six Mpox cases were identified, with a mean age of 32 years; the majority were males (52%) and aged 25–34 years 39(45%). Common symptoms included rash (100%), fever (84%), and headache (64%). Multivariate analysis identified four independent risk factors: close contact with individuals with a rash (aOR: 2.5; 95% CI: 1.1–5.8), presence of comorbidities such as HIV or diabetes (aOR: 3.7; 95% CI: 1.6–8.2), male sex (aOR: 3.1; 95% CI: 1.5–6.4), and having multiple sexual partners (aOR: 9.5; 95% CI: 4.5–17.8). Environmental assessments revealed crowding and multifunctional households that impeded isolation.

Conclusion:

Mpox transmission in Masaka was associated with behavioral, clinical, and environmental risk factors. Targeted risk communication, behavior change interventions, early detection strategies, and urban planning reforms are essential to reduce Mpox transmission in high-risk urban settings.

Keywords: Mpox, case-control study, Uganda, outbreak, risk factors, urban health

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Mpox, Case-control study, Uganda, Outbreak investigation, Risk factors

Registration ID

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Professional Status of the Speaker

Senior Scientist

Junior Scientist Status

No, I am not a Junior Scientist.

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