

Socio-economic determinants of prevalence of HIV and HCV infections in injecting drug users in Poland

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Background

Blood borne infections among injecting drug users (IDU) tend to concentrate among socially marginalized users, which are difficult to reach by conventional public health programs and often require specific outreach measures.

In Poland harm reduction programs such as needle exchange/distribution facilities operate since 1989, but their estimated coverage is considered insufficient. The information on the extent of the problem of blood borne infections among IDU in Poland is not well recognized.

The aim of this study was to determine the prevalence of blood borne pathogens in IDU in Poland in relation to their socio-economical status.

Methods

Study design

- cross sectional survey 2004 – 2005
- 15 locations in 6 regions in Poland (Fig. 1)
- recruitment:
 - by snow-ball method from streets and low threshold facilities
 - by exhaustive method in detoxification wards and other in-patient treatment centers

Inclusion criteria

- injected illicit drugs at least once in life
- resided for at least past 3 months or 3 months prior to admission in the studied region

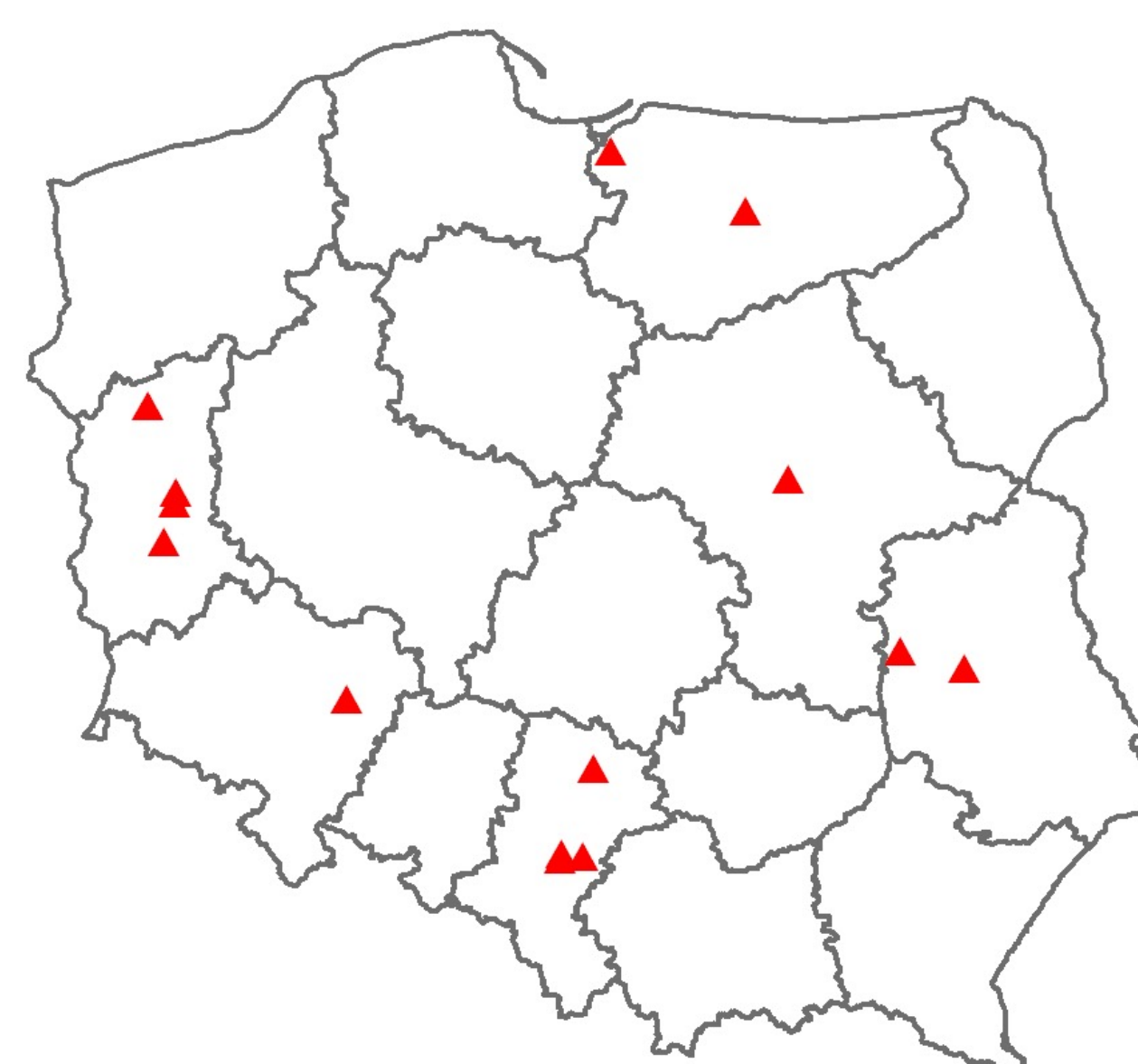
Investigations

- closed-ended questions questionnaire
- laboratory investigations in venous blood sample:
 - immunoenzymatic tests for HIV and HCV antibodies
 - commercial kits, tests performed in local laboratories

Statistical methods

Prevalence was estimated using methods for stratified cluster sampling. Logistic regression was used for multivariate comparisons. Analysis was performed using SAS 9.1.

Figure 1. Study sites



Results

Total sample size: 776 IDU

- 512 (66.0%) – snow-ball from streets/low threshold facilities
- 264 (44.0%) – detoxication wards, dependency treatment centers, prison dependency treatment center

HIV and HCV prevalence:

- Overall:** HIV 18.0% (9.2% - 26.8%)
HCV 58.9% (48.6% - 69.1%)
- Age <25:** HIV 8.8% (0.0%-19.9%)
HCV 49.5% (39.1%-61.9%)
- Age 25+:** HIV 23.7% (14.5%-32.9%)
HCV 64.9% (54.5%-75.4%)

Characteristics of participants:

- 219 (28.6%) women, 547 (71.4%) men
- mean age 28.5 years, median age 26 years
- 69 (9.1%) bachelor or higher education
- 262 (38.5%) working or studying
- 363 (53.5%) stable income
- 90 (11.8%) homeless
- 348 (45.7%) imprisonment or arrest in the past

Out of multiple socio-economical factors homelessness, unemployment and past imprisonment/arrest were the most associated with increased HIV and HCV prevalence (Fig. 1, Fig. 2).

Adjusted odds ratios for HIV and HCV prevalence from multivariate analysis are shown in Table 2 and Table 3 respectively.

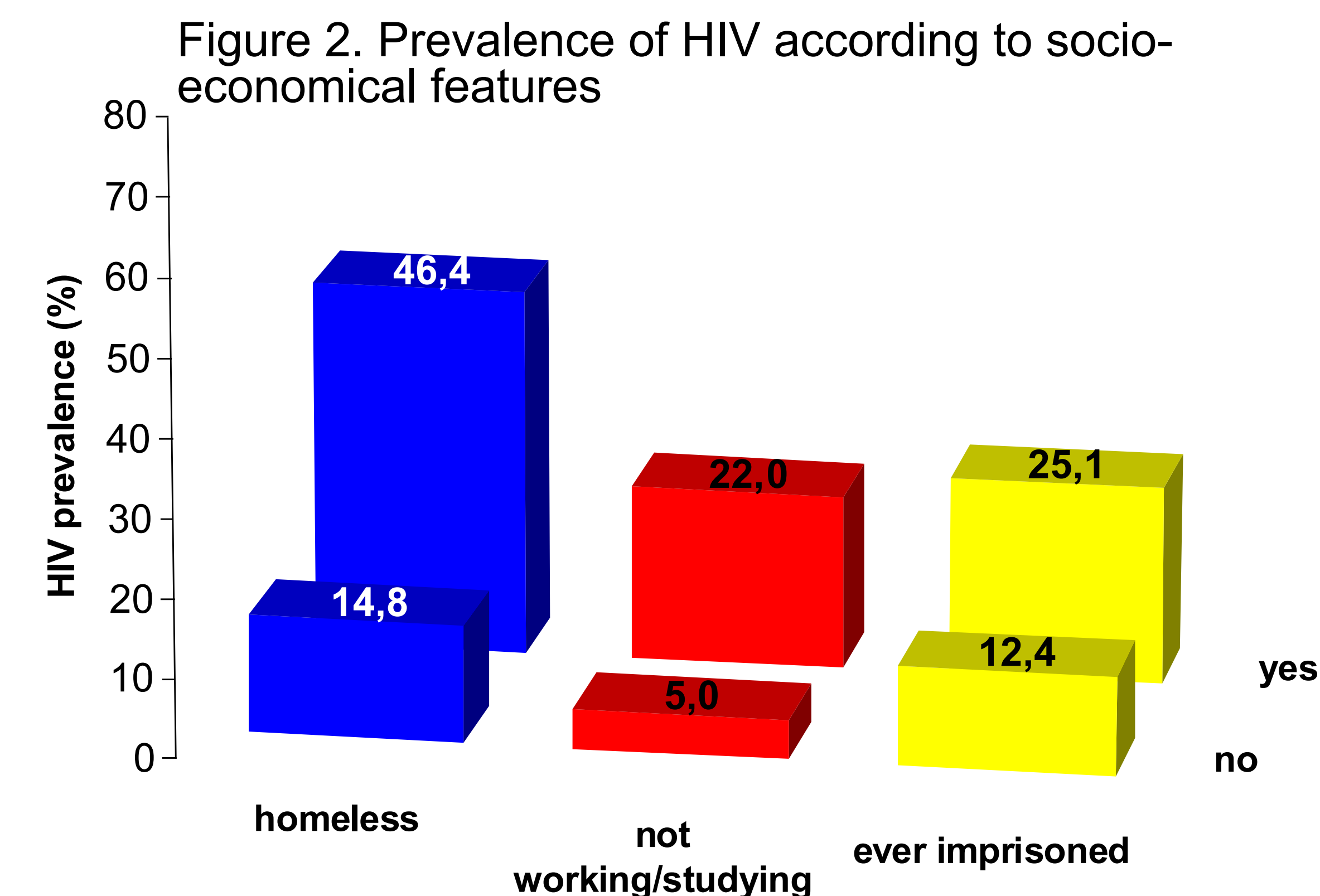


Figure 3. Prevalence of HCV according to socio-economical features

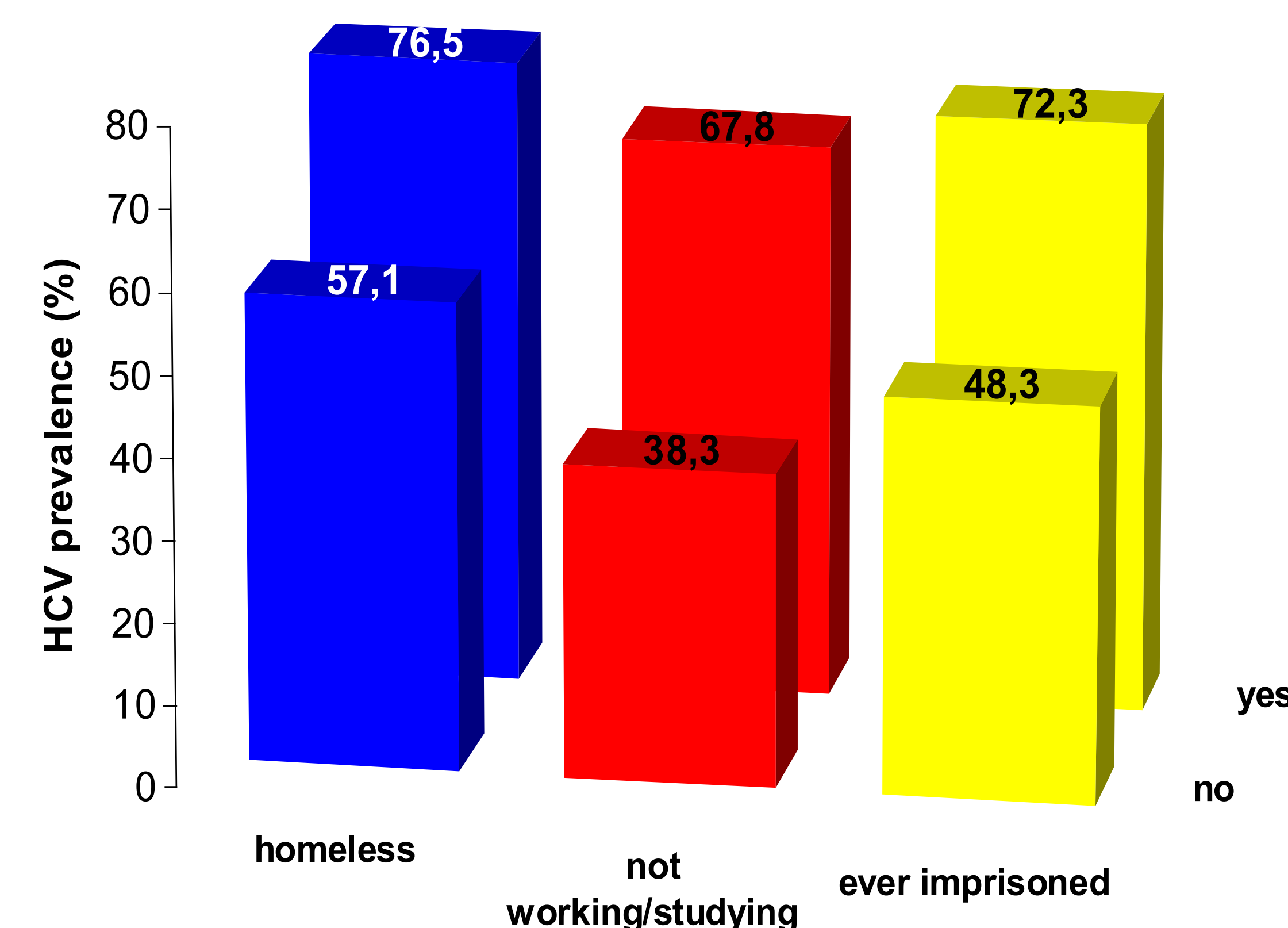


Table 2. Factors associated with higher HIV prevalence in multivariate analysis

	Odds ratio	95% Wald Confidence Limits
Sex: males vs female	0.71	(0.43, 1.17)
Age group: 25-34 vs <25	1.85	(1.05, 3.27)
Age group: ≥35 vs <25	2.62	(1.40, 4.88)
Time from first injection: ≤2 yrs vs >2yrs	0.21	(0.07, 0.61)
Working or studying: yes vs no	0.30	(0.14, 0.65)
Stable income: yes vs no	0.43	(0.24, 0.80)
Homeless: ever vs never	2.28	(1.44, 3.61)
Sharing needles: ever vs never	1.61	(0.93, 2.77)
Disinfecting used needles: ≥1/2 injections vs <1/2 injections	0.35	(0.16, 0.77)

Table 3. Factors associated with higher HCV prevalence in multivariate analysis

	Odds ratio	95% Wald Confidence Limits
Sex: males vs female	1.03	(0.69, 1.54)
Sharing needles ever vs never	1.31	(0.88, 1.93)
Age group: 25-34 vs <25	1.11	(0.73, 1.67)
Age group: ≥35 vs <25	1.89	(1.12, 3.20)
Time from first injection: ≤2 yrs vs >2yrs	0.57	(0.35, 0.94)
Periods of everyday injecting: yes vs no	5.85	(2.83, 12.08)
Injecting within past 30 days: yes vs no	3.13	(1.96, 5.00)
Working or studying: yes vs not	0.31	(0.21, 0.46)

Conclusions

- HIV is more prevalent among Polish IDU than in most of European countries, but the prevalence of HCV is comparable.
- Strength of effect of socio-economical disadvantage is greater in relation to HIV than to HCV.
- High prevalence of HIV and HCV among socio-economically disadvantaged groups could be caused by marginalization of the infected users.
- Outreach harm reduction programs may be necessary to limit further spread of blood-borne infections in this population.

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