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contextual factors impact the risk of HIV infection in South African townships

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Kya Sands / Bloubosrand (Johannesburg, South Africa). © Johnny Miller / Millefoto

background

- 19.1% of people in South Africa are living with HI
- HIV prevalence in townships nearly twice that of national average

In Cape Town¹:

0

in 4 people are unemployed

out of 5 people have not completed secondary education

1 in 3 households live below the poverty lin 1 in 5 households live in informal dwellings

Sweet Home / Vukuzenzele (Cape Town, South Africa). C Johnny Miller / Millefoto

objective

Explore whether contextual factors related to socioeconomic position impact the risk of HIV infection in South Africa

methods

Bayesian analysis of secondary data from a quasi-randomized trial¹



Recruitment

N = 3095

Participants from Townships of Cape Town who presented at local clinics for HIV testing

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Measurement

Age & Sex Sub-district of residence Dwelling situation Employment status Education level Monthly income HIV status

Analysis

Multiple imputation by chained equations Bayesian Logistic regression Priors for age & sex informed by literature² Software: R & RStudio

results

posterior median and 89% credible interval of adjusted odds ratios

	Mitchell's Plain	1.66, 1.26 – 2.21
Sub-district of Cape Town ref: Klipfontein	Western —	1.31, 0.99 – 1.74
	Age —	1.01, 0.99 – 1.02
Sex ref: Male	Female	0.99, 0.78 – 1.26
Education	High school, primary	1.95, 1.40 – 2.78
Dwelling situation	Hostel or informal —	1.32, 1.06 – 1.64
Employment ref: Employed Monthly income ref: > 9000 rand	Unemployed or retired ——	0.96, 0.75 – 1.22
	6001 – 9000 rand	1.10, 0.55 – 2.22
	3000 – 6000 rand ——-	0.70, 0.39 – 1.29
	< 3000 rand —	1.08, 0.62 - 1.90
	0	Odds ratio ¹ of HIV infection

Hout Bay / Imizamo Yethu (Cape Town, South Africa). © Johnny Miller / Millefoto

conclusion

 Contextual factors such as less stable housing, lower education level and sub-district of residence impact the odds of HIV infection

• Greater emphasis on addressing social determinants of health by improving housing and promoting general education is warranted

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