

# Low prevalence of anti-Orthopoxvirus neutralizing antibodies in an urban population of Brazil

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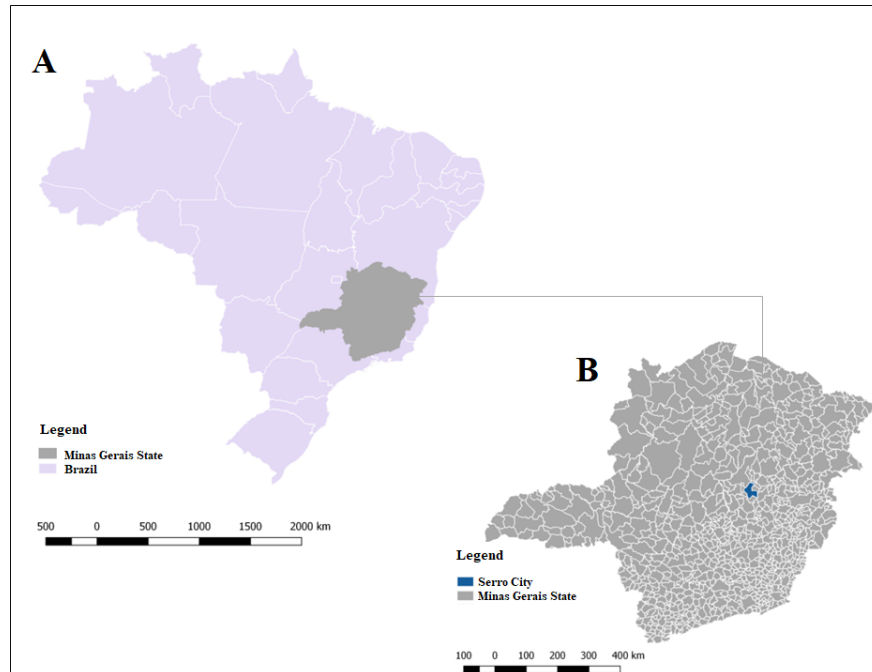
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## Abstract

Since 1999, Vaccinia virus (VACV) has been described as a causative agent of bovine vaccinia (BV), a zoonotic disease that occurs mainly in rural areas of Brazil. However, the circulation of VACV in urban environments and its associated burden has been poorly explored. Moreover, the current Mpox outbreak has raised questions regarding the immune status of the worldwide population previously vaccinated against smallpox. Hence, we conducted a cross-sectional study to better understand the prevalence of anti-OPV neutralizing antibodies (NA) in a susceptible urban population of Brazil. A total of 372 individuals were sampled, yielding an overall seroprevalence of 16.9% (CI95%=13.4–21.1), and antibodies titers ranging from 100 to 800 NU/ml. The prevalence of NA among vaccinated individuals ([?]36yo) was 24.9% (IC 95%=19.5–31.2), and among those unvaccinated (<36yo) was 6.7% (IC 95%=3.7–11.8). Multivariate logistic regression analysis indicated that age [?]36yo and the presence of vaccine take were independently associated with the presence of anti-OPV NA. Our findings suggest that vulnerable populations could be subclinically exposed to VACV in urban areas, drawing attention to alternative routes of zoonotic VACV exposure. Our data is also important for better strategies in order to mitigate zoonotic OPV infections mainly among vulnerable populations.

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Table 1 Demographics.doc available at <https://authorea.com/users/606760/articles/635678-low-prevalence-of-anti-orthopoxvirus-neutralizing-antibodies-in-an-urban-population-of-brazil>

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Table 2 Prevalence rates.doc available at <https://authorea.com/users/606760/articles/635678-low-prevalence-of-anti-orthopoxvirus-neutralizing-antibodies-in-an-urban-population-of-brazil>

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Table 3 Exposure Factors.doc available at <https://authorea.com/users/606760/articles/635678-low-prevalence-of-anti-orthopoxvirus-neutralizing-antibodies-in-an-urban-population-of-brazil>

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Table 4 Exposure Factors Unvaccinated.docx available at <https://authorea.com/users/606760/articles/635678-low-prevalence-of-anti-orthopoxvirus-neutralizing-antibodies-in-an-urban-population-of-brazil>