Assessment of HIV knowledge, attitude and behaviour among Hepatitis C infected patients who inject drugs in Tbilisi, Georgia

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# List of Abbreviations

|  |  |
| --- | --- |
| IDU | Injecting Drug Users |
| AIDS | Acquired Immune Deficiency Syndrome |
| HCV | Hepatitis C virus |
| HIV | Human Immunodeficiency Virus |
| NGO | Non-Governmental Organisation |
| NSP | Needle and Syringe Exchange Program |
| PDI | Peer-Driven Intervention |
| RDS | Respondent-Driven Sampling |
| RNA | Ribonucleic Acid |
| SPSS | Statistical Package for Social Sciences |
| VCT specialist | Voluntary Counselling and Testing specialist |

**Introduction**

The aim of this survey is to qualify knowledge about Human Immunodeficiency Virus (HIV)/Acquired Immune Deficiency Syndrome (AIDS), and attitudes and behaviours among injecting drug users with hepatitis C in Tbilisi, Georgia. The study was conducted by the Non-Governmental Organisation (NGO) "HEPA PLUS’’ and was funded by the International East-West AIDS Foundation (AFEW International).

The organisation "HEPA PLUS" is a community organisation and focusses on community members with hepatitis C, mainly Injecting Drug Users (IDUs). The main area of ​​the organisation's activities’ is harm reduction among injecting drug users. Since 2011, “HEPA PLUS” has been actively involved in advocacy campaigns related to the availability of hepatitis C treatment and diagnosis, as well as developing, updating and implementing a strategic plan related to the availability of hepatitis C treatment and diagnosis.

In 2016, the estimated number of IDUs in Georgia was 52,500 (50,000 - 56,000)[[1]](#footnote-1). The national prevalence was 2.24% (2.13% - 2.39%), among people in age 18-64, and 1.41% (1.34% - 1.51%) in the general population.

The organisation "HEPA PLUS" has been implemented (sub-sub-recipient) by the Global Fund (GF) Project "Provision of HIV preventive services to drug users and their sexual partners in 2013". The Global Fund's project has been active in Georgia since 2006, and services provided include provision of sterile injection equipment (mostly needles and syringes), distribution of spirit tampons (discharged during field work and hospital service centres), dissemination of condoms and educational materials, free, anonymous testing for HIV, hepatitis B, C and syphilis, medical, psychological and legal counselling for users, educational interventions based on equal to equal principles, prevention of overdose with first aid training and dissemination of naloxone without prescription, and individualised case management.

**Epidemic situation of HIV**

Georgia is a low HIV/AIDS prevalence country with the estimated number of HIV infections in Georgia at more than 12,000[[2]](#footnote-2) according to Spectrum data. As of November 9, 2017, there were 6,664 cases of HIV infection registered at the Infectious Disease, AIDS and Clinical Immunology Scientific-Practical Centre, including 533 new cases in 2017[[3]](#footnote-3). In the Infectious Disease, AIDS and Clinical Immunology Scientific-Practical Centre, 43.7% of registered cases are IDUs, but the proportion of people with HIV that are IDUs has decreased.

Since the year 2005 the Global Fund in Georgia had implemented HIV testing programs, counselling and information campaigns among injecting drug users and their partners who undertake risky behaviour, and voluntarily testing of these groups. The number of people tested remains unsatisfactory[[4]](#footnote-4). Of mention is that there are quite a high number of late confirmed cases[[5]](#footnote-5) among the newly confirmed cases, which complicates the treatment process and contributes to the spread of HIV not only between the risk groups, but in the general population. Antiretroviral treatment is equally available for all people living with HIV within the state program.

**Epidemic situation of Hepatitis C**

Unlike HIV infection, Georgia is a high hepatitis C prevalence country. The highest prevalence of hepatitis C in Eastern Europe and Central Asia is Georgia[[6]](#footnote-6). The spread of hepatitis C is high in general population (Anti HCV 7.7% and RNA 5.4%)[[7]](#footnote-7), based on the results of hepatitis C-HIV prevalence study conducted by the Centre for Disease Control and Public Health in 2015 - 2016. The causes of the high prevalence of hepatitis C virus infection are not properly studied in Georgia. Potential factors contributing to this epidemic likely include the collapse of the healthcare system in the 1990s, as well as the negative impact of low-quality health care services on safe injections, and lack of infection control and safe blood supervision in medical institutions during these years. These phenomena, along with a wide distribution of unsafe injection practices among IDUs, lead to the spread of hepatitis C in the key and the general population[[8]](#footnote-8).

Despite the lack of surveillance data, it is proven that IDUs are at high risk of hepatitis C. According to the Behavioural Surveillance Survey (BSS) conducted in 2014 - 2015, 66.2% of IDUs are infected with hepatitis C[[9]](#footnote-9).

Access to hepatitis C treatment in Georgia has been restricted due to high cost of treatment and diagnosis. In April 2015, with the help of American partners and the pharmaceutical company Gilead, a unique program of hepatitis C was rolled out aimed at universal treatment of all infected people, timely detection of all illnesses, and case finding to ensure best possible preventive measures[[10]](#footnote-10).

All three viruses - hepatitis B virus (HBV), HCV and HIV - are blood borne diseases and share common routes of transmission [[11]](#footnote-11). The most frequent transmission routes are contact with infected human blood, transmission of the virus through the use of non-medical or medical dental equipment, and improperly tested blood or blood products. Hepatitis C can also can be transmitted through sexual contact or infected blood products, but these routes are rarer.

**About the Research**

**Aim:**

To study knowledge, attitude and risky behaviour related to HIV among hepatitis C-infected IDUs.

**Hypothesis:**

Knowledge about HIV/AIDS in IDU patients with hepatitis C is insufficient, and this contributes to risk behaviour.

**Research period:**

The research was conducted by "HEPA PLUS” from February 1, 2017 to August 30, 2017 (7 months). Interviews for qualitative research were conducted in June and July 2017, and focus groups in July and August 2017.

**Methodology**

Qualitative research was conducted in this study. The main comparative research was done through quantitative study. The results of qualitative research were compared with the results of previous quantitative research “Assessment of HIV knowledge, attitude and behaviour among Hepatitis C infected PWIDs in Tbilisi, Georgia” within the framework of the Global Fund Project, to increase the validity of results. The comparative research was conducted in the organisation during the last 5 years to evaluate risky behaviour of IDUs and to educate beneficiaries. In 2017, 139 participants results were included in the study for comparison, as participants of qualitative study were only IDUs with hepatitis C and comparison data about IDUs without hepatitis C was needed.

We conducted 30 in-depth interviews and 4 focus groups with 30 participants. In total, 60 people were involved in the qualitative study.

From the quantitative research "Assessment of HIV knowledge, attitude and behaviour among Hepatitis C infected PWIDs in Tbilisi, Georgia", 139 responses were taken.

None of participants were infected with HIV, as was indicated from participants in qualitative research.

The in-depth interviews were conducted individually in separate rooms. The average duration of the interviews was 25-30 minutes. Duration of focus groups varied between 1 and 2 hours, depending on group size.

During in depth interviews and focus groups the VCT consultant participated as a co-researcher. Focus group co-facilitator was a community member with hepatitis C, with extensive experience in field work.

**Selection of research participants**

In the qualitative research, the respondents were recruited via social workers and VCT consultants. Selection continued until the required number of participants was reached.

The in-depth interviews were conducted with the HCV-positive, HIV-negative beneficiaries of the organisation "HEPA PLUS".

In the quantitative research, we used Respondent Driven Sampling (RDS). RDS combines ‘snowball sampling’ with mathematical modelling that weighs the sample to compensate for non-randomisation.[[12]](#footnote-12)

**Ethics**

The research protocol was approved by the Ethics Board. Confidentiality was ensured during the study, participants were not asked for names, surnames, or ID cards. Participants were recruited through unique 7-digit and 15-digit codes. All materials related to research were protected in a locked area that was not available to anyone beside researchers and co-researchers. Community members participated during the working time on study design and roll out, as well as in producing recommendations. According to the research protocol, all the potential participants of the research were informed about the essentials and purpose of the research. The risks and risk of embarrassment was explained to each participant. Participants sighed a written consent form. The interviewer asked questions from a questionnaire which was pre-approved by the Bioethics Commission.

**Research tools**

During the qualitative research, preliminarily prepared topic guides were used for the in-depth interviews and for the focus group. In the process of creating the topic guides, researchers, as well as community members who were hepatitis C-infected and IDU-beneficiaries of the organisation were active participants. In order to improve the questionnaires, a review of the in-depth interview and focus group questionnaires was conducted in terms of compliance with the study question. These questionnaires are attached to the survey report (see Appendix 1).

**Criteria involving in the qualitative study**

For the selection of beneficiaries the following criteria were used in the survey:

* 18 years old or above;
* IDU, or IDU-using history;
* Hepatitis C infected (or during the last year involved in hepatitis C treatment program);
* Voluntary involvement in research;
* Speak in Georgian, as the survey was conducted in Georgian and the consent forms were given in Georgian.

**Data processing**

During the qualitative research, audio recording of the interviews and focus groups were made that were later transformed in transcripts. These audio recordings were protected in a locked area.

Typology of key concepts was analysed during the study results, and then the synthesis of these concepts was analysed with logical-system analysis of the research object, which made it possible to identify the knowledge, behaviour and attitude of the HIV/AIDS infected cohort with hepatitis C. Conclusions could then be made by researchers in reference to the study hypothesis.

In the quantitative questionnaire, select questions highlighted the study aims, and these were used in data processing to deduce the relationship between knowledge and behaviour of hepatitis C positive and negative IDUs, as well as assess HIV/AIDS testing and result acquiring experiences

Quantitative research data was processed through the Statistical Package for Social Sciences (SPSS) program. Chi-square test was used to determine the connection between hepatitis C infection and HIV/AIDS knowledge. Compared to each study question, the comparison of hepatitis C (positive and negative) was taken separately and the quality of statistical reliability of data was determined.

Selected questions from the questionnaire were used in quantitative research to answer the main research question. Results from the quantitative research were compared to the results obtained during qualitative research by triangulation, and these results were analysed with the difference between the respondents of the hepatitis C positive and negative respondents. The conclusions were drawn from these comparisons.

As qualitative research does not allow smooth analysis of the target population, the results of the interviews and focus groups are comparable the results of the quantitative research which takes into account the aims of the study.

Comparison of the qualitative and quantitative research creates data output, which is then used to conduct discussion, as triangulation is a powerful means by which to analogue validity, especially in qualitative research.[[13]](#footnote-13)

There was no overlap between the participants in the quantitative and qualitative studies.

**Basic results**

30 in-depth interviews and 4 focus groups, with 30 participants, were conducted during the quantitative study. In total 60 people were involved. Twenty-five men and 5 women took part in the focus groups. An in-depth interview was conducted for 23 men and 7 women.

From the quantitative research "Assessment of HIV knowledge, attitude and behaviour among HEP C infected PWIDs in Tbilisi, Georgia", 139 responses were used.

Analysis of the focus group and interviews produced a number of results:

1. **HIV knowledge**

Currently, information about HIV/AIDS is available via TV and internet, as well as harm reduction service provider organisations. HIV prevention program workers distributed booklets during field work and personally explained risks and risk reduction. However, the level of knowledge is still low; most IDUs did not know the difference between HIV and AIDS. Participants knew that HIV was not transmitted through non-sexual, non-blood-related activities (eg. hugging, kissing, hand holding), although they did not know that common utensils and linens cannot transmit the virus. The majority of hepatitis C infected IDUs knew how HIV was transmitted (eg. blood-borne, sexual transmission). The majority of respondents had a risky behaviour, despite knowledge linking their disease status with a risk behaviour.

**1.1 Connection between HIV knowledge and risk behaviours**

In-depth interviews, as well as focus groups, revealed interesting facts. The majority of hepatitis C infected IDUs were partially informed about HIV transmission and risk behaviours; they receive information about HIV/AIDS when in contact with service providing NGOs. Although information was about the virus, most still engaged in risky behaviours. Beneficiaries noted that they have shared injections, cotton or pottery, even though they had been informed about possible risks.

"I knew that there was a risk, but I still used someone else's syringe; people think that it will not happen to them, that everything will be fine, but it does not always happen so I've been diagnosed with hepatitis C and hopefully I am saved from HIV" – female, 42 (translated)

Although the respondents recognise the high probability of HIV transmission during unprotected sexual contact, there is still a high rate of unprotected sexual contact. As the respondents note, they are convinced that their sexual partners are not HIV infected and therefore do not use condoms with them. However, the same respondents noted that any person can be at risk of infection, as well as indicating that a person can be HIV infected without appearing so. This is possibly a type of cognitive dissonance.

"Anyone can get HIV, the child, the old man and nobody is safe, there are people who have never seen drugs but are infected with AIDS or Hepatitis C. Pedicure, Manicure, and so on, may be the reason for that" – male, 38 (translated)

IDUs were unable to explain why they exhibited risky injection behaviour, with only 3 participants reporting that undertake risky behaviour second to intoxication. Additionally, IDUs generally considered unprotected sexual contact, going to a beauty salon, and visiting a dentist as risks for transmission.

The majority of respondents believed that HIV could be transmitted through shaving or sharing a toothbrush, and some reasoning that blood can be transmitted via these instruments. This led to respondents not sharing these instruments, but extended to other household items, such as common pottery, towels and linen. Half of respondents surveyed knew that these items did not transmit the virus, but still stated they would not share these items. This was also seen in the IDU focus groups; they knew these items would not transmit the virus, but still would not share these items.

All participants in the study unanimously agreed that HIV is not transmitted through kissing and hugging, and therefore did not limit themselves in terms of this sort of contact.

**1.2 Relationship between HIV knowledge and HIV-infection**

Hepatitis C infected individuals were likely to have experience in co-existing with HIV-infected people (such as in a penitentiary), and were therefore confident they would have no issue in living with an HIV-infected person. Respondents believed that a person with HIV was the object of pity, and needing of support, but that this was no extended to those with hepatitis C by the respondents. In the focus group, in which only males participated, it was declared that the hepatitis C was not a problem, as almost everyone is infected, but HIV is a serious shock for a male. They believed that people diagnosed were vulnerable to falling into fearful despair, needing of sympathy and support.

The attitude towards HIV infection in only one case was severely negative and there seemed a lack of knowledge, with one 55-year-old female participant stating that she would force a family member to leave the household if she were to find out they were HIV infected. The same participant had only partial knowledge on HIV transmission, was unsure on prevention means, and where treatment is conducted.

It is noteworthy that empathy to HIV infected patients is high in focus group as well in in-depth interviews. Research participants stated that they would continue to live with an HIV-infected person, that friendship would continue and deepen, and they will be patient and caregiving towards a HIV-infected people. Although there was a serious negative attitude towards marriage, there were still people who expressed their willingness to create a family with an HIV-infected person if they loved him or her.

A high level of self-stigmatisation in relation to hepatitis C was striking. A 36-year-old woman stated her children do not know that she is infected with hepatitis C because she is afraid that she will be judged by them. The reason for this was that IDU beneficiaries associated HCV and HIV with injecting drug use, and this particular respondent believed it would indicate drug use to her children.

The stigma towards HIV infection was greater. In the focus group of men, the question of whether they would marry a person with HIV/AIDS had a serious negative answer. At first respondents protested the formulation of the question and then started discussing that they will support an HIV-infected people, but marriage would be out of the question, they would be unable to fall in love with a person who is infected with HIV. One of the focus group participants said:

"Why is it necessary that I should get married to an HIV-infected person, when it turns out I sacrifice myself" (translated)

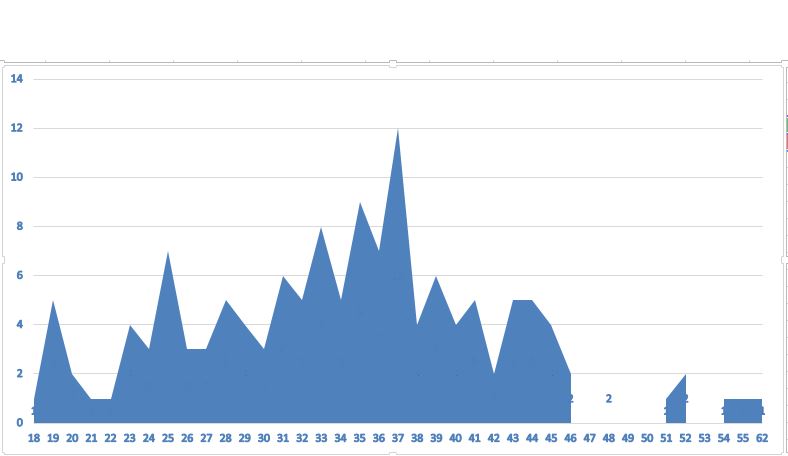
Discussion also revealed that marriage with an HIV-infected person was directly associated with a very high risk of infection transmission, inability to have a child, and high probability of having infected children.

**1.3 Connection between HIV knowledge, behaviour in difference between age groups (25-35; 36-55; 56 and above)**

The average age of participants in the focus group was 45 years, with age limit ranges from 29 to 65 years. The average age of beneficiaries involved in the interview was 37, age limits were between 25 and 55 years. Interviews occurred between two groups; from 26 to 35, and from 36 to 55. The level of knowledge about HIV/AIDS was the same in both age groups, both having information about HIV transmission and awareness of risky behaviours. Although most beneficiaries did not know what the difference between HIV and AIDS was, there was a slight difference between the two age groups; beneficiaries in the group from 25 to 35 years were more well informed about HIV/AIDS, with four of them were able to distinguish infection from the disease. Additionally, they stated they were able to independently obtain information, and the HIV-related information was easily available. Between the age groups there was no difference between risky behaviours and stigma quality. Representatives of both groups were satisfied with NGO services, but the service rate was higher in the 36 to 55 age group.

Among focus group participants, a 56 and above group could be formed, and it was demonstrated that their knowledge different from that of the younger beneficiaries. Older people had less knowledge than the younger two age groups, however, older people were less likely to engage in risky sexual behaviour, and were more aware of the utility of sterilisation of medical instruments.

It was noted that most of the emotional attitudes towards HIV infection had been reported in the 36 to 55 age group; they expressed fear of HIV infection, as well as sympathy for HIV-infected people, while younger IDUs felt there was less stigma. Only some stated that HIV-infected people were equal members of society.

**Figure 1. Distribution of participants according to age in quantitative questionnaire** 

**1.4 Connections between HIV knowledge, behaviour and difference between male and female.**

There was no major difference in HIV knowledge between males and females, but women were more willing to freely discuss sexual intercourse. All women stated that unprotected sex was a risky behaviour and all would use protection for occasional sexual intercourse. Women’s sexual practises were safer than men’s. As for men, even though men know their own hepatitis C status, they often had unprotected sex. Some men believed that hepatitis C could not be sexually transmitted.

"I have been married for 18 years and my wife is not infected, I know that hepatitis C does not transmit sexually" – male, 37 (translated)

"I have always kept protected sexual relations. I have been infected with Hepatitis C through the syringe, I knew that there was a danger, but I was drunk and I did not pay attention" – female, 36 (translated)

Women and men were equally aware of HIV risks, but women had less information about the difference between HIV and AIDS, with only one woman able to explain the difference between HIV infection and AIDS during an in-depth interview.

The frequency of risk behaviours related to IDU between men and women was equal; the vast majority of respondents indicate that they undertake risky behaviours in the form of sharing injecting instruments. Both women and men noted that they do not share an injection.

Male and female attitudes towards HIV-infected people were significantly different; men stated they would offer emotional support and sympathy, whereas female responses ranged from full denial to total tolerance.

"If it was my house I would kick him or her out, all other family members would go for a test, I would be afraid of being infected too" – female, 55 (translated) [in response to the question “if you find out that your family member is infected with HIV, what do you do?”]

In another case, a 42-year-old woman says that she did not have a special attitude towards the HIV-infected people, has many HIV-infected friends and believes they are normal people. The same opinion was observed in the focus group, which was conducted only with women; five women unanimously stated that the HIV-infected person was equal to a non-infected person. It was their belief that HIV-infected people may need help and support, but not sympathy.

There was an observable difference in attitudes towards HIV-infected people between women and men, particularly in regard to intimate relationships. Although men were willing to live with an HIV-infected person, none of the interviewed men have allowed sexual co-existence with an HIV-infected person, while three women participating in the focus group said that if they are in love with a person with HIV, they would be willing to live with, and start a family with an infected person.

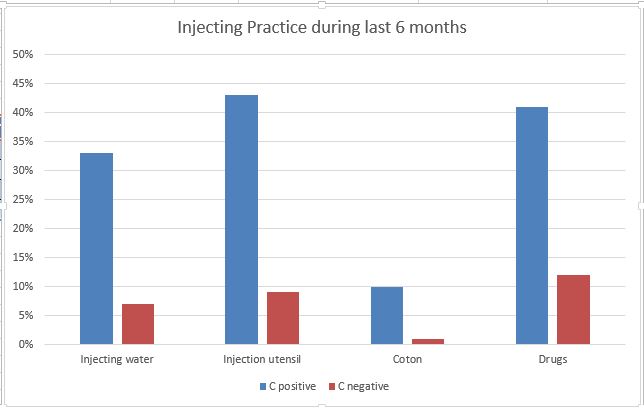
**2. Link between results in quantitative and qualitative studies in terms of risky behaviour**

As it is seen in quantitative study, IDUs infected with HCV still have risky IDU behaviour and men also have higher risky sexual behaviour. Through qualitative questionnaire, comparisons can be made to IDUs without HCV by enlisting participant IDUs with and without HCV infection.

During the study period, 139 PDI and NSP respondents were interviewed. Thirty-five percent (49 respondents) were infected with hepatitis C, and 65% (90 respondents) were not infected.

None of the respondents involved in quantitative research were HIV infected.

According to quantitative study results, risky behaviour was higher in HCV-infected IDUs.

**Figure 2. Injecting Practice between HCV-infected and non-infected respondents**

The results of the study showed that 33% of people infected with hepatitis C shared injecting water during the last six months, while only 7% of people without C hepatitis did (Pearson’s Chi Square 18.2 df = 1 p <0.001).

Utensils were shared by 43% of hepatitis C infected in the last six months, while similar risks have been reported in only 9% of people who do not have hepatitis C (Pearson’s Chi Square 22.9 df = 3 p <0.001).

Sharing of cotton was performed by 10% of people infected with hepatitis C during the last six months, but only 1% of people without hepatitis C did (Pearson’s Chi Square 6.5 df = 2 p = 0.039).

Drug sharing in the last six months in hepatitis C-infected participants was shown in 41% of respondents, and only 12% of non-negative participants (Pearson’s Chi Square 16.2 df = 3p <0.001).

**Sexual Practice**

All HCV-negative respondents reported that during the last six months they did not have sexual contact with a person who was HIV-infected, and only one with hepatitis C reported that they had an HIV-infected partner. This difference was not statistically significant.

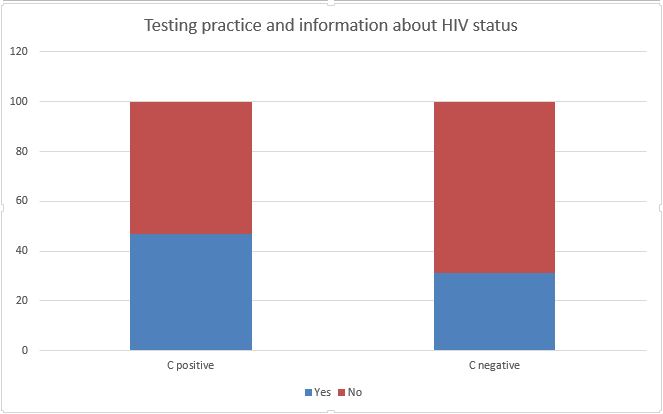
In hepatitis C-infected respondents, 88% of people reported that during the last six months their use of condoms was rare or was not at all, and 76% of people without hepatitis C also claimed the same. The difference was not statistically significant.

Participants with hepatitis C, as well as participants without HCV infection (71% and 76%), stated that the risk of HIV infection or AIDS slightly bothers them. The difference was not statistically significant.

Among 139 participants of the quantitative research, 37% had been tested for HIV at least once in their life. The majority of respondents who were tested have an answer on their HIV status after testing.

It was found that 46.9% of hepatitis C-infected people self-reported that they had been tested for HIV and knew about their HIV status, while only 31.1% of respondents who were not infected with hepatitis C know about their HIV status. The difference was not statistically significant.

**Figure 3. HIV testing practise between HCV-infected and non-infected respondents**



**3. Service provision**

The quantitative study revealed that HIV preventive services are used by most of the respondents involved in the research; almost two thirds of respondents used such services. The services were satisfactory for almost all respondents who even once used services under the Global Fund project.

"If you had been in the past, many people would not have been died," female, 35

It should also be noted that the surveyed IDUs positively evaluated the state program for hepatitis C, sponsored by Gilead, which provided not only treatment for hepatitis C, but also education.

"When I was involved in the program of elimination, I had two doctors, one of them was more interactive, she was not only interested if I take a blood test or drink water, but also talked to me, as we are now talking and always tried to provide more and more information. I've been listening and enjoying it." – male, 38 (translated)

Most of the respondents found it difficult to name specific needs. The only service IDUs had named is 24-hour needle and syringe exchange program, which enabled the beneficiaries to get sterile consumption material at any time of the day. Other services provided by the NGO, which were shown to be appreciated, were free provision without prescription of antidote for overdose (naloxone), and a daily service with a focus on anonymity.

**Discussion**

The results of this study show that hepatitis C is somewhat accepted in Georgian society, while HIV/AIDs is extremely stigmatised. There could be various reasons for this, including the high prevalence among the population, availability of treatment options, and optimism about the outcomes of treatment. Conversely, HIV treatment is limited to most people, and HIV knowledge was incomplete in most respondents. Most of the respondents did not know that current treatments can prolong life expectancy, or that HIV-infected people could have healthy children. HIV/AIDS stigma could be such that people are unwilling to seek information. Even among those with HIV-infected friends, HIV was not discussed, likely due to stigma. IDU beneficiaries infected with hepatitis C had a positive attitude towards people with HIV/AIDS, although stigma did still exist to some extent.

Our research has shown that access to information about HIV/AIDS among IDUs with HCV was high, with interactive, responsive and tailored information given during disease testing. While NGOs often organise regular training and education, this knowledge did not always create a risk behaviour change. Although most of the beneficiaries who participated in the interviews and focus groups were in treatment programs and/or accessing additional services and education, there seemed to be little effect on changing risky behaviours. All IDUs infected with Hepatitis C had risky behaviours in the past, and the majority of them continued risky behaviours despite understanding the risk.

Differences between male and female respondents were demonstrated, with female respondents generally having a more tolerant attitude towards HIV-infected people. Female sexual behaviour was less risky, even despite knowledge did not differ from the male cohort.

The positive attitudes expressed by HCV-infected IDUs towards HIV patients, as well as a willingness for sympathy and support, could be a result of empathy based on their own experience of infection. People infected with HCV are also somewhat stigmatised, and self-stigma creates a degree of denial about their equal status in family and community. Infected people may therefore easily be able to identify and empathise with HIV-infected people, which is the target of greater stigma in Georgia than HCV. The power of this stigma is such that, despite two years of elimination efforts in Georgia, three respondents stated that they do not participate in programs for fear of employment termination.

Social advertisements in fighting HIV are shown in our research to be extremely important. This current takes the form of advertisement of services, easy-to-read information provision, and positive messages, all aimed at reducing the stigma towards HIV-infected people among the general population. Attention should be given to the possibility of living together with an HIV-infected person and to increase acceptance of this disease, as is happening towards hepatitis C. It is also noteworthy that social advertisement on Georgian TV channels related to HIV infection had a big influence on attitudes about HIV/AIDS; "AIDS does not transmit through hugs and kisses" (the phrase used in the advertisements) was often heard in the interviews and focus groups. However, this phrase and periodic social advertisements cannot overcome stigma independently.

Based on the analysis of quantitative research it is clear that the respondents who did not have HCV were characterised by less risky behaviour in terms of injecting drug use. However, there was no difference in terms of risky sexual behaviour. According to uninfected respondents more attention should be paid to safe sexual contact while working with not HCV-infected IDUs.

**Limitations**

The qualitative research method does not allow study of the bulk of the population, so we cannot ensure a 95% statisticalal reliability of the data.

The study population of injecting drug users was a hidden population, and due to the means of selection, there was no way to eliminate selection bias. The beneficiaries were invited to interviews and agreed to participate.

The risks accompanying the in-depth interviews (on very sensitive and personal issues), and focus groups (where risk for loss of anonymity and group decisions are tangible) was a limitation of the research.

Participation in the focus group for female respondents was problematic as they had difficulties talking about personal issues in the presence of men. Therefore, one focus group was conducted only for female respondents, giving them the opportunity to speak and talk openly about their position and sensitive issues.

**Conclusions**

* Most HCV infected IDUs have knowledge of how HIV/AIDS is transmitted, but this knowledge is often incomplete, which causes the risk of repetition of risky behaviour.
* Lack of knowledge leads to high risk behaviour. Most of the respondents had risk behaviour, which was the reason for their hepatitis C infection, but still continued to partake in this behaviour.
* There was no difference in behaviour and knowledge between the age groups, but there were in attitudes; less stigmatising attitude was observed among younger participants, but in most cases the sympathy and fear were prominent.
* The results of the study shiow that women, unlike men, are more tolerant towards HIV-infected people. Sexual behaviours are less risky in women than in men. As for the level of knowledge, there is no difference observed with regards to sex.
* The need for daily services was identified in the direction of harm reduction, in the form of supply of syringes and needles, as well as condoms and naloxone, for IDU beneficiaries.
* The results of the study have shown through in-depth interviews that people are more willing to talk about risky behaviour than during the focus groups, where they prefer not to confess.
* There was no recognition of the risk of sharing injection materials in IDUs, and there were three cases during in-depth interview when respondents say that they practise this behaviour only when intoxicated.
* Risky behaviours associated with drug use in reference to water, detergents, cotton and drugs were more frequent in people infected with hepatitis C than those who weren’t.
* There were no significant differences in the sexual practises between the hepatitis C-infected cohort and the non-infected cohort.

**Recommendations**

**Georgian governmental officials:** [Ministry of Health, Labour and Social Affairs of Georgia](https://en.wikipedia.org/wiki/Ministry_of_Health,_Labour_and_Social_Affairs_of_Georgia), Ministry of Education of Georgia, Ministry of Internal Affairs;

* Strengthen efforts to increase awareness of HIV/AIDS issues in general and about risk behaviours and preventive measures, especially in risk groups such as IDUs, IDUs sexual partners and other risk groups.
* Increase involvement of IDUs in harm reduction programs, which will reduce risky behaviours, which in turn will help reduce the spread of blood and sexually transmitted infections.
* Stigma / discrimination against HIV infected people should be reduced by increasing awareness, focusing on people who are infected, treatment and ability to retain a healthy life and family. This should include where and how this treatment is possible.
* Provision of 24-hour harm reduction services.

**Foundations and NGOs working in the field of HIV/AIDS and HCV**

* Increased focus on male sex risk behaviour.
* Preventative efforts with all age groups of IDUs.
* Provision, investigation and focus on how information is received, viewed and internalised to effect risk behaviours, more so than how to spread information.
* Increased awareness to reduce stigma and discrimination of HIV-infected people.

**Acknowledgment**

The organization "HEPA PLUS" is grateful for the East-West International Foundation for HIV/AIDS, which enabled us to implement this research.

We also want to express our gratitude to the Global Fund and to the National Centre for Disease Control and Health (NCDC), which have been funding harm reduction programs over the years through which we have access to the IDUs and their partners.

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Appendix # 1

**Outline for focus group**

**Welcome:** Introduce moderator and assistant; Name 1; Name 2:

**Our topic is:**

We want to know what kind of information you have about HIV/AIDS people who are self-reported to be HCV infected or to be on HCV treatment or finished HCV treatment during the last year, and what are their attitudes and behaviour towards HIV/AIDS. The research will be held in Tbilisi, Georgia. We invite you to participate in this research. The results of research will be used with the following ways: publishing the study results in international journals, printing special reports, publishing the study results on the website of GHRN, publishing the study results on South Caucasus internet platform against HIV/AIDS, dissemination study results among community members, dissemination study results among stakeholders and policy makers, creating an abstract and submission at international HIV conferences, use of recommendations to prepare information materials for community members, community engagement as part of a round table (study dissemination process), and community and outreach workers dissemination of materials among targeted population. None of the above will be mentioned any participant name, or data. This research is financed by AIDs Foundation East West International.

**The results will be used for**?

The results of the research will be published in scientific journals, the report will be accessible among NGOs working in the field of harm reduction in Georgia. Reports will be used for enhancing strategies in harm reduction strategies, HIV/AIDs and HCV prevention programs. This report will be published in an international scientific journal in English, research results will also be presented at the international conference which will be held in Amsterdam in 2018. There will not be mentioned any names of participants or other information.

You are invited to take part in this research because you are or were infected with Hepatitis C and you are/are going to or was participated in treatment process. You can contribute much to our understanding and knowledge of local health practices.

**Guidelines:**

There are not right or wrong answers, there are only different points of view. We are tape recording, so only one person can speak at a time. We're on a first name basis. You don't need to agree with others, but you must listen respectfully as others share their views. Rules for cellular phones and pagers are applicable, we ask that your turn off your phones or pagers. If you cannot and if you must respond to a call, please do so as quietly as possible and re-join us as quickly as you can. My role, as moderator will be to guide the discussion. Talk to each other

**Instructions for focus group facilitators to use this questions as a guide for depth answers:**

**Question:**

1. **This part of questions gives information what kind of knowledge have HCV infected participants about HIV/AIDS**

* When you found out that you are HCV infected, and how?
* What do you know about HIV/AIDS?
* What do you think who can be HIV/AIDS transmitted? Is it possible HIV/AIDS to be transmitted by?
* Kissing or huging?
* Sharing dishes, towels?
* Mosquito bite?
* Shared bathroom?
* Sharing shaving equipment?
* Sharing toothbrush?
* Have you ever gone through screening test in HIV?
* If yes, when was the last time?
  + - During the screening test for HCV, were you screened on HIV?
    - If yes, who suggested to do so?
    - If no, why?
    - Was this screening test during your screening for HCV or before, or after?
* Do you know where can you do screening tests for HIV?
  + - If yes, how did you find this information?
    - If no, do you want to receive more information?
* Do you know where HIV infected people can receive treatment?
  + - If yes, how did you find this information?
    - If no, do you want to receive more information?

1. **This part of questions gives information on what kind of attitudes HCV infected participants have towards HIV/AIDS infected people.**

* What are your associations when you hear that a person is HIV infected? (emotions: surprised, compassion, fear, hatred, aggression, empathy)
* Could you marry a person who is HIV infected? (if yes, in what case and if no what would be the reason?)
* Could you live with an HIV infected person? (would you share living room, bathroom, pool, kitchen, furniture, beds, dishes)
* What do you do when you hear that a person is HIV infected? (trying to support him/her, trying to reduce contact, stopping the relationship, try to collect more information to help him/her)

1. **This part of questions gives information about what kind of behaviours HCV infected participants have towards HIV/AIDS infected people.**

* Have you ever use shared injection instruments, such as syringe, needle, shared dishes, cleaning water, and cotton for drug use?
* When participating in medical or aesthetic manipulations, do you ask additional information about sterilisation?
* What kind of sexual practice do you have? (the number of partners, a permanent partner or randomly? Do you use condoms regularly or randomly?)
* Could you list the services for HIV and from these services which have you used? (how do you receive information about these services, does this information connected to HCV elimination service?)
* How often do you receive services connected with HIV?
* What additional HIV services are needed in your opinion?

**In depth interview design**

Demographic data

Age:

Marital status:

Education:

Profession:

Employment status:

Income:

How many people live with you, among them how many are under the age 18?

Describe your sexual life and what kind of sexual practice you have (the number of sexual partners, usage of condoms)

When you found out that you have HCV?

HIV Knowledge

* Could you explain what does it mean HIV positive, HIV negative?
* Have you ever gone through HIV testing? When and why? Have you asked for a result?
* If you received any, where did you get these services (Primary Health Care, Governmental/Private Clinics, Family doctor, NGO, others)
* Are you satisfied with receiving services or not? If not, why?
* Have you ever paid for the services you received in regard to this?
* If you decide to receive similar services in the future, will you go with the same service provider?
* Have you been refereed in other clinics/organisations if needed? If yes, did you use this service? If not – why?
* When receiving these services have you been provided information about HIV risks? (unprotected sexual relation, PWIDs and others)
* During these services have you been provided information about different types of contraception (condoms, pills)?
* What do you know about risks of HCV and HIV/AIDS transmission?
* Have you ever used any kind of contraception (condoms, pills)?
* If not, what was the reason?
* Have you been asked your personal data or ID number when using services connected HIV/AIDS?
* Do you think there is need for you anonymously (without ID) to be able to receive medical services connected with HIV, STIs and other issues (diagnostics, treatment, testing and consulting)? If yes, should it be free of charge or you should pay for it?
* What additional services do you think are necessary in HCV and HIV/AIDS treatment?
* What kind of HIV connected services have you ever received (CVT, contraception, STI consultation, condoms, buckets, other)
* How do you think it is possible to reduce the risk of HIV/AIDS transmission?
* Do you know where can you take screening tests for HIV?
* Do you know where you can receive treatment for HIV?
* Do you think a person can get HIV infection by using food or water of HIV infected person?
* Can HIV Infection be transmitted by mosquito bite?

HIV Attitude

* Have you ever had a sexual partner who was infected with HIV? If yes, when you were informed?
* Is the issue of HIV/AIDS bothering you?
* Do you think that this problem can affect you or people around you?
* What are your associations when you hear that someone is infected with HIV?
* Do you think that a HIV-Positive person may look healthy?

HIV behaviour

* Have you ever use shared injection instruments, such as syringes, needles, shared dishes for drugs, cleaning water and cotton? If yes, during which drug usage?
* Have you participated in medical or aesthetic manipulations where instruments were not properly sterilised? (surgery, dentistry, blood and other blood substitutes transfusion, manicure and pedicure)
* If you heard that your friend is infected with HIV, would you shake hands with him/her, kiss, hug, and share dishes? What do you think is the risk of being infected?
* If you heard that your friend and family member had HIV, would you continue to live with him/her?
* Does HIV infection risk decrease if you have one permanent sexual partner who is not infected and has no sexual connection with other person?
* Is there a chance to reduce HIV infection risk if person uses a condom every time during sex?

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