

Analytical Report

**MONITORING OF SERVICEPERSONS' BEHAVIOR
AS A COMPONENT OF SECOND-GENERATION HIV EPIDEMIOLOGICAL SUPERVISION**

**Prepared by SOCIS-CSPI, Defense Ministry of Ukraine,
and ICF International HIV/AIDS Alliance in Ukraine under the program
"Overcoming the HIV/AIDS Epidemic in Ukraine"
supported by the Global Fund to Fight HIV/AIDS, Tuberculosis and Malaria**

Kyiv, August 2007

COLLECTIVE OF AUTHORS

Tetiana Serhiivna Diyeva
SOCIS-CSPI Analyst

Volodymyr Leonidovych Pashkovich
Head of Laboratory of the Center to Prevent and Fight HIV/AIDS in the Armed Forces of Ukraine

**The authors express their sincere gratitude for cooperation
in organizing and conducting the research and for offering valuable remarks
to:**

Oleksandr Oleksandrovych Avramenko
Colonel, Head of the Health Center of the Armed Forces of Ukraine

Oleh Mykolaiovych Zemtsov
Head of the Sanitary-Epidemiological Administration of the Defense Ministry of Ukraine

TABLE OF CONTENTS

1. METHODOLOGICAL INTRODUCTION	4
1.1. Survey aim and main hypotheses.....	4
1.2. Research method.....	5
1.3. The ethical principles of the survey.....	6
1.4. Sample description and survey organization.....	6
2. SOCIODEMOGRAPHIC CHARACTERISTICS OF THE INTERVIEWED SERVICEPERSONS ...8	
3. RELATIONSHIPS BETWEEN A SERVICEPERSON’S HIV/AIDS AWARENESS LEVEL AND HIS/HER STATUS IN THE ARMY, RECRUITMENT SETTLEMENT AND EDUCATIONAL ATTAINMENT	10
3.1. The National Index “Percentage of servicepersons correctly identifying ways to prevent sexual HIV transmission and being aware of ways in which HIV is not transmitted” – expanded analysis.....	10
3.2. Analysis of additional questions which are not included in the National Index “Percentage of servicepersons correctly identifying ways to prevent sexual HIV transmission and being aware of ways in which HIV is not transmitted”.....	13
4. BEHAVIOR IN AREAS RELATED TO THE RISK OF CONTRACTING HIV/AIDS AND ITS RELATIONSHIP WITH SERVICEPERSONS’ HIV/AIDS AWARENESS LEVEL ...16	
4.1 Behavior related to the risk of being infected (sexual relations, injection drug abuse, tattooing and piercing).....	16
4.2 Impact of servicepersons’ HIV/AIDS awareness level on HIV risk behavior.....	20
5. IMPACT OF HIV/AIDS AWARENESS AND INFECTION RISK RELATED BEHAVIOR ON RESPONDENTS’ ASSESSMENT OF THEIR PERSONAL RISK OF CONTRACTING HIV	22
5.1. HIV/AIDS and servicepersons’ assessment of personal risk of contracting HIV.....	22
5.2. Interrelationship between servicepersons’ knowledge of HIV/AIDS, estimate of personal risk, and the fact of having been tested for HIV.....	26
6. IMPACT OF HIV/AIDS AWARENESS ON THE ATTITUDE TOWARDS HIV-INFECTED PERSONS	28
7. HIV/AIDS PREVENTION IN THE ARMY: THE REAL SITUATION AND NEED FOR ADDITIONAL KNOWLEDGE	31
7.1. The need for additional information on HIV/AIDS.....	31
7.2 Потреба у додатковій інформації з питань HIV/AIDS.....	34
8. EXTRA ANALYSIS	36
8.1. HIV/AIDS prevention among peacekeepers.....	36
8.2. Sexual violence in the army: additional analysis of servicewomen’s answers.....	36
9. COMPARATIVE ANALYSIS OF THE 2004 AND 2007 SURVEYS	37
CONCLUSIONS	40
RECOMMENDATIONS	42

1. METHODOLOGICAL INTRODUCTION

This research was conducted by the SOCIS Center for Social and Political Investigations and was funded by the ICF International HIV/AIDS Alliance in Ukraine under the program “Overcoming the HIV/AIDS Epidemic in Ukraine” supported by the Global Fund to Fight HIV/AIDS, Tuberculosis and Malaria within the framework of Grant Agreement UKR-102-G04-H-00 and by Constella Futures International, LLC, which is implementing the project “USAID|Health Policy Initiative.”

This project provided not only for conducting a behavioral survey and comparing its results with those of the 2004 survey, but also for providing technical assistance to the Defense Ministry of Ukraine in the form of two trainings for the staff of the Sanitary-Epidemiological Service of the Armed Forces of Ukraine (AFU): 1) in survey organization and data collection and 2) in entering and processing collected data.

The working group for the project consisted of representatives of the Defense Ministry, specialists of the Scientific-Research Institute for Army Medicine Problems, AFU Health Center, Sanitary-Epidemiological Administration of the Armed Forces of Ukraine, as well as Ukrainian Defense Ministry Health Department experts and Alliance specialists.

This report presents an analysis of the results of the survey of servicepersons as well as a comparative analysis against data of the 2004 survey which was also requested by the Ministry of Defense of Ukraine and the Alliance¹.

1.1. Survey aim and main hypotheses

The aim of the survey was to reveal trends regarding knowledge, attitudes, practices and behavior models among servicepersons: officers, regular and contractual servicemen/servicewomen, and cadets. The subjects of the research included the following:

- servicepersons’ HIV/AIDS awareness level;
- serviceperson’s knowledge and behavior (as judged from indicators included in the National Indices for Monitoring and Assessing the Efficiency of Measures to Control the HIV/AIDS Epidemic);
- HIV risk factors for servicepersons;
- impact of knowledge of HIV/AIDS on risk-related behavior as well as on the estimate of one’s personal risk of being infected;
- impact of knowledge of HIV/AIDS on tolerance for HIV-infected persons;
- state of HIV prevention in the army and need for additional knowledge.

The survey tools were based on experience derived from previous research practice or provided by international organizations. The survey methods, techniques and tools were agreed upon with State Department specialists and the coordinator of the ICF International HIV/AIDS Alliance in Ukraine, and

¹ Previous research on HIV/AIDS issues in the Armed Forces of Ukraine:

2000: in cooperation with UN, in association with the United Nations Population Fund, implementation of a pilot project to fight HIV/STD.

2000-2001: implementation of the project “HIV/AIDS/STD Prevention in the AFU,” funded by UNPF.

2002-2003: conduct of a behavioral survey of servicepersons and development of an educational system to prevent HIV/AIDS/STD among AFU staff and Ukrainian peacekeeping troops.

2004: SOCIS-CSPI conducted the survey “Monitoring of Servicepersons’ Behavior as a Component of Second-Generation HIV Epidemiological Supervision,” which was requested by the ICF International HIV/AIDS Alliance in Ukraine under the program “Overcoming the HIV/AIDS Epidemic in Ukraine” supported by the Global Fund to Fight HIV/AIDS, Tuberculosis and Malaria and requested by the Defense Ministry.

2006: conduct of a survey of Ukrainian Armed Forces staff and Ukrainian law-enforcement bodies’ employees, requested by UN under the program “Prevention of HIV and Sexually Transmitted Diseases.”

Although quite a few HIV/AIDS studies have been conducted among servicepersons, this report analyzes only the results of the 2007 survey and includes a comparative analysis against the results of the Alliance-requested 2004 survey, since both these studies were based on the same method.

examined by the Sociological Association of Ukraine and the Bioethics Commission of the Scientific-Research Institute for Army Medicine Problems of the Armed Forces of Ukraine (Protocol No. 3 of April 26, 2007).

The main hypotheses proposed for this research by the working group were as follows:

- 1) Soldiers recruited from rural areas display lower awareness of HIV/AIDS while behaving in a less risky way, as compared to those recruited from urban areas.
- 2) Servicewomen are subject to sexual abuse from colleagues or male superiors (which fact enhances their behavior riskiness while they are not responsible for the increase).
- 3) Senior servicepersons (aged 30-49) tend to underestimate their personal risk of contracting HIV (which fact in its turn might be related to rather risky behavior).
- 4) Servicepersons who have taken part in peacekeeping missions have a rather high level of knowledge of HIV prevention. During preparation for a peacekeeping mission, servicepersons are necessarily instructed in preventing infections, in particular HIV.
- 5) For servicepersons, there are rather limited opportunities to acquire condoms. The hypothesis posits that servicepersons rarely use condoms during sexual contacts, on account of lack of cash as well as because of remoteness of places where condoms can be purchased (in most cases, there is no such opportunity in the territory of a military unit).

The main variables underlying the analysis of the results of this survey are as follows:

1. knowledge of HIV/AIDS issues;
2. behavior riskiness;
3. estimate of the personal risk of being infected;
4. testing for HIV;
5. attitude towards HIV-infected persons;
6. prevention-related data and estimates.

The main variables we will use to try to explain the results are as follows:

1. Army status: officer, regular serviceperson, contract serviceperson, cadet
2. Gender
3. Service period
4. Recruitment place: village, urban-type settlement (UTS), small town, medium town, city (based on number of residents)
5. Place of service: region (oblast)
6. Educational attainment

The significance of all differences in indices between the groups was tested using statistical significance criteria. The expression “the difference is significant at the level of 1%» means that the difference is statistically significant and the probability of error is 1%. The expression “the difference is insignificant” means that this difference can be accidental and so one cannot maintain that it really exists.

1.2. Research method

All the implementation stages were agreed upon with the working group consisting of Defense Ministry representatives, specialists of the Scientific-Research Institute for Army Medicine Problems, AFU Health Center, Sanitary-Epidemiological Administration of the Armed Forces of Ukraine, as well as Ukrainian Defense Ministry Health Department experts and specialists from the Alliance and Constella Futures International, LLC.

The survey of officers, regular servicepersons, contract servicepersons, and cadets was conducted using a questionnaire-based method. In view of the intimate nature of most of the questions, the questionnaires were to be self-completed; i.e. the servicepersons received instructions about filling in the questionnaires from the interviewer and then completed the questionnaires on their own. The interviewer was to intervene only when something was unclear to a respondent. When the work was over, the interviewer checked the questionnaires for completion – to avoid erroneous omission of any questions; yet the content of the answers could not be checked. Noticing an omission, the interviewer was to ask the respondent to answer the question or provide a written confirmation of his/her refusal to answer it. That procedure made it possible to minimize the likelihood of information being lost on account of errors. The questionnaire

did not provide for answer options such as “Don’t know” or “Refusal to answer”; this was meant to prompt the respondents to give meaningful answers. Moreover, the questionnaire was accompanied by a separate sheet with questions for women regarding sexual abuse. Inasmuch as some of the contract servicepersons were former participants in peacekeeping missions, a separate section of questions was prepared for them in the questionnaire.

The interviewer’s task was to keep outsiders from intervening in the survey procedure or examining the collected material. Self-completion was meant to help achieve that objective, while the interviewer’s intervention was limited to merely checking completion rather than content, thus ensuring information confidentiality. To that end, regular and contract servicepersons and cadets were interviewed in groups of 18-20 in isolated premises; each of them had a separate place to sit and the distance to the nearest colleague was sufficient for independent work. The military unit commanders committed themselves to provide for senior officers’ non-interference with the interview process or its results. The interviewer was to stop any attempt to violate that requirement.

Since a serviceperson was free to abstain from taking part in the survey (i.e. voluntary participation only), unit commanders committed themselves to provide for “reserve” respondents. This also applied to cases when a respondent was summoned by a superior and therefore had to stop filling in the questionnaire.

1.3. The ethical principles of the survey

- 1) Participation in the survey was voluntary and so any respondent had the right to say no. Before starting the surveying the interviewer told the respondents that refusal to participate was not punishable in any way.
- 2) Confidentiality was guaranteed to the participants, which in this particular case implied that unit commanders were not admitted to the survey process or to the completed questionnaires. This provision was included in an order to the unit commanders. Besides, interviewers were obliged to make every effort to avoid violation of this provision.
- 3) All of the data were to be used in generalized form only.

1.4. Sample description and survey organization

Relationship with the previous survey

The 2007 survey was based on the method which had been used in the survey conducted back in 2004. The 2004 survey featured a 1,600-respondents sample representative of the four main regions (West, Center, East, and South), three types of armed forces, and three target groups (regular soldiers and sergeants, cadets, and officers). For the survey, the high command of the Armed Forces allotted 14 points (among them, four educational institutions). Based on information provided by experts regarding target-group distribution, it was decided that regular soldiers and sergeants would account for 67% of the sample; cadets, for 20%; and officers, for 13%. Military units were selected which had at least 500 regular soldiers, so as to choose 108 of them and interview them in one day. To be interviewed were soldiers in their 1st or 2nd year of service. Furthermore, an expert was interviewed at each of the units: deputy commander in charge of humanitarian issues. Additionally, four experts were interviewed in Kyiv, Defense Ministry specialists: two from the Department of Humanitarian Issues and two more from the Scientific-Research Institute for Problems of Army Medicine of the Armed Forces of Ukraine.

The 2007 survey is based on the method of the previous one. The few changes which in our opinion had to be introduced proceeded primarily from changes in the Armed Forces of Ukraine themselves, i.e. the decrease in the overall army strength and in the number of military units; that was the reason why the bottom limit for choosing military units was 300 servicepersons (contrary to 500 in 2004).

According to the current plans, by the year 2015 the Armed Forces of Ukraine will have completed transition to a contract-based manning system²; in this connection, the number of contract servicepersons has already been increasing. Therefore, unlike the previous survey, it was decided that this one would include contract servicemen as a fourth target group (in addition to regular soldiers, cadets, and officers). Compared to 2004, the service period for regular servicemen has also been decreased: as of today, the service period is 12 months, so it makes no sense to provide for special quotas for regular soldiers of different service length (in 2004 the researchers differentiated between 1st-year and 2nd-year soldiers).

Aggregate sample

Data on the general sample being unavailable, the quotas for servicepersons' categories were determined at meetings of the working group. According to Defense Ministry experts, at present officers, regular servicepersons, and contract servicepersons are equally represented in the Armed Forces of Ukraine; for this reason, they were also equally represented in the aggregate sample. Contract servicemen also included those who had taken part in peacekeeping missions in foreign countries. Cadets account for 7% and that was also their share in the survey. Furthermore, according to the military experts participating in the working group, at present about 10% of the Armed Forces' staff are women; therefore they were of the opinion that it was expedient to assign a separate quota for servicewomen. They account for 10% of the aggregate sample. As servicewomen are rather unevenly distributed over the different types of armed forces as well as over military units, we did not mean to interview similar numbers of women in each of the units under survey. Accordingly, only a general analysis is presented of data from questionnaires completed by servicewomen.

The survey was intended to represent the main regions, all armed-forces types, and all military educational institutions. At a meeting of the working group attended by Defense Ministry representatives it was decided that a total of 31 observation points would be involved in the survey, so as to meet the above criteria, i.e. so as to represent all types of armed forces (land, air, and naval) and four regions of Ukraine (West: Lviv and Transcarpathian oblasts; East: Dnipropetrovsk oblast and city of Kharkiv; South: Odesa and Mykolaiv oblasts and AR Crimea; Center: Zhytomyr and Chernihiv oblasts and city of Kyiv). Thus the survey was conducted at 27 military units and four military educational institutions (three institutes of higher education representing different force types plus one educational unit).

Under conditions of military institutions or military units it appeared to be impossible to provide for random selection of respondents, on account of inaccessibility of staff lists. Therefore, would-be respondents were invited by unit commanders, who selected them among soldiers having no current duties to perform. That was the way contract servicepersons, officers, and cadets were selected. That kind of selection can hardly be referred to as "random"; one cannot rule out for example that the category of soldiers about to be discharged was overrepresented; there was, however, no other alternative. At each of the units, equal numbers of officers, regular servicepersons, and contract servicepersons were interviewed. At each of the higher military education institutions, first-, third-, and final-year cadets were surveyed. At some points (such as e.g. the military-education unit "Desna," "Lvivska Politekhnik"), representatives of all four target groups were interviewed.

Apart from the nationwide sample, this survey also included a booster sample (i.e. one that features the selection of an extra number of respondents allowing a separate in-oblast analysis) in five areas most affected by HIV/AIDS (city of Kyiv, Dnipropetrovsk, Odesa, Mykolaiv oblasts, and AR Crimea). Thus in the four above-mentioned oblasts and city of Kyiv the overall numbers of interviewed servicepersons are larger than elsewhere.

To enable oblast vs. oblast and region vs. region data comparison, the sample was weighted against armed forces distribution over the regions. All the percentages in the tables and diagrams were calculated in the

² Decree of the President of Ukraine No. 348 of 17.04.2002 "On the State Program for Transition of the Armed Forces to a Contract-Based Manning System //

http://www.mil.gov.ua/index.php?lang=ua&part=prof_army&sub=uk348

weighted sample; wherever frequencies are mentioned (and the overall number of respondents, N, is indicated), in the non-weighted sample.

2. SOCIODEMOGRAPHIC CHARACTERISTICS OF THE INTERVIEWED SERVICEPERSONS

This section presents the sociodemographic characteristics of the interviewed servicepersons. The table below shows the interviewed servicepersons' distribution by military rank.

Table 1. Distribution of servicepersons by status (military rank)

Status of respondents	Number of respondents	Percentage of the aggregate sample
Soldier/seaman	1127	42.2
Staff sergeant	276	10.3
Petty officer (ensign, corporal)	227	7.7
Lieutenant	76	2.6
Senior lieutenant	227	8.5
Captain	240	9.0
Major	227	8.5
Other (lieutenant colonel, colonel)	83	3.1
Cadet	197	8.1
Total	2683	100.0

The largest interviewee group is that of soldiers and seamen: 42.2% of the sample (regular and contract servicepersons together); the smallest, that of officers of lieutenant rank.

Table 2. Distribution of servicepersons by educational attainment (N=2677), percentages

	Primary	Incomplete/basic secondary	Complete secondary	Specialized secondary	Basic higher	Complete higher	Total
Officers	0.4	0.2	0.1	1.9	25.1	72.3	100.0
Regular servicepersons	4.9	12.%	41.6	35.5	1.2	3.8	100.0
Contract servicepersons	1.7	6.2	26.1	47.4	6.6	12.1	100.0
Cadets	1.7	6.2	26.1	47.4	6.6	12.1	100.0
All together	2.3	6.4	25.2	26.0	11.7	28.4	100.0

We would like to note that the category of cadets includes students not only of higher military educational institutions but also those of the “Desna” training center for junior specialists of the Armed Forces of Ukraine. Cadets with basic higher education are those in their final year of studies at the moment of interview; cadets with complete higher education are those who were close to finishing their studies (mastership, post-graduate course) at the moment of interview and could rank themselves among those who had already attained complete higher education.

We would like to point to the fact that the group of regular servicepersons included a 5% share of interviewees with higher education. On the whole, the predominant types of education among regular servicepersons are “complete secondary” and “specialized secondary.” In the contract servicepersons' group these types are also the leading ones, albeit in reverse proportion, the share of regular servicepersons with complete secondary education being much larger than the respective share of contract servicepersons. As regards specialized secondary education it is the other way round (the difference is significant at the level of 1%)

Table 3. Distribution of servicepersons by type of settlement from which they were recruited, N=2679), percentages

Recruited from:	Officers	Regular servicepersons	Contract servicepersons	Cadets	All respondents
A village	15.9	34.6	20.9	15.7	23.3
An UTS	11.3	14.8	18.3	15.7	14.7
A small town (under 100,000 residents)	22.4	17.4	21.4	22.7	20.5
A medium town (100,000 – 500,000 residents)	23.4	16.8	19.6	29.6	20.7
City (over 500,00 residents)	27.1	16.4	19.7	16.2	20.7
Total	100.0	100.0	100.0	100.0	100.0

Thus we can see that most of the servicepersons were recruited from towns/cities (76.7%), with villages accounting for 23.3% of the draftees. The table below presents the distribution of respondents by length of army service.

Table 4. Distribution of servicepersons by army service length служби в армії, (N=2678), percentages

	Officers	Regular servicepersons	Contract servicepersons	Cadets	All military respondents
Less than 1 year	0.8	94.8	15.5	37.7	37.8
1 to 5 years	5.2	5.2	29.6	57.7	16.3
5 to 10 years	30.9	-	21.4	4.7	16.3
More than 10 years	63.1	-	33.4	-	29.6
Total	100.0	100.0	100.0	100.0	100.0

One can clearly see that there are two largest groups: respondents with service length of less than 1 year and those serving for more than 10 years. Distribution over the target groups provides a more detailed view of service length patterns in the different groups.

Table 5. Distribution of servicepersons by gender

	Number of respondents	Percentage of the aggregate sample
Male	2 357	88.2
Female	326	11.8
Total	2 683	100.0

It should be noted that most of the female interviewees serve in the army on a contractual basis (87.6%); the rest are staff officers (the sample also includes 2 female cadets).

3. RELATIONSHIPS BETWEEN A SERVICEPERSON’S HIV/AIDS AWARENESS LEVEL AND HIS/HER STATUS IN THE ARMY, RECRUITMENT SETTLEMENT AND EDUCATIONAL ATTAINMENT

3.1. The National Index “Percentage of servicepersons correctly identifying ways to prevent sexual HIV transmission and being aware of ways in which HIV is not transmitted” – expanded analysis

The respondents were asked to answer 10 questions about HIV transmission modes, so as to identify the level of their awareness of this infection. Five of these questions are the basis for calculating the National Index “Percentage of servicepersons correctly identifying ways to prevent sexual HIV transmission and being aware of ways in which HIV is not transmitted.” This list includes the following questions:

1. Is it possible to reduce the risk of HIV transmission by having sexual contacts with only one faithful non-infected partner?
2. Is it possible to reduce the risk of HIV transmission by using a condom during sexual contacts?
3. Can a healthy-looking person be HIV-infected?
4. Can one contract HIV through sharing injection tools (e.g. a needle) with an HIV-infected person?
5. Can one contract HIV through sharing a toilet, swimming-pool, sauna with an HIV-infected person?

Each of these questions could be answered in three ways: “Yes,” “No,” or “Don’t know.”

According to data analysis, 47.5% of the interviewed servicepersons gave correct answers to all five main questions, thus determining the value of the National Index. The table below presents in detail the distribution of the answers to each of these questions.

Table 6. Servicepersons’ awareness of HIV/AIDS transmission modes, percentages

Content of questions	Content of answers	Officers N=853	Regular servicepersons N=868	Contract servicepersons N=765	Cadets N=197	Total N=2683
It is possible to reduce the risk of HIV transmission by having sexual contacts with only one faithful non-infected partner	Yes	92.0	82.2	89.4	88.9	87.9
	No	5.9	10.2	5.9	4.5	7.2
	Don’t know	2.0	7.5	4.6	6.6	4.9
	Total	100.0	100.0	100.0	100.0	100.0
It is possible to reduce the risk of HIV transmission by using a condom during sexual contacts	Yes	90.4	89.3	86.0	93.6	89.1
	No	6.1	6.8	8.3	3.6	6.7
	Don’t know	3.5	3.9	5.7	2.8	4.2
	Total	100.0	100.0	100.0	100.0	100.0
A healthy-looking person can be HIV-infected	Yes	90.8	82.1	80.2	88.9	84.9
	No	3.2	6.4	4.6	2.3	4.5
	Don’t know	6.1	11.5	15.2	8.8	10.6
	Total	100.0	100.0	100.0	100.0	100.0
One can contract HIV through sharing	Yes	95.8	86.9	94.5	93.4	92.4

injection tools (e.g. a needle) with an HIV-infected person	No	2.2	5.6	2.6	2.5	3.4
	Don't know	2.0	7.5	2.9	4.0	4.2
	Total	100.0	100.0	100.0	100.0	100.0
One can contract HIV through sharing a toilet, swimming-pool, sauna with an HIV-infected person	Yes	13.1	12.9	17.3	7.1	13.7
	No	68.1	64.7	60.3	77.4	65.6
	Don't know	18.8	22.4	22.4	15.6	20.7
	Total	100.0	100.0	100.0	100.0	100.0

Contract or regular servicepersons differ from officers or cadets in that the former display a low level of knowledge of whether it is possible to contract the virus through shared use of a toilet or a swimming-pool with an HIV-infected person (the difference in relation to officers or cadets being significant at the level of 1%). Contract servicepersons were also the group with the lowest share of correct answers to the question about the possibility to reduce the risk of infection by using a condom during sexual contacts.

For a depth analysis we will resort to division of respondents into groups of “top scorers,” i.e. those who gave correct answers to all five key questions, “good scorers,” i.e. those who correctly replied to the first three questions but were wrong when answering the other two (referring to HIV-transmission possibility when sharing a glass; shared usage of a toilet, sauna, or swimming-pool), and “bad scorers,” i.e. all the rest.³ The below table presents division into these groups; subsequently, however, we will use the standard division into top scorers of the National Index and all the rest.

Table 7. HIV/AIDS awareness level among all servicepersons, N=2685, percentages

Awareness level	Percentages
Top scorers	43.8
Good scorers	25.6
Bad scorers	30.6
Total	100.0

69.4% of all the respondents gave correct answers to the first three questions; if, however, one also takes into account answers to other two questions regarding HIV transmission through shared use of a swimming-pool, toilet, or sauna and through shared usage of glass, the index is reduced to 43.8%.

An analysis by the regions showed the Western and Eastern regions to have the highest shares of top scorers (46.9% та 45.9%, respectively), while the lowest share was in the Central region (37.9%) (statistically significant difference at the level of 1%). The share of top scorers in the Southern region is not different from the one in the Western or Eastern regions, while being much higher than in the Central region (42.6%). Differences in shares of good scorers between the regions are statistically insignificant.

Table 8. Awareness of HIV/AIDS transmission modes, integral indices, percentages

		Top scorers	Good scorers	Bad scorers	Total
Service type	Officers	51.9	26.8	21.3	100
	Regular servicepersons	35.8	26.6	37.6	100
	Contract servicepersons	39.0	25.6	35.4	100

³ Such a division was used to analyze data from the 2004 survey of servicepersons. See *Monitoring of Servicepersons' Behavior as an Element of Second-Generation HIV Epidemiological Supervision*. // Pohorila N.B., Sasko O.V., Pashkovich V.L. – Kyiv, ICF International HIV/AIDS Alliance in Ukraine, 2005. – 28 pp.

	Cadets	60.0	17.1	23.0	100
Length of army service	Less than 1 year	36.5	25.7	37.9	100
	1 to 5 years	48.6	21.7	29.7	100
	5 to 10 years	47.8	27.8	24.5	100
	More than 10 years	48.3	26.3	25.4	100
Recruitment settlement type	Village	33.6	27.0	39.4	100
	UTS	42.7	26.8	30.5	100
	Small town	49.0	25.6	25.4	100
	Medium town	45.6	24.9	29.6	100
	City	49.1	23.9	27.0	100
Servicepersons' education	Primary	21.0	20.5	58.5	100
	Incomplete/basic secondary	31.0	20.8	48.2	100
	Complete secondary	41.7	25.4	32.9	100
	Specialized secondary	37.9	26.3	35.8	100
	Basic higher	54.6	24.9	20.4	100
	Complete higher	51.2	26.9	21.9	100

Based on our analysis of awareness of HIV/AIDS transmission modes among the target groups, we can state that the highest awareness level is observed among cadets – 60.0%. More than half among officers responded correctly to all five key questions -51.9% (the difference from cadets being statistically significant). By contrast, regular and contract servicepersons are noted for a perceptibly lower awareness level, compared to cadets and officers: 35.8% and 39%, respectively (the difference is significant at the level of 1%). Remarkably, the difference between regular and contract servicepersons is statistically insignificant. Thus we can arbitrarily talk of two relatively homogeneous categories: officers and cadets on the one hand and regular and contract servicepersons on the other hand. One of the main factors making these groups different from one another is educational attainment: on the average, officers and cadets have a higher level of education, compared to regular and contract servicepersons. Place of recruitment appears to be another factor; officers and cadets were more frequently recruited from settlements: 15.9% of the officers and 15.7% of the cadets were recruited from rural areas, whereas the respective share of regular servicepersons was as high as 34.5% and among contract servicepersons it was 20.9% (the difference in relation to officers and cadets being significant at the level of 1%).

Based on the distribution of awareness in terms of army service length, we can state that respondents serving for less than 1 year display a significantly lower level of awareness as compared to other interviewee groups, having a much smaller share of top scorers than any other category. The same trend is observed in relation to good scorers. Accordingly, with bad scorers it is the other way round.

As regards recruitment settlement type one can state that the share of top scorers is much lower among villagers than among urban dwellers. It should also be noted that UTS recruits have not been noted for a considerably low level of awareness of HIV/AIDS transmission modes, in comparison to recruits from small towns and cities. That situation results from the fact that the level of education in villages is a much lower than in towns/cities, and even in UTS.

Based on an analysis of the distribution of HIV/AIDS transmission modes awareness level over groups differing in educational attainment, one can arbitrarily single out three groups significantly differing from one another: higher, secondary (including specialized secondary), and incomplete secondary education. Accordingly, the first of these groups is characterized by a relatively higher level of HIV/AIDS awareness, yet this fact cannot be verified statistically on account of the small size of the group.

The table below presents the distribution of answers for servicepersons - men and women.

Table 9. Distribution of answers to the key questions of the National Index “Percentage of servicepersons correctly identifying ways to prevent sexual HIV transmission and being aware of ways in which HIV is not transmitted” among servicepersons - men and women, percentages

Content of questions	Content of answers	Men N=2357	Women N=326
It is possible to reduce the risk of HIV transmission by having sexual contacts with only one faithful non-infected partner	Yes	87.4	91.8
	No	7.7	3.6
	Don't know	4.9	4.6
	Total	100.0	100.0
It is possible to reduce the risk of HIV transmission by using a condom during sexual contacts	Yes	89.0	89.9
	No	7.0	5.0
	Don't know	4.1	5.1
	Total	100.0	100.0
A healthy-looking person can be HIV-infected	Yes	85.2	82.5
	No	4.7	3.1
	Don't know	10.1	14.5
	Total	100.0	100.0
One can contract HIV through drinking from a glass with an HIV-infected person	Yes	15.6	15.0
	No	68.7	70.3
	Don't know	15.7	14.8
	Total	100.0	100.0
One can contract HIV through sharing a toilet, swimming-pool, sauna with an HIV-infected person	Yes	12.8	20.8
	No	66.0	62.5
	Don't know	21.2	16.8
	Total	100.0	100.0

Based on the distribution of answers to the key awareness-level questions, we can say that women demonstrate higher awareness when answering some questions, as compared to men. This pertains to the question about the possibility to reduce the risk of contracting HIV by having sexual contacts with only one faithful non-infected partner (correct answers given by 91.8% of the interviewed women and by 87.4% of the men) - the difference being significant at the level of 5%. In regards to the rest of the questions no significant differences were revealed.

3.2. Analysis of additional questions which are not included in the National Index “Percentage of servicepersons correctly identifying ways to prevent sexual HIV transmission and being aware of ways in which HIV is not transmitted”

In 2007 the following questions did not included into the National Index calculation: whether one can contract HIV through an insect's sting and whether one can contract HIV as a result of drinking from the same glass with an HIV-infected individual. To allow comparisons, however, they were left in the questionnaire. The table below presents the distribution of answers to these questions.

Table 10. Servicepersons' awareness of HIV transmission modes, percentages

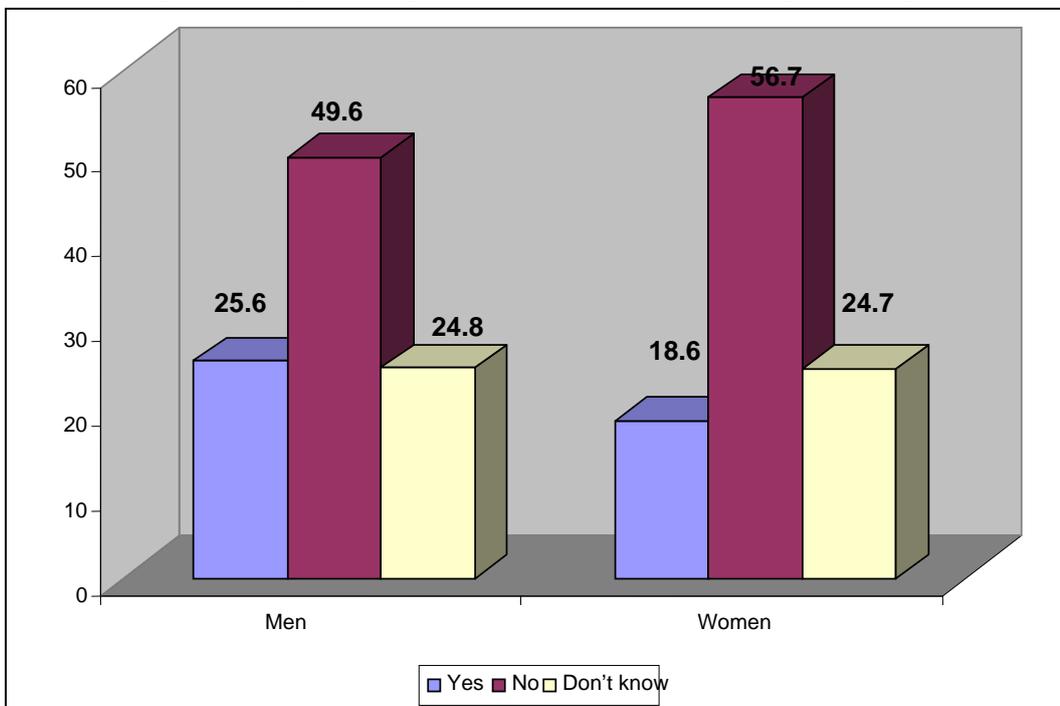
Content of questions	Content of answers	Officers N=853	Regular servicepersons N=868	Contract servicepersons N=765	Cadets N=197	Total N=2683
One can be infected with HIV through an insect's sting	Yes	18.8	32.1	23.0	24.9	24.7
	No	59.1	41.1	49.2	57.8	50.5
	Don't know	22.1	26.9	27.8	17.3	24.8
	Total	100.0	100.0	100.0	100.0	100.0
One can be infected with HIV	Yes	11.6	18.9	18.1	9.6	15.6

as a result of drinking from the same glass with an HIV-infected person	No	72.4	65.1	66.3	78.8	68.8
	Don't know	16.0	16.1	15.6	11.7	15.6
	Total	100.0	100.0	100.0	100.0	100.0

The distribution of answers to the question, “Can one be infected with HIV through an insect’s sting?” shows officers and cadets to have the highest awareness level (the difference in relation to regular and contract servicepersons being significant at the level of 1%). The least aware category regarding this question is that of regular servicepersons, of whom only 41.1% gave the correct answer. As for the second question, one may suggest that it has turned out to be the easiest one, and 92.4% of interviewed servicepersons responded correctly to it. Regular servicepersons have been found to possess the lowest level of awareness; no statistically significant differences among other groups have been found

The diagram below presents the distribution of answers to these questions from servicemen and servicewomen.

Diagram 1. Distribution of answers to the question, “Can one be infected with HIV through an insect’s sting?” among servicepersons - men and women, percentages



As we can see, women more frequently gave the right answer to the question about HIV transmission through an insect’s sting (the difference being significant at the level of 5%), which attests to their higher awareness level. By contrast, no significant difference was observed between men’s and women’s answers to the question about the glass of water.

This survey was also meant to identify the level of servicepersons’ awareness of HIV mother-to-child transmission modes. Although these questions were not used in calculating the National Index, still they can provide a broader view of knowledge about HIV. The table below presents the distribution of answers to the indicator questions over the target groups.

Table 11. Servicepersons' awareness of HIV/AIDS mother-to-child transmission modes, percentages

Content of questions	Content of answers	Officers N=853	Regular servicepersons N=868	Contract servicepersons N=765	Cadets N=197	Total N=2683
HIV can be transmitted from an HIV-infected mother to her child during pregnancy	Yes	87.9	79.9	85.7	85.7	84.6
	No	5.4	5.3	3.9	3.3	4.7
	Don't know	6.7	14.8	10.4	11.0	10.7
	Total	100.0	100.0	100.0	100.0	100.0
HIV can be transmitted from HIV-infected mother to her child during childbirth	Yes	72.3	49.7	67.3	63.1	62.9
	No	6.1	8.8	7.2	8.0	7.4
	Don't know	21.7	41.5	25.5	28.9	29.7
	Total	100.0	100.0	100.0	100.0	100.0
HIV can be transmitted from HIV-infected mother to her child during breast-feeding	Yes	30.1	34.4	37.8	31.3	33.8
	No	35.7	19.0	24.0	27.8	26.4
	Don't know	34.1	46.6	38.2	40.9	39.8
	Total	100.0	100.0	100.0	100.0	100.0

There are significant differences in answers to the question about mother-to-child transmission of the infection during pregnancy (officers being significantly different in this aspect from the other groups), about HIV transmission during childbirth (officers are more knowledgeable than the rest of the groups; the least knowledgeable category is that of regular servicepersons; no significant difference was observed between contract servicepersons and cadets). The question about HIV transmission during breast-feeding was the most difficult one. It came as a surprise that, in relative terms, the most knowledgeable group regarding this question was that of contract servicepersons. A possible explanation could be that this group of servicepersons includes many women who may have obtained that information at maternity hospitals and antenatal clinics (as regards this question the difference between women and men is quite considerable and significant: 45.8% and 32.1%, respectively). The table below presents the distribution of men's and women's answers to these questions in greater detail.

Table 12. Servicepersons' awareness of HIV/AIDS mother-to-child transmission modes, percentages

Content of questions	Content of answers	Men N=2 357	Women N=326
HIV can be transmitted from HIV-infected mother to her child during pregnancy	Yes	84.2	87.3
	No	4.8	4.2
	Don't know	11.0	8.5
	Total	100.0	100.0
HIV can be transmitted from HIV-infected mother to her child during childbirth	Yes	61.9	70.7
	No	7.3	7.8
	Don't know	30.8	21.4
	Total	100.0	100.0
HIV can be transmitted from HIV-infected mother to her child during breast-feeding	Yes	32.1	45.8
	No	27.0	22.3
	Don't know	40.9	31.9
	Total	100.0	100.0

Consequently, we can say that women gave correct answers to the question about HIV transmission from mother to her child women significantly more frequently than men did. Actually, this outcome was quite predictable, because women may have obtained relevant information at antenatal clinics.

Summing up, servicepersons are aware of the main HIV transmission modes, but the question about ways in which HIV is not transmitted (sharing a toilet or sauna; an insect’s sting; drinking from the same glass with an HIV-infected person) appear to be quite difficult to answer. On the whole, women give the right answers more frequently than men do. Officers and cadets are much more knowledgeable than regular and contract servicepersons. The cultural environment from which a respondent comes also affects the level of his/her awareness: recruits from villages are much less knowledgeable than urban draftees about HIV-related issues.

4. BEHAVIOR IN AREAS RELATED TO THE RISK OF CONTRACTING HIV/AIDS AND ITS RELATIONSHIP WITH SERVICEPERSONS’ HIV/AIDS AWARENESS LEVEL

4.1. Behavior related to the risk of being infected (sexual relations, injection drug abuse, tattooing and piercing)

Sexual relations

According to survey data, most servicepersons had sexual contact at least once in their life (94.4%); more specifically, officers, 98.5%; regular servicepersons, 91.4%; contract servicepersons, 95.6%; cadets, 86.5%.

The table below presents the age-of-starting-sexual-life distribution among those respondents who had sexual contact at least once in their life.

Table 13. Distribution of answers to the question, “At what age did you first have sex?”N=2683

Age	Percentages
Under 15 years (< 15)	17.5
15-16	31.9
17-18	33.4
19-20	13.1
21 or more	4.1
Total	100.0

As we can see, nearly one fifth of the interviewees entered into sexual relationship before they were 15. In the groups of officers and contract servicepersons the respective shares are smaller (11.8% and 15.1%, respectively). At the same time, such shares are larger among regular servicepersons and cadets: 22.8% and 27.7%, respectively. Table 14 presents the average age of starting sexual life depending on the target group.

Table 14. Average age of the interviewed servicepersons and average age of starting sexual life depending on type of service

	Average age, N=2 671	Average age of starting sexual life, N=2 445
Officers	30.4	17.4
Regular servicepersons	19.2	16.1
Contract servicepersons	29.5	17.6
Cadets	19.8	16.0

We can say that the age of starting sexual life has been decreasing: officers and contract servicepersons are, generally, older and their first sexual contact came, on the average, one year later than among representatives of the groups of contract servicepersons and cadets.

The age of starting sexual life is influenced by differences in the cultural environment, i.e. in this case the type of draftee's settlement. Overall, villagers tend to start sexual life at an earlier age, in comparison to respondents coming from urban settlements (regardless of urban settlement size).

According to survey data, 92.1% of the servicepersons had sexual contacts during the past 12 months. For regular servicepersons the respective share (85.4%) is somewhat lower than for the other groups: officers, 97.8%; contract servicepersons, 92.2%; and cadets, 94.1% (the difference being significant at the level of 1%). These differences can be accounted for by differences among these groups in terms of opportunities they have freely to leave the limits of their military unit. No significant difference was observed between first-year and senior cadets in terms of having sexual contacts during the past year.

Fewer rural recruits had sexual contacts during the past year (89.2%), in comparison to draftees from cities (94.3%) and from UTS (93.1%). No significant difference was observed in relation to recruits from small and medium towns.

During the past 12 months, 41.9% servicepersons had sexual contacts with sporadic partners. Nearly two thirds of the regular servicemen and cadets having sexual relationships during the past twelve months had sexual intercourse with a sporadic female partner. It was explained in the questionnaire that a sporadic partner is someone other than the respondent's wife/husband or a person with whom the respondent has been living side by side or whom the respondent has been dating for a long time. Relationships with sporadic partners are much less frequent among officers and contract servicepersons, being reported by about one third of the members of those groups. Nevertheless, one might say that this is also quite a lot, inasmuch as most of the officers (73.1%) and a little more than half of the contract servicepersons (54.6%) are married (including unofficial alliance).

In connection with the regional shares of sporadic relationships we would like to note that the Western region has the highest percentage of respondents dealing with casual partners during the past year (45.9%); there are significant differences in relation to the Central (38.3%) and Southern regions (40.3%). Such a share might be described as a rather expected one; indeed, the Western region is noted for rather strong attachment to traditional values. A likely explanation consists in draftee rotation wherein recruits have to serve in oblasts other than their own. However, it appears to be impossible to estimate the share of servicemen whose military units are outside the oblast from which they were recruited.

The share of servicemen having sporadic contacts is influenced by such factors as educational attainment, marital status, length of army service, and military rank. Availability of casual sexual contacts does not essentially correlate with recruitment settlement type. The share of those who had contacts with sporadic partners during the past 12 months is significantly decreased starting from respondents with specialized secondary education (42.1%); the difference in relation to interviewees with complete secondary education (52.2%) is significant at the level of 5%. As regards marital status the share of married respondents having casual relationships is almost three times smaller than that of unmarried interviewees.

A dramatic difference was observed between the share of those believing that most of their colleagues gave sincere answers to the survey questions (82%) and the share of those thinking the answers were insincere (18%). In the former group, the share of respondents who reported having sex with casual partners (40.5%) was 8.3% smaller than in the latter group (48.8%). In this case it is impossible to determine which of these groups was in fact sincere. All we can say is that servicepersons expressing skepticism about the survey and their colleagues' sincerity are more inclined towards risky behavior.

Not all of the servicepersons affirmatively answering the question about having casual partners agreed to respond to the question about the number of such partners and the use of condoms during the most recent contact. This resulted in a decrease in the total number of relevant respondents whose answers are analyzed below. Table 15 presents the distribution of respondents by the number of their sporadic partners.

Table 15. Distribution by number of sporadic sexual partners, N=870, percentages

	Sporadic partners	Commercial partners
One partner	33.6	10.5
1-5 partners	49.9	6.5
6-12 partners	11.2	2.7
More than 12 partners	4.9	0.8
No partners	0.4	79.5
Total	100	100

As one can see from Table 15, nearly half of those agreeing to answer this question had between one and five casual partners, whereas 33.6% had only one casual partner. 10.5% of those who answered the question had one partner for money; most of the respondents did not have any contacts with commercial partners at all.

Awareness of HIV/AIDS-related issues contributes to some extent towards decreased use of paid sex services, while not influencing the number of casual partners. Furthermore, that awareness has little if any impact on the use of condoms. In the first place, this pertains to contacts with casual partners; there is a weak relationship regarding contacts with commercial partners.

Table 16. Relationship between HIV/AIDS awareness and number of commercial partners, N=870, percentages

	Top scorers	All others
One partner, N=89	50.5	49.5
1-5 partners, N=61	36.2	63.8
6-12 partners, N=24	29.2	70.8
More than 12 partners, N=8	28.6	71.4
No partners, N=688	51.5	48.5

No significant differences were observed among the target groups in terms of use of paid sex services (the difference between officers and regular servicepersons is insignificant, whereas the other groups are too small for any definite conclusions to be drawn).

The use of paid sex services is influenced by the region of respondents' service. In the Western region commercial partners are contacted less frequently than in the Eastern and Southern regions (11.0% against 25.3% and 19.3%, respectively). It should be noted that sex services are most popular in the Eastern region.

For servicepersons, the **National Index "Percentage of servicepersons reporting the use of a condom during sexual contacts with their sporadic sexual partner"** is 73%; that is the share of interviewed servicepersons who reported using a condom during the most recent sexual contact with a sporadic partner. That parameter is higher among the users of commercial partners' services (86.4%) than among those describing their partners as "casual" ones (73.6%).

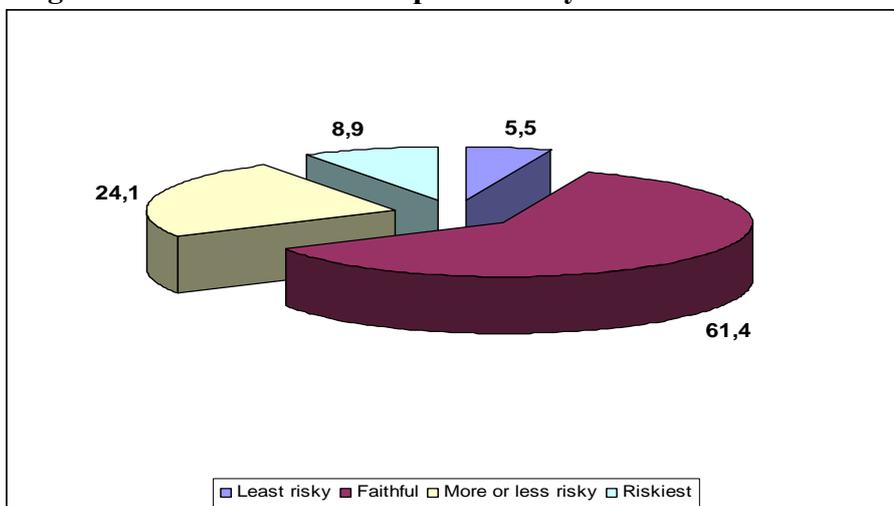
In terms of individual target groups, the National Index is 67% for officers, 80.2% for regular servicepersons, 67.7% for contract servicepersons, and 72.4% for cadets. The safest behavior was that of regular servicepersons; in relation to officers and contract servicepersons the difference is significant at the level of 1%. At the same time, no significant difference was observed between regular servicepersons and cadets.

Condom use correlates to some extent with country region. Among those dealing with casual partners, the shares of condom users are: in the West, 71.3%; in the Center, 77.8%; in the East, 68.4%; and in the South, 75.4%. Yet the only statistically significant difference is that between the Center and the East; differences involving any other region are insignificant.

Recruitment settlement does not impact the frequency of condom use.

Diagram 2 presents the distribution of respondents by the risk level of their behavior. Condomless contact with a sporadic partner can be regarded as the highest level of risky behavior. In this survey the share of such respondents is 8.9% (in Diagram 2 these are referred to as “the riskiest”). Those who contacted casual partners but did use a condom can arbitrarily be described as “more or less safe.” They account for 24.1% of the sample. We do not know anything about the use of a condom during their earlier sexual contacts with sporadic partners; nor do we know anything about those partners. Ranking next in terms of risk level are respondents who either had sexual contacts (of any sort whatsoever) more than a year ago or had permanent partners only. Again, we do not know anything about the behavior of their partners or about the use of a condom during intercourse with the earlier partners. Such respondents can arbitrarily be described as “faithful”; they account for 61.4% of the sample. Finally, the last groups which it is expedient to single out is that of respondents displaying the least risky behavior in the sexual realm, i.e. those who had no sexual contacts at all. They account for 5.5% of the sample; we will refer to them as “the least risky” ones.

Diagram 2. Distribution of respondents by the risk level of their sexual behavior, percentages



As we can see, the index of riskiest behavior is rather small. That index varies insignificantly over the target groups of servicepersons. As regards the “more or less safe” respondents it should be noted that their share is equal in the groups of regular servicepersons and cadets (33.3%), exceeding by far the relevant shares among officers and contract servicepersons (19.2% and 16.6%, respectively). It might also be expedient to note that among those respondents who believe that most of their colleagues gave insincere answers the riskiest-level share (12.1%) is much higher than the respective share in the group of those believing their colleagues were sincere (8.1%); that difference is statistically significant at the level of 1%).

One of the survey hypotheses posited that servicepersons have rather limited opportunities to acquire condoms. Survey results make it possible to identify places where servicepersons most frequently purchase or obtain condoms.

Table 17. Distribution of answers to the question, “Did you purchase/obtain condoms in the below listed places during the past month?”, percentages

	Purchased	Obtained
Pharmacy, N=967	56.1	1.1
Medical/sanitary unit, N=952	3.0	2.7
Boyfriend/girlfriend, N=952	7.2	13.8
Kiosk, N=955	24.1	1.9
Shop/supermarket, N=958	25.8	2.6

Bar, N=946	7.2	1.9
Elsewhere, N=490	1.5	7.4

Not all servicepersons agreed to answer this question. As to those who did, they most frequently purchased condoms at pharmacies; less frequently, at supermarkets and kiosks. Condoms were obtained for free primarily from friends. Those respondents who reported having been given condoms at a pharmacy or a supermarket must have attended a charitable event featuring distribution of condoms as one of its elements.

In terms of target groups available data allow comparisons only in relation to pharmacy as the place of condom acquisition. As regards the other places the groups' sizes are too small for statistical analysis. As was to be expected, at pharmacies condoms were most often purchased by officers (62.3%), less often, by contract servicepersons, cadets, and finally, condoms were least frequently purchased by regular servicepersons.

Other risk factors: men having sex with men, tattooing (and piercing), injection drug abuse

According to survey data, 2.9% (73 persons) affirmatively answered the question, “Did you have sexual relations with persons of the same gender during the past 12 months?” And just 11 persons within that 2.9% share reported having used a condom during that sexual intercourse. With reference to reasons for not using a condom, the following options were chosen most frequently: “it was unavailable” (10 respondents), “I don’t like doing it with a condom” (39 respondents), and “it reduces sensitivity” (11 respondents). Those respondents who reported having sex with persons of the same gender included 18 officers, 30 regular servicepersons, 21 contract servicepersons, and 4 cadets; 9 respondents were females.

When analyzing risky behavior one might conjecture that a person’s behavior which is safe in terms of sexual contacts (i.e. absence of any sexual contacts whatsoever) does not necessarily mean safe behavior in other aspects, for example regarding injection drug abuse or tattooing. Survey data reveal, however, that respondents without any sexual experience at all are also characterized by safe behavior in relation to injection drug abuse. According to these respondents themselves, none of them has ever resorted to injection drugs.

As the number of respondents who reported using injection drugs is small, this rules out any statistical generalizations. Of all the interviewed servicepersons, 41 acknowledged having used drugs through injection at least once in their life and 11 had done so during the past 12 months. Furthermore, 4 of them used syringes which had previously been used by others. According to our analysis, respondents who have ever used injection drugs are distributed over the target groups in the following way: officers, 12; regular servicepersons, 22; and contract servicepersons, 7. None of the cadets reported having used a syringe to inject drugs.

Among those who have ever used drugs through injection, 17 persons gave correct answers to the five key questions of the National Index of HIV/AIDS awareness.

Of all the interviewed servicemen and servicewomen, 6% (156 persons) underwent tattooing or piercing during their period of army service. In that group, officers and contract servicepersons account for the largest shares (41.4% and 32.5%, respectively), while the smallest share is that of cadets (10.6%). 79% of those who underwent tattooing are confident that the instruments were sterilized. No correlation with the level of awareness of HIV/AIDS was revealed. Most of those who underwent tattooing are aware that sharing injection tools can result in contracting HIV.

An analysis of the regional distribution of respondents who underwent tattooing showed that this practice is more frequently encountered in military units of the Eastern (38.4%) and Southern (31.4%) regions

than in the Western (20.1%) and Central (10.1%) regions. Tattooing and piercing are more popular among respondents from urban settlements than among rural recruits (81.9% and 18.1%, respectively).

4.2. Impact of servicepersons' HIV/AIDS awareness level on HIV risk behavior

There has to be a correlation between knowledge and behavior. One might conjecture that people aware of HIV transmission modes behave in a less risky way than the unaware ones. Survey data reveal, however, that there is only a partial correlation: respondents who are least aware of HIV are also least risky in the sexual aspect, having the smallest share of “top scorers” regarding HIV-related issues (32.2%); in all other categories the respective share is higher. One gets the impression that respondents without any sexual experience are least knowledgeable about HIV transmission modes, since they think that knowledge of that sort is unnecessary for them, even though not all of the questions in the list pertain to the sexual mode of HIV transmission.

Table 18. Behavior riskiness depending on HIV awareness, percentages

Risk levels of sexual behavior	Top scorers	All others
Least risky	32.2	67.8
Faithful	43.3	56.7
More or less risky	47.1	52.9
Riskiest	44.4	55.6

Thus we cannot say that higher awareness of HIV/AIDS (in particular of the transmission modes of the infection) brings about safer behavior.

Since now we are focused on the riskiness of sexual behavior, rather than of any other type of conduct, it is expedient also to review the distribution of answers to the question, “Is it possible to reduce the risk of HIV transmission by having sexual contacts with only one faithful non-infected partner?”

Table 19. Distribution of answers to the question, “Is it possible to reduce the risk of HIV transmission by having sexual contacts with only one faithful non-infected partner?” in the different risk groups, percentages

Risk levels of sexual behavior	Yes	No	Don't know	Total
Least risky	77.7	14.9	7.4	100.0
Faithful	88.7	6.5	4.8	100.0
More or less risky	88.2	7.3	4.5	100.0
Riskiest	88.3	6.3	5.4	100.0
Total	88.0	7.1	4.9	100.0

Servicepersons with the highest level of risky behavior (those who had sporadic partners and did not use a condom during such sexual intercourse) somewhat more frequently responded “Don't know,” in comparison to the faithful and more-or-less-risky categories. Respondents with no sexual experience at all were, in relative terms, more often unable to give a definite answer than any other category. Yet it is impossible to determine whether the differences are significant here, on account of the small number of respondents choosing this answer option.

One of the survey hypotheses posited that villagers are less aware of HIV/AIDS, yet at the same time their sexual behavior is less risky than that of servicepersons originating from urban areas. Survey data only partially confirm this hypothesis: recruits from villages indeed display much lower awareness (at the level of 1%) of HIV/AIDS-related issues (among them the share of top scorers is 33.6%, contrasting with 46.9% among interviewees from urban areas). At the same time, however, no significant difference was observed between village and urban recruits in terms of sexual behavior riskiness; a difference can be traced only at the level of the least risky interviewees, i.e. those having no sexual experience at all.

Searching for a possible correlation between villagers' HIV/AIDS awareness level and number of their sporadic partners revealed no statistically significant relationship.

Thus we can say that in general there is only a partial relationship between HIV/AIDS awareness level and behavior riskiness. Respondents with the least risky sexual behavior displayed a relatively low level of HIV awareness. As to the other categories (faithful, more or less risky, and riskiest) no correlation with the awareness level was observed.

The share of respondents with sporadic contacts is influenced by factors such as educational attainment, marital status, army service length and military rank. There is practically no correlation between having sporadic sexual contacts and recruitment settlement. Using paid sex services is more characteristic of servicepersons in the Eastern region, while commercial partners' services are least popular among servicepersons in the Western region. In comparison with respondents originating from urban settlements, recruits from villages relatively less frequently get involved in sexual contacts with sporadic partners.

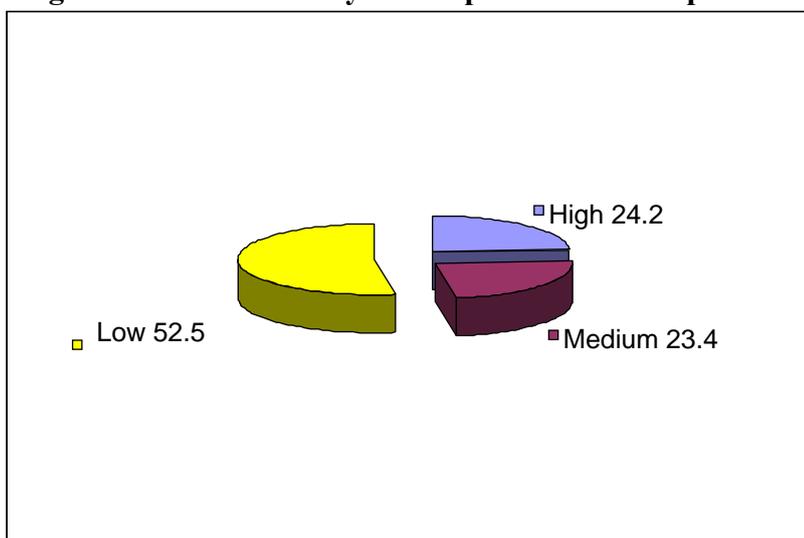
In view of the small sizes of the riskiest-behavior groups (sexual relations with other partners or with individuals of the same gender, using non-sterilized tattooing instruments) it is impossible to assess how different their awareness level is from that of the other respondents.

5. IMPACT OF HIV/AIDS AWARENESS AND INFECTION RISK RELATED BEHAVIOR ON RESPONDENTS' ASSESSMENT OF THEIR PERSONAL RISK OF CONTRACTING HIV

5.1. HIV/AIDS and servicepersons' assessment of personal risk of contracting HIV

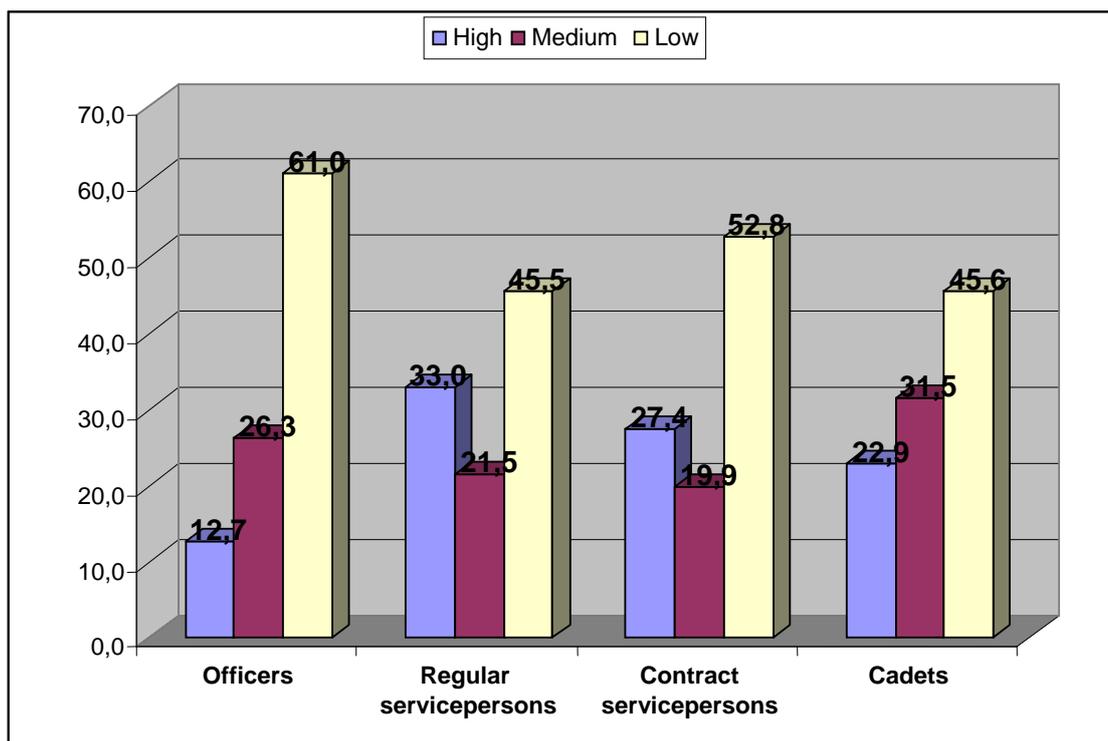
Diagram 3 presents servicepersons' estimates of their personal risk of being infected.

Diagram 3. Assessment by servicepersons of their personal risk of being infected, percentages



HIV 24.2% of the interviewed servicepersons consider their personal risk of being infected to be high. In view of the fact that the sexual behavior of just 8.9% of the servicepersons is undoubtedly risky, 24.2% may be described as an excessively high figure. One might conjecture that factors other than sexual behavior come into play here (medical manipulations, socially formed fear of HIV/AIDS, etc.). The below diagram presents the distribution of estimates regarding the risk of being infected in the four target groups.

Diagram 4. Estimates of the risk of contracting HIV in different groups of servicepersons, percentages



One can see at once that the lowest risk estimate comes from the interviewed officers; the distance to the nearest group (cadets) is a little more than 10%. This could have been attributed to the small number of officers' sporadic partners, if it had not been for contract servicepersons, since the shares of respondents having sporadic sexual contacts is almost identical in these two groups (33.0% and 31.0%, respectively), whereas their estimates of personal risk are considerably different (the difference being significant at the level of 1%). Possible explanations could be related to differences in HIV/AIDS awareness levels (officers are much more knowledgeable; among them the share of "top scorers" is as high as 51.9%, whereas the respective shares among regular and contract servicepersons are 35.8% and 39%, respectively) or in educational attainment (most officers have higher education, whereas contract servicepersons predominantly have obtained complete secondary or specialized secondary education). In this connection, however, one should look at the group of cadets, whose HIV awareness level is also high (60% of "top scorers"), yet their estimate of personal risk of being infected is higher than the officers' estimate. On the whole, as one can see from the diagram, once again two categories can be singled out: officers and cadets on the one hand and contract and regular servicepersons on the other hand.

The size of the group of officers and contract servicepersons having sporadic partners rules out any definite conclusions as to whether there is any difference in risk assessment between the category of risk-behavior respondents and that of safe-behavior respondents. Comparisons can only be made between interviewee categories having no other partners but regular ones or having their previous sexual contact more than a year ago (Table 20 data). As far as cadets are concerned no comparisons are possible on account of small sizes of the categories in question.

Table 20. Risk evaluation depending on the riskiness level of sexual behavior in different groups of servicepersons, percentages

	High	Medium	Low	Total
Officers N=853				
Faithful	11.6	25.2%	63.2%	100.0%
Regular servicepersons N=868				
Faithful	33.6	20.9	45.4	100.0%
More or less safe	29.7	19.8	50.5	100.0%

Contract servicepersons N=765				
Faithful	24.9	18.8	56.3	100.0%
All servicepersons N=2683				
Least risky	31.5	26.8	41.6	100.0
Faithful	22.4	21.9	55.7	100.0
More or less safe	24.4	23.6	52.0	100.0
Riskiest	31.4	30.1	38.5	100.0

Looking at the “faithful” category only, we can see that the feeling of high risk is characteristic of nearly 34% of the interviewed regular servicepersons, almost 25% of the contract servicepersons, and just 11.6% of the officers. All differences are significant at the level of 1%. Since in this case we are talking of the category of respondents displaying safe sexual behavior, the rather high estimate of personal risk of being infected given by the regular servicepersons and contract servicepersons may be accounted for by inadequate knowledge.

If we look at all servicepersons collectively, however, we will see that, remarkably, the risk is considered to be high by respondents displaying the riskiest sexual behavior as well as by those whose behavior is least risky (31.4% and 31.5%, respectively). The differences in relation to the “faithful” ones are statistically significant for either of these two categories; as to the “more or less safe” interviewees they demonstrate an essential difference with respect to the riskiest group only. Noteworthy is the fact that in each category a majority of the respondents are of the opinion that the risk of their being infected is low. We emphasize that this also pertains to the group of riskiest servicepersons, i.e. that group consists of individuals who have sporadic partners and who did not use a condom during their most recent contact.

One of the survey hypotheses posited that senior servicepersons (aged 30-49) tend to underestimate their personal risk of being infected. Our analysis confirmed that hypothesis, revealing a statistically significant (at the level of 1%) difference in the estimates of the risk of contracting HIV between the age categories of 18-29 and 30-50 years. In the former category, 26.8% believe that the risk of their being infected is high; in the latter one, 17.7% are of the same opinion about their own risk. That difference results from the fact that a majority of the 30-50 years group are either officers or contract servicepersons. We emphasize that most of the members of this age group rank among the “faithful” category. The riskiest group accounts for 7.6%; those are servicepersons who had sporadic sexual partners within the previous 12 months and did not use a condom. It is not possible to make comparisons between groups of different risk levels of behavior on the basis of available data; only the “faithful” category is large enough.

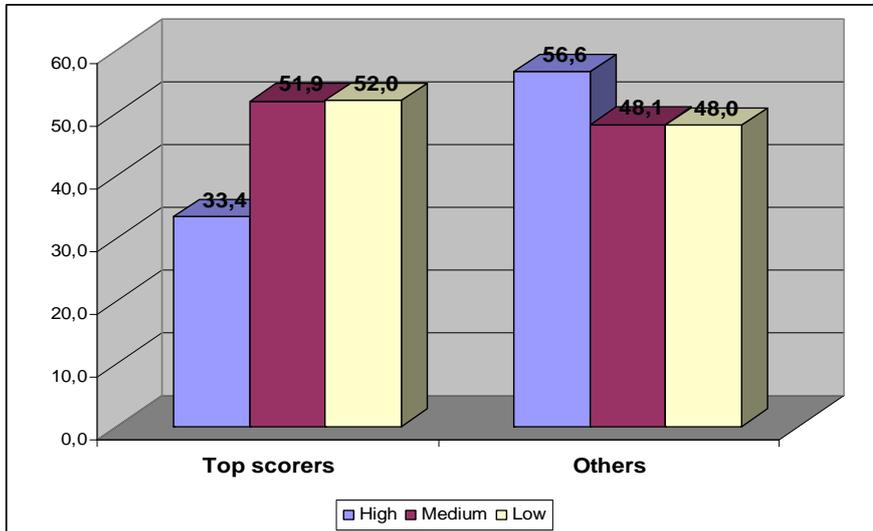
No difference in risk assessment was observed between those who underwent tattooing during the past year of service and those who did not do so. The share of servicepersons who had undergone tattooing or piercing and estimated their risk to be high is 27.5% (all in all, 156 servicepersons said they had undergone tattooing or piercing during their army service). In the group of injection drug users (41 respondents), 18 persons found their personal risk of contracting HIV to be high. The risk was also believed to be high by 34 (out of 73) respondents who had had sexual contacts with persons of the same gender.

Compared to servicemen, servicewomen estimate the risk of themselves being infected to be much lower: only 19.7% of them believe it is high, while the respective share among the interviewed servicemen is 24.8% (the difference being significant at the level of 5%). Most probably, this is related to the fact that the models of servicewomen’s behavior are much safer than those of servicemen. Of all the female interviewees (326), just 24 reported having sexual contacts with casual partners during the previous year.

One can conclude that there is a reverse relationship between the awareness level and the personal risk estimate. In the group of top scorers regarding HIV/AIDS-related issues, the share of those believing their personal risk of contracting the virus is high is much smaller than elsewhere; by contrast, 30.3% of all others (good scorers and bad scorers collectively) estimate the risk to be high (the difference is significant

at the level of 1%). It should be noted, however, that we do not know anything about serviceperson’s knowledge of any other HIV/AIDS-related issues, for example about the general situation in Ukraine, about the intensity of the epidemic, etc. We can only conjecture that more extensive knowledge might change the assessment of one’s personal risk. Survey data are insufficient, however, to test that assumption.

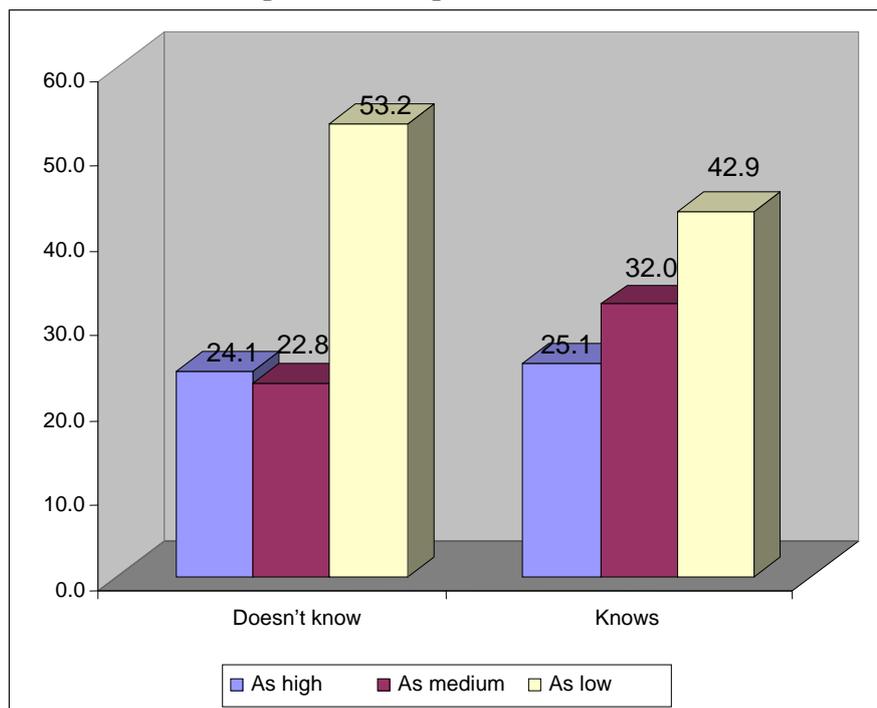
Diagram 5. Estimate of personal risk of being infected and HIV awareness level, percentages



Villagers generally give a higher estimate to personal risk of contracting HIV, as compared to respondents from urban settlements: 31.5% of recruits from rural areas consider their risk to be high, compared to 21.9% in the group of urbanites (the difference being significant at the level of 1%). An analysis by the regions shows the feeling of risk to be least pronounced in the Western region, where 20.6% are of the opinion that they face a high risk of being infected (the difference in relation to the other regions being at the level of difference 5%).

It might be conjectured that one of the factors capable of impacting a person’s estimate of his/her risk of being infected is acquaintance with an HIV-infected person. The better someone knows what HIV is (not only theoretically but on the basis of communication with HIV-infected individuals as well), the higher his/her estimate of personal risk is likely to be. According to survey data, 6.5% of the interviewed servicepersons said they know such an individual. The diagram below presents estimates of the risk of being infected depending on whether or not the interviewed serviceperson is acquainted an HIV-infected individual.

Diagram 6. Estimates of personal risk of contracting HIV depending on whether or not the interviewed serviceperson is acquainted an HIV-infected individual, percentages



Based on a comparison of assessments by respondents familiar vs. unfamiliar with HIV-infected persons, we can say that the risk of contracting HIV was estimated to be high by almost equal shares of those personally acquainted with PLHA and those who do not know such people. Differences manifest themselves when it comes to “medium” and “low” estimates of the risk. Those unfamiliar with PLHA more frequently described the risk as low, compared to servicepersons personally familiar with PLHA (the difference being significant at the level of 1%). Thus acquaintance with PLHA results in a certain increase in the risk estimate, without raising it to the “high” notch though. In view of the small number of respondents familiar with PLHA it is impossible to analyze the group in terms of specific parameters.

5.2. Interrelationship between servicepersons’ knowledge of HIV/AIDS, estimate of personal risk, and the fact of having been tested for HIV

Testing for HIV is not related to the National Index; it is only important for assessing the risk of contracting HIV as well as in terms of HIV/AIDS awareness. The National Index “Percentage of servicepersons who in the past 12 months underwent testing for HIV and obtained the results” for servicepersons in general is 10.7%. According to survey data, 32.9% of the interviewed servicepersons were tested for HIV at least once in their life.

Table 21. Distribution of answers to the question, “Have you ever been tested for HIV” over the target groups, percentages

	Were tested
Officers N=853	36.9
Regular servicepersons N=867	20.8
Contract servicepersons N=763	44.5
Cadets N=197	23.1

The largest share of respondents tested for HIV is in the group of contract servicepersons (the difference in relation to the other groups being significant at the level of 1%). One might conjecture that the relatively highest parameter displayed by contract servicepersons is accounted for, among other things, by the fact that their group included former participants in peacekeeping missions, to whom this testing had been obligatory. An analysis of servicepersons’ answers showed the share of peacekeepers who had been tested for HIV to be 72.6%; 28.3% of them underwent testing during the previous year. Moreover, the

sample included servicewomen (most of them serving on a contractual basis) who may have been tested for HIV at antenatal clinics or maternity hospitals. A more detailed analysis confirmed that assumption: 56.6% of the interviewed women were tested for HIV at least once in their life, whereas among the male respondents the respective share was only 29.6%.

It should be noted that the smallest frequency of being tested for HIV is in the group of respondents serving for less than one year (most of them are regular soldiers and cadets). The difference in relation to the other groups is significant (at the level of 1%). At the same time, one cannot say that the other groups are essentially different from one another in this respect.

Table 22. Correlation between being tested for HIV and army service length, percentages

	Were tested
Less than 1 year	21.5
1 to 5 years	36.2
5 to 10 years	39.6
More than 10 years	41.7

Quite essential is the question of voluntariness of the test for HIV. According to survey data, 81% of those ever tested for HIV underwent the testing voluntarily. An analysis of the answers in the groups showed compulsory testing to have occurred most frequently among the officers, 77.1% of whom said they had been tested voluntarily, against e.g. 87.6% among regular servicepersons. On the other hand, no essential difference was observed between officers and contract servicepersons or between contract and regular servicepersons. The small size of the group of cadets rules out any comparisons involving their voluntariness percentage. A more detailed analysis revealed no essential difference, in terms of testing frequency, between men and women. With women, however, the issue of voluntariness is rather controversial; for example, can one refer to a test performed at an antenatal clinic during pregnancy as a voluntary one?

According to survey data, the least risky respondents appeared to be the ones most rarely tested for HIV. Although respondents belonging to the other groups were clearly tested more frequently, no statistically significant difference between them was observed. Thus we cannot say that riskier situations (behaviors) tend to lead to a higher testing rate among servicepersons.

Table 23. Sexual behavior and frequency of testing for HIV, percentages

	Were tested
Least risky	18.1
Faithful	33.8
More or less safe	32.5
Riskiest	36.8
All servicepersons together	32.9

An analysis by the regions showed that the testing rate was highest among servicepersons in the Eastern and Southern regions: 38.0% and 37.2%, respectively (no statistically significant difference existing between these two regions). By contrast, the rate of testing is lowest in the Western region: 23.1% (differences with the Eastern or Southern regions at the level of 1%). In the Central region, 31.2% of the servicepersons reported having been tested for HIV at least once in their life. It should be noted that the frequency of testing for HIV reflects the general epidemiological tendency throughout Ukraine, since the Eastern and Southern regions are believed to have been worst affected by the HIV epidemic.

Testing frequency is also influenced by the level of HIV/AIDS awareness. Top scorers of the National Index “Percentage of servicepersons correctly identifying ways to prevent sexual HIV transmission and being aware of ways in which HIV is not transmitted” are tested for HIV more frequently than all others

(35.5% against 30.8%); although the difference is small, yet it is statistically significant (at the level of 5%).

No correlation was observed between one’s estimate of the risk of being infected and decision to undergo testing.

According to survey data, 28 members of the group of respondents having sexual relations with representatives of the same gender in the past 12 months (73 persons) were tested for HIV. Quite interesting was the distribution of those who had undergone tattooing or piercing while in the army: half of them reported having been tested for HIV at least once in their life and half had not been tested. 22 people among those ever using injection drugs had been tested for HIV at least once in their life.

Summing up, we can conclude that the level of awareness of HIV/AIDS-related issues does impact the estimate of personal risk of being infected. The lowest estimate is in the group of officers; the highest, in the group of contract servicepersons. Behavior riskiness also affects risk estimate: the riskiest and the least risky give a relatively higher estimate of the personal risk of being infected, in comparison with the more or less risky or the faithful. Respondents with the safest sexual behavior most likely relate their risk of being infected to nonsexual modes of HIV transmission. Compared to servicemen, servicewomen tend to give a much lower estimate to their own risk of being infected. HIV/AIDS awareness influences the rate of testing for HIV. No correlation was found between one’s estimate of the personal risk of being infected and being tested for the virus.

6. IMPACT OF HIV/AIDS AWARENESS ON THE ATTITUDE TOWARDS HIV-INFECTED PERSONS

To identify the level of tolerance, the servicepersons were asked to answer four questions pertaining to their behavior in imaginary situations:

1. If any of your relatives contracted HIV, would you agree to attend to him/her at home?
2. If any of your colleagues/fellow students were HIV-infected, would you go on living next to him/her (if you had a choice)?
3. If you knew that a seller was HIV-infected, would you buy foodstuffs from him/her?
4. Should HIV-infected persons be evicted/isolated from healthy people?

Table 24. Distribution of answers to the questions regarding serviceperson’s tolerance, percentages

	Yes
If any of your relatives contracted HIV, would you agree to attend to him/her at home? N=2674	81.9
If any of your colleagues/fellow students were HIV-infected, would you go on living next to him/her? N=2671	44.8
If you knew that a seller was HIV-infected, would you buy foodstuffs from him/her? N=2676	24.3
HIV-infected persons should be evicted/isolated from healthy people N=2668	44.7

An analysis of data from Table 24 showed servicepersons to be most tolerant for their relatives (81.9% would agree to attend to an infected relative at home). Tolerance for colleagues, however, is much lower: only 44.8% would go on living next to an infected coworker/fellow student. The lowest tolerance is that for unfamiliar people, as only 24.3% would avoid switching to a different shop if they knew that the seller serving them there was HIV-infected. It is also noteworthy that the idea of isolating or evicting HIV-infected persons was supported by 44.7% of servicepersons, which should be recognized as a rather high figure.

While analyzing the distribution of the answers, it might be conjectured that the most tolerant respondents are those rejecting the idea of switching to another shop. As a whole, changing a shop is an act that is not going to entail any negative consequences or evoke any censure from the community; sellers at shops are, for the most part, unfamiliar people. By contrast, at least two factors are important where relatives are concerned: personal attachment and censure from the community, so one hardly has a choice in such a situation. On the other hand, communication with a shop seller poses no threat to the buyer, while direct attendance to a patient is more dangerous in terms of the likelihood of being infected, and in addition, this is much more difficult in both physical and psychological terms.

Based on the above considerations, a tolerance index was calculated; this was done by dividing the whole sample into respondents giving “tolerant” answers to all 4 questions and all other respondents. As a result, it was revealed that only 15.2% of the interviewees replied to all 4 questions in a way we speak of as being tolerant.

To determine the average level of tolerance among servicepersons, an alternative tolerance index was created. Each tolerant answer was assigned the value 1 and a non-tolerant, the value 0. As a result of summing up all answer options we get a five-point scale where 0 means maximum intolerance and 4 maximum tolerance (implying tolerant answers to all four questions).

Table 25. Average value of the tolerance index in the target groups

	Average index value, N=2683
Officers	2.26
Cadets	2.21
Contract servicepersons	1.97
Regular soldiers	1.90
Total	2.06

Overall, servicepersons are mostly intolerant rather than tolerant, the average value of the index in the aggregate sample being 2.06. Based on an analysis of the tolerance level in the target groups, we can say that the most tolerant categories are those of officers and cadets, the average value of index for these two groups being almost equal. Regular servicepersons are the least tolerant category. Contract servicepersons are in-between (a statistically significant difference at the level of 5% being observed only in relation to officers).

Table 26. Correlation between the tolerance index and educational attainment

Education type	Average index value, N=2 677
Primary	1.80
Incomplete/basic secondary	1.78
Complete secondary (general or vocational)	1.97
Specialized secondary (technical school, college)	1.94
Basic higher (4 years, bachelorship)	2.23
Complete higher (5-6 years, specialist, master)	2.26
Total	2.06

It can be contended that educational attainment impacts the level of servicepersons’ tolerance: Можна стверджувати, що рівень освіти впливає на рівень толерантності servicepersons – серед тих, respondents with higher education display a higher level of tolerance, in comparison with those having basic, complete, or specialized secondary education (the difference being significant at the level of 5%). Differences existing between other educational groups are insignificant.

HIV/AIDS awareness is quite essential for the tolerance level. For a more detailed analysis we will use the same scale indicating five levels of tolerance.

Table 27. Correlation between servicepersons' tolerance for PLHA and HIV/AIDS awareness, percentages

	Top scorers	All others (good scorers and bad scorers in total)
Most intolerant not a single tolerant answer)	5.2	15.7
Mostly intolerant (1 tolerant answer)	17.8	31.5
Moderately tolerant (2 tolerant answers)	24.9	25.6
Mostly tolerant (3 tolerant answers)	27.4	19.5
Most tolerant (all answers being tolerant)	24.7	7.7
Total	100.0	100.0

Data presented in Table 27 are indicative of an essential correlation between tolerance and HIV awareness. In the group of top scorers the shares of intolerant and mostly intolerant respondents are much smaller than in any other group (the difference is significant at the level of 1%), and accordingly, there is a much larger share of tolerant respondents. The difference between the top scorers in the area of HIV awareness and all others vanishes in the middle of the scale, top scorers and all others having about the same number of moderately tolerant answers.

A minor correlation was observed between tolerance level and army service length. A statistically significant difference was discovered between respondents serving for less than a year and those serving for more than 10 years (the former are first-year cadets and regular servicemen; the latter are officers).

Tolerance level is impacted by the type of recruitment settlement.

Table 28. Average value of the tolerance index depending of recruitment settlement

Recruitment settlement type	Average index value, N=2 677
Village	1.84
UTS	1.89
Small town	2.12
Medium town	2.18
City	2.23

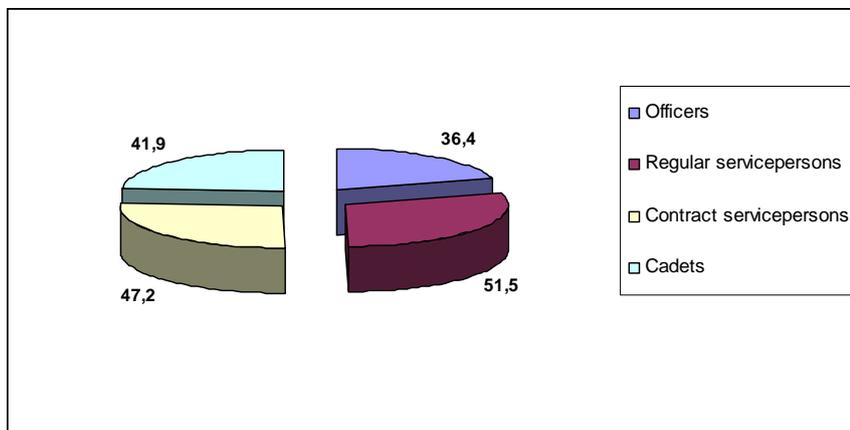
Respondents recruited from villages or UTS display a significantly lower level of tolerance for PLHA than urbanites do (the difference is significant at the level of 5%). The relatively highest level of tolerance was recorded among recruits from cities. There are no essential differences in the level of tolerance for PLHA among recruits from small or medium towns or cities. Being acquainted with an HIV-infected person has no effect on the tolerance level. An analysis of the impact of acquaintance with PLHA on the tolerance level for each of the individual questions revealed a correlation only in the case of the question about an infected relative (significance being at the level of 5%).

An analysis by the regions showed that, in relative terms, the most tolerant attitude towards PLHA was displayed by respondents serving in the Western region of the country, its difference with the Eastern and Southern regions being significant at the level of 1%.

Of all those interviewed, 6.5% are familiar with an HIV-infected person, so for a majority of the respondents a meeting with an HIV-positive individual is an imaginary situation. Therefore, the level of tolerance is primarily a socially formed attitude rather than the result of a certain practical experience. One might suggest that acquaintance with PLHA promotes a more tolerant attitude towards them. However, survey data do not unequivocally support that assumption. As a matter of fact, no significant difference was revealed between respondents personally familiar with PLHA and those who are unfamiliar with such people.

44.7% of the interviewed servicepersons agreed with the statement that HIV-infected individuals should be evicted or isolated from healthy people. The diagram below presents the distribution of responses to the statement “HIV-infected persons should be evicted/isolated from healthy people.”

Diagram 6. Inclination to agree with the statement, “HIV-infected persons should be evicted/isolated from healthy people,” percentages



At once one will notice the large share of regular servicepersons believing that PLHA should be isolated. A statistically significant difference (at the level of 1%) is observed in relation to officers as well as cadets, while there is no significant difference with contract servicepersons.

It should also be noted that the tolerance level is related to respondent’s gender. Overall, servicewomen are much more tolerant than servicemen; indeed, the idea of isolating PLHA is shared by 45.4% of the servicepersons male and 39.6% of the servicepersons female respondents (the difference being significant at the level of 5%).

Therefore, we can conclude that tolerance for PLHA is impacted by factors such as educational attainment, HIV/AIDS awareness, recruitment settlement, plus there is also a certain influence from service length. Low education level, rural origin and service conditions contribute towards formation of an intolerant attitude towards HIV-infected individuals, although most of the servicemen and servicewomen are personally unfamiliar with PLHA.

7. HIV/AIDS PREVENTION IN THE ARMY: THE REAL SITUATION AND NEED FOR ADDITIONAL KNOWLEDGE

7.1. HIV/AIDS prevention in the army: the real situation

According to survey results, just 15% of the servicepersons reported having taken part in an HIV/AIDS instruction event in the past 12 months.

It was revealed that, in relative terms, officers are the category best reached by information on HIV/AIDS prevention, the runner-up category being regular servicepersons, with contract servicepersons in third place and cadets coming last. The below table presents the distributions in the target groups in terms of awareness level (“top scorers”) and rate of attendance of HIV/AIDS prevention instruction events. The target groups are placed in descending order of awareness (rank indicates the order of the group).

Table 28. Distribution of HIV/AIDS awareness level (top scorers of the National Index) and rate of attendance of HIV/AIDS prevention instruction events, percentages and ranks

	Top scorers of the National Index of HIV/AIDS awareness N=2683	Rank	Attended HIV/AIDS prevention instruction during the past year N=412	Rank
Cadets	60	I	13.4	IV
Officers	51.9	II	17.7	I
Contract servicepersons	39	III	12.7	III
Regular servicepersons	35.8	IV	14.8	II

From the above table one can see that the spreading of information on HIV/AIDS in the army does not conform to the level of servicepersons' awareness of the problem. Thus cadets, whose awareness is higher than in any other group, happen to be the category ranking lowest on instruction attendance rate; relatively higher is the attendance rate of regular servicepersons, but their awareness level is rather low. This leads us to the conclusion that most servicepersons obtained their knowledge elsewhere than at HIV/AIDS prevention instruction events or that they did so more than a year ago.

The table below presents the region-based distribution of those who did attend HIV/AIDS prevention instruction during the past year. Нижче наведений розподіл тих, хто брав участь в заняттях з профілактики HIV/AIDS за останній рік в регіональному розрізі.

Table 29. Distribution of those attending HIV/AIDS in the past 12 months by the regions, N=412, percentages

	Yes
West	15.2
Center	17.3
East	11.4
South	16.1

On the face of it, one might say that the Central region is the one where servicepersons are best-reached by prevention programs; that conclusion, however, would be premature, because a statistically significant difference is observed only in relation to the Eastern region (at the level of 5%). The Eastern region is believed to be one of the worst-hit by HIV. Therefore, we can state that the absence of preventive work with servicepersons in that region is an alarming signal. The attendance rate of HIV/AIDS prevention instruction events among servicepersons in the Western region is significantly higher than in the Eastern region (the difference being at the level of 5%) (in relation to the other regions the difference is insignificant).

We also emphasize the fact that just 32 servicewomen reported having attended HIV/AIDS prevention instruction. This situation may be related to the fact that most of the female respondents serve on a contractual basis – and that category is, in principle, weakly reached by HIV/AIDS prevention instruction; only a small part of the servicewomen are officers, i.e. belong to the category best reached, in relative terms, by information. It should be reminded here that, in comparison with servicepersons - male, servicepersons - female displayed a much higher level of awareness of HIV/AIDS. Therefore, we can conclude that most servicewomen obtained their knowledge of HIV/AIDS from civil sources of information.

Table 30. Information obtained by servicepersons attending HIV/AIDS prevention instruction (N=412), percentages

	Servicepersons
HIV transmission modes	85.0
Main means of protection against HIV	71.4
Life of people with HIV and related health consequences	54.1
Attitude towards HIV-infected persons	40.3
Other	3.6

As we can see, the most frequent topic discussed at prevention instruction events is information on HIV transmission modes (85%); in second place is information on the main means of protection against HIV (71.4%); ranking next on frequency of occurrence is information on the life of people with HIV and the related health consequences (54.1%); the least frequently encountered information is about attitudes towards HIV-infected people, about tolerance for them (40.3%).

Table 25 below presents data on the ways of informing servicepersons who did obtain such information.

Table 31. Forms of presenting information on HIV/AIDS among those obtaining such information, percentages

	Servicepersons (N=412)
Doctors' statements	50.4
Booklets, brochures	41.4
Humanitarian instruction	28.4
Videofilms	27.5
Instruction in army medicine	26.6
Posters	24.2
Personal conversations with companions	19.1
Pre-discharge instruction	8.8
Other	5.0

Judging by servicepersons' answers, information was most often presented by doctors addressing a group of soldiers/cadets; booklets and brochures were in second place. Humanitarian and army-medicine instruction, videofilms, and posters were mentioned at an approximately equal rate; least frequently mentioned was pre-discharge instruction.

The table below presents servicepersons' estimates of credibility of information obtained from a variety of sources.

Table 32. Distribution of answers to the question, "What source of information on HIV prevention do you trust the most?", percentages

	Servicepersons (N=412)
Civil medics	41.0
Army medics	25.0
Civil media (newspapers, TV programs)	16.9
Army media (newspapers, TV programs)	7.0
Parents	5.1
Commanders	3.0
Companions	1.9

We can state that the greatest confidence is enjoyed by civil and army medics (41.0% and 25%, respectively). In second place are civil media (16.9%), and quite far behind them, army media (7%).

Most of those who in the past 12 months attended HIV/AIDS prevention instruction events described the information obtained there as very necessary (64.4%), understandable (81.5%), unobtrusive (65,1%), and interesting (65,2%). The shares of those categorically insisting on its uninterestingness, needlessness, obtrusiveness, or incomprehensibility varies from 2.5% to 6.2%.

One might conjecture that the group of servicepersons who during the past year attended HIV prevention instruction events should have a large share of top scorers regarding HIV transmission modes. However, survey data did not confirm that assumption. The group of servicepersons who attended such instruction events has almost the same share of top scorers (47.4%) as in the group of respondents who did not attend HIV prevention instruction (43.1%); the difference between them is statistically insignificant. Therefore, we can assume that servicepersons more frequently obtain information on HIV prevention from other sources.

7.2. The need for additional information on HIV/AIDS

According to survey data, 37.7% of the interviewed servicepersons feel a need in additional knowledge on HIV/AIDS. More than half (51.1%) of those attending HIV prevention instruction in the past year said they have a need for additional knowledge; furthermore, additional information on HIV/AIDS is required by 39.9% of the top scorers (those who correctly answered the five key questions of the National Index). By contrast, in the group of respondents not attending such events during the past 12 months only 35.4% reported being interested in information of this kind.

The need in additional knowledge is most felt by officers (40.1%); least, by cadets (32.4%) (the difference between these groups being statistically significant at the level of 5%). No significant differences involving the other groups were observed.

One can confidently state that servicewomen feel a much greater need for extra knowledge: 44.7% of the female interviewees gave an affirmative answer to the respective question, whereas in the group of interviewed servicepersons men only 36.8% mentioned the need in extra knowledge (the difference is significant at the level of 1%). As a consequence, one can state that, the more knowledgeable a person is, the greater is his/her wish to go on acquiring such knowledge. If, however, the subject of HIV/AIDS is not part of one's worldview, then there is no need for information on related issues either.

Table 33. Needs for individual types of information on HIV/AIDS, percentages (N=998)

	Not needed at all or mostly needless	Mostly needed or very much needed	Hard to say	Total
What is testing for HIV and where one can undergo it	31.7	59.6	8.7	100.0
Modes of HIV transmission	22.5	72.3	5.2	100.0
Ways to protect oneself against HIV	15.8	78.0	6.2	100.0
The right attitude towards HIV-infected people	16.7	70.9	12.4	100.0
Consequences of HIV for human health	15.1	78.7	6.3	100.0
Progress of the disease and anti-AIDS treatment	11.5	82.4	6.0	100.0
Number of people infected with HIV, their regional distribution	24.9	64.8	10.3	100.0

In the first place, servicepersons require information on the progress and treatment of AIDS (82.4%); in the second place is information on ways to avoid being infected and on the health consequences of the infection (78.7% and 78.0%, respectively); ranking third on desirability is information on transmission modes. Least required by servicepersons is information on testing for HIV and places where one can undergo such testing.

It should be noted that information on the life of people infected with HIV and the infection's consequences on health is relatively rarely encountered at HIV/AIDS prevention instruction events (only 54% of those who attended such events mentioned having obtained such information, against e.g. 71.4% of those who obtained information on ways to avoid contracting HIV). Meanwhile, servicepersons do require such information (it is needed by 78.7% of those requiring any sort of extra information).

Servicepersons also had an opportunity to express their priorities regarding ways in which additional information can be obtained. To the question, "In what form, in the first place, would you like to obtain information?" 33.4% responded that they prefer watching specialized videofilms; 29.5%, statements by doctors addressing a group of soldiers/cadets; in third place are booklets and brochures (23.3%).

All other forms, such as posters, army-medicine and humanitarian instruction, conversations with companions, or instruction by officers, are needed by 6.7% or still smaller shares of the respondents.

The below table presents different sources of information: factual sources are those from which servicepersons obtain information in reality, while desirable sources are those from which they would prefer to obtain information.

Table 34. In what form would you like to obtain information on HIV/AIDS, ordinal ranks

Value of different forms of presenting information on HIV/AIDS, in servicepersons' opinion	Desirable sources of information (assessed by those wishing to obtain information, N=998)	Factual sources of information (reported by those obtaining information in reality, N=412)
Special videofilms	I	VII
Statements by doctors addressing a group of soldiers/cadets	II	I
Booklets, brochures	III	II
Instruction in army medicine	IV	V
Humanitarian instruction	V	IV
Posters	VI	VI
Pre-discharge instruction of soldiers/cadets by officers	VII	III
Conversations with a companion who knows more about it	VIII	VIII
Other	IX	IX

Thus we can see a discrepancy between desirable and real sources of information. One can observe at once that servicepersons prefer one of the more passive sources of information (videofilms). Nevertheless, doctors' statements are also an important source of knowledge, and what is more, doctors are in the number one position in terms of servicepersons' trust.

We can state that the share of servicepersons reached by HIV/AIDS prevention instruction is rather small. The best-reached category is officers; the worst-reached, cadets. Military units located in the Eastern region are, in relative terms, worst-reached by prevention work. Respondents to whom information on HIV/AIDS was provided during the past year obtained it from doctors. Moreover, doctors (civil and army ones) enjoy servicemen's greatest confidence. Most servicepersons attending HIV prevention instruction events estimated the information they obtained as being understandable, necessary, and unobtrusive. Based on a comparison of desirable vs. factual information sources, we would like to note that the first two ranks are very close to complete concurrence: although servicepersons are in favor of obtaining information in the form of videofilms, yet statements by doctors are in the second place. A little more

than one third of the interviewed servicepersons expressed a wish to obtain additional information on HIV/AIDS.

8. EXTRA ANALYSIS

8.1. HIV/AIDS prevention among peacekeepers

Since one of the target groups in this survey were contract servicepersons, some of whom are former participants in peacekeeping missions, the working group decided to insert in the questionnaire a separate set of questions for them. One of the survey hypotheses posited that participants in peacekeeping missions must have a rather high level of HIV prevention awareness, since during the period of preparation for departure abroad they are to be instructed in prevention of infectious diseases.

According to survey data, participants in peacekeeping missions (160 respondents) accounted for 6.3% of all the interviewed servicepersons. Of them, 74% reported having attended HIV/AIDS prevention instruction during the period of preparation for participation in the peacekeeping mission. One in every four of them, however, did not obtain the necessary knowledge.

The hypothesis also posited that peacekeepers must be better aware of HIV/AIDS transmission modes, since they are to attend special instruction before being dispatched to the country of service. However, survey data revealed no significant difference between former peacekeepers and other servicepersons.

According to those ex-peacekeepers who attended HIV/AIDS prevention instruction, most frequently the event featured doctors addressing a group of soldiers (47.2%); in second place was instruction in army medicine (30.4%); in third place, booklets and brochures (28.9%); in fourth place, humanitarian instruction (22.1%); next came posters and special videofilms.

Most of the respondents attending HIV/AIDS prevention instruction consider the information they obtained to be understandable (79.4%), necessary (65.0%), unobtrusive (63.0%), and interesting (59.9%).

According to survey data, 72.6% of the peacekeepers were at least once in their life tested for HIV. Compared to other servicepersons, the rate of peacekeepers' being tested for HIV is much higher than in any other group of respondents. It should be noted though that for servicepersons about to go on a peacekeeping mission testing for HIV is obligatory. Not all of them, however, are aware of the result of his/her testing (it was known to 86.9% of those interviewed peacekeepers who reported having been tested for HIV at least once in their life).

Thus we can say that not all servicepersons acquired the necessary knowledge about HIV/AIDS prevention before going on a peacekeeping mission. Likewise, not all of them reported having been tested for HIV at least once in their life. Yet one possible explanation could be that servicepersons do not always know the purpose of their blood test.

8.2. Sexual violence in the army: additional analysis of servicewomen's answers

For this year's survey, some separate questions were prepared to be asked of servicewomen, intending to reveal facts of sexual contacts under coercion, for these are bound to increase behavior riskiness (without anything depending on the will of the woman concerned). Survey data do not allow making any statistical generalizations. Not all of the interviewed women agreed to answer the questions on the supplementary sheet. Of those who did, 8.8% (28 persons) mentioned attempts on the part of their superiors to force them into sexual contact. Sexual violence as a *fait accompli* was reported only by 3 servicewomen. Five got involved in sexual intercourse because of fear of sanctions on the part of their superiors; 1 of these cases was related to apprehension for career advancement, 1 dealt with the threat of being sent to work outside the military unit, and 2 for other reasons.

At the same time, 20.4% of the female respondents who agreed to respond to the questions in this section said they knew cases when servicewomen had been forced into sexual contacts. It looks like women were simply afraid to answer questions of this sort, even though the survey was anonymous and the commanders made not attempts to glance through the answers provided by their unit's servicepersons. Nevertheless, we recognize that sexual violence does occur in the army; to obtain more detailed information, however, the method of interviewing servicewomen needs to be improved. Probably next time the procedure of putting questions to women should be modified in the direction of greater confidentiality (for example it might make sense to interview women separately from men, or to seal each completed questionnaire in an individual envelope in front of the respondents themselves), which might contribute towards an increase in the share of women providing answers.

9. COMPARATIVE ANALYSIS OF THE 2004 AND 2007 SURVEYS

The purpose of monitoring surveys of servicepersons consists above all in revealing trends regarding knowledge, attitudes, practices, and behavior models among servicepersons. This is the second time that a survey of servicepersons is conducted at the request of the Defense Ministry of Ukraine and the ICF International HIV/AIDS Alliance in Ukraine (the first one was made back in 2004); hence an opportunity presented itself for a comparative analysis of the obtained results. As we compare data from these studies, however, we feel it is necessary to emphasize the fact that two directed samples (i.e. samples constructed on the basis of expert knowledge) are incompatible from the methodological viewpoint. Furthermore, this year's sample is somewhat improved on account of an increase in the number of survey points and, accordingly, a decrease in the number of respondents at each of the points (with the exception of oblasts where respondents were added to obtain a booster sample), plus the inclusion of contract servicepersons (participants of peacemaking missions) and servicewomen. To make more precise comparison the 2007 survey results are presented without feedback on female servicepersons and participants of peacemaking missions (with exception of National Indices comparison since it has been calculated based on answers of all categories' respondents). It is not appropriate to completely exclude contract servicepersons (taking into account that this group was not identified in 2004), since the army system has been going through changes and nowadays contract servicepersons present a considerable part of Military Services of Ukraine. Thus, it is worth keeping in mind that comparison of results from these two surveys may be considered as approximate only.

Comparison of the National Indices

The National Index "Percentage of servicepersons correctly identifying ways to prevent sexual HIV transmission and being aware of ways in which HIV is not transmitted"

According to the 2004 survey data, the index of serviceperson's awareness was 23%, i.e. 23% of the interviewed servicepersons gave correct answers to the five key questions. In the 2007 survey the index is 43.8%. But the seemingly natural conclusion of a nearly twofold increase in the index occurring within two years would be premature. The main reason for the increase consists in the replacement of two questions: "Can one contract HIV through an insect's sting?" and "Can one contract HIV as a result of eating food proposed by an HIV-infected person?" with relatively easier ones: "Can one contract HIV through sharing a glass of water with HIV-infected person?" and "Can one contract HIV through sharing a toilet, swimming-pool, or sauna with an HIV-infected person?" In 2004 the question about the mosquito proved to be the most difficult one. Since the 2004 questions remained in the questionnaire, we had an opportunity to recalculate the awareness index using the same questions. The resulting index is 31.5%. And so we see that the calculated index is lower than 43.8%, yet higher than in 2004 after all. As the 2007 survey analysis shows exclusion of female servicepersons and participants of peacemaking missions does not considerably change the National Index. Thus we can state that there is indeed a favorable trend towards increased HIV/AIDS awareness among servicepersons.

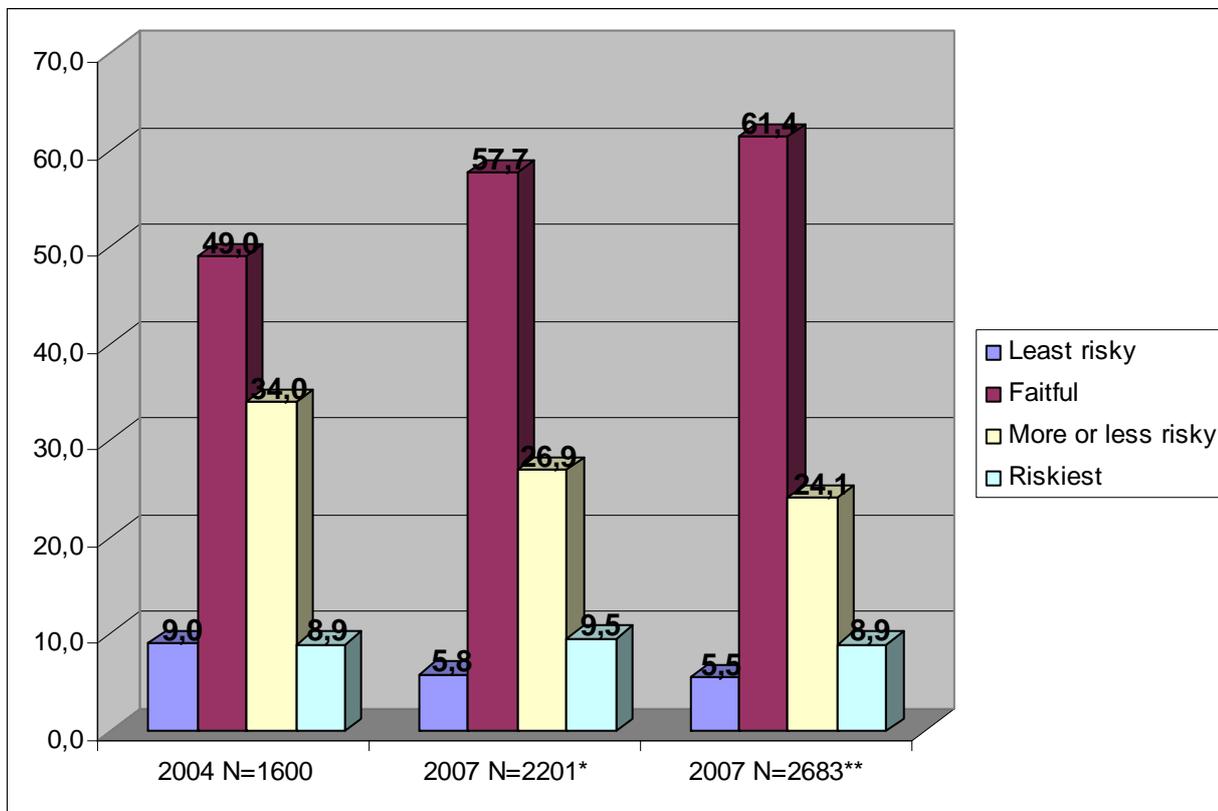
National Index “Percentage of servicepersons reporting the use of a condom during sexual contacts with their sporadic sexual partner”

In 2004 the index of using condoms during sexual contacts with sporadic partners was 80%. The index was lower for those describing their female partners as “casual” (78.5%) and higher for those who had contacts with female partners for money (83%). This year’s survey attests to the same trend. The overall index for all respondents who had contacts with sporadic partners is 73%; for those who had casual partners the index is 73.6%, and for those using the services of commercial partners it is 86.4%. Exclusion of female servicepersons and participants of peacemaking missions from analysis increases the National Index to 73.9%, but the difference is not so significant. The index of those having sexual contacts with sporadic partners has slightly increased, but the difference is not so significant as well; the same refers to those having contacts with female partners for money.

Thus we can state that the index decreased; in other words, a smaller percentage of servicepersons used a condom during their most recent contact with a sporadic partner. It should be borne in mind, however, that comparison with 2004 can only be a rough one, inasmuch as apart from this year’s sample specificity, there was a modification in the interview questions as well (the option “there was no partner at all” was included), which in its turn may have contributed towards the decrease in the index.

Since the same principle of dividing respondents on the basis of behavior riskiness was used to analyze the results of this survey, we find it expedient to identify the changes (if any) in the distribution of servicepersons over these categories (see Diagram 7).

Diagram 7. Distribution of servicepersons by behavior riskiness levels, surveys of 2004 and 2007; percentages



*2007 data without female servicepersons and participants of peacemaking missions

**2007 – all interviewed respondents

Judging by the data presented in the diagram, we can see that the general trend remains the same: the largest category is again the one consisting of respondents who had sex more than a year ago or who had

no sporadic partners. In 2007, however, that category displayed a considerable expansion, whereas the category of “more or less risky” interviewees shrank. the riskiest category increased slightly as well.

As we compare the results, we would also like to emphasize the changes in servicepersons’ estimates of their personal risk of contracting HIV. Table 35 presents the distribution of respondents’ estimates of their personal risk of contracting HIV in 2004 and 2007.

Table 35 Estimates of personal risk of contracting HIV, based on data from the surveys 2004 and 2007, percentages

	2004	2007 (not counting female servicepersons and participants of peacemaking missions) N=2201	2007 (all respondents) N=2683
As high	31,3	24,8	24,2
As medium	22,7	24,2	23,4
As low	46,0	51,0	52,5

As we can see, there was an increase in the share of servicepersons estimating their risk of contracting HIV to be low. In principle, one might attribute this change to increased HIV awareness. Yet we do not know anything about servicepersons’ knowledge of any HIV-related issues except transmission modes, e.g. the nature of HIV, incidence of the infection, rate of spreading, etc. In this case we can only say that, knowing about the main HIV transmission modes, servicepersons feel safe if they do not practice risky behavior. We can only assume that more extensive knowledge about HIV/AIDS would probably change their estimates of the likelihood of contracting the virus. Inclusion of female servicepersons and participants of peacemaking missions almost does not result in any change.

National Index “Percentage of servicepersons who were tested for HIV during the past 12 months and are aware of the testing result”

Contrary to 2007, in 2004 this parameter was not included among the National Indices. Therefore, we can only compare the shares of servicepersons undergoing testing for HIV at least once in their life: in 2004 it was 19%, whereas in 2007 it is as high as 26.4%. It should be noted that inclusion of female servicepersons and participants of peacekeeping missions into 2007 survey analysis increases the Index to 32.9%. Thus, we can say, that inclusion of these two categories significantly increases testing index.

Another important comparison pertains to levels of tolerance for HIV-infected persons.

Table 36. Distribution of answers to questions related to tolerance for HIV-infected persons, surveys of 2004 and 2007, percentages

Content of questions	2004, N=1600		2007, N=2201	
	Yes	No	Yes	No
If any of your relatives contracted HIV, would you agree to attend to him/her at home?	78.2	21.8	81.6	18.4
If any of your colleagues/fellow students were HIV-infected, would you go on living next to him/her (if you had a choice)?	35.9	64.1	44.4	55.6
If you knew that a seller was HIV-infected, would you buy foodstuffs from him/her?	20.9	79.1	24,9	75.1
Should HIV-infected persons be evicted/isolated from healthy people?	55.8	44.2	45.0	55.0

Thus, based on a comparison of data presented in Table 36, we can speak of a trend towards a more tolerant attitude on the part of servicemen to HIV-infected persons. In particular, one should point to the fact that there was a decrease in the percentage of servicepersons agreeing with the statement that HIV-

infected persons should be evicted or isolated. In this case inclusion of female servicepersons and participants of peacekeeping missions do not influence considerably distribution of answers.

We would also like to point to another important fact: in 2007 a lot more servicepersons expressed the view that their colleagues were insincere when answering the interview questions (18%;, in 2004 the respective share was 13%).

When comparing the results of the two surveys, one should bear in mind that in both cases the sample was constructed on the basis of directed selection, for which reason there can only be a rough comparison of the results of these studies. Nevertheless, we can say that servicemen's knowledge of HIV transmission modes did improve with respect to the 2004 figures. The rate of improvement of servicepersons' knowledge cannot be described as high. The index of condom use decreased in 2007, though this change might have resulted from the fact that the respective questions were modified to some extent. There was slight increase in the size of the category of servicepersons with the riskiest behavior. The past two years saw an essential increase in the rate of testing for HIV, although the aggregate-sample share of those who were tested during the past year and are aware of the result is rather low. Also worthy of mention is the favorable trend in attitudes towards HIV-infected persons. It is also essential that in 2007 a significantly smaller share of servicepersons believe that HIV-infected individuals should be evicted or isolated from healthy people.

CONCLUSIONS

- The state of servicepersons' HIV/AIDS awareness cannot be recognized as satisfactory. Although servicepersons are knowledgeable about HIV transmission modes, questions about modes in which HIV is not transmitted tend to cause them difficulties. Not nearly all give correct answers to the five key questions of the National Index.
- Servicewomen are more aware of HIV-related issues, in comparison to men. To most of the questions female respondents gave correct answers much more often than men did.
- The index of awareness correlates most pronouncedly with military rank and recruitment settlement: thus, officers and cadets are more aware of HIV/AIDS than regular or contract servicepersons; regular servicepersons are the least knowledgeable category; contract servicepersons are more aware of certain issues than regular soldiers yet less knowledgeable than officers; recruits from rural areas and UTS are less knowledgeable in comparison to urban recruits.
- As a whole, only a partial correlation was revealed between behavior riskiness and HIV/AIDS awareness: respondents with no sexual experience at all are less knowledgeable about HIV-related issues compared to those leading sexual life. HIV/AIDS awareness promotes a certain decrease in the extent of use of paid sex services, yet it does not impact the number of sporadic partners. At the same time, there is almost no impact of HIV/AIDS awareness on the use of condoms. In the first place this pertains to contacts with casual partners; a small correlation is observed in the area of contacts with commercial partners. The cultural environment in which respondents spent their childhood and youth affects the age at which they start their sexual life. The share of sporadic contacts is affected by the following factors: educational attainment, marital status, length of army service, and military rank. The frequency of sexual contacts with commercial partners is impacted by the region of service: in the Western region paid sex services are used much less frequently than elsewhere, whereas in the Eastern region they enjoy the greatest popularity. Again in the East condoms are least frequently used during sexual contacts.
- It appeared to be impossible to evaluate the influence of HIV/AIDS awareness on behavior forms other than sexual conduct, on account of the statistically insufficient size of the highest-risk groups (use of non-sterilized tattooing or piercing instruments or use of injection drugs).
- Servicepersons recruited from villages are characterized by much lower awareness of HIV/AIDS. One cannot say that the level of riskiness of their behavior is different from that of urban respondents.

- Factors such as HIV/AIDS awareness, army status, recruitment settlement, or sexual behavior are important for evaluating the personal risk of being infected. The more knowledgeable a serviceperson is about HIV/AIDS, the lower is his/her estimate of the risk of contracting the virus. This is true for all four target groups of this survey. The highest estimate of the personal risk of being infected comes from regular servicepersons; this is accounted for by their relatively low level of HIV/AIDS awareness, predominantly rural origin, and lower education level compared to officers, cadets, and – to some extent – contract servicepersons. At the same time, we do not know anything about the level of servicepersons' knowledge of other HIV-related issues, such as expansion trends of the epidemic, number of patients in Ukraine, etc. One might conjecture that knowledge of that sort can contribute towards an increase in the estimate of the risk of being infected.
- The percentage of servicepersons who were tested for HIV at least once in their life is rather high, especially compared to the 5% testing incidence in the adult population. Such testing rate is probably related to the fact that servicepersons frequently act as blood donors. Moreover, the inclusion of contract servicepersons in the sample resulted in interviewing former participants in peacekeeping missions, for whom testing for HIV is a mandatory procedure preceding their departure to the country of service. The fact that servicewomen were also interviewed appears to be another contributing factor. In regions with the worst epidemiological situation (East, South) servicepersons are more frequently tested for HIV. A correlation is observed between HIV/AIDS awareness and rate of testing: respondents that provided correct answers to the five questions of the National index have a higher rate of testing for HIV, compared to the other categories. No correlation was revealed between one's estimate of the risk of being infected and decision to be tested for HIV.
- Tolerance for HIV-infected persons is influenced by army status, educational attainment, HIV/AIDS awareness, and place of recruitment; length of army service also has a certain impact. Respondents serving in the Western region are more tolerant than those serving in the regions most affected by HIV – Eastern and Southern. Low education level, rural origin, and inferior army status contribute towards intolerant attitude to PLHA. Servicewomen are much more tolerant than men. To a majority of the interviewed servicepersons meeting an HIV-infected person is an imaginary situation; probably this is the reason why interviewees do not realize the consequences of isolating PLHA and treating them in an intolerant way. Personal acquaintance with an HIV-infected person does not impact the level of tolerance for PLHA.
- One can state that the rate of attendance of HIV/AIDS prevention instruction events among servicepersons is very low. In relative terms, the highest attendance rate is observed in army units located in the Western region; the lowest, in the Eastern region. It should be noted that at the same time the level of HIV/AIDS awareness in the Eastern region is relatively high, just like it is in the Western region. The same trend is observed in the category of female servicepersons: though a slight fraction of them attended HIV/AIDS prevention instruction during the past year, yet their awareness in this area is, on the whole, higher than among male servicepersons; the latter category, however, had a higher attendance rate. Thus, the level of knowledge is not directly connected to a number of preventing activities in the army. It is very probable that preventing courses and general level of knowledge at school are of high importance.
- The situation with cadets proves the same: cadets show the highest awareness level, yet at the same time they are the category least reached by preventive work.
- The servicepersons referred to special videofilms as the most acceptable information source, assigning second place to statements by doctors. Neither humanitarian nor army-medicine instruction is popular with servicepersons.
- Most of the servicepersons attending HIV/AIDS prevention instruction gave a favorable estimate to the obtained information and expressed a wish to be provided with additional information on the subject.
- Not all of the servicepersons who participated in peacekeeping missions had attended HIV prevention instruction during the preparation period, despite the fact that, theoretically, 100% of the representatives of this category must be reached by such instruction.

- In the army, there are cases of servicewomen being forced into sexual contacts. Just a few women spoke of having been subject to such coercion, while a much higher percentage reported being aware of such cases.
- In 2007, when compared to 2004, there was a certain increase in servicepersons' HIV/AIDS awareness. However, one should take into account the fact that two questions were substituted for by easier ones WHICH EXACTLY?, which contributed towards a higher index. Recalculating the index with consideration for answers to the 2004 questions which this time were excluded from the National Index but did remain in the questionnaire (about the mosquito and the food) resulted in a decrease in the index, yet it exceeded the 2004 level anyway.
- In 2007, when compared to 2004, a smaller share of servicepersons reported using a condom during their most recent sexual contact. NAMELY, NO!
- In 2007, when compared to 2004, there was an increase in the percentage of servicepersons considering their personal risk of contracting HIV to be low.
- An increase has been also observed in the rate of testing for HIV. However, changes in selection of respondents could serve as basis for it, particularly, inclusion of contract servicepersons.
- There was an increase in the level of tolerance for HIV-infected persons; in particular fewer servicepersons are of the opinion that PLHA should be evicted or isolated from the healthy population. But it may be caused by changes in selection process as well.

RECOMMENDATIONS

This survey and its results lead us to formulating following recommendations.

1. On the level of Ministries of Defense, Health, and Education

- 1.1 The educational and instructive work should continue to be focused on overcoming inconsistencies in dealing with HIV-infected persons. Insufficient knowledge of HIV-transmission ways may lead to panic biased fear against PLHA with their further isolation.. According to an established stereotype, no precaution is excessive when it comes to protecting one's own health; hence such great importance is attached to all contacts with HIV-infected individuals, despite the fact that HIV can be transmitted only through fluids emanating from the human organism. The above problem can be partially resolved by means of education. To effectively assimilate knowledge and to exploit it in everyday practice, people have to understand the underlying reasons, understand why they need knowledge about the right ways to deal with PLHA, and what are the consequences of PLHA social isolation for a personality and for a society in general. Foremost, it is important to understand that only an open society, where people are not afraid of sharing their status information, will be able to overcome the epidemics.
- 1.2 It is necessary to focus on efforts to eliminate contradictions between international conventions, national regulatory acts and military statute regarding servicepersons' understanding of HIV-status and HIV-testing. Introduction of contract service provides grounds for a rethink of these norms and standards which discharge HIV-infected persons from army and transfer HIV/AIDS treatment to responsibility of the army. It is necessary to provide a legal basis for mandatory HIV testing of prospective contract servicepersons at the point of enlistment and at later stages of service.
- 1.3 It is deemed expedient to conduct repeated studies of servicepersons' behavior with the purpose of introducing into practice second-generation epidemiological supervision, enlisting the services of specialists of the sanitary-epidemiological administration.
- 1.4 It is necessary to revise educational programs relating to HIV prevention for all categories of servicepersons and present information on this subject separately from other problems, such as alcohol abuse or drug addiction.
- 1.5 Special attention should be paid to the system of education and prevention for servicepersons taking part in peacekeeping missions (during the preparatory as well as post-return periods).

2. On the level of officers and military unit commanders

- 2.1 It is necessary to focus on forming, among servicepersons, the opinion that HIV/AIDS is a behavioral disease and that it pertains to the whole society.
- 2.2 It is necessary to enhance the medical component of educational programs relating to HIV prevention, since doctors are the category enjoying serviceperson's greatest confidence. Medics should take a more active part in army-medicine training of different categories of servicepersons.
- 2.3 It is necessary to look for new approaches to HIV. It is expedient to get social workers as well as territorial AIDS centers more extensively involved in the work. It is appropriate additionally to study the possibility to use conversations with the participation of people living with HIV/AIDS, as a form of work capable of fostering a tolerant attitude towards PLHA.

3. At the level of categories of servicepersons on whom work should be focused

- 3.1 In manuals and materials used during instruction in HIV prevention, greater attention should be paid to information on AIDS stages, the disease's consequences for health and life, ways to avoid being infected, HIV transmission modes, life of HIV-infected individuals and communication with them. Besides, it would be helpful to add information on HIV transmission and possibilities to avoid being infected which would be targeted specifically at men having sex with men.
- 3.2 To provide for confidentiality of the results of testing for HIV, it is expedient to organize consultations for servicepersons not only at medical institutions of the Defense Ministry but also at confidential consulting rooms of the Ministry of Health and at nongovernmental organizations.
- 3.3 It is necessary to go on working on the introduction of programs of information and education for participants in peacekeeping missions, since at the present moment not all of them are reached by such programs.
- 3.4 It is necessary to activate work on HIV prevention in the Eastern region, since at present servicepersons in that region, especially in small military units, are less reached by such programs than elsewhere.
- 3.5 It is necessary to develop approaches to work with servicepersons of rural origin, since the level of education at rural schools is very low.
- 3.6 It is necessary to continue working towards behavioral intervention, i.e. distribution of condoms at military units.
- 3.7 It is necessary that the work system of the AFU medical service provide for opportunities for administering treatment to servicepersons living with HIV/AIDS as well as for supervising their health condition and rehabilitating them under clinical conditions.