

Prevalence of Hepatitis C among female sex workers and Hepatitis B and C among clients of sex workers in Ukraine.

BACKGROUND

Female sex workers (FSWs) are one of the most HIV-affected population with HIV prevalence over 7%. In Ukraine, there are an estimated 80,000 FSWs and this estimate only includes the most vulnerable FSWs and excludes most seasonal sex workers or those providing high-end escort services. Clients of FSWs remain the core bridge population between females at risk and females in the general population. It is estimated that number of clients of FSWs is approximately 3% of the Ukrainian adult male population. HIV prevalence among clients of FSWs is 3-5%. The high prevalence of HIV suggests that both FSWs and their clients are engaging in condomless sex and other risk behaviors. HIV programs are well developed in Ukraine and include condom distribution, harm reduction counseling, and HIV testing. While prevention programs and HIV treatment are available for free, less is available in terms of viral hepatitis (i.e. hepatitis B [HBV] and C [HCV]) testing and treatment.

HEP B and C Prevalence

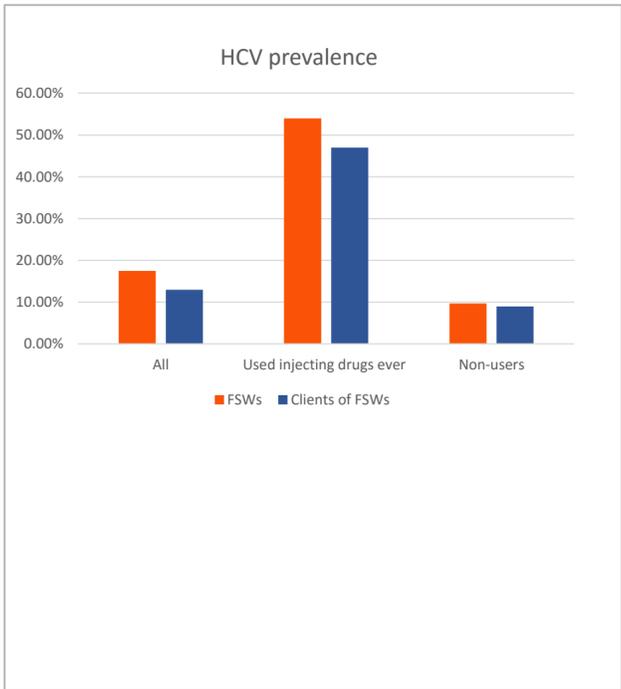
According to Ukrainian surveillance data, prevalence of HBV is relatively low (2%) among clients of FSWs and 2 percent of FSWs reported having HBV. However, HBV prevalence varied from city to city. For example, among clients of FSWs it ranges from 0% in Lutsk to 5% in Dnipropetrovsk and 8% in Khmelnytskyi. The prevalence of HCV is high: 17.5% among FSWs and 13% among clients of FSWs. HCV prevalence is higher in the cities with high HIV burden and it is mostly attributed to the high prevalence of injecting drug use. Injection drug use remains the core predictor of hepatitis C infection: HCV prevalence among FSW injecting drugs was higher than among non-injectors (54 vs. 9.7%, OR = 6.55, 95% CI = 4.35-9.88). Similar results were observed among clients of FSW: 9% of those who reported no injection drug use were positive for HCV, while among drug-injecting clients HCV prevalence was 47%. The higher HCV prevalence was found among FSWs and their clients who were met on streets or highways. The lowest prevalence was found among those who provide or seek services at venue based sites (hotel, massage room, sauna).

CONCLUSIONS

While high HCV prevalence is expected among FSWs and their clients who use injection drugs, it is still high among those who does not report injection drug use. About 10% of females and males involved in commercial sex are HCV positive. The linkage between these two groups and the general population through unprotected sexual intercourse with other sexual partners beyond commercial sex is obvious. This suggest that the HCV epidemic has the potential to become generalized in Ukraine. The distribution of HCV in Ukraine is similar to the distribution of HIV and will not be eliminated without adequate prevention and treatment programs. While the prevalence of HBV is not high, availability of prevention services – including HBV vaccination - are needed for those who most at risk. Monitoring of HBV and HCV, and as well as monitoring of coverage of treatment services ,was not a core purpose of this study. Additional quantitative and qualitative studies are needed among populations at risk, bridge populations (clients of sex workers), as well as general population.

METHODS

An integrated biological and behavioral survey (IBBS) was conducted among FSWs in all 27 regions of Ukraine in 2013 (n=4,806) using time-location sampling (TLS) and respondent driven sampling (RDS). An IBBS among clients of FSWs was conducted in 12 cities in 2014 in the 12 cities that used TLS for the FSWs survey. The total sample was 1806 clients of FSWs. Client were recruited from the following location types: apartments, street corners, hotels, bars and restaurants, night clubs, bus and train stations, virtual locations (i.e., internet or magazines). FSWs were defined as those providing sexual services for remuneration within last 6 months, while clients included those who reported remunerating for sex within last 12 months. For HCV rapid testing among FSW, the CITOTEST (Nanjing, China) kit was used. Clients of FSWs were tested for HIV, HBV, and HCV by using the combination PROFITEST (New Vision Medical Diagnostics, Bayamon, Puerto Rico). The questionnaire included questions on sexual behaviors and drug use practices, as well as questions related to the health care service utilization. The study protocol was approved by the ethical committee of the Sociological Association of Ukraine.



RESULTS

FSWs' profile: The mean age of FSW was 28.5 years old, the proportion of young FSWs (14-19 y.o.) was relatively small – 7%. Only 21% had high education (college and university degree). The mean age at first sex was 16 years and the age at first sex for remuneration was 22 years. Sex work was the main income source for 81%. Approximately 41% sought clients on streets and highways; the mean number of clients per month was 31. 26% had a permanent sexual partner. With respect to sex with a condom, 97% reported using condom during the last sexual intercourse with client and only half used a condom with their permanent partner. Most (90%) reported drinking alcohol before sexual contact with a client. One-third had ever used drugs and 8% reported injecting drugs during the last 12 months.

Clients' of FSW profile: The mean age was 33 years old with almost 40% of clients between 25 and 34 years old. More than half (53%) of clients have high education. Approximately 41% of clients had never been married, one-third were officially married or in a civil marriage. Approximately 11% had condomless sex during the last contact with a FSW and 63% did not use condoms with their regular partner. With respect to drug use, one-fourth of clients had ever used drugs ever and 11% reported injecting drugs during the last 12 months.

HEP C and B screening and treatment programs.

The data on HBV and HCV treatment uptake was collected by self-report in the IBBS. Overall, 7% of FSWs and 4% of clients of FSWs self-reported having HCV. Only third of FSWs had been previously tested for HCV during 2012-; FSWs who were clients of a prevention program were more likely to have been tested. The difference between reported and tested results of HCV may suggest a gap in screening services. Approximately one-third of HCV-positive FSWs and their clients reported of having hepatitis C. Only half of the clients of FSWs who reported having hepatitis C were seeking treatment services.

REFERENCES

Estimated number based on DHS 2012 data was used for HIV Epidemic Modeling exercise.

CONFLICTS OF INTEREST

We have **no conflict of interest** to declare.

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