

Program effectiveness “Harm reduction among the injecting drug users in the city of Barnaul” from conclusive medicine point of view

Materials and methods of investigation

1. Descriptive and analytical methods of the epidemiological analysis:

- gathering and analysis of the epidemiological data through sample questioning of the drug users including HIV-infected drug users;
- epidemiological analysis of the HIV sickness rate in the Altai territory and in Barnaul city based on annual reports of the regional AIDS center, results of the epidemiological surveillance, results of the epidemiological inquiry of the cases of HIV-infection;
- sero-epidemiological investigation among the injecting drug users in 3 cities of the Altai territory (Barnaul, Byisk, Rubtsovsk);
- monitoring of behavior reactions and assessment of the level of information on the questions of HIV/AIDS through questioning of the drug users (clients of the harm reduction program, narcological clinic, regional AIDS center) in Barnaul city by “snow ball” method in the places of drug users’ location;
- “case-control” investigation among 2 groups: HIV- positive and HIV- negative injecting drug users aimed to define the chances of influence in the case group (HIV – positive IDU) and control group (HIV - negative IDU);
- prospective investigations aimed to compare HIV sickness rate and HIV-associated risk behavior of people taking part and not taking part in the harm reduction programs for a long time;
- cross – sectional investigation aimed to study correlation between implementation of the harm reduction programs and HIV- associated risk behavior;
- longitudinal investigations among the clients of the harm reduction program aimed to study the reduction of risk behavior without comparison group;
- observational investigations comparing the harm reduction program clients based on terms of using the program services;
- analysis of economic effectiveness – methodology aimed to assess the costs and results;
- analysis of the epidemiological surveillance data, behavioral investigations and harm reduction programs’ data by the method of triangulation.

2. Statistical data:

Primary information have been processed by the standard methods of variation and comparative statistics. Mathematical and statistical processing have been done on PC with the use of the program package Excel and Biostat (Windows XP).

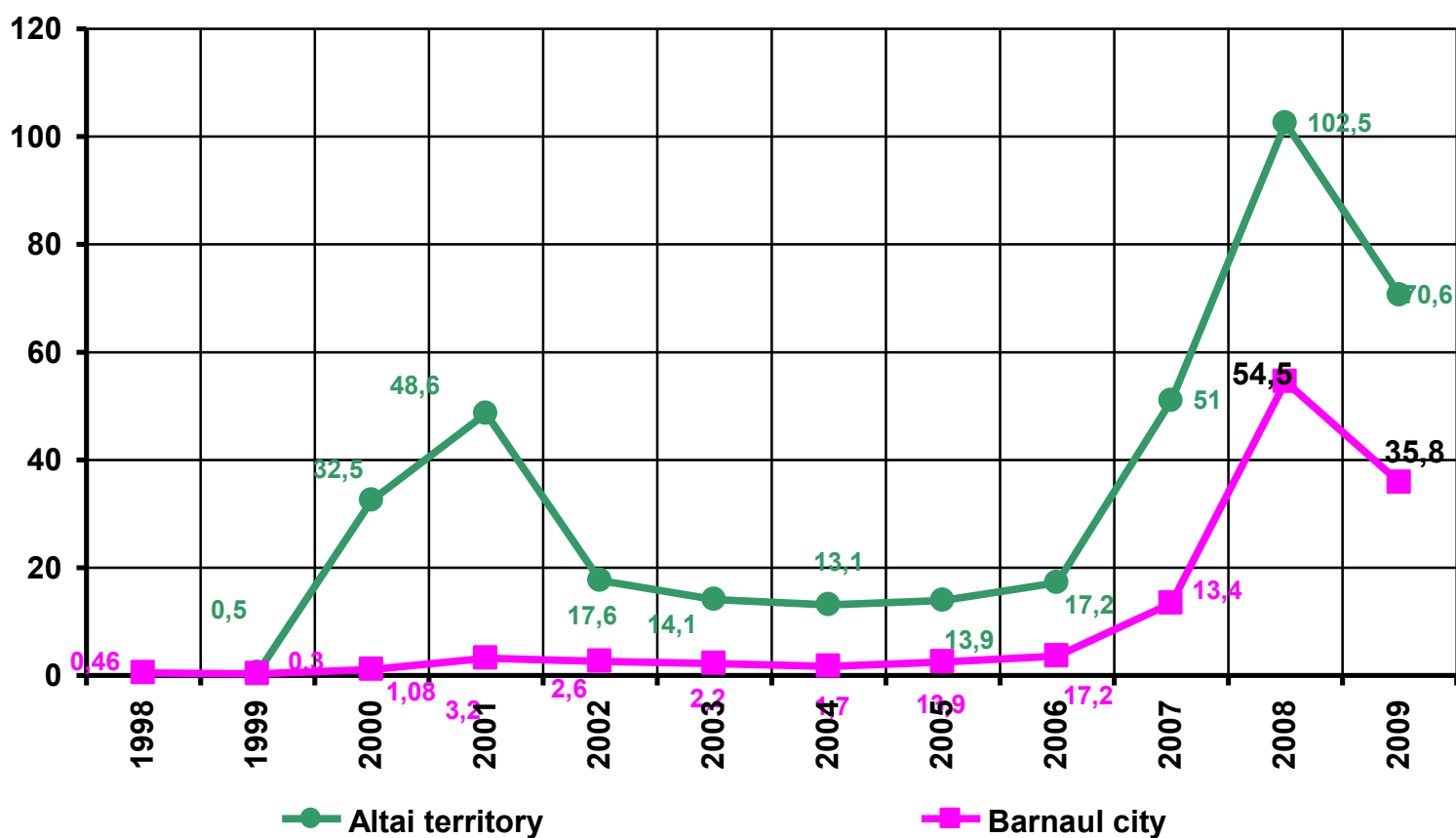
The statistical analysis of the primary epidemiological data have been processed with the help of the manual “The use of the statistical methods in epidemiological analysis”.

Trustworthiness of differences concerning the portions (%) was defined by the criterion z (a modification of the criterion t for extraordinary quantities). The z value helps to compare the statistical importance of differences of the extensive indexes. It is very important when receiving the alternative information by questioning. In all procedures of the statistical analysis the critical level of the p value is 0,05.

The program “Harm reduction among the injecting drug users” has been realized in the Altai territory for 10 years, since 1999.

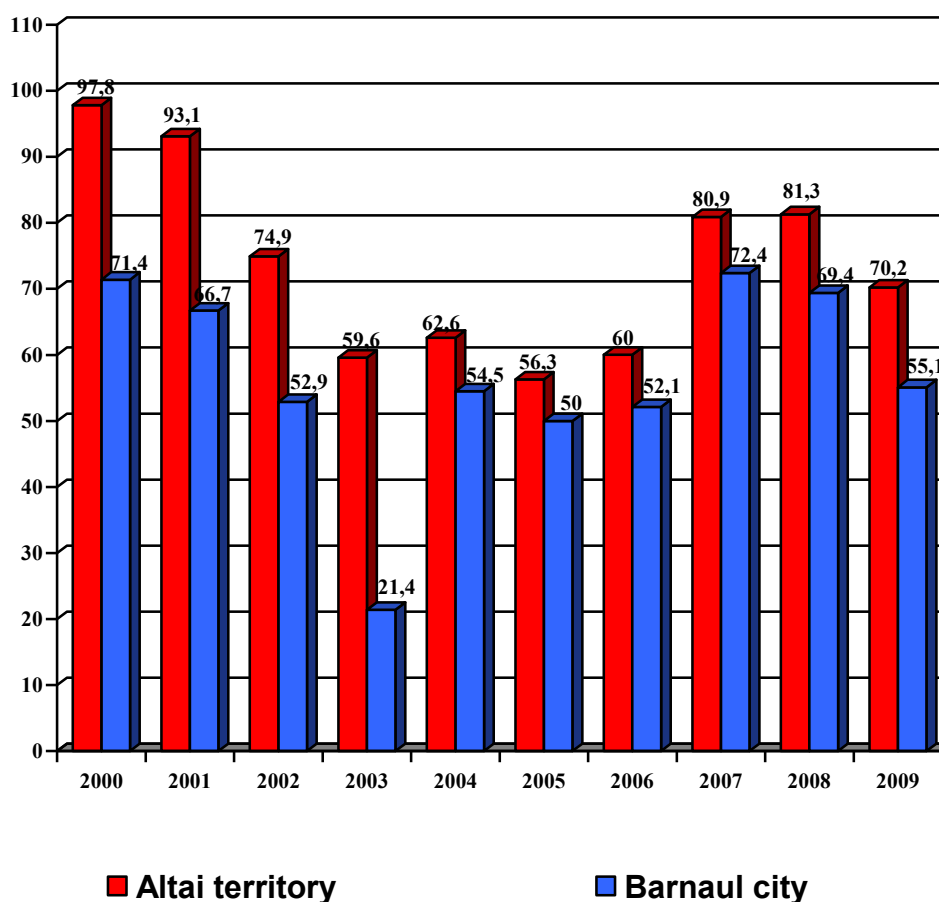
786 cases of HIV- infection have been registered in the city of Barnaul on the 01.01. 2010. (121,2 per 100 000 of the population). It is 3,2 times lower the Altai territory index.

The dynamics of HIV registration in the Altai territory and in the city of Barnaul according to the years



The diagram shows that in different years the index of the sickness rate in Barnaul is lower the sickness rate index in the Altai territory in 1,6 – 15 times.

The dynamics of the injecting way of transmission in the city of Barnaul and in the Altai territory



Despite the predominance of the injecting way of HIV transmission in general structure of the ways revealed, (except the year of 2003), the injecting way of transmission in the city of Barnaul is always lower the Altai territory index. The highest proportion of the injection way of transmission in the city of Barnaul was registered in 2007 - 72,4%. The Altai territory index is 80,9%.

The dynamics of behavior change connected with the risk of infecting HIV among the drug users in the Altai territory in the years of 1999–2009

In 1999 there was conducted the needs assessment before the harm reduction program started in Barnaul. In the years of 2003 and 2006 in the framework of the projects: “The population behavior connected with HIV infecting in 4 groups: adults (married and single), young people (married and single), the injecting drug users and commercial sex workers”, “Knowledge for action. Russian Federation” (Imperial College), and “Epidemiological surveillance of secondary generation” (WHO) there was conducted the assessment of the risk factors connected with the spread of HIV infection among the injecting drug users.

According to the assessment:

- In 2003 the proportion of the persons sharing the syringes and needles for the last month of using drugs was lower in 2 times in comparison with the year 1999. In the years 2006 and 2009 it was on the same level.

- In 1999 the proportion of the persons using the common cup for the last month of using drugs was about 100%, in 2003 it was 60% and in the year of 2006 it was 84%.
- The proportion of the persons buying/using a ready-made solution of the drug for the last month of using drugs was the following: 1999 – about 100%, 2003 – 39%, 2006 – 84%.

The results of the questioning of the drug users applied to the trust station revealed the fact that HIV infection high risk behavior has changed into less risk behavior among the clients of the harm reduction program. For example, the proportion of the persons with high risk behavior when using the common cup (for the last month of using drugs) has been reduced: in 2007 it is 88,2% and in 2009 it is 67,7%. In general structure of the drug users with high risk HIV infection behavior this index is 84%. The same changes have been revealed among the injecting drug users sharing the syringes and needles. (in 2007 it is 19,5%; in 2009 it is 15,9%). In general structure the proportion of the persons with such behavior is 25%.

13,8% of the drug users – the clients of the program bought and used a ready - made solution of the drug in the year of 2007. In 2009 only 7,7% did that. At the same time the Barnaul city index (among all the injecting drug users) is 84%.

So, there is a positive dynamic of behavior change connected with HIV among the injecting drug users – the clients of the harm reduction program. More than that the program clients' behavior can be considered as less risk in comparison with the drug users' behavior who are not the clients of the program.

For 10 years of realization of the harm reduction program in Barnaul the risk behavior among the injecting drug users has been reduced in general, and the number of new cases of HIV-infection among the program clients is lower in comparison with the number of cases among the injecting drug users who are not the program clients.

According to the results of the monitoring: out of 3000 clients regularly applied to the trust station in the years of 2006-2009 only 10 people (0,3%) have been tested for HIV-infection positively and out of 15500 injecting drug users who are not the program clients 438 people (3%) have been tested for HIV-infection positively. More than that, 54 cases of HIV-infection have been revealed among the different clients applied to the program during these years. These 54 people became regular clients of the program and have changed their risk behavior for less risk behavior.

Every year about 1500 different clients have been covered by preventive work in the city of Barnaul; the number of contacts is 13000. On the one hand, the realization of the harm reduction program helps to reveal in time the cases of HIV-infection among the injecting drug users who do not apply to the narcological institutions; on the other hand it helps to prevent the new cases of HIV-infection in this target group.

According to the epidemiological analysis out of 10 injecting drug users applied to the needle exchange stations 7 drug users never applied to the medical institutions. During a year each injecting drug user has 15 - 40 contacts (the average number is 15) when injecting drugs. Revealing of 1 case of HIV-infection among the drug users prevent from infecting 5 – 40 injecting partners and 1 – 5 sex partners.

The average cost of HIV-prevention project among IDU in Barnaul is \$35000 per year and the IDU coverage is 1500 (only different clients), so the average expenditure for HR is \$23 per 1 client. Taking into consideration the annual number of contacts (the average number is 13000), the cost of 1 contact is about \$3. The average treatment course for 1 HIV-infected patient is min \$4000 per year without the cost of laboratory examination and treatment of secondary illnesses, immune status and viral load examination

During a year each IDU has 15 – 40 contacts when injecting drugs (the average number is 15). Prevention of 1 case of infecting saves 15 contact partners. Prevention of 1 case of infecting

saves \$60000 per year in the budget, which are needed to provide VAART for 15 HIV-infected drug users.

So, the preventive and anti-epidemiological work, interdepartmental cooperation in the field of HIV prevention implemented in the city of Barnaul helped to prevent a widespread of HIV-infection among the city population including the drug users. The analysis given above proves the fact that the “Harm reduction program among the injecting drug users in the city of Barnaul” played considerable part in it. To our regret, the resources provided for realization of this program covered only 20% of the drug users (according to the experts’ opinion for the harm reduction program to be the most effective it should cover 60% of the target group). But even the coverage of 20% proves the effectiveness of the program.

The harm reduction programs are needed:

- to control any changes of the drug scene and to take measures to reduce the risk of HIV-infection among the target group;*
- to reveal the new cases of HIV-infection to prevent the transmission of the virus;*
- to prevent the new cases of HIV-infection among the drug users through changing the practices of using drugs;*
- to build the “bridge” between the drug users and governmental institutions including narcological services and rehabilitation centers;*

It is necessary to implement the most effective harm reduction technologies into existing services (for example, pre- and posttest counseling for the drug users with consideration of HIV risk behavior and its change for less risk behavior).