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HIV and selected blood-borne and sexually transmitted infections in a predominantly Roma (Gypsy) neighbourhood in Budapest, Hungary:

a rapid assessment

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Abstract

We assessed the prevalence of HIV and selected blood-borne and sexually transmitted infections among a convenience sample of 64 residents of Dzsumbuj, a predominantly Roma (Gypsy) neighbourhood in Budapest, Hungary. No cases of HIV were detected, while the prevalence of Hepatitis B infection (anti-HBc) was 27% and syphilis prevalence was 2%. Romas (n=50) were significantly more likely than non-Romas (n=14) to have HAV antibodies (80% vs. 43%) and less likely to be HBV immunized (anti-HBs only; 6% vs. 29%). Current drug injectors (n=13) were more likely than non-injectors (n=51) to have antibodies against HAV (85% vs. 69%) and HCV (85% vs. 8%). While HIV has not been introduced in this population, risk conditions for a potentially explosive HIV epidemic are present. Health care policies should focus on expanding coverage for HAV and HBV immunizations, and access to HIV preventive services needs to be extended to marginalized, mostly minority populations, such as the Roma in Europe.

Keywords

HIV/AIDS; Hepatitis infections; Illicit drug use; Minority populations; Central Europe

Introduction

Rapid assessment surveys conducted among hard-to-reach populations provide a window of opportunity to obtain data that can be used to ascertain health needs and prepare for larger-scale studies for program and policy development (1,2). Gypsies or Roma people are a hard-to-reach, socially marginalized and mobile minority population, comprising about 5-10% of the population in Central and Eastern Europe (3). According to research, alcohol abuse and the injection of illegal drugs may be widespread among Romas (4). Little is known about HIV and other blood-borne and sexually transmitted infections among the Roma population and their access to preventive services related to HIV.

In Hungary, while the legal rights of Romas are improving, many still live in poverty. Romas are isolated from the Hungarian majority population, and have inadequate access to health and preventive services (5). Located within the capital city of Budapest, the Dzsumbuj neighbourhood is renowned for its isolation and high concentration of Roma. Almost all of its 600-800 residents have low levels of education; many are unemployed, and those who are employed have illegal or temporary jobs. Levels of crime, alcoholism and the use of illegal drugs are believed to be high (6).

The aim of this study was to conduct a rapid assessment among residents of Dzsumbuj to estimate the prevalence of HIV, Hepatitis A, B and C (HAV, HBV, HCV), syphilis infection and serological evidence of HBV immunization; and to provide implications for health policy as it relates to Romas' access to preventive services for HIV/AIDS and other blood-borne and sexually transmitted infections (STIs).

Methods

Community representatives affiliated with a local district government organization (Dzsumbuj Help) providing social services to members of the Dzsumbuj neighbourhood contacted one of the authors (EU) and asked if she could organize a "health fair" in the neighbourhood. In October 2004, a non-random convenience sample of 64 inhabitants of Dzsumbuj volunteered to be tested for infectious diseases and to receive counselling about HIV and other blood-borne and sexually transmitted infections. The required age for participation in the study was 18. Data collection took place in the neighbourhood community building. Social workers administered ten-minute structured face-to-face interviews, and trained nurses drew one 8-ml vial of blood per participant. Questions assessed sociodemographic background and several lifestyle characteristics that included sexual behaviours (e.g., number of sex partners and condom use) and drug involvement (e.g., use and injecting of illicit drugs and injecting equipment sharing in the past 30 days). Blood specimens were tested for HIV-1 and HIV-2 antibodies, HAV antibodies HBV surface and core antibodies (anti-HBs, anti-HBc) and surface antigen (HBsAg), HCV antibodies and syphilis. Numeric identifiers were used to protect anonymity and provide confidentiality. The study was approved by the ethics committee at Szent László Hospital. Data management and statistical analyses were performed using the SAS v9 statistical package (SAS Institute, Cary, NC, USA). We conducted univariate Chi-square tests, or Fisher's exact test if expected cell sizes were less than five, to test for statistical differences in infection rates between selected groups (Roma vs. non-Roma; never injected vs. ever injected; did not inject in the past 30 days vs. injected in the past 30 days).

Results

The sample consisted of 64 participants; 50 (78%) were Roma and 14 (22%) were non-Roma; 45 (70%) were female, and the average age was 32.8 (SD=9.9). Fifty (81%) reported having had sex in the past six months: ten (16%) reported having two or more sex partners. The majority (n=49; 82% of those who reported having had sex) did not use a condom with their main partner. Three men reported having had sex with prostitutes. Twenty-nine (45%) reported ever using illicit drugs, 18 (28%) ever injecting drugs (ever injecting drug user (IDU)), and 13 (20%) injecting in the past 30 days (current IDUs). Of the 13 current IDUs, two reported sharing needles with one other person, while seven reported sharing cookers and filters with up to eight people.

Although no cases of HIV were detected, there are obvious risks for transmitting the virus if introduced in the population. This is indicated by high levels of drug injecting and high prevalence of HAV, HBV and HCV infections (Table 1). Romas were significantly more likely than non-Romas to have antibodies against HAV and significantly less likely to be HBV

immunized (anti-HBs only). Those who reported injecting illicit drugs were significantly more likely than those who did not report drug injecting to have antibodies against HAV (current IDUs only) and HCV (current and ever IDUs). None of those who ever injected drugs was immunized against HBV, while 15% of those who never injected drugs were immunized (not statistically significant).

Hepatitis co-infection rates were high (Table 1). Of the total sample, 13 (20%) were negative for all of HAV, HBV and HCV, and 7 (15%) were positive for all of HAV, HBV and HCV. All of the current IDUs who were infected with HAV were also co-infected with HCV (n=11; 85%) and only the two current IDUs who were indeterminate for HAV were uninfected with HCV.

Discussion

This small study was a rapid response to a need and request that arose from a segregated and marginalized, urban, mostly Roma population in Hungary. It was conducted with donated resources and personnel time and no monetary funding. It provided a unique opportunity to estimate the prevalence of HIV and selected blood-borne and sexually transmitted infections among this understudied, hard-to-reach community. While no cases of HIV were detected, the study draws attention to high levels of HIV risk behaviour in the study population as indicated by high levels of drug injecting and high prevalence of HAV, HBV and HCV infections, and alarmingly high levels of hepatitis co-infections. In addition, while HBV immunization was low, it was especially low among the Roma.

In Hungary, HAV seroprevalence among the general population is 18% and the prevalences of both HBV and HCV are under 1% (7-9). The alarmingly higher rates of HAV and considerably higher rates of HBV and HCV in the study population compared to the general population, combined with low HBV immunization rates and low HIV prevalence have several possible explanations. The high rates of HAV, especially among the Romas in our sample, may reflect unhygienic living conditions. In addition, everybody who reported injecting drugs in the past 30 days was either infected or indeterminate (indicating possible recent infection) for HAV and all current IDUs who were HAV infected were also co-infected with HCV. These two things indicate a high risk environment where unhygienic living conditions may contribute to unhygienic drug preparation conditions and contaminated needles and/or other injecting equipment (10,11). Our findings that Romas were significantly less likely than non-Romas to have serological markers for HBV immunization and that none of those who reported injecting in the past 30 days were immunized, highlight an urgent need for HBV immunization among inhabitants in this neighbourhood, especially among the Roma. The high prevalence of HAV infections among this adult population highlights the need for HAV immunizations among children in Roma or mostly Roma populations. The fact that nobody was infected with HIV despite the high prevalence of hepatitis infections may imply that, while HIV has not been introduced in this population, risk conditions for a potentially explosive HIV epidemic are present (12-15).

Conclusion

Despite limitations of our sampling method and small sample size, these findings are important because of the scarce knowledge of HIV-related behaviours among Romas in Central and Eastern Europe. This community was receptive and willing to cooperate, indicating the feasibility of involving Roma populations in larger and more rigorously designed health studies. These findings imply that the risk environment among Roma or mostly Roma populations may put them at higher risk of HIV and other blood-borne and sexually transmitted infections than the risk environment among mostly non-minority populations. Improved health

services and housing conditions among disadvantaged, mostly minority populations may result in improved welfare and a decrease in drug use and thus a decrease in the risk of infection with drug use related infectious diseases. In addition, health care policies should focus on expanding coverage for HAV and HBV immunizations, and access to HIV preventive services needs to be extended to marginalized, minority populations, such as the Roma in Europe.

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Table 1
Infection and immunization status by ethnicity and illicit drug injection status

| | Total N (%) | Ethnicity | | Injected ever | | Injected past 30 days | |
|-------------------------|----------------|-----------|---------------|---------------|----------|-----------------------|----------|
| | | Roma % | Non-Roma % | No % | Yes % | No % | Yes % |
| Total | 64 (100) | 78.1 | 21.9 | 71.9 | 28.1 | 79.7 | 20.3 |
| HAV | | | | | | | |
| infected | 46 (71.9) | 80.0 | 42.9** | 71.7 | 72.2 | 68.6 | 84.6* |
| uninfected | 14 (21.9) | 12.0 | 57.1 | 26.1 | 11.1 | 27.5 | 0 |
| indeterminate | 4 (6.2) | 8.0 | 0 | 2.2 | 16.7 | 3.9 | 15.4 |
| HBV - ever infected | 17 (26.6) | 26.0 | 28.6 | 23.9 | 33.3 | 21.6 | 46.1 |
| HBV - acute infection | 0 (0) | 0 | 0 | 0 | 0 | 0 | 0 |
| HCV infected | 15 (23.4) | 26.0 | 14.3 | 4.3 | 72.2** | 7.8 | 84.6** |
| HAV/HBV co-infected | 17 (26.6) | 26.0 | 28.6 | 23.9 | 33.3 | 21.6 | 46.2 |
| HAV/HCV co-infected | 13 (20.3) | 22.0 | 14.3 | 2.2 | 66.7** | 3.9 | 84.6** |
| HBV/HCV co-infected | 7 (10.9) | 10.0 | 14.3 | 2.2 | 33.3** | 2.0 | 46.2** |
| HAV/HBV/HCV co-infected | 7 (10.9) | 10.0 | 14.3 | 2.2 | 33.3** | 2.0 | 46.2** |
| HAV/HBV/HCV un-infected | 13 (20.3) | 10.0 | 57.1** | 23.9 | 11.1 | 25.5 | 0* |
| HIV infected | 0 (0) | 0 | 0 | 0 | 0 | 0 | 0 |
| Syphilis infected | 1 (1.6) | 1.8 | 0 | 2.2 | 0 | 2.0 | 0 |
| HBV - immunized | 7 (10.9) | 6.0 | 28.6* | 15.2 | 0 | 13.7 | 0 |

Notes:

- Percents represent column percents; percents in the "total" line are row percents
- HAV=Hepatitis A virus; HBV=Hepatitis B virus; HCV=Hepatitis C virus; HIV=Human Immunodeficiency Virus
- Ever being infected with HBV was identified with positive tests for either HBsAg or anti-HBc, acute infection was identified with negative tests for anti-HBs and positive tests for HBsAg, and being immunized against HBV was identified with a positive test for anti-HBs and negative tests for both HBsAg and anti-HBc.
- Indeterminate results for HAV may indicate recent infection

* p<0.05

** p<0.01