

MIGRANT HEALTH SURVEY ON TB AND HIV AND HEALTH SERVICE RESPONSE FOR MIGRANTS



National Center for AIDS Prevention
Ministry of Health, Republic of Armenia



IOM Development Fund
DEVELOPING CAPACITIES IN MIGRATION MANAGEMENT

**MIGRANT HEALTH SURVEY
ON TB AND HIV
AND HEALTH SERVICE RESPONSE
FOR MIGRANTS**

Armenia, 2018

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ABBREVIATIONS/ACRONYMS

AAAQ	Availability, Accessibility, Acceptability and Quality
FGD	Focus Group Discussion
HIV	Human Immunodeficiency Virus
HBV	Hepatitis B virus
HCV	Hepatitis C virus
IOM	International Organization for Migration
MDR TB	Multi-drug resistant tuberculosis
NCAP	National Center for AIDS Prevention
PLWH	People living with HIV/AIDS
RDS	Respondent Driven Sampling
SC	South Caucasus
STI	Sexually Transmitted Infection
TB	Tuberculosis
UNAIDS	Joint United Nations Programme on HIV/AIDS
VCT	Voluntary Counselling and Testing
WHO	World Health Organization
XDR TB	Extensively drug resistant tuberculosis

EXECUTIVE SUMMARY

BACKGROUND

In 2017-2018 a regional survey on HIV and TB related issues was implemented among migrants in the South Caucasus countries of Armenia, Azerbaijan and Georgia with the support of International Organization of Migration. It was directed to the development of mechanisms for HIV/AIDS and TB prevention, detection and treatment. In the frames of the research qualitative and quantitative surveys were implemented in Armenia. This report presents the findings of those surveys.

Specific goals were to clarify barriers to availability, accessibility, acceptability and quality (AAAQ) of TB/HIV health services for migrants in Armenia and abroad and to collect recommendations and opinions to improve AAAQ of TB/HIV health services for migrants. The objective of the quantitative surveys was to measure HIV prevalence and TB signs and symptoms among migrant populations. Other goals were to determine the study participants' migration experiences, living and working conditions, sexual behavior, and HIV testing and TB screening history in Armenia and abroad. This evidence will help to ensure the development of adequate migrant-inclusive policies and public health interventions, especially related to TB and HIV. The objective of the qualitative research was to assess experiences with and access to HIV and TB related public health care services in Armenia and abroad.

METHODS

The qualitative research consisted of focus group discussions (FGDs) with migrants and in-depth interviews with migrants and persons working with or knowledgeable about migrants.

For the quantitative surveys labour migrants (working in another country for the purposes of labour for at least three months but not more than one year in the past year) were selected. Migrants were sampled using multilevel cluster sampling in randomly selected communities. All participants underwent informed consent, were interviewed by a trained interviewer and provided a blood sample for HIV, hepatitis B (HBV) and C (HCV) testing.

FINDINGS

Three FGDs were conducted with returning labor migrants in different districts of Yerevan (n=8), Gyumri (n=10), and Vanadzor (n=9). In addition, in-depth interviews were conducted with migrants (n=3), health care or other service providers (n=3), NGO

representatives (n=2), and government staff members (n=3). The quantitative surveys were conducted among 300 migrants. Most labour migrants were married, between the ages of 25 and 45 years and had a secondary education.

Qualitative findings indicate that most migrants are less aware of available TB related services compared to HIV related services. Many migrants consider themselves not at risk for an HIV or TB infection. Few reported that they and their peers would seek HIV testing or TB screening unless recommended by a doctor, becoming very sick or unless it was required by officials. Stigma appears to be one of the barriers to HIV testing and TB screening, and also fear of deportation.

According to the quantitative surveys, in the past five years, 0.5 per cent of respondents were told by a health care worker that they were ill with TB.

Although most migrants reported being married, many have had unprotected sex while in their home countries and abroad. However, more information is needed to estimate migrants' risk for HIV infection due to unprotected sex (i.e., number and types of partners).

Most migrants reported easy access to health care services at home, (89 per cent). Access to health care abroad was less for Armenian migrants (54 per cent). Despite good access to health care, only between 37 per cent and only 14 per cent of migrants reported visiting a health care professional in the past year abroad. Few migrants reported being provided with condoms in the past 12 months by either an outreach worker or NGO while at home or abroad. HIV prevalence among migrants in this survey is 0.5 per cent, 0.9 per cent of migrants had antibodies to HBV and 0.7 per cent had antibodies to HCV.

DISCUSSION AND RECOMMENDATIONS

Migrants are generally unaware about the risks of HIV and TB and do not seek voluntary screening or testing unless they have to. These findings indicate that countries need to expand awareness among migrants about HIV and TB risks as well as screening and voluntary counselling and testing (VCT) options. Also, there is need to scale up programs in the receiving countries which provide migrant-inclusive health services, which include interpreters or medical social workers, as well as informed and welcoming health care workers, and consider offering free VCT, diagnostic and treatment services for migrant populations. As recommended by the WHO European Region, these countries should strive to provide a minimum pack of transnational TB control and care, including ensuring access to medical services irrespective of a migrant's registration status, and a non-deportation policy until intensive TB treatment has been completed. Additionally, they should create an online platform to support transnational management of TB cases by facilitating communications among clinicians from different countries (in terms of sharing information for clinical management and contact tracing and referral of patients). The findings from these surveys provide important information to use in developing more effective programs inclusive of migrants. There is need to conduct follow up surveys (round II) among urban and rural migrants using probability-based sampling methods to measure trends over time.

BACKGROUND

In Armenia, baseline surveys with male rural and urban labour migrants were conducted in 2016 and 2018 respectively, wherein migrants were asked comprehensive questions on HIV related risk factors and HIV testing and knowledge.^{1,2} According to the World Health Organization (WHO), mobile populations are considered key populations at risk of HIV and TB infection.³

This report describes the findings from qualitative and quantitative research among migrants in Armenia. The objective of the qualitative research was to assess experiences with and access to HIV and TB related public health care services in Armenia and abroad. Specific goals were to clarify barriers to availability, accessibility, acceptability and quality (AAAQ) of TB/HIV health services for migrants in Armenia and abroad and to collect recommendations and opinions to improve AAAQ of TB/HIV health services for migrants. The objectives of the quantitative survey were to measure HIV prevalence and TB signs and symptoms among migrant populations. Other goals were to determine the study participants' migration experiences, living and working conditions, sexual behavior, and HIV testing and TB screening history while in Armenia and abroad. This evidence will help to ensure the development of adequate migrant-inclusive policies and public health interventions, especially related to TB and HIV.

¹ National Center for AIDS Prevention. Biological and Behavioral Surveillance Survey on Armenian, Male, Seasonal Labor Migrants in Urban Communities in Armenia, 2018. Yerevan, Armenia.

² National Center for AIDS Prevention. Biological and Behavioral Surveillance Survey on Armenian, Male, Seasonal Labor Migrants in Rural Communities in Armenia, 2016. Yerevan, Armenia.

³ StopTB Partnership. Key Populations Brief: Mobile Populations. 2015. Available from: http://www.stoptb.org/assets/documents/resources/publications/acsm/KPBrief_MobilePopulations_ENG_WEB.pdf

Tuberculosis in Armenia

Although there have been substantial decreases in case notifications over the past decade, TB remains an important public health issue. According to all forms of TB case notifications in 2017, Armenia had 812 (27.1/100,000 population). Males have higher rates of TB compared to females. In 2017, the estimated TB incidence among females above 15 years was 330 and among males was 610 and among females aged 0-14 was 50 and among males was 54.

Decreases in TB case notifications may be related to improvements in socio-economic conditions, reduced inequalities in access to health services and improved performance in the health sector. However, a key challenge is the emergence of multi-drug resistant (MDR) TB. Of treated cases by 2017, roughly 44 per cent were confirmed as previously treated patients.

HIV in Armenia

In addition to TB, HIV also remains a significant public health concern. The National Center for AIDS Prevention (NCAP) from the Ministry of Health of the Republic of Armenia, reported that between 1988 and May 2018, the cumulative number of people living with HIV/AIDS (PLWH) was 3084, with 176 new HIV cases in 2018. Among PLWH in Armenia, 2135 cases (69 per cent) were males and 949 (31 per cent) were females, and 54 (1.8 per cent) cases were among children.⁴ Increases in HIV case notifications have been observed. Generally in 2013-2017 most of the registered cases (58%) are those infected abroad, 12% are their sexual partners which means that 70% of registered cases is related to migration.

Increased risk of TB and HIV among migrants

Many migrants are affected by limited access to services and appropriate care due to language and other structural barriers. Poor treatment adherence and follow-up due to poverty, other social disadvantages including stigma, mobility, and socio-economic factors (i.e., having unstable earnings and having to move to seek income) contribute to rising HIV and TB prevalence. In addition, migrants may face social isolation and be separated from family and regular sexual partners, as well as have poor living (e.g., crowded housing, poor sanitation, etc.) and working conditions.⁵ These socio-economic and behavioral situations may increase the vulnerability for TB and HIV. In addition, since many people do not seek testing or screening for HIV or TB until they have serious signs and symptoms, there are more opportunities to infect others before these infections are detected.

⁴ Accessed at: http://www.arm aids.am/en/statistics/stat_2018/stat-june_2018.html

⁵ UNAIDS. GAP Report. 2014. http://www.unaids.org/sites/default/files/media_asset/04_Migrants.pdf.

Migration

This report focuses on international migration, which is the movement from one country to another, rather than internal migration. This focus on labour migration was decided during a regional preparatory meeting of South Caucasus (SC) representatives in November 2017.

International migration in the SC region was initially influenced by the economic and political instability beginning in the 1990s with the collapse of the Soviet Union. As a result, there was a push of migrants to the former Soviet republics, especially to the Russian Federation, but also to Europe and the United States, to look for better social and economic conditions. Current in and out labour migration trends vary. Currently, Armenia is considered an emigration country with migration mostly to the Russian Federation (90 per cent).⁶

⁶ International Organization for Migration. Report on Household Survey on Migration in Armenia. Yerevan, Armenia; 2014. Available from: https://publications.iom.int/system/files/pdf/household_survey_eng.pdf

RESEARCH METHODS

Qualitative methods

The qualitative research used rapid assessment methods and included FGDs with migrants and, in-depth key informant interviews. Participants were purposively sampled and underwent an informed consent process before responding to questions in a semi structured questionnaire (Appendices A and B). In-depth interviews were conducted among stakeholders and experts working with or in contact with members of the eligible population as well as with actual labour migrants. As Armenia is considered an emigration country with a significant population of seasonal migrant workers, the research was focused on outbound labour migrants. Participants were purposively sampled to represent diverse sectors of the population with regard to their occupation, place of residence (city/country side), country of destination, etc. Each FGD was conducted by an interviewer and a notetaker.

Eligibility Criteria

- Males
- 18 years of age and over
- Abroad for 3 or more months for purposes of labor, but not more than one year, in the past year
- Residing in the catchment area

Data Collection and analysis

Qualitative data were transcribed. The semi-structured interviewing guide had three domains: 1) General information about the population; 2) HIV and access to HIV related health care; and 3) TB and access to TB related health care. This tool was developed by country representatives during a regional preparatory meeting.

Quantitative Methods

Migrants were sampled in randomly selected communities, where migrants are expected to be.

Eligibility Criteria

- Males
- 18 years of age and over
- Abroad for 3 or more months for purposes of labor, but not more than one year, in the past year
- Residing in the catchment area

Sampling

A probability based multilevel cluster sample method was used to select migrants. This method involved selecting eligible population members randomly, so that each individual had the same probability of being chosen at any stage in the sampling process. This involved two levels of clusters: 1) communities and 2) migrants. Migrants were randomly divided into clusters comprising communities from regions near the border crossing areas, depending on size. A sampling frame of all communities comprising a general population size of 1000 or more people was organized alphabetically in a list of communities to sample as clusters. Clusters and their size were used to weight data during analysis. From this, 5 to 10 communities were randomly selected using *Stat Trek*⁷ random digit generation process assuming without replacement sampling. If one community was not suitable (i.e., did not have a large enough population of eligible migrants or there was no way to develop a complete list), the community directly after the original randomly selected community (alphabetically on the list) was selected. Participants from each cluster were sampled from a list of all eligible migrants developed through community key informants. Also, each person on the list was assigned a number ranging from one to the total number of people on the list. Once the list was finalized, a random digit generator using Stat Trek identified a random list of numbers corresponding to the names and location information of eligible persons on the sampling frame list. The total number of migrants on the final random sampling list was equal to the calculated sample size.

Sample size calculation

The sample size was calculated with a 5 per cent margin of error, 95 per cent confidence, and a response distribution using average 60 to 70 per cent. Using these inputs, the sample size n and margin of error E are given by:

$$x = Z(c/100)2r(100-r)$$

$$n = N x / ((N-1)E^2 + x)$$

$$E = \text{Sqrt}[(N - n)x/n(N-1)]$$

Where: N is the population size; r is the fraction of responses one wants to achieve; $Z(c/100)$ is the critical value for the confidence level c . Based on these calculations the sample size for each border was 300.

⁷ <http://stattrek.com/statistics/random-number-generator.aspx>

Data collection locations

Migrants were sampled from the rural communities of Aragatsotn, Shirak, Ararat, Armavir, Gegharkunik and Lori marzes (Figure 1).

Figure 1: RA Map



The selected rural communities are presented in table 1.

Table 1. Selected communities (clusters) in six regions

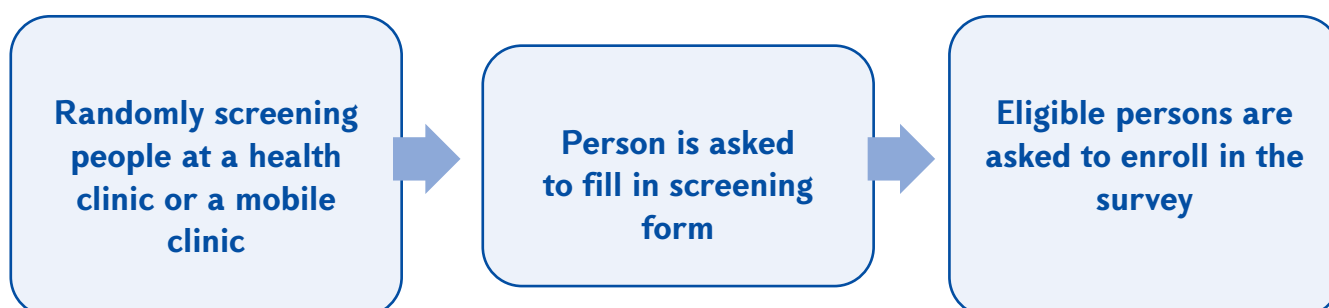
Region	Rural communities
Aragatsotn	Byurakan Kosh, Voskevaz Ujan
Ararat	Ararat Taperakan Qaghtsrashen
Armavir	Arshaluys, Bambakashat, Khoronk Jrarat
Gegharkunik	Sarukhan Verin Getashen Zolakar
Lori	Akori Mets Parni
Shirak	Akhuryan

Data collection

Screening

Step 1 consisted of randomly screening people at a health clinic or a mobile clinic in communities (See figure 2). Screening form (See Appendix C) was filled and the eligible participants were enrolled.

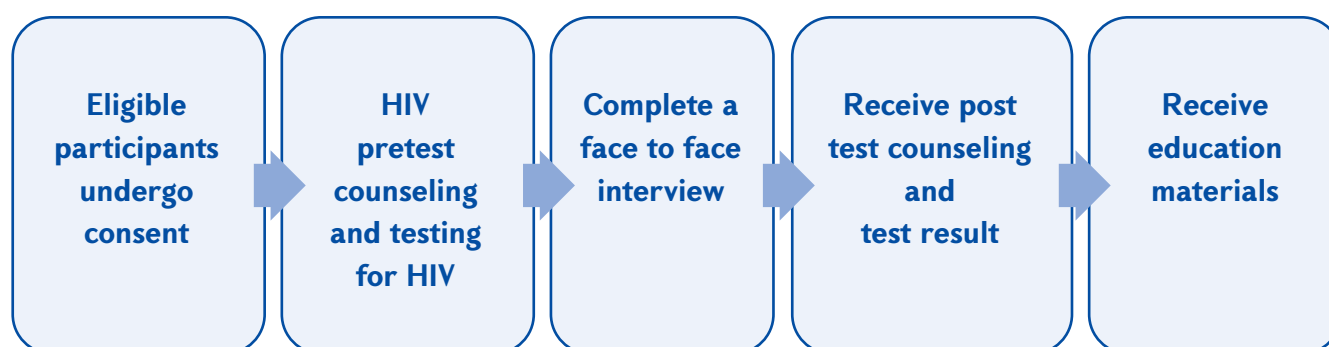
Figure 2. Steps for screening



Data collection steps

For the survey data collection, all eligible persons underwent the informed consent, were provided with pre-test voluntary HIV counselling before providing a blood sample. After completing the face to face interview (**Appendix D**), they received their test results and educational materials developed by IOM in cooperation with governmental implementing partners (Figure 3). The entire process took approximately 30 minutes. Participants with positive test results were told to obtain confirmatory testing at the NCAP. Participants did not receive an incentive for completing the survey.

Figure 3. Data collection steps



Informed consent

Eligible participants read or had read to them the verbal Information Sheet and Consent Form with the opportunity to ask questions. A copy of the information sheet was offered to participants. Agreement to enroll in the survey was given verbally and the interviewer signed on the participant's behalf.

Discreet interviewing and testing

Testing and interviewing were conducted in a discreet location. First, migrants were screened informally to assess eligibility. If eligible and willing to participate, migrants were asked to go to a closed off space for interviewing and testing. Interviewing and testing was conducted in a mobile or community clinic.

HIV counselling and testing

National guidelines for HIV counselling, testing and referral were followed as appropriate. Pre-test counselling included an explanation of HIV infection and transmission, the meaning of HIV test results, risks associated with sexual behaviors and injecting drugs, as well as means for HIV prevention. Blood sample collection was carried out by a trained professional. The participant's unique number and lab number were the same and recorded onto a lab form to be linked to the questionnaire. Participants received their test results on the same day as they participated in the survey.

Questionnaire

The survey instrument (**Appendix D**) had six sections and was translated into Armenian. The questionnaire took approximately 15 minutes to complete.

The questionnaire was developed and reviewed by active participation from interviewers and migrants.

The questionnaire was piloted; trained interviewers administered the questionnaire to migrants or persons working directly with migrants. Feedback by migrants and staff was used to add, modify or eliminate questions, to improve the translation and measure the amount of time needed to complete all questions. This process took place at least two weeks before starting data collection.

Staff Training

The survey staff, including (but not limited to) counsellors, interviewers and the field supervisor, participated in a formalized two-day mandatory training conducted by the NCAP.

Topics included interviewing skills, approaching potential participants, efforts to reduce refusals, techniques to encourage enrolment, quality control, ethics, survey steps and how to use the survey tools. Survey team members were trained to be sociable, approachable and on how to encourage migrants to enroll in the survey.

Laboratory Testing

Blood samples were collected by a trained professional based on the guidelines of the country. A linked anonymous code system was used for each participant to ensure that test results are given to the correct person. To ensure the accuracy of the survey results and minimize the probability of false positive samples, repeated testing of positive samples was conducted. For testing quality assurance 10 per cent of all samples that tested negative will be re-tested by enzyme-linked immunosorbent assay (ELISA) method. The discordant results were tested for the third time, according to the algorithm of HIV diagnostics specified in the National Protocol. In addition, participants were tested for hepatitis B (HBV) and C (HCV) through rapid testing.

Data Analysis

Data were weighted based on cluster sizes. Analysis consisted of frequencies, medians, means and ranges. In addition, data were disaggregated age groups. Some of the analysis included information about activities occurring in Armenia and abroad.

Ethical considerations

Final protocol review and approval for the study was obtained from the ethics committee of NCAP.

All participants were informed about the purpose of the study and their right to withdraw from the survey at any time before providing consent to participate. The surveys were conducted entirely anonymous – at no time were names or identifying information collected. All survey staff were trained in maintaining strict confidentiality in line with IOM Data Protection Principles.

Limitations

Limitations to multilevel cluster sample include situations whereby: the sampling frame list misses migrants' correct names and contact information making it impossible to contact them (assuming they were in the community at the time of the survey); people were included on the list but not in the community at the time of the survey (i.e., the person's probability of selection is impossible because they are absent from the community); the list is missing the names of several members of the population; and, a large proportion of the randomly selected participants refuse to participate. These biases were largely overcome based on previous experiences of sampling migrants using multilevel cluster sampling. Given the differences in the sampling methods, the findings can be interpreted as representing the population (migrants).

QUALITATIVE DATA FINDINGS

Three FGDs were conducted among returning labour migrants from different districts of Yerevan (n=8, ages 22 to 49), Gyumri (n=10, ages 24 to 50), and Vanadzor (n=9, ages 26 to 47). In addition, in-depth interviews were conducted with migrants (n=3), health care or other service providers (n=3), NGO representatives (n=2), and Government staff members (n=3). Research was carried out in February 2018 in Armenia.

Domain 1: “General information about the population”

Armenian labour migrants mostly reported working in the Russian Federation, labour migrants ranged in age from their twenties to their fifties.

Domain 2: “HIV knowledge and access to HIV related health care”

Concern and knowledge about HIV

Many migrants interviewed said that they were concerned about HIV among male migrants and agreed that male migrants have a higher risk for contracting HIV compared to the general population. Many migrants said that their peers were generally unaware of the ways in which HIV is transmitted and prevented. In the in-depth interviews key informants agreed that migrants are at higher risk for HIV than the general population and expressed their concern about increased HIV transmission among migrants. One key informant and a couple of migrants agreed that better prevention measures are needed for migrants both at home and abroad. Most migrants who travel to the Russian Federation for work, are aware that HIV prevalence there is higher compared to Armenia. Migrants discussed that many migrants they know have sex without condoms while they are in the Russian Federation, however, others stated that some migrants work so much they have few opportunities for exposure to HIV infection.

Willingness to get an HIV test

Most migrants are unwilling to get tested unless it is needed for a work permit or living or is advised by a doctor/healthcare professional. In general, migrants will not get a test on their own and some migrants remarked that their peers “do not value their own health” and will not spend money or time on health care. Some reported that many migrants do not believe they are at risk for getting infected. Despite agreeing that most migrants will not get an HIV test on their own volition, migrants generally agreed that it was important for migrants to get tested for HIV and to know their HIV status.

Access and barriers to HIV testing and treatment

All migrants knew of and could name places to get an HIV test in Armenia. Not as many migrants could name places abroad to get an HIV test. Few migrants knew much about accessibility to treatment abroad. Migrants said that barriers to testing and treatment are low and that they knew that HIV testing in Armenia is available and free, and that it is not free in the Russian Federation. They believed that treatment is not available to migrants in the Russian Federation. In addition, they preferred to get HIV tests and treatment in Armenia, because there are no language barriers and they are more comfortable with the health staff. Many migrants mentioned barriers to HIV testing because of stigma and fear of having a positive result and possible deportation if found to be HIV positive.

Domain 3: “TB knowledge and access to TB related health care”

Concern and knowledge about TB

Migrants said that they did not think TB was a problem and that it is of less concern than HIV. Although some migrants could mention some signs and symptoms of TB, most were unaware about TB transmission and treatment.

Access and barriers to TB screening, care and treatment

Migrants generally have little information about services for TB screening, testing and care. Most migrants mentioned that someone usually gets very sick before accessing any TB related services and some mentioned that if they have symptoms, they are afraid to go for screening. Migrants mentioned the fear of deportation if found to have TB. Other barriers to TB screening and treatment were lack of time, lack of concern for personal health, having other priorities and stigma.

Discussion

In general among migrants there was low knowledge about specific risks, signs and symptoms of HIV and TB. In addition, there was wide agreement that migrants would not seek HIV or TB testing unless required for the purposes of travel, work, on the recommendation of a health care provider or if they get very sick. Most migrants were aware of HIV testing services, but less of TB related services. Little was specifically known about where to get treatment for HIV or TB. Barriers to HIV and TB testing while abroad are higher costs, language barriers, stigma, having other priorities, fear of a positive results and possible deportation if found positive for HIV or TB.

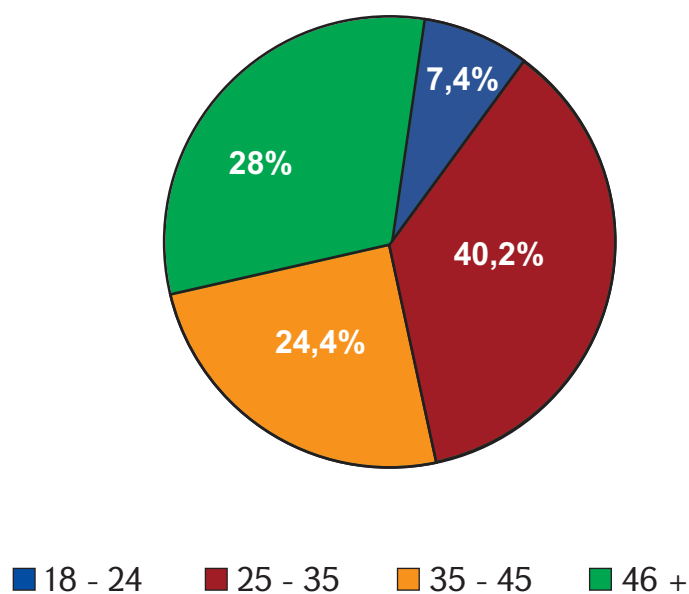
QUANTITATIVE FINDINGS

The samples consisted of 300 persons. Armenia reported a non-response rate of 1.6 per cent. Data were collected during March 2018.

Socio-demographics factors

The largest proportions of migrants were in the age group of 25 to 35 years (Figure 4). Few migrants were 24 years or younger. The mean age of migrants was 39.4 (median: 36; range: 18 to 68 years).

Figure 4. Age categories of migrants

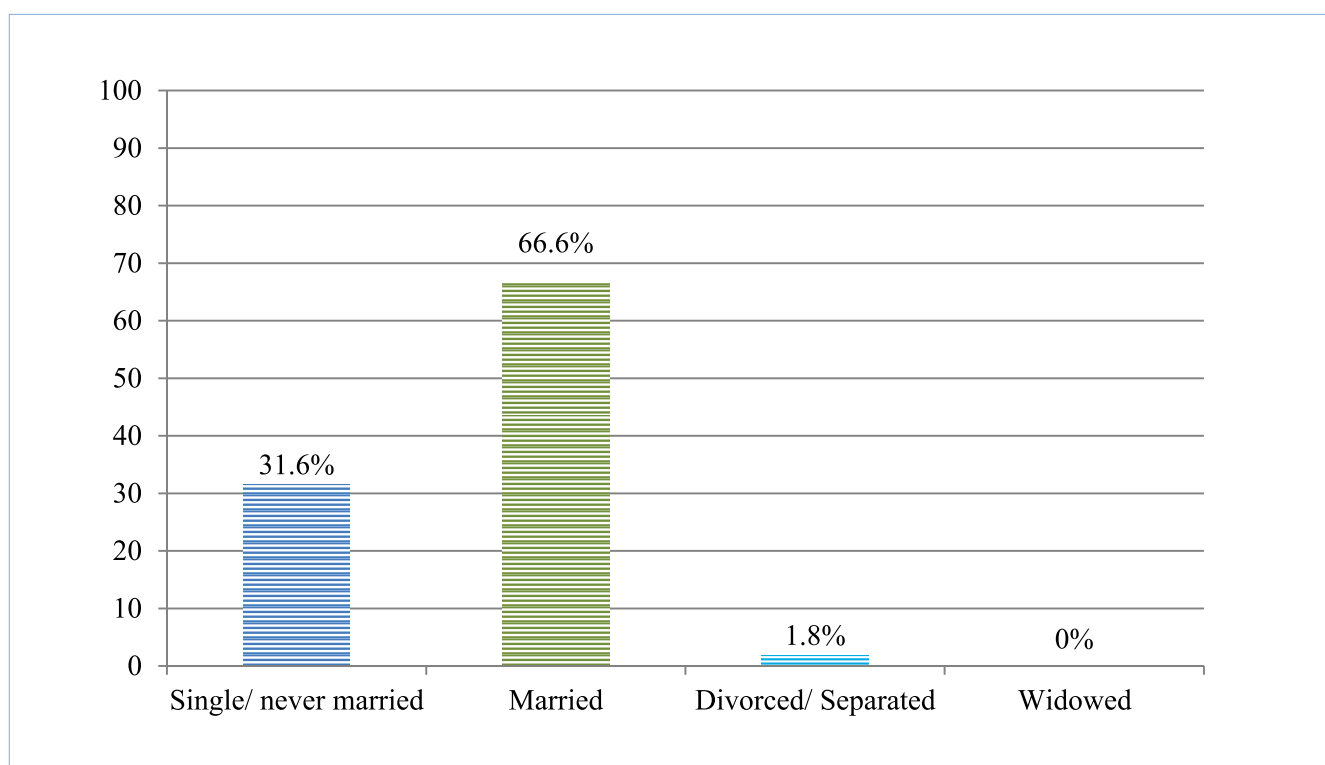


Most migrants reported having a secondary education and was married (Table 2, Figure 5).

Table 2. Socio-demographic factors: education

Education level	N	Armenia per cent, CI
Primary or less	0	—
Incomplete Secondary	41	15,1 (11,2 -19,1)
Secondary	181	59,5 (54,1-65,0)
Secondary Technical	28	9,2 (6,0-12,3)
Incomplete University	10	2,8 (0,8-4,9)
University	40	13,3 (9,4-17,2)

Figure 5. Marital status



Nationality, citizenship and primary residence among all migrants

All migrants were Armenian (Table 3). Most migrants reported having citizenship and their primary place of residence being in Armenia.

Table 3. Nationality, citizenship and primary residence

	N	per cent, CI
Nationality		
Armenian	300	100
Other	0	—
Citizenship		
Armenia	297	99,2 (98,1 -100)
Primary residence	3	0,8 (0,0-1,9)
Country of permanent residence		
Armenia	292	97,7 (95,7-99,7)
Russian Federation	8	2,3 (0,3-4,3)

Migration patterns

The mean number of months working abroad was 6 (Table 4). Most migrants (98.9 per cent) reported working in the Russian Federation. Of those returning who reported working abroad, the majority reported that it was not their first time to that country. Most migrants were unemployed in their home country but worked in either the service or construction industries while abroad.

Table 4. Migration patterns

	N	per cent, CI
Number of months working abroad-mean, median (range)		
	300	6,0, 6,0 (3-24)
Foreign country, returning from for labour purposes		
Russian Federation	294	98,9 (97,7-100)
Other	3	1,1 (0,0-2,3)

Type of work performed-in Armenia		
Not employed	196	67,2 (61,9-72,5)
Agriculture	16	5,2 (2,7-7,7)
Trade	6	2,1 (0,5-3,7)
Science	0	—
Science	61	19,2 (14,8-23,6)
Construction	21	6,3 (3,4-9,3)
Other	0	—
Type of work performed-Abroad		
Not employed	0	—
Agriculture	6	1,8 (0,2-3,4)
Trade	35	11,4 (7,7-15,1)
Science	0	—
Service	109	34,3 (28,8-39,8)
Construction	146	52,4 (46,8-58,1)
Other	0	—

Living and working conditions in Armenia and abroad

Few migrants (3.3 per cent) reported difficult living conditions in Armenia. While abroad, of the 45.8 per cent of migrants who reported having difficult living condition, the largest proportion reported crowded conditions (37 per cent). Of the 7.7 per cent of migrants who reported difficulties in working conditions in their home countries, 7.5 per cent reported working in non-hygienic situations. For difficulties in working conditions while abroad, 24 per cent (of the 47 per cent who reported any difficulties) of migrants reported working in non-hygienic and 24 per cent reported working in dangerous conditions. While abroad, 37 per cent of migrants reported working in crowded conditions. Migrants reported having to change their living place (i.e. slept for at least 30 days) in the past year a median of one time (Table 5).

Table 5. Living and working conditions in Armenia and abroad

	N	per cent, CI
Living conditions-Armenia		
Crowded	3	0,8 (0,0-2,0)
Unventilated	1	0,5 (0,0-1,1)
No heat in winter	5	1,9 (0,5-3,4)
Unclean	3	0,8 (0,0-2,0)
No indoor water	2	0,6 (0,0-1,5)
Toilet shared, >4 people	1	0,5 (0,0-1,1)
Other	0	—
Living conditions-Abroad		
Crowded	119	36,9 (31,4-42,4)
Unventilated	11	3,2 (1,1-5,3)
No heat in winter	16	5,2 (11,0-19,7)
Unclean	30	9,1 (5,6-12,6)
No indoor water	14	3,8 (1,4-6,3)
Toilet shared, > 4 people	45	13,3 (9,2-17,4)
Other/No problems	0	—
Working conditions-in Armenia		
Dangerous	7	1,9 (0,1-3,6)
Non-hygienic	26	7,5 (4,2-10,9)
Working conditions-Abroad		
Dangerous	77	23,7 (18,7-28,8)
Non-hygienic	75	23,8 (18,8-28,7)
Number of times had to change living place in past one year-mean, median (range)		
	299	1,0, 1,0 (1,0-10)

Sexual life and condom use among all migrants

Larger percentages of migrants (44 per cent vs. 15 per cent) had unprotected sexual intercourse in the past 30 days while at home compared to when they were abroad (Table 6). However, this finding is difficult to interpret given that the types and numbers of partners are unknown (i.e. it can also be with a stable partner).

Table 6. Unprotected sexual intercourse in Armenia and abroad

	N	per cent, CI
Unprotected sexual intercourse in past 30 days in Armenia		
Yes	128	44,1 (38,8-49,4)
No	172	55,9 (50,6-61,2)
Unprotected sexual intercourse in past 30 days-Abroad		
Yes	45	14,9 (11,1-18,7)
No	255	85,1 (81,3-88,9)

HIV/AIDS testing

HIV/AIDS testing among all migrants

Higher percentages of migrants reported knowing where to get an HIV test in Armenia compared to knowing where to get and HIV test abroad (36% and 18% respectively) (Table 7). Few migrants reported having an HIV test in the past 12 months and receiving their test results while in Armenia or while abroad (2% and 7% respectively).

Table 7. HIV testing in Armenia and abroad

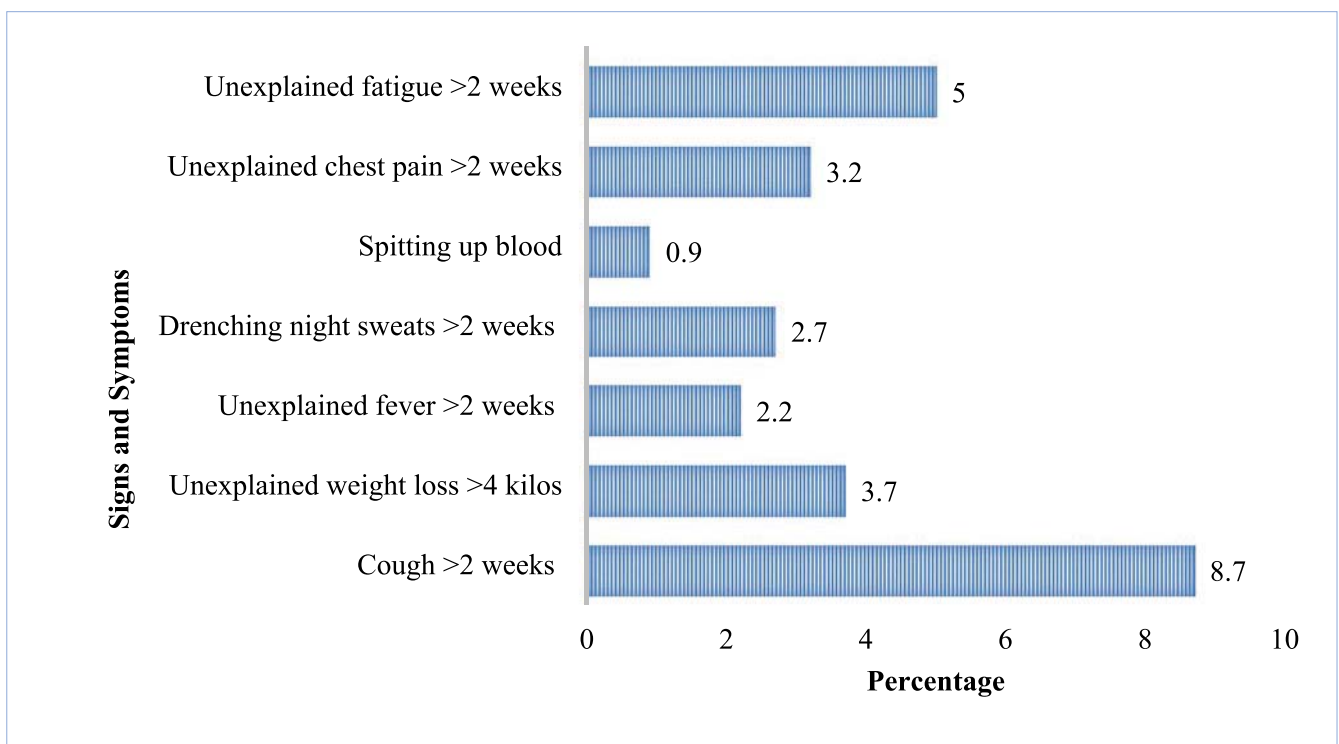
	N	per cent, CI
Knows where to go for HIV test in Armenia		
Yes	106	35,7 (30,3-41,0)
No	194	64,3 (59,0-69,7)
Knows where to go for HIV test-Abroad		
Yes	57	18,0 (13,4-22,5)
No	243	82,0 (77,5-86,6)
Had HIV test in past 12 months and received test results (among all participants in Armenia)		
Yes	7	2,2 (0,4-4,0)
No	293	97,8 (96,0-99,6)
Had HIV test in past 12 months and received test results (among all participants)-Abroad		
Yes	25	7,1 (4,0-10,3)
No	275	92,9 (89,7-96,0)

Knowledge about TB and TB health seeking behaviors

TB signs and symptoms among all migrants

Low percentages (<10 per cent) of migrants reported having TB related signs and symptoms in the past six months that would indicate the possibility of TB infection⁸ (Figure 6). Under 1 per cent reported spitting up blood, under 2.5 per cent reported having an unexplained fever for more than two weeks and under 4 per cent reported unexplained weight loss of more than four kilos. 3 per cent reported drenching night sweats for more than two weeks and 9 per cent reported having a cough for more than two weeks.

Figure 6. TB signs and symptoms in past six months



⁸ World Health Organization. Systematic screening for active tuberculosis Principles and recommendations. Geneva, Switzerland; 2013. Available from: http://www.who.int/tb/publications/Final_TB_Screening_guidelines.pdf

TB knowledge screening and treatment among all migrants

More than 80 per cent of migrants reported ever hearing of TB and 15 per cent reported coughing up phlegm into a container for TB testing in the past two years (Table 8). 10 per cent of migrants reported undergoing a chest x-ray to test for TB in the past two years compared. 0.5 percent of migrants were told by a health care worker that they were ill with TB in the last five years. Of those, all completed at least six months of treatment.

Table 8. TB Knowledge, screening and treatment

	N	per cent, CI
Ever heard of TB		
Yes	268	88,4 (85,0-91,8)
No	32	11,6 (8,2-15,0)
Coughed up phlegm into container for TB testing in past two years		
Yes	47	15,1 (11,0-19,1)
No	253	84,9 (80,9-89,0)
Underwent chest x-ray for TB testing within last two years		
Yes	33	9,8 (6,3-13,3)
No	267	90,2 (86,7-93,7)
Participant was told by health care worker to be ill with TB in last five years		
Yes	2	0,5 (0,0-1,4)
No	297	99,5 (98,6-100)
Completed at least six months of TB treatment (among those diagnosed)		
Yes	2	100

Access to services

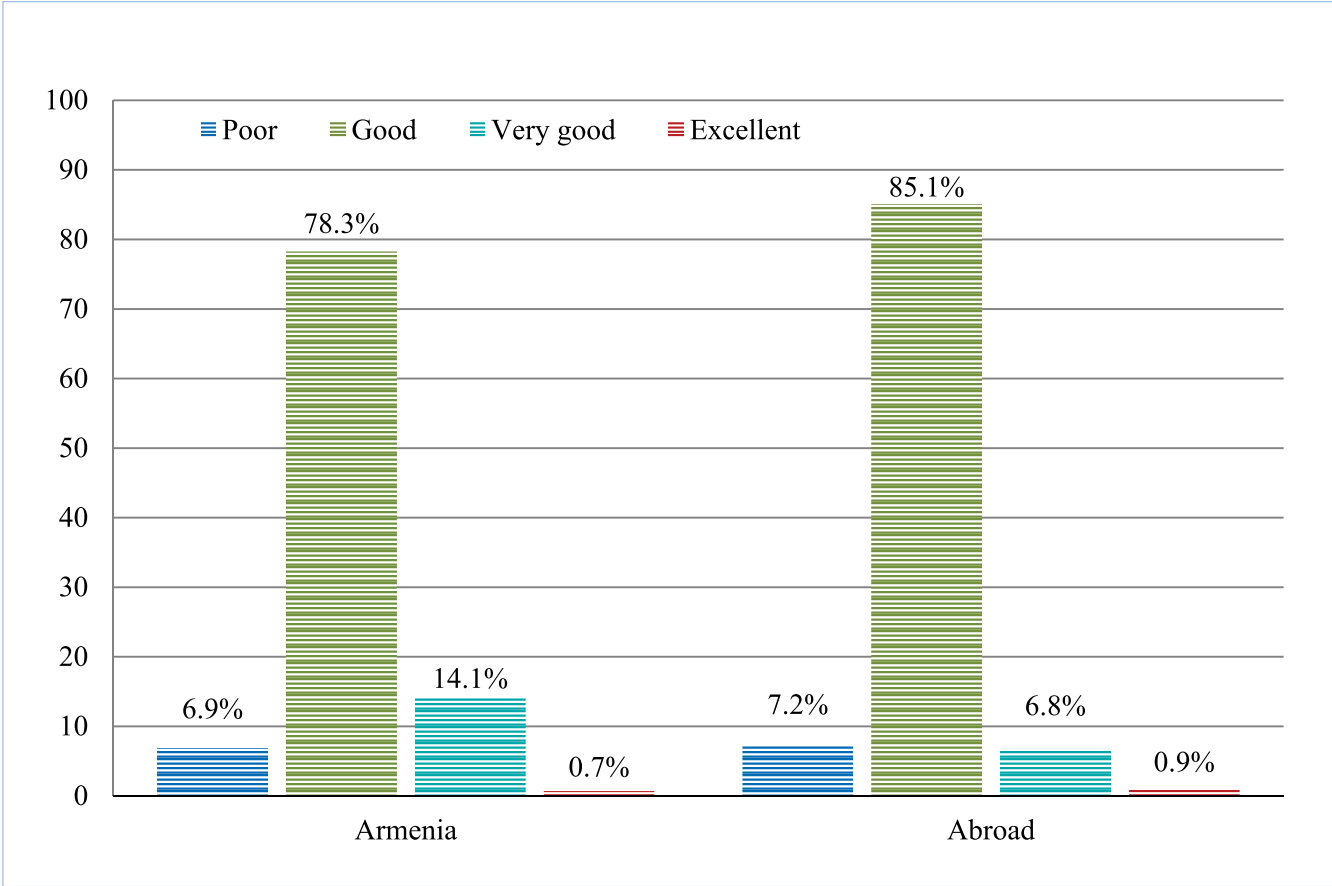
Few migrants (2%) reported being provided with condoms in the past 12 months by an outreach worker or NGO while in Armenia and only 1 per cent reported being provided with condoms while abroad (Table 9). A higher percentage of migrants (89 per cent vs. 54 per cent) reported having easy access to health care in Armenia, compared to when abroad, when needed. More than twice as many migrants (38 per cent vs. 14 per cent respectively) reported visiting a health care professional at a clinic, hospital or health care centre in the past year while in Armenia compared to while abroad.

Table 9. Access to services in Armenia and abroad

	N	per cent, CI
Provided with condoms in past 12 months (i.e., by outreach worker/at NGO) in Armenia		
Yes	6	2,0 (0,4-3,6)
No	294	98,0 (96,4-99,6)
Provided with condoms in past 12 months (i.e., by outreach worker/at NGO)-Abroad		
Yes	4	1,3 (0,0-2,6)
No	295	98,4 (96,9-99,8)
Easy to access health care when you need it in Armenia		
Yes	262	88,9 (85,2-92,7)
No	27	10,7 (7,0-14,5)
Easy to access health care when you need it-Abroad		
Yes	177	54,0 (48,3-59,7)
No	128	45,3 (39,7-51,0)
Visited health care professional at clinic /hospital/ health care centre in past year in Armenia		
Yes	115	37,7 (32,0-43,4)
No	185	62,3 (56,6-68,0)
Visited health care professional at clinic /hospital/ health care centre in past year-Abroad		
Yes	44	14,3 (10,2-18,5)
No	256	85,7 (81,5-89,8)

Most migrants (78 per cent) gave a ‘good’ rating, but very few gave an excellent rating, for how they were treated the last time they visited a health care professional at a clinic, hospital or health care centre while in Armenia (Figure 7). Most migrants rated treatment the last time they visited a health care professional while abroad as merely ‘good’ (85 per cent).

Figure 7. Rating of treatment at last visit to health care professional at clinic/hospital/health care centre among all migrants while in Armenia and abroad



HIV and HBV/HCV test findings

As outlined above, all participants in this survey consented to undergo testing for HIV; participants were additionally also tested for hepatitis B (HBV) and C (HCV). HIV prevalence among migrants was 0.5 per cent (Table 10). 0.9 per cent of migrants had antibodies to HBV and 0.7 per cent had antibodies to HCV.

Table 10. Seroprevalence of HIV, HBV and HCV

	N	per cent, CI
HIV		
Yes	1	0,5 (0,0-1,1)
No	299	99,5 (98,9-100)
HBV		
Yes	1	0,9 (0,3-1,5)
No	299	99,1 (98,5-99,7)
HCV		
Yes	2	0,7 (0,0-1,7)
No	98	99,3 (98,3-100)

FINDINGS: DISAGGREGATED BY AGE

Some data disaggregated by age groups (<25 years, ≥25 years) are presented below. The entire datasets disaggregated by age are presented in **Appendix I**. A higher percentage of young migrants (<25 years) (65 per cent) compared to older migrants reported having unprotected sexual intercourse while in Armenia (Figure 8). Similar percentages of younger (about 17 per cent) and older (about 18 per cent) migrants reported having unprotected sexual intercourse while abroad.

Figure 8. Unprotected sexual intercourse among migrants in Armenia and abroad by age groups

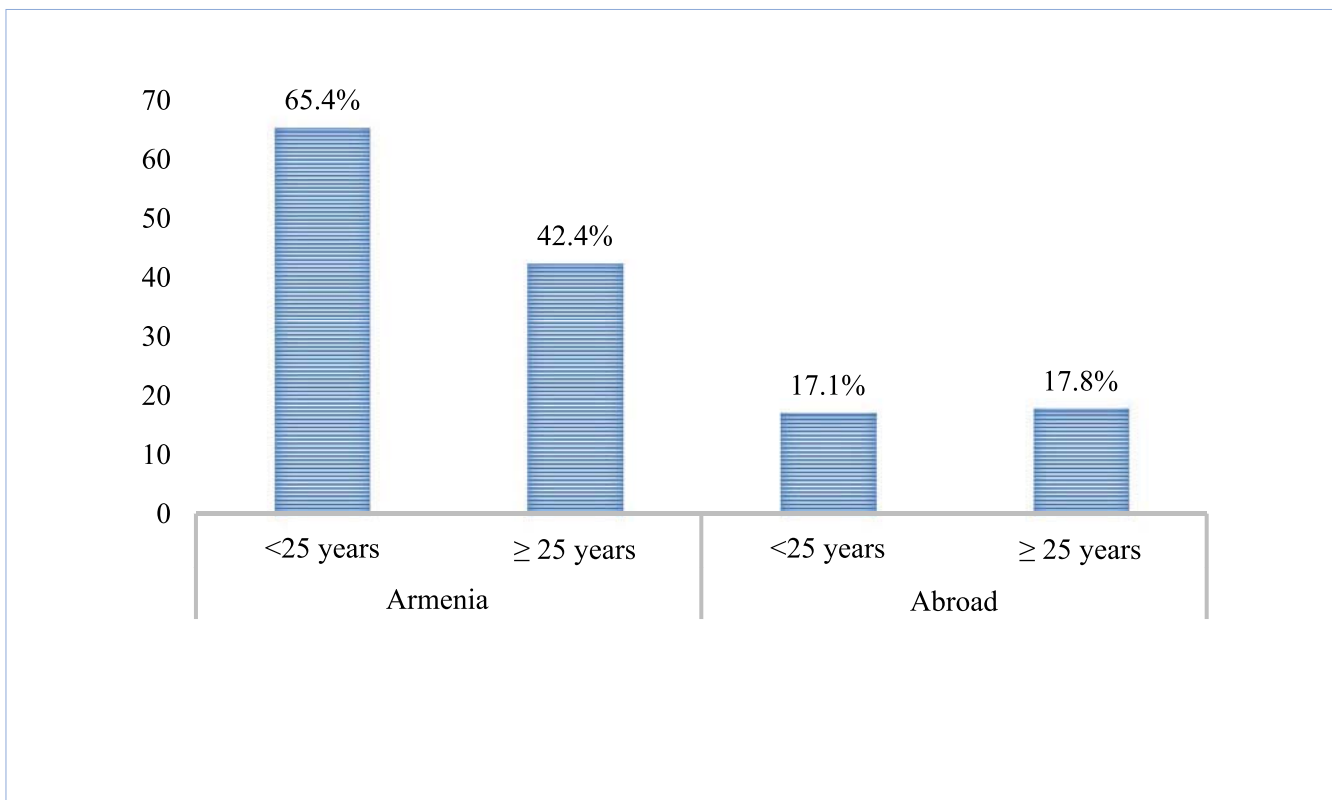
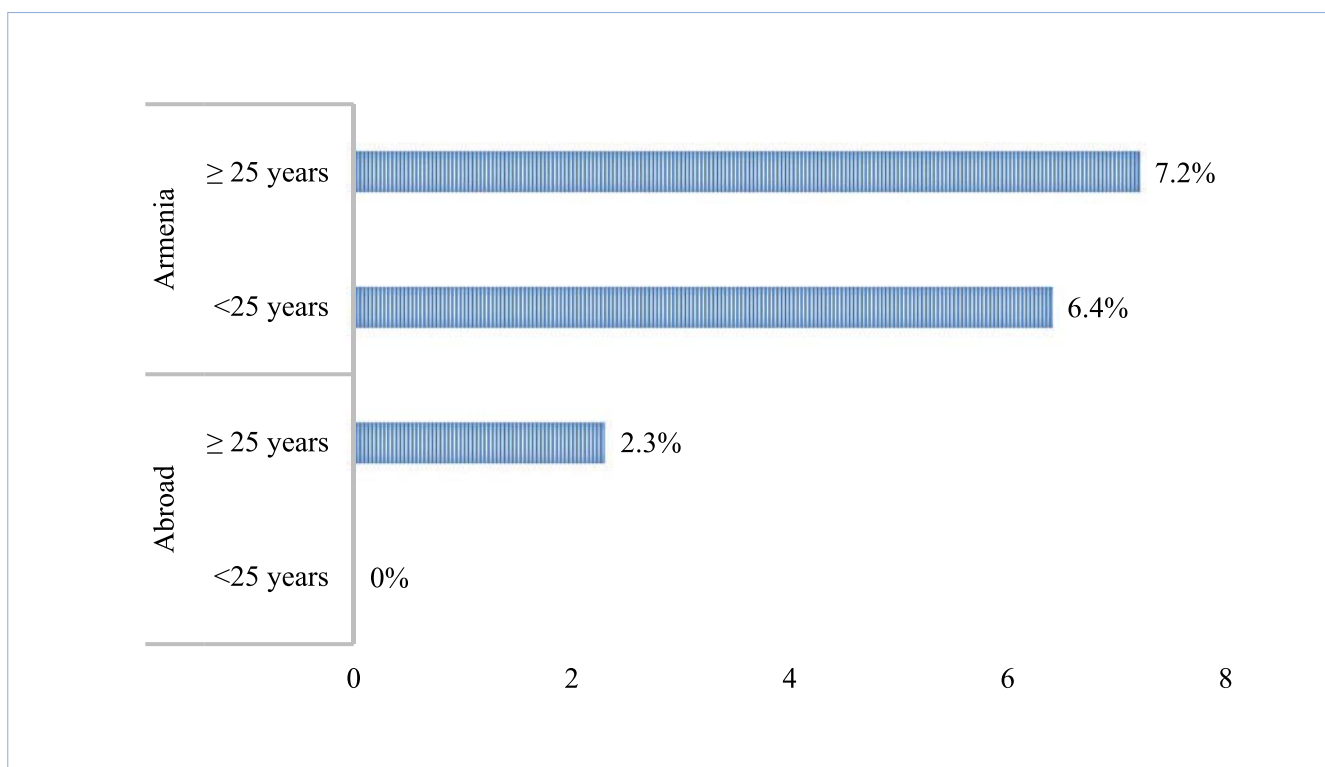
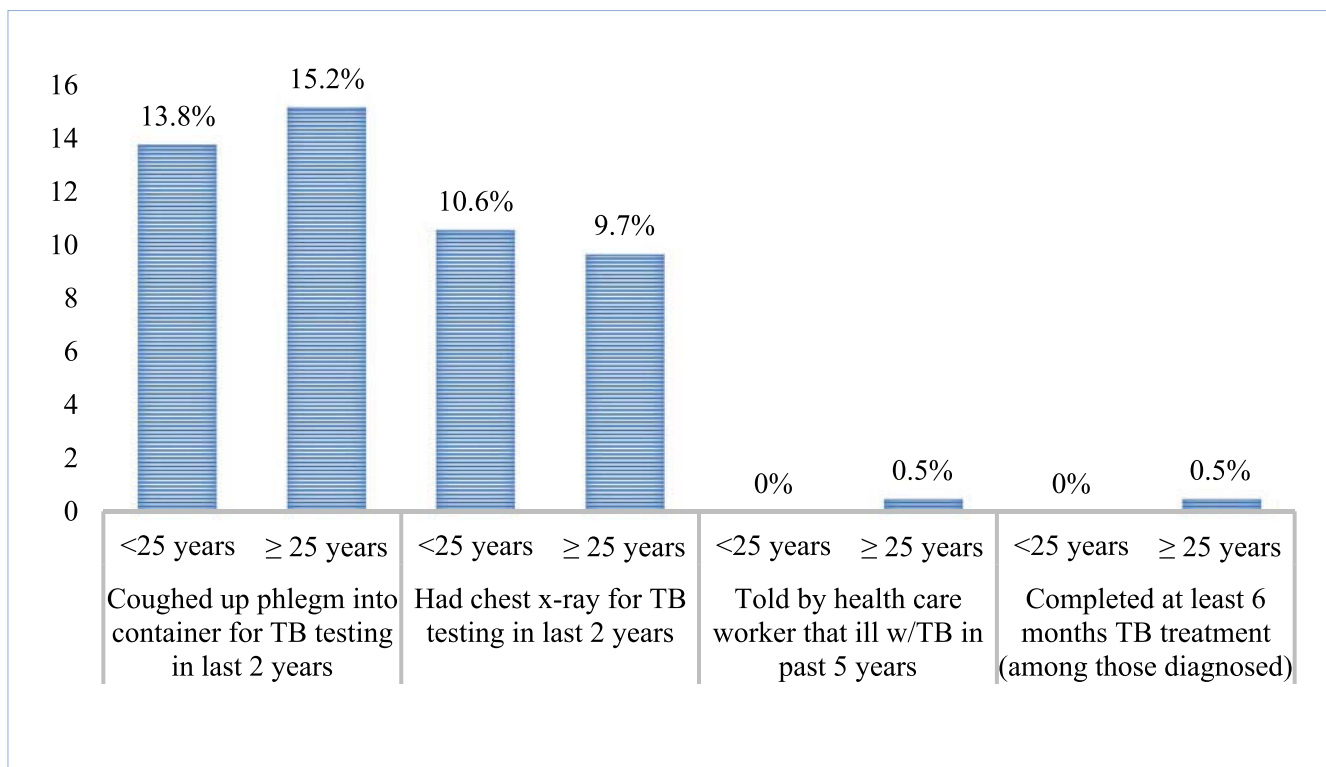


Figure 9. HIV test in past 12 months and received test results in Armenia and abroad by age group



More migrants aged 25 years or more reported coughing up phlegm for TB testing in the past two years (Figure 10). Eleven percent of migrants under the age of 25 years. No migrants under the age of 15 years reported being told by a health care worker that they had TB in the past five years or completed at least six months of TB treatment. Few migrants aged 25 or older reported being told they had TB in the past five years; all those diagnosed migrants aged 25 years or older reported completing at least six months of TB treatment.

Figure 10. TB screening and treatment among migrants by age group



DISCUSSION

Most labour migrants are married, between the ages of 25 and 45 years and have a secondary education. Below is an in-depth discussion of the key qualitative and quantitative findings on HIV and TB related knowledge, access to HIV testing and TB screening and treatment, program coverage and access to and treatment for migrants at health care centres, some HIV related risk factors, and HIV and other infections prevalence.

Low knowledge about TB risks, screening and treatment

Based on the qualitative research, most migrants are unaware of the services available and the risks associated with TB infection; many believe that they are not at risk and do not seek screening unless recommended by a doctor, they become very sick or it is required by officials. Limited knowledge of TB risks, symptoms, transmission and treatment can negatively impact migrants' health-seeking behavior.⁹ In the quantitative surveys it was found that few migrants coughed up phlegm into container for TB testing (≤ 15 per cent) or underwent a chest x-ray for TB testing in past two years (10 per cent). In the past five years, 0.5 per cent were told by a health care worker that they were ill with TB. Although all migrants who were infected with TB reported that they underwent at least six months of treatment, it is not uncommon that TB patients, especially those from mobile populations, interrupt or do not complete treatment. In this survey, there was no screening for TB infection, it is recommended to include this in future surveys.

These findings indicate that there is need to expand awareness of TB risks and screening availability. Moreover, some migrants revealed that the cost of treatment was a barrier to getting screened. It should be ensured that migrants are aware of available TB services and develop measures to provide free screening and treatment.

Low knowledge about HIV risks

Based on the qualitative research, most migrants are unaware of the risks associated with HIV infection and many believe that they are not at risk. In probability-based surveys among male labour migrants conducted, 75 per cent of urban migrants and 81 per cent of rural migrants considered themselves not at risk for HIV.^{10,11} Although most migrants reported being married, many have had unprotected sex while in Armenia and abroad. Inconsistent condom use and sexual intercourse with different types of partners among labour migrants has been found in numerous

¹⁰ National Center for AIDS Prevention. Biological and Behavioral Surveillance Survey on Armenian, Male, Seasonal Labor Migrants in Urban Communities in Armenia, 2018. Yerevan, Armenia.

¹¹ National Center for AIDS Prevention. Biological and Behavioral Surveillance Survey on Armenian, Male, Seasonal Labor Migrants in Rural Communities in Armenia, 2016. Yerevan, Armenia.

other studies of migrants.^{12,13} In this survey, however, there was no investigation as to whether migrants' unprotected sex was with a stable and faithful partner, thereby posing no risk for HIV. Recent probability-based surveys of rural and urban male labour migrants found that the frequency of always using a condom varied greatly by type of partner, with lowest condom use being with regular partners (rural: 8 per cent; urban 18 per cent) and highest condom use being with sex workers as partners (rural: 85 per cent; urban 95 per cent) and condom use with casual partners being roughly 70 per cent.^{14,15} Future surveys should investigate the number and types of partners to better understand risks associated with unprotected sex. Nevertheless, the relatively high HIV prevalence among migrants in these surveys indicate that there is need to expand awareness of HIV risks.

Low awareness about HIV testing services

Higher percentages of migrants reported knowing where to get an HIV test in Armenia compared to knowing where to get tested abroad. This was also found in a probability-based survey of male urban labour migrants conducted in Armenia in 2018.¹⁶ Nevertheless, there is a strong indication that expansion of awareness for migrants of where to get HIV testing and other services in Armenia and abroad is needed.

Stigma is a potential barrier to HIV testing

Given that the qualitative research indicated stigma as a barrier to HIV testing, it is essential to ensure confidentiality in health care settings, that staff are well trained about their own or other staff member's potential for stigma and can respond to the specific needs of migrants. Stigma is common among migrant populations, as well as other key populations at higher risk of HIV exposure.¹⁷ Examining stigma among migrants in more depth and through theoretical frameworks is essential to get an accurate picture of how to address it.^{18,19}

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- ¹² Amirkhonian YA, Kuznetsova A V., Kelly JA, DiFranceisco WJ, Musatov VB, Avsukevich NA, et al. Male Labor Migrants in Russia: HIV Risk Behavior Levels, Contextual Factors, and Prevention Needs. *J Immigr Minor Health*. 2011. 13(5):919–28. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/20690041>
- ¹³ Weine et al. Labor Migration and HIV Risk. In: Thomas F, Haour-Knipe M, Aggleton P, editors. Routledge; 2013. p. 1605–21.
- ¹⁴ National Center for AIDS Prevention. Biological and Behavioral Surveillance Survey on Armenian, Male, Seasonal Labor Migrants in Urban Communities in Armenia, 2018. Yerevan, Armenia.
- ¹⁵ National Center for AIDS Prevention. Biological and Behavioral Surveillance Survey on Armenian, Male, Seasonal Labor Migrants in Rural Communities in Armenia, 2016. Yerevan, Armenia.
- ¹⁶ WHO. Zero Discrimination in Health-care Settings. 2017. Available at: http://www.unaids.org/sites/default/files/media_asset/20171129_UNAIDS_PCB41_Zero_discrimination-health-care-settings_17.27_EN.pdf
- ¹⁷ Meyerson B, Barnes P, Emetu R, Bailey M, Ohmit A, Gillespie A. Institutional and Structural Barriers to HIV Testing: Elements for a Theoretical Framework. *AIDS Patient Care STDS*. 2014;28(1):22–7. Available from: <http://www.liebertpub.com/doi/10.1089/apc.2013.0238>
- ¹⁸ Blondell SJ, Kitter B, Griffin MP, Durham J. Barriers and Facilitators to HIV Testing in Migrants in High-Income Countries: A Systematic Review. *AIDS Behav*. 2015; 19(11): 2012–24. Available from: <http://link.springer.com/10.1007/s10461-015-1095-x>
- ¹⁹ UNAIDS. Country HIV datasheets. Available at: <http://www.unaids.org/en/regionscountries/countries/georgia>; <http://www.unaids.org/en/regionscountries/countries/Azerbaijan>; <http://www.unaids.org/en/regionscountries/countries/Armenia>.

Easy access to health care services in Armenia and abroad; good quality in Armenia

Overall, migrants reported easy access to health care services in Armenia (89 per cent). Health care access abroad was moderate (54 per cent). Despite the general ease of health care access, only 37 per cent reported visiting a health care professional in the past year in Armenia and only 14 per cent reported visiting a health care professional in the past year abroad. Some migrants mentioned better healthcare services in Armenia while abroad. Barriers to seeking health care services abroad included language barriers, fear of retaliation if found to be infected with HIV or TB and poor treatment by health care staff, all of which are not uncommon experiences of migrants worldwide.^{20,21} In the quantitative surveys, most migrants rated the quality of treatment during their last visit for health care in Armenia as 'good'. These findings indicate that, although migrants are generally not seeking health care often, perhaps only when there is a health problem as noted in the qualitative research, they are generally satisfied with the health care available in Armenia.

Low condom distribution coverage at home and abroad

Few migrants reported being provided with condoms in the past 12 months by either an outreach worker or NGO in Armenia or abroad. This may be an indication that NGOs do not have programs for condom distribution targeting labour migrants or that migrants are accessing condoms, if they use them, from other sources. Given that migrants reported inconsistent condom use during sexual intercourse, condoms should be widely available and accessible, and more investigation is needed to determine if programs by NGOs should target migrants for condom distribution.

HIV and TB infection and control

Given that HIV prevalence in the general population is only 0.2 per cent, the findings of HIV prevalence among migrants in this survey of 0.5 per cent are concerning. For instance, in the survey and population size estimation of male urban labour migrants conducted, HIV prevalence was 1.2 per cent and the size estimation was 60,000, indicating that as many as 822 urban migrants (accounting for 25 per cent of the estimated 3,300 people living with HIV in 2016) may be living with HIV.²²

²⁰ National Center for AIDS Prevention. Biological and Behavioral Surveillance Survey on Armenian, Male, Seasonal Labor Migrants in Urban Communities in Armenia, 2018. Yerevan, Armenia.

²¹ Dhavan P, Dias HM, Creswell J, Weil D. An overview of tuberculosis and migration. *INT J TUBERC LUNG DIS*. 2017. (6):610–23. Available from: <http://dx.doi.org/10.5588/ijtld.16.0917>

²² National Center for AIDS Prevention. Biological and Behavioral Surveillance Survey on Armenian, Male, Seasonal Labor Migrants in Urban Communities in Armenia, 2018. Yerevan, Armenia.

Migrants are not mentioned in any documents accessible online about including migrants in their national HIV/AIDS response.^{23,24} Although migrants were not screened for TB in these surveys, some reported typical symptoms of TB and exposures to conditions that could contribute to TB infection (37 per cent of migrants reported crowded living conditions and 47.5% - unsatisfactory conditions abroad.

²³ Country coordinating mechanism for Azerbaijan. Azerbaijan: HIV request for funding 2017. 2017. Available from: <https://www.theglobalfund.org/en/portfolio/country/?k=d869de58-2087-4633-a77f-5334f16159f2&loc=AZE>

²⁴ WHO. TB and migration. 2018; Available from: <http://www.euro.who.int/en/health-topics/communicable-diseases/tuberculosis/areas-of-work/vulnerable-populations-risk-factors-and-social-determinants/tb-and-migration>

RECOMMENDATIONS

Access to TB and HIV services

- ➔ Work within the region and with destination countries to ensure cross-sectoral approach and transnational cooperation is mainstreamed for migrant-friendly health services, which include interpreters or social workers, as well as informed and welcoming health care workers.²⁵
 - Scale up access to HIV and TB services, including free diagnostic and treatment services, for migrant populations.
 - Develop informational brochures to indicate where migrants can access free HIV/TB testing in Armenia and what services they are eligible for free, if any.
 - Develop social media campaigns promoting voluntary counselling and testing on HIV and TB screening among migrants to enable migrants to complete self-risk assessment tools and to have free and confidential communication with dedicated personnel allowing migrants who are willing to get relevant services either abroad or after return in Armenia.
- ➔ Develop cooperation with receiving countries to scale up accessibility of healthcare services among migrants. Encourage migrants to get tested for HIV and TB with mobile clinics in their communities.

Encourage HIV Testing and TB screening

- ➔ Measure stigma and discrimination in health care settings to ensure ‘migrant-friendly’ screening, testing and treatment, facilitate respective capacity building of multidisciplinary teams and enhance social media awareness campaigns to reduce societal stigma related to HIV and TB.
- ➔ Enhance provider-initiated HIV testing and counseling²⁶ and TB screening²⁷ for high risk migrants – especially since many migrants don’t perceive themselves at risk.

²⁵ Dhavan P, Dias HM, Creswell J, Weil D. An overview of tuberculosis and migration. *INT J TUBERC LUNG DIS*. 2017. 21(6):610–23. Available from: <http://dx.doi.org/10.5588/ijtld.16.0917>

²⁶ WHO, UNAIDS. Guidelines Consolidated Guidelines on HIV Prevention, Diagnosis, Treatment and Care for Key Populations. Geneva, Switzerland; 2016. Available from: <http://apps.who.int/iris/bitstream/handle/10665/246200/9789241511124-eng.pdf;jsessionid=A88CE4E524F403443D341DAD47DB35FC?sequence=1>

²⁷ WHO. WHO policy on collaborative TB/HIV activities: Guidelines for national programmes and other stakeholders. Geneva, Switzerland; 2012. Available from: http://apps.who.int/iris/bitstream/handle/10665/44789/9789241503006_eng.pdf;jsessionid=61228D656EA7FC-CDBFEED969DACC8969?sequence=1

Increase knowledge about HIV and TB

- Increase awareness and knowledge about HIV and TB signs and symptoms, transmission, prevention and risks.
- Develop an information portal for labour migrants to inform about migrants' rights when abroad, and about facilities for HIV testing, care and treatment and TB screening, care and treatment.

Improve TB case detection, diagnosis, care and treatment

- Enhance efficient strategies for active case finding to increase TB case detection.
- Improve the quality of laboratory diagnosis, including treatment adherence and continuity to ensure patient-centred follow-up support measures, especially among high risk migrant populations who may have difficulty accessing quality care and treatment.
- Uphold the consensus of the WHO European Region to provide a minimum package of transnational TB control and care interventions. These include ensuring access to medical services, irrespective of a migrant's registration status, and a non-deportation policy until intensive TB treatment has been completed. In addition, this package includes creating an online platform to support transnational, multi-country management of TB cases by facilitating communications among clinicians from different countries and facilitate cooperation between National TB Programmes of Armenia, transit and destination (in terms of sharing information for clinical management and contact tracing and referral of patients).²⁸

Gather more actionable data and put migrants on the HIV/TB agenda

- Follow up surveys should be conducted (round II) among urban and rural migrants using probability-based sampling methods to measure trends over time.
- Consider investigating migrants' overall health seeking behaviors as they may not undergo any routine general preventative health screening or monitoring, which may explain why they do not seek TB screening and HIV testing on their own unless they become very sick.
- Prioritize migrants in the national HIV/AIDS and TB strategic plans.

²⁸ WHO. TB and migration. 2018; Available from: <http://www.euro.who.int/en/health-topics/communicable-diseases/tuberculosis/ares-of-work/vulnerable-populations-risk-factors-and-social-determinants/tb-and-migration>

APPENDICES

Appendix A.

In depth Interview Guide

Note: not all questions may be relevant to all interviewees.

Consent: (Review consent, answer questions, interviewer signature)

As you know from the consent form, we would like to learn more from you about migrants' experiences and preferences about access to HIV and TB screening, testing and care. Specifically, we are trying to learn more information about males 18 years of age and over, abroad for 3 or more months for purposes of labour, but not more than one year, in the past year and residing in this city? This should take about 45 minutes. Do you have any questions before we begin?

Domain 1: “General information about the population”

- ➔ What is your experience with migrants' experiences and preferences about access to HIV and TB screening, testing and care? How are you interacting with migrants?

Domain 2: “HIV and access to HIV related health care”

2.1 Concern

- ➔ How do you rate the concern about HIV among male migrants? (If they are not concerned: What are the reasons for it?)

2.2. Testing

- ➔ Do you know of a place where migrants might be tested for HIV in this town? Where?
- ➔ How do you rate the willingness in this group to get tested for HIV?
- ➔ Are migrants more likely to be tested for HIV while in their home country or while abroad? Why?
- ➔ What are some of the barriers to why migrants do not get tested for HIV?

2.3. HIV infection

- ➔ How do you rate the level of HIV infection among male migrants compared to the general population? (If the level is high: What is the reason for that? What should be done about that?)

2.4. Health services

- ➔ Do you think the health services available to migrants to be tested for HIV are adequate? If not, why not? If yes, why? How can we improve the services available for migrants to be tested for HIV?
- ➔ Do you think there are adequate health services available for HIV treatment for migrants? If not, why not? If yes, why? How can we improve the services available for migrants to be treated for HIV?
- ➔ What are some of the barriers for migrants to be treated for HIV?

Domain 3: “TB and access to TB related health care”

3.1. Concern

- ➔ How do you rate the concern about TB among male migrants? (If they are not concerned: What are the reasons for it?)

3.2. Testing

- ➔ Do you know of a place where migrants might be screened for TB in this town? Where?
- ➔ How do you rate the willingness in this group to get screened for TB?
- ➔ Are migrants more likely to be screened for TB while in their home country or while abroad? Why?
- ➔ What are some of the barriers why migrants do not get screened for TB?

3.3. TB infection

- ➔ How do you rate the level of TB infection among male migrants compared to the general population? (If the level is high: What is the reason for that? What should be done about that?)

3.4. TB health services

- ➔ Do you think the health services available to migrants for TB screening are adequate? If not, why not? If yes, why? How can we improve the services available for migrants to be tested for TB?
- ➔ Do you think there are adequate health services available for TB treatment for migrants? If not, why not? If yes, why? How can we improve the services available for migrants to be treated for TB?
- ➔ What are some of the barriers for migrants to be treated for TB?

Appendix B.

Interview Guide – FGDs

Participants should be those who fulfill eligibility for the survey

Consent: (Review consent, answer questions, interviewer signature)

As you know from the consent form, we would like to learn more from you about migrants' experiences and preferences about access to HIV and TB screening, testing and care. Specifically, we are trying to learn more information about males 18 years of age and over, abroad for 3 or more months for purposes of labour, but not more than one year, in the past year and residing in this city? This should take about 1 hour. Do you have any questions before we begin?

Domain 1: “General information about the population”

I would first like to discuss, what are the main health issues for labour migrants and how are they related to their migration experience

SUB-QUESTIONS

- How do you know males 18 years of age and over, abroad for 3 or more months for purposes of labour, but not more than one year, in the past year and residing in this city? How would you assess their health? Their well-being?
- Do you know about migration related experiences these migrants had to encounter? How would you assess these experiences overall? Have these experiences had an impact on migrants' health? If yes, what was it?

Domain 2: “HIV and access to HIV related health care” Ask for them to share any stories to describe any of the questions below.

What are the main issues and challenges concerning HIV and male labour migrants?

SUB-QUESTIONS

- Do you know of a place where migrants might be tested for HIV? Where?
- Do you think migrants are concerned about HIV? Why or why not?
- Do you think most migrants have been tested for HIV?
- Do you think migrants are more likely to be tested for HIV while in their home country or while abroad? Why?
- What do you think are some of the barriers to why migrants do not get tested for HIV?
- Do you think many migrants have HIV infection? If so, what do you think should be done about that? Do you think it poses a threat? Why do you think they are infected with HIV?

- Do you think the health services available to migrants to be tested for HIV are adequate? If not, why not? If yes, why? How can we improve the services available for migrants to be tested for HIV?

Domain 3: “TB and access to TB related health care” Ask for them to share any stories to describe any of the questions below.

Now turning to TB, according to your experience, what are the main issues and challenges concerning TB and male labour migrants?

SUB-QUESTIONS

- Do you know of a place where migrants might be screened for TB in this town? Do you think migrants are concerned about TB? Why or why not?
- Do you think most migrants have been screened for TB?
- Do you think migrants are more likely to be screened for TB while in their home country or while abroad? Why?
- What do you think are some of the barriers to why migrants do not get screened for TB?
- Do you think many migrants have TB active disease that poses a threat to other people? If so, what do you think should be done about that? Why do you think that TB disease among migrants poses a threat? Why do you think they have TB disease? How are they getting TB?
- Do you think the health services available to migrants for TB screening are adequate? If not, why not? If yes, why? How can we improve the services available for migrants to be tested for TB?
- Do you think there are adequate health services available for TB treatment for migrants? If not, why not? If yes, why? How can we improve the services available for migrants to be treated for TB?
- What are the symptoms and signs that are most characteristic for TB?

Appendix C.

SCREENING FORM

No.	Question	Answer	Skip		
101	What is your purpose of crossing the border	Labour	1	Eligible	
		School/Education	2		Not eligible-end
		To visit a family member	3		Not eligible-end
		To receive health care	4		Not eligible-end
		Vacation/leisure	5		Not eligible-end
		What else? _____	6		
		no response	99		
102	Do you plan to be in the destination for three months or more?	Yes	1	Not eligible	
		No	2		Not eligible
		no response	99		Not eligible
103	Are you at least 18 years?	Yes	1	Not eligible	
		No	2		Not eligible
		no response	99		Not eligible

***Ask eligible persons if they are willing to participate in the survey.
If yes, provide information and conduct consent***

Appendix D.

QUESTIONNAIRE

Behavioral Questionnaire for Migrants

Tick off the appropriate responses to each question

SECTION 1. DEMOGRAPHIC CHARACTERISTICS

No.	Question	Answer	Skip
101	What is your age? No response 99	
102	What is your gender? Male Female Other No response	1 2 3 99	
103	What is the highest level of education you have achieved? Primary or less Incomplete Secondary Secondary Secondary Technical Incomplete University University No Response	1 2 3 4 5 6 99	
104	What is your marital status? Single/never married Married Divorced/Separated Widowed No response	1 2 3 4 99	
105	What is your nationality? Armenian Other (specify) No response	1 6 99	

106	What is your citizenship? Armenia Russian Federation Other (specify) No Response	1 4 6 99	
107	What do you consider to be your home country (your primary place of residence)? Armenia Russian Federation Other No Response	1 4 6 99	

SECTION 2. MIGRATION PATTERNS

Q.	Question	Answer	Skip
201	How long have you stayed in the country from which you are returning for the purposes of labour? (Must be at least 3 months) No response months 99	
202	From which country are you returning for which you have been for at least three months for the purposes of labour? Armenia Georgia Russian Federation Other (specify) No response	1 3 4 6 99	After this question skip to q 205

No.	Question	Answer		Skip
		Home country	Abroad	
203	In which sector are you primarily employed?			
	Not employed	1	1	
	Agriculture	2	2	
	Trade	3	3	
	Science	4	4	
	Service	5	5	
	Other (specify)	6	6	
	No response	99	99	
204	Do the following characteristics describe your living conditions?			
	Crowded	1	1	
	Unventilated (no fresh air)	2	2	
	Without heat in winter	3	3	
	Cold	4	4	
	Unclean	5	5	
	No indoor running water	6	6	
	Toilet shared with more than 4 people	7	7	
	Other (please specify)	8	8	
	No response	99	99	
205	Do the following characteristics describe your working conditions?			
	Dangerous	1	1	
	Non-hygienic	2	2	
206	How many times have you had to change your living place (i.e. place where you slept for at least 30 days) in the past one year? times times	

SECTION 3. SEXUAL LIFE AND CONDOM USE

No.	Question	Answer		Skip
		Home country (from qx 107)	Abroad (from qx 202 for returning nationals)	
301	Have you had unprotected sexual intercourse in the past 30 days?			
	yes	1	1	
	no	2	2	
	no response	99	99	

SECTION 4. HIV/AIDS TESTING

No.	Question	Answer		Skip
		Home country (from qx 107)	Abroad (from qx 202 for returning nationals)	
401	Do you know where you can undergo HIV testing, if you wish to?			
	yes	1	1	
	no	2	2	
	no response	99	99	
402	Did you have an HIV test and receive your results in the past 12 months?			
	yes	1	1	
	no	2	2	
	no response	99	99	

SECTION 5. KNOWLEDGE ABOUT “TB” AND TB HEALTH SEEKING BEHAVIORS

No.	Question	Answer	Skip
	Have you had any of the following health problems within the past six months? READ THE LIST. MULTIPLE ANSWERS POSSIBLE		
501	<i>Cough for more than two weeks</i> YES NO DK NR NA	1 2 88 99 96	
	<i>Unexplained weight loss of more than 4 kilos</i> YES NO DK NR NA	1 2 88 99 96	
	<i>Unexplained fever for more than two weeks</i> YES NO DK NR NA	1 2 88 99 96	
	<i>Drenching night sweats for more than two weeks</i> YES NO DK NR NA	1 2 88 99 96	
	<i>Spitting up blood</i> YES NO DK NR NA	1 2 88 99 96	

501	<i>Unexplained chest pain for more than two weeks</i> YES NO DK NR NA <i>Unexplained fatigue for more than two weeks</i> YES NO DK NR NA	1 2 88 99 96 1 2 88 99 96	
502	Have you heard of Tuberculosis or TB? yes no no response	1 2 99	
503	Have you coughed up phlegm into a container for tuberculosis or TB testing within the past two years? yes no no response	1 2 99	
504	Have you undergone a chest x-ray for TB testing within the last two years? yes no no response	1 2 99	
505	Have you been told by a health care worker that you are ill with tuberculosis or TB at any point within the last five years? yes no no response	1 2 99	→601
506	If you have been diagnosed with tuberculosis or TB within the past 5 years, were you able to complete at least six months of TB treatment? yes no no response	1 2 99	

SECTION 6. ACCESS TO SERVICES AND NEEDS

No.	Question	Answer		Skip
		Home country (from qx 107)	Abroad (from qx 202 for returning nationals)	
601	Have you been provided with condoms during the past 12 months (for example by outreach workers or at an NGO)?			
	yes	1	1	
	no	2	2	
	no response	99	99	
602	Is it easy for you to access health care when you need it?			
	yes	1	1	
	no	2	2	
	no response	99	99	
603	In the past one year, have you visited a health care professional at a clinic, hospital or health care center?			
	yes	1	1	
	no	2	2	
	no response	99	99	
604	How would you rate your treatment during your last visit to a health care professional at a clinic, hospital or health care center?			
	Poor	1	1	
	Good	2	2	
	Very Good	3	3	
	Excellent	99	99	

Thank you!

Appendix I.

Data disaggregated by age groups

Table 1. Socio-demographic factors, disaggregated by age groups

		N	%	CI
Gender				
< 25 years	Male	24	100	—
	Female	0	—	—
≥ 25 years	Male	276	100	—
	Female	0	—	—
Education				
< 25 years	Primary or less	0	—	—
	Incomplete Secondary	1	3,8	0,0-11,9
	Secondary	12	47,2	26,5-67,9
	Secondary Technical	4	17,8	2,8-32,9
	Incomplete Univ.	3	11,9	0,0-25,8
	University	4	19,3	3,9-34,6
≥ 25 years	Primary or less	0	—	—
	Incomplete Secondary	40	16,0	11,8-20,3
	Secondary	169	60,5	54,9-66,2
	Secondary Technical	24	8,5	5,2-11,8
	Incomplete Univ.	7	2,1	0,3-4,0
	University	36	12,8	8,8-16,9
Marital status				
< 25 years	Single/never married	22	92,9	81,8-100
	Married	2	7,1	0,0-18,2
	Divorced/Separated	0	—	—
	Widowed	0	—	—
≥ 25 years	Single/never married	75	26,7	21,5-31,8
	Married	195	71,4	66,0-76,7
	Divorced/Separated	6	2,0	0,2-3,8
	Widowed	0	—	—

Table 2. Migration patterns, disaggregated by age groups,

		N	%	CI
Nationality				
< 25 years	Armenian	24	100	—
≥ 25 years	Armenian	276	100	—
Citizenship				
< 25 years	Armenia	24	100	—
≥ 25 years	Armenia	273	99,1	97,9-100
	Russian Federation	3	0,9	0,0-2,1
Home country				
< 25 years	Armenia	22		92,0 80,4-100
	Russian Federation	2	8,0	0,0-19,6
≥ 25 years	Armenia	270	98,1	96,3-100
	Russian Federation	6	1,9	0,0-3,7
Foreign country, returning from for the purposes of labour				
< 25 years	Russian Federation	23	95,8	87,3-100
≥ 25 years	Russian Federation	271	99,1	98,1-100
Employment in Armenia				
< 25 years	Not employed	11	43,1	22,6-63,6
	Agriculture	0	—	—
	Trade	0	—	—
	Science	0	—	—
	Service	12	52,1	31,5-72,7
	Other	0	—	—
	Construction	1	4,8	0,0-12,8
≥ 25 years	Not employed	185	69,1	63,6-74,6
	Agriculture	16	5,6	2,9-8,4
	Trade	6	2,3	0,5-4,0
	Science	0	—	—
	Service	49	16,6	12,1-21,0
	Other	0	—	—
	Construction	20	6,5	3,3-9,6
Employment (abroad)				
< 25 years	Agriculture	0	—	—
	Trade	2	10,6	0,0-22,0
	Science	0	—	—
	Service	14	59,2	38,6-79,8
	Other	8	30,2	10,5-49,9
	Construction	0	—	—

≥ 25 years	Agriculture	6	1,9	0,2-3,7
	Trade	33	11,5	7,6-15,4
	Science	0	—	—
	Service	95	32,3	26,7-37,9
	Construction	138	54,2	48,4-60,0
	Other	0	—	—

Table 3. Living and working conditions in Armenia and abroad, disaggregated by age groups

		N	%	CI
LIVING CONDITIONS-HOME COUNTRY				
Crowded				
< 25 years	Yes	0	—	—
	No	24	100	—
≥ 25 years	Yes	3	0,9	0,0-2,1
	No	273	99,1	97,9-100
Unventilated				
< 25 years	Yes	0	—	—
	No	24	100	—
≥ 25 years	Yes	1	0,5	0,0-1,2
	No	275	99,5	98,8-100
Unheated (in winter)				
< 25 years	Yes	0	—	—
	No	24	100	—
≥ 25 years	Yes	0	—	—
	No	276	100	—
Unclean				
< 25 years	Yes	0	—	—
	No	24	100	—
≥ 25 years	Yes	5	2,1	0,5-3,6
	No	271	97,9	96,4-99,5
No indoor water				
< 25 years	Yes	0	—	—
	No	24	100	—
≥ 25 years	Yes	3	0,8	0,0-2,0
	No	273	99,2	98,0-100

Toilet shared with > 4 people				
< 25 years	Yes	0	—	—
	No	24	100	—
≥ 25 years	Yes	2	0,7	0,0-1,7
	No	274	99.3	98.3-100
LIVING CONDITIONS-ABROAD				
Crowded				
< 25 years	Yes	7	27.1	8.7-45.6
	No	17	72.9	54.4-91.3
≥ 25 years	Yes	112	37.7	31.9-43.4
	No	164	62.3	56.6-68.1
Unventilated				
< 25 years	Yes	1	3.9	0.0-12.0
	No	23	96.1	88.0-100
≥ 25 years	Yes	10	3.1	1.0-5.3
	No	266	96.9	94.7-99.0
Unheated (in winter)				
< 25 years	Yes	0	—	—
	No	24	100	—
≥ 25 years	Yes	5	1.3	0.0-3.0
	No	271	98.7	97.0-100
Unclean				
< 25 years	Yes	1	3.8	0.0-11.9
	No	23	96.2	88.1-100
≥ 25 years	Yes	11	4.9	2.7-7.1
	No	265	95.1	92.9-97.3
No indoor water				
< 25 years	Yes	2	7.7	0.0-19.0
	No	22	92.3	81.0-100
≥ 25 years	Yes	28	9.2	5.6-12.9
	No	248	90.8	87.1-94.4
Toilet shared with > 4 people				
< 25 years	Yes	3	11.6	0.0-25.0
	No	21	88.4	75.0-100
≥ 25 years	Yes	11	3.2	0.9-5.6
	No	265	96.8	94.4-99.1

Other				
< 25 years	Yes	4	13.4	0.0-28.7
	No	20	86.6	71.3-100
≥ 25 years	Yes	41	13.3	9.1-17.5
	No	235	86.7	82.5-90.9
WORKING CONDITIONS-IN COUNTRY				
Crowded				
< 25 years	Yes	1	3.2	0.0-11.3
	No	23	96.8	88.7-100
≥ 25 years	Yes	6	1.7	0.0-3.5
	No	270	98.3	96.5-100
Unventilated				
< 25 years	Yes	4	15.7	0.1-31.3
	No	20	84.3	68.7-99.9
≥ 25 years	Yes	22	6.9	3.6-10.1
	No	254	93.1	89.9-96.4

Table 4. Unprotected sexual intercourse in Armenia and abroad, disaggregated by age groups

		N	%	CI
Unprotected sexual intercourse in past 30 days in Armenia				
< 25 years	Yes	15	65.4	45.7-85.0
	No	9	34.6	15.0-54.3
≥ 25 years	Yes	113	42.4	36.9-48.0
	No	163	57.6	52.0-63.1
Unprotected sexual intercourse in past 30 days (abroad)				
< 25 years	Yes	4	17.1	1.7-32.5
	No	20	82.9	67.5-98.3
≥ 25 years	Yes	41	14.7	10.7-18.8
	No	235	85.3	81.2-89.3

Table 5. HIV testing in Armenia and abroad, disaggregated by age groups

		N	%	CI
Knows where to go for HIV test in Armenia				
< 25 years	Yes	0	—	—
	No	0	—	—
≥ 25 years	Yes	0	—	—
	No	0	—	—
Had an HIV test and receive your results in the past 12 months in Armenia				
< 25 years	Yes	0	—	—
	No	24	100	—
≥ 25 years	Yes	7	2,3	0,4-4,3
	No	269	97,7	95,7-99,6
Had an HIV test and receive your results in the past 12 months (abroad)				
< 25 years	Yes	2	6,4	0-17,6
	No	22	93,6	82,4-100
≥ 25 years	Yes	23	7,2	3,9-10,5
	No	253	92,8	89,5-96,1

Table 6. TB Knowledge and signs, symptoms, screening and treatment, disaggregated by age groups

		N	%	CI
Following health problems in the past six months:				
Cough for more than two weeks				
< 25 years	Yes	4	15,5	0,3-30,7
	No	20	84,5	69,3-99,7
≥ 25 years	Yes	23	8,2	4,8-11,6
	No	253	91,8	88,4-95,2
Unexplained weight loss of more than 4 kilos				
< 25 years	Yes	1	3,9	0-12,0
	No	23	96,1	88,0-100
≥ 25 years	Yes	11	3,6	1,4-5,9
	No	265	96,4	94,1-98,6
Unexplained fever for more than two weeks				
< 25 years	Yes	0	—	—
	No	24	100	—
≥ 25 years	Yes	7	2,4	0,5-4,2
	No	269	97,6	95,8-99,5

Drenching night sweats for more than two weeks				
< 25 years	Yes	1	3,9	0,0-12,0
	No	23	96,1	88,0-100
≥ 25 years	Yes	8	2,6	0,7-4,5
	No	268	97,4	95,5-99,3
Spitting up blood				
< 25 years	Yes	1	4,2	0,0-12,3
	No	23	95,8	87,7-100
≥ 25 years	Yes	2	0,6	0,0-1,6
	No	274	99,4	98,4-100
Unexplained chest pain for more than two weeks				
< 25 years	Yes	0	—	—
	No	24	100	—
≥ 25 years	Yes	11	3,5	1,1-5,8
	No	265	96,5	94,2-98,9
Unexplained fatigue for more than two weeks				
< 25 years	Yes	1	4,2	0,0-12,3
	No	23	95,8	87,7-100
≥ 25 years	Yes	15	5,1	2,4-7,8
	No	261	94,9	92,2-97,6
Ever heard of TB				
< 25 years	Yes	23	95,2	87,2
	No	1	4,8	0,0-12,8
≥ 25 years	Yes	245	87,9	84,2-91,5
	No	31	12,1	8,5-15,8
Had a TB test in the past 2 years				
< 25 years	Yes	3	13,8	0,6-27,1
	No	21	86,2	72,9-99,4
≥ 25 years	Yes	44	15,2	10,9-19,4
	No	232	84,8	80,6-89,1
Had a chest X-ray examination for TB identification in the past 2 years				
< 25 years	Yes	2	10,6	0,0-22,0
	No	22	89,4	78,0-100
≥ 25 years	Yes	31	9,7	6,1-13,4
	No	245	90,3	86,6-93,9

Was informed about being ill with tuberculosis by a health worker in the past 5 years

< 25 years	Yes	0	—	—
	No	24	100	—
≥ 25 years	Yes	2	0,5	0,0-1,5
	No	273	99,5	98,5-100

Has completed at least a 6-month TB treatment course

< 25 years	Yes	0	—	—
	No	24	100	—
≥ 25 years	Yes	2	0,5	0,0-1,5
	No	274	99,5	98,5-100

Table 7. Access to services in Armenia and abroad, disaggregated by age groups

		N	%	CI
Provided with condoms during the past 12 months in Armenia				
< 25 years	Yes	0	—	—
	No	24	100	—
≥ 25 years	Yes	6	2,2	0,4-3,9
	No	270	97,8	96,1-99,6
Provided with condoms during the past 12 months (abroad)				
< 25 years	Yes	0	—	—
	No	24	100	—
≥ 25 years	Yes	4	1,4	0,0-2,8
	No	271	98,3	96,7-99,8
Easy for you to access health care when you need it in Armenia				
< 25 years	Yes	24	100	—
	No	0	—	—
≥ 25 years	Yes	238	88,0	83,9-92,2
	No	37	11,6	7,5-15,6
Easy for you to access health care when you need it (abroad)				
< 25 years	Yes	19	82,4	66,1-98,7
	No	5	17,6	1,3-33,9
≥ 25 years	Yes	151	51,7	45,8-57,7
	No	123	47,5	41,6-53,5

In the past one year, visited a health care professional in Armenia

< 25 years	Yes	5	19,0	2,2-35,8
	No	19	81,0	64,2-97,8
≥ 25 years	Yes	110	39,2	33,2-45,2
	No	166	60,8	54,8-66,8

In the past one year, visited a health care professional (abroad)

< 25 years	Yes	3	14,5	0,7-28,3
	No	21	85,5	71,7-99,3
≥ 25 years	Yes	41	14,3	10,0-18,6
	No	235	85,7	81,4-90,0

Rating treatment during your last visit to a health care professional in Armenia

< 25 years	Poor	0	—	—
	Good	5	86,4	54,3-100
	Very good	1	13,6	0,0-45,7
	Excellent	0	—	—
≥ 25 years	Poor	9	7,3	2,2-12,4
	Good	86	77,9	69,8-85,9
	Very good	16	14,1	7,4-20,8
	Excellent	1	0,8	0,0-2,5

Rating treatment during your last visit to a health care professional (abroad)

< 25 years	Poor	0	—	—
	Good	3	100	—
	Very good	0	—	—
	Excellent	0	—	—
≥ 25 years	Poor	3	7,7	0,0-15,7
	Good	34	84,0	71,5-96,4
	Very good	4	7,3	0,0-16,5
	Excellent	1	1,0	0,0-5,8

