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SHORT COMMUNICATION

Association of injecting drug use and late enrolment in HIV medical care in Odessa Region, Ukraine

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Objectives

Late entry of HIV-positive persons into specialized care is a significant challenge to limiting the spread of the HIV epidemic. In 2008–2010, only 54% of 108 116 persons who tested HIV positive enrolled in care at AIDS Centers in Ukraine, and almost half of new AIDS cases are found in patients with first-time HIV diagnoses. We aimed to identify factors associated with delayed enrolment in HIV care in Odessa Region, Ukraine.

Methods

We conducted a retrospective data analysis of patients who enrolled in HIV care in 1995–2010, comparing patients on the basis of the reported route of HIV transmission (injecting drug use or sexual transmission). The nonparametric Mann–Whitney *U*-test was used to compare the groups.

Results

During the period analysed, the delay in enrolment in HIV care among people who inject drugs (PWID) in Odessa Region was longer than that among people infected via sexual transmission. The mean delay in enrolment in care among PWID increased over time for men and women; their mean age at the time of enrolment also gradually increased. Urban residents accounted for the majority of HIV cases, with some growth in the proportion of rural residents.

Conclusions

People who acquired HIV via injecting drug use showed later enrolment in HIV care compared with people infected via sexual transmission. There is an urgent need to improve HIV counselling and referral services, taking into account differences in the behaviour of drug-using and non-drug-using populations.

Keywords: delay, enrolment, HIV care, injecting drug use, Ukraine

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Introduction

Ukraine has the highest HIV epidemic burden in Europe, with 120 148 (264.3 per 100 000) officially registered people living with HIV (PLWH), including 18 751 (41.2 per 100 000) with AIDS, as of 1 January 2012 [1]. Timely initiation of HIV care and treatment improves quality of life, stops HIV progression and prevents AIDS-related death. However, late enrolment of PLWH in HIV care at AIDS Centers is a significant challenge in Ukraine. One-third of people who tested HIV positive in Ukraine have not been seen for HIV care at specialized AIDS Centers [1]. Similarly, among those newly diagnosed with HIV infection, the proportion of people presenting for HIV care at the third or fourth clinical stage of HIV infection grew from 32.5% in 2009 to 40.0% in 2011 [2].

We aimed to explore the characteristics of patients enrolled in HIV medical care at the Regional AIDS Center in Odessa Region, Ukraine from 1995 to 2010, focussing on the association of a history of injecting drug use (IDU) and delayed enrolment in HIV care.

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Methods

A retrospective clinical medical record review was conducted for all patients registered for HIV care at the Odessa

Table 1 Time (days) between testing HIV positive and enrolment in HIV care for people with different routes of HIV transmission in Odessa Region, Ukraine (1995–2010)

	Transmission through IDU					Sexual transmission				
		Time between testing and enrolment (days)					Time between testing and enrolment (days)			
		Range					Range			
Year	Number of cases	Min	Max	Mean	SD	Number of cases	Min	Max	Mean	SD
1995	41	0	125	21.95	23.78	29	0	2653	754.79	921.1
1996	1082	0	591	80.88	94.62	246	0	1611	101.22	142.81
1997	687	4	759	149.57	191.46	197	3	2225	192.09	235.9
1998	306	0	1441	422.35	348.76	228	0	1105	217.07	254.15
1999	441	0	1561	603.17	488.14	309	9	3497	335.27	465.8
2000	439	2	2143	597.37	618.09	288	12	2149	383.13	483.49
2001	407	0	2200	857.61	762.08	297	0	2503	486.75	600.03
2002	556	0	2644	844.69	880.72	420	0	4888	535.96	740.45
2003	659	0	3193	1018.54	1061.7	449	0	2948	635.57	845.88
2004	724	0	4637	858.14	1133.38	540	0	3139	578.02	877.71
2005	483	0	3697	1138.89	1262.88	505	0	3548	523.8	898.41
2006	516	0	3998	946.63	1317.39	685	3	3938	466.5	916.87
2007	432	9	4368	719.22	1156.33	614	7	4399	268.21	652.39
2008	398	7	4741	852.3	1326.57	762	8	4348	211.53	479.55
2009	435	9	5099	807.56	1344.51	813	8	4919	264.53	620.88
2010	491	14	5811	1139.5	1593.77	955	11	4672	335.6	668.29
1995–2010	8097	0	5811	686.5	1034.24	7337	0	4672	376.2	698.41

IDU, injecting drug use; SD, standard deviation.

Regional AIDS Center in Odessa, Ukraine, from 1 January 1995 to 31 December 2010. AIDS Centers provide care and treatment to all patients presenting with HIV infection and entering the HIV care system in Ukraine. Data on reported routes of HIV acquisition, demographic characteristics and other personal information were collected by the AIDS Center clinical staff during initial visits for the purposes of clinical care. The retrospective cohort of PLWH (aged ≥ 15 years) was stratified into two groups, depending on the reported route of HIV transmission. The main outcome of interest was elapsed time (days) between the dates of HIV diagnosis and enrolment in HIV care. The nonparametric Mann–Whitney *U*-test was used to compare the groups.

Results

The cohort consisted of 15 434 HIV-positive individuals, aged ≥ 15 years, who enrolled in HIV care in Odessa Region between 1995 and 2010, including 8097 people who reported IDU as the route of HIV transmission [people who inject drugs (PWID)], and 7337 persons who reported sexual HIV transmission. Of the cohort, 58.8% (n = 9079) were male and 81.8% (n = 12 631) were urban residents, and the mean age was 31.7 years.

The mean time between an HIV-positive test result and enrolment in HIV care ('mean delay', in days) among PWID in Odessa Region increased steadily from 1995 to 2010. People infected with HIV via IDU showed a significantly longer delay in enrolment compared with the group infected via sexual transmission. This was true on average for the 1995–2010 period (687 days versus 376 days, respectively), and in the year 2010 (1140 days versus 336 days, respectively) (Table 1). During the period analysed, the mean delay in enrolment in care among PWID increased for both men and women; the mean age of PWID at the time of enrolment in care also showed a gradual increase.

The mean delay in HIV care initiation (days) for people infected via IDU increased until 2005, with a short decrease in 2005–2007; however, a second increase occurred between 2007 and 2010. The mean delay in enrolment in HIV care for people infected via sexual transmission increased until 2003 and then decreased, until a second wave of increase in 2009 and 2010.

A steady increase was seen for the mean delay in HIV care enrolment for both men and women until 2005, and a second wave of increase in elapsed time was observed in 2009 and 2010. The mean delay in enrolment in HIV care was persistently longer in men than in women.

Comparing the groups with sexual or IDU means of HIV transmission stratified by gender, both men and women infected via IDU showed longer delays than the corresponding groups infected via sexual transmission (Fig. 1).

However, in the early 2000s the mean delays for female PWID and men infected via sexual transmission became similar; between 2005 and 2010, the mean delay in

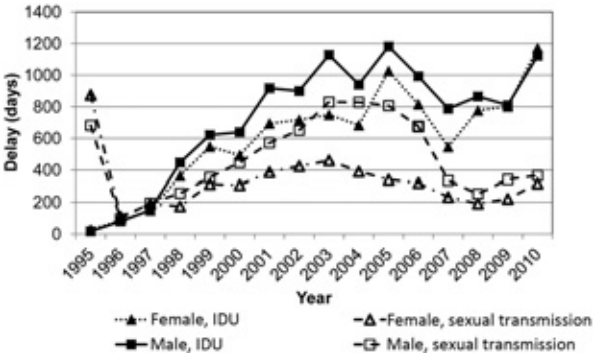

Fig. 1 Delay (days) in enrolment in HIV care among groups with sexual and injecting drug use (IDU) routes of transmission stratified by gender, in Odessa Region, Ukraine (1995–2010).

enrolment in HIV care for female PWID grew relative to that for men infected via sexual transmission. While the mean delay in enrolment generally decreased for people infected via sexual transmission, and especially for women, the mean delay for PWID regardless of gender showed a strong tendency to increase, and in 2010 the mean delay became even longer for female than for male PWID (1170 versus 1122 days, respectively).

The delay in HIV care initiation was negatively associated with age, being longer among younger patients.

In general, the delay in HIV care entry was persistently significantly longer among urban residents compared with the rural population; however, the main tendencies in enrolment delay were similar for the urban and rural groups, with the longest delay in 2003–2005 and a gradual increase between 2007 and 2008. In the groups with IDU and sexual HIV transmission stratified by residence (urban and rural), delay in enrolment was longer for both urban and rural PWID, and longer for rural PWID compared with urban residents infected via sexual transmission.

Discussion

Early initiation of HIV-related care is vital for HIV treatment and prevention success both for individuals and for the community. However, in Ukraine, initial presentation to medical care of persons who are aware of their positive HIV status continues to occur at a stage of advanced HIV infection [2].

Our findings demonstrate that in 1995 to 2010 in Odessa Region in Ukraine, people who had acquired HIV via IDU showed a substantially (up to 3-fold) longer delay in enrolment in HIV medical care, compared with those infected via sexual intercourse. Moreover, during the analysed period, the mean delay in enrolment in HIV care among PWID increased for both men and women. This supports many previous reports which demonstrated IDU to be a strong predictor of delaying or not entering HIV medical care [3–5]. In our study, male PWID who were urban residents showed the longest delay in enrolment in HIV care.

Our finding of a persistently longer mean delay in enrolment in HIV care among men compared with women may be attributed to the existing procedures of medical care provision among pregnant women. The vast majority of pregnant women who test HIV positive are immediately linked to HIV care, including procedures for prevention of mother-to-child transmission. The link between a positive HIV test result and enrolment in HIV care is not as routine in the male population.

In our study, the mean delay in HIV care entry was negatively associated with age; younger individuals showed a substantially longer delay in enrolment in HIV care. Our results are consistent with data showing that younger age is often associated with a higher odds of late presentation for HIV care [6], although this finding is not supported by other studies [7,8].

A limitation of our study was that we analysed the clinic-based records of people who eventually initiated HIV medical care; thus, the findings of this study may not be generalizable to HIV-positive people who have never initiated HIV care. However, our study provides important information that may be of use in giving additional support to people who have a higher odds of delaying HIV care initiation. Our findings confirm a significant association between delayed enrolment in HIV care and IDU. A history of IDU was shown to be a main predictor of delay in HIV care initiation, and people living in urban areas and younger individuals were also more likely to show delayed enrolment in HIV care.

In conclusion, our findings suggest that the absence of direct linkage between obtaining an HIV-positive test result and enrolment in HIV care services creates an issue of substantial delay in HIV care entry in Ukraine. Direct linkage is needed to ensure engagement of HIV-positive individuals in medical care at the time of HIV-positive test results. Knowledge of the characteristics of people who are more likely to delay HIV care initiation after being diagnosed may inform strategies to ensure their timely linkage to care. There is a need to improve HIV counselling and referral services, taking into account specific behavioural patterns of drug-using populations and younger populations.

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Conflicts of interest: The authors do not have any potential conflicts of interest to declare.

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