KNOWLEDGE RELATED TO HIV/TB/HCV AMONG PRIMARY HEALTH CARE WORKERS AND THE INTEGRATED SCREENING IN KVEMO KARTLI REGION

[1,2]Gamezardashvili A., [1,2]Kanchelashvili G., [1]Gulbiani L., [3]Chikovani N., [1]Kajaia M., [1,2]Kamkamidze G.

[1]Clinic NeoLab/Health Research Union, Tbilisi Georgia;
[2]University of Georgia, Tbilisi, Georgia; [3]National center for Disease Control and Public Health, Tbilisi, Georgia

An estimated 70 million people worldwide are chronically infected by the hepatitis C virus (HCV). The clinical presentation of HCV infection can vary from minimal fibrosis to cirrhosis and its complications [7]. The disease is one of the most frequent reasons for liver transplantation and more than 1 million deaths were due to HCV infection in 2013, most of which were related to cirrhosis and hepatocellular carcinoma [1].

Worldwide, around 10 million new cases of tuberculosis (TB) are registered each year. TB is one of the top 10 causes of death, and the leading cause from a single infectious agent (Mycobacterium tuberculosis), ranking above HIV/ AIDS [3] Globally, an estimated 1.7 billion people are infected with M. tuberculosis and are thus at risk of developing the disease [4]. TB remains the leading cause of death among people living with HIV, accounting for around one in three AIDS-related deaths [5].

HIV continues to be a major global public health issue. In 2018 an estimated 37.9 million people were living with HIV (including 1.7 million children), with a global HIV prevalence of 0.8% among adults. Around 21% of these people do not know that they have the virus. [6] Since the start of the epidemic, an estimated 74.9 million people have become infected with HIV and 32 million people have died of AIDS-related illnesses. In 2018, 770,000 people died of AIDS-related illnesses. This number has reduced by more than 55% since the peak of 1.7 million in 2004 and 1.4 million in 2010 [7].

In Georgia, during the last years, according to the World Health Organization estimates and data of local institutions, there is a trend of decrease of tuberculosis morbidity, although, indicators are high, compared to the European region and the EU countries. In 2018, there were 2590 cases of tuberculosis registered, including 2320 new cases and relapses.

Georgia is considered as a country with low prevalence of HIV/AIDS. However, in recent years incidence of HIV/AIDS is characterized by the growing trend. In 2018, in Georgia, 672 new cases of HIV were registered (incidence per 100000 population – 18.0) [2].

Based on available data, Georgia is among the countries with high hepatitis C (HCV) prevalence. However, the reasons of the high burden of the disease have not been studied sufficiently. According to the latest population-based seroprevalence survey, estimated national seroprevalence of hepatitis C is 7.7% and the prevalence of active disease is 5.4%. The study was conducted by the National Centre for Disease Control and Public Health (NCDC) and the US Centres for Disease Control and Prevention (CDC) in May-August 2015 [3].

Integration of TB/HIV/HCV screening into primary health care has been implemented in Georgia since 2018. The aim of the program is to strengthen TB, HIV/HCV screening and early detection capabilities in the primary health care, as early detection and treatment are considered to be the most effective strategies to prevent these infections. Trainings of primary healthcare providers about TB, HIV and HCV infections were conducted within the frames of this program. Pre- and post-test survey was administered among trained HCWs.

Material and methods. The goal of the study was to evaluate and compare the baseline and follow-up knowledge about TB, HIV and HCV infectious among primary health care workers in Kvemo Kartli Region.

The study instrument was a self-administered questionnaire.

Data entry, management and analyses were conducted using the statistical program SPSS v.22.0 (IBM SPSS Statistics for Windows, Version 22.0. Armonk, NY). Descriptive statistics were computed to describe the level of knowledge of the respondents about TB/HCV/HIV.

Results and discussion. A total of 459 primary HCWs from Kvemo Kartli region were surveyed. 81.0% (n=372) of surveyed HCWs correctly identified which organs can be affected by TB infection. 93% of study participants were correctly informed about the modes of TB transmission. Almost 87% of study participants at baseline were aware of high-risk groups of TB. The vast majority (95.45%) of surveyed HCWs had correct information about pulmonary TB symptoms. Almost half of respondents (42.3%) had understanding of NAAT test system Xpert MTB/RIF. 34.6% (n=159) of surveyed physicians and nurses were aware of definition of MDR TB.

As for HCV, the baseline knowledge regarding HCV prevalence in Georgia among HCWs was low. Only 40.1% (n=184) of respondents identified correctly HCV prevalence in Georgia.

64.1% (n=294) of participants knew HCV transmission routes. Almost 46.0% were aware of the risk of HCV transmission from mother to child and 43.6% stated correctly about Risk of HCV transmission by sexual contact. Only 57.1% of surveyed participants reported that effective vaccine against HCV infection is not available.

The vast majority (80.2%) of the study participants correctly identified modes of HIV transmission. We assessed knowledge about prophylactic measures of mother to child HIV transmission and 66.4% answered correctly.

Analysis of pre and post test data showed the improvement of knowledge among HCWs after the training. For example, the proportion of HCWs correctly knowing MDR TB definition increased from 34.6% to 82.8% and this difference was statistically significant ($p<0.01$).

Unavailability of an effective vaccine against HCV was correctly reported by 57.1% of survey participants before trainings which significantly increased to 95.6% after trainings ($p<0.001$).

The knowledge of HCV sexual transmission was significantly increased (43.6% vs 95.2%, $p<0.001$).

Table.1 Knowledge regarding HIV/TB/HCV integrated screening program by the type of test

Charateristics	Pre test	Post test	*P* value
Which organs can be affected by TB?	N (%)	N (%)	
Any organ	81.0% (372)	95.2% (437)	<0.001
Other	10.0% (87)	4.8% (22)	
Transmission of TB			
Air	93.0% (427)	95.4% (438)	<0.078
Other	7.0% (32)	4.6% (21)	
High risk group of TB			
Identified all risk groups	86.1% (395)	96.9% (445)	<0.001
Incorrectly identified	14.0% (64)	3.1% (14)	
Symptoms of pulmonary TB			
Defined all symptoms	95.4% (438)	99.3% (456)	<0.001
Other	4.6% (21)	0.7% (3)	
Positive PPD test reveals			
Latent TB/Infected individuals	67.8% (311)	86.7% (397)	<0.001
Incorrectly identified	32.2% (148)	13.3% (61)	
NAAT test system Xpert MTB/RIF is used:			
Correctly identified	42.3% (194)	81.4% (373)	<0.001
Incorrectly identified	57.7% (265)	18.6% (85)	
Definition of MDR TB			
Correctly identified	34.6% (159)	82.8% (379)	<0.001
Incorrectly identified	65.4% (300)	17.2% (79)	
Eligibility for TB screening within the frame of integrated screening program			
Correctly identified	46.6% (214)	95.0% (435)	<0.001
Incorrectly identified	53.4 (235)	5.0% (23)	
HCV prevalence in Georgia			
Correctly identified	40.1% (184)	90.4% (414)	<0.001
Incorrectly identified	59.9% (275)	9.6% (44)	
Modes of HCV transmission			
Identified all modes	64.1% (294)	79.3% (363)	<0.001
Incorrectly identified	35.9% (165)	20.7% (95)	
Availability of effective vaccine against HCV			
Correctly identified	57.1% (262)	95.6% (438)	<0.001
Incorrectly identified	42.9% (197)	4.4% (20)	
Eligibility for HCV screening within the frame of integrated screening program			<0.001
Correctly identified	80.6% (370)	97.6% (447)	
Incorrectly identified	19.4% (89)	2.4% (11)	
Modes of HIV transmission			
Correctly identified	80.2% (368)	95.4% (437)	<0.001
Incorrectly identified	19.8% (91)	4.6% (21)	
Target cells of HIV			
Correctly identified	28.8% (132)	81.2% (372)	<0.001
Incorrectly identified	71.2% (327)	18.8% (86)	

Prophylactic measures of mother to child HIV transmission			
Correctly identified	66.4% (305)	88.0% (403)	<0.001
Incorrectly identified	33.6% (154)	12.0% (55)	
High risk groups of HIV infection			
Correctly identified	89.8% (412)	96.7% (443)	<0.001
Incorrectly identified	10.2% (47)	3.3% (15)	
Eligibility for HIV screening within the frame of integrated screening program			
Correctly identified	76.7% (352)	96.1% (440)	<0.001
Incorrectly identified	23.3% (107)	3.9% (18)	
What is the window period for HIV infection?			
Correctly identified	27.2% (125)	83.2% (381)	<0.001
Incorrectly identified	72.8% (334)	16.8% (77)	
The aim of HIV pre-test counseling			
Correctly identified	72.3% (332)	99.1% (454)	<0.001
Incorrectly identified	27.7% (127)	0.9% (4)	
The aim of HIV post-test counseling			
Correctly identified	76.7% (352)	96.5% (442)	<0.001
Incorrectly identified	23.3% (107)	3.5% (16)	

Table.2 Knowledge regarding HIV/TB/HCV and integrated screening program by occupation

Characteristics	Physician	Nurse	*P* value
	N (%)	N (%)	
Which organs can be affected by TB?			
Any organ	86.8% (203)	75.1% (169)	0.003
Other	13.2% (31)	24.9% (56)	
High risk groups of TB			
Identified all risk groups	93.6% (219)	78.2% (176)	<0.001
Incorrectly identified	6.4% (15)	21.7% (49)	
Positive PPD test reveals			
Latent TB/Infected individuals	85.9% (201)	48.9% (110)	<0.001
Incorrectly identified	14.1% (33)	51.1% (115)	
NAAT test system Xpert MTB/RIF is used:			
Correctly identified	42.7% (100)	41.8% (94)	<0.05
Incorrectly identified	57.3% (134)	58.2% (131)	
Definition of Latent TB infection			
Correctly identified	23.5% (55)	3.6% (8)	<0.001
Incorrectly identified	76.5% (179)	96.4% (217)	
Definition of MDR TB			
Correctly identified	38.5% (90)	30.7% (69)	0.2
Incorrectly identified	61.5% (144)	69.3% (156)	
The importance of TB screening in primary health care facilities			
Correctly identified	82.5% (193)	81.8% (184)	0.4
Incorrectly identified	17.5% (41)	18.2% (41)	
Correctly identified	97.9% (229)	94.7% (213)	0.05
Incorrectly identified	2.1% (5)	5.3% (12)	

HCV prevalence in Georgia			
Correctly identified	57.7% (135)	21.8% (49)	<0.001
Incorrectly identified	42.3% (99)	78.2% (176)	
Modes of HCV transmission			
Identified all modes	78.2% (183)	49.3% (111)	<0.001
Incorrectly identified	21.8% (51)	50.7% (114)	
Eligibility for HCV screening within the frame of integrated screening program			
Correctly identified	87.6% (205)	73.3% (165)	<0.001
Incorrectly identified	12.4% (29)	26.7% (60)	
Modes of HIV transmission			
Correctly identified	89.3% (209)	70.7% (159)	<0.001
Incorrectly identified	10.7% (25)	29.3% (66)	
What is the window period for HIV infection?			
Correctly identified	40.6% (95)	13.3% (30)	<0.001
Incorrectly identified	49.4% (139)	86.7% (195)	
The aim of HIV pre-test counseling			
Correctly identified	86.3% (202)	66.7% (150)	<0.001
Incorrectly identified	13.7% (32)	33.3% (75)	
The aim of HIV post-test counseling			
Correctly identified	83.3% (195)	62.2% (140)	<0.001
Incorrectly identified	16.7% (39)	37.8% (85)	
Eligibility for HIV screening within the frame of integrated screening program			
Correctly identified	83.3% (195)	69.8% (157)	<0.005
Incorrectly identified	16.7% (39)	30.2% (68)	
High risk groups of HIV infection			
Correctly identified	97.4% (228)	81.8% (184)	<0.001
Incorrectly identified	2.6% (6)	18.3% (41)	

72.3% of HCWs correctly defined the purpose of pre-test counseling. We also asked to our study participants to determine the aim of HIV post-test counseling. Proportion of HCWs who correctly identified it was 76.6%.

At baseline, only 27.2%% of HCWs knew what was the window period for HIV infection. This knowledge increased to 72.8% after trainings (p<0.001).

We found that the level of knowledge regarding HIV/TB/HCV was different by occupations of the study participants. The majority of physicians (93.6%) correctly identified the high-risk groups for tuberculosis, compared to nurses (78.2%) (p<0.001). The meaning of positive tuberculin skin test was correctly defined by the majority of doctors (85.9%) compared to only 48.9% of nurses (p<0.001). There was no significant difference in knowledge about MDR TB and BCG vaccine between physicians and nurses. 78.2% of doctors and 49.3% of nurses were aware of the modes of HCV transmission (p<0.001).

Nurses were less informed about HIV infection. Only 70.7% of them knew modes of HIV transmission, while 89.3% of physicians answered this question correctly (p<0.001). The vast majority of doctors (97.4%) correctly selected high-risk groups of HIV infection compared to 81.8% of nurses (p<0.001).

An assessment of knowledge among primary health care workers (PHC) providers is important, as they represent the first level of community contact with health care. Accordingly, PHC workers play central role in both referrals for routine HIV/TB/HCV screening referrals as well as in detecting early clinical manifestations and specialized care referral.

According to our study, only 46.6% (n=214) of study participants knew about eligibility of TB screening within the frame of integrated screening program.

The post-test showed significant improvement in knowledge among trained HCWs. Follow-up knowledge and practice surveys are needed to understand the long-term impact of training on the rate of screening referrals by PHC providers.

REFERENCES

1. Marc Ringehan,1,2,3 Jane A. McKeating,4,5 and Ulrike Protzer1,3,4, Viral hepatitis and liver cancer. // Philos Trans R Soc Lond B Biol Sci. 2017 Oct 19; 372(1732): 20160274. Published online 2017 Sep 11. doi: 10.1098/rstb.2016.0274
2. National center for disease control and public health. Statistical Yearbook 2018. Available from: https://www.ncdc.ge/Pages/User/News.aspx?ID=bec659c0-56a2-4190-9c0c-e47a63bcca4f

3. National Center for Disease Control and Public Health. Ministry of Labour, Health and Social Affairs of Georgia. Hepatitis elimination in Georgia. GEORGIA Brief. Available from: https://www.ncdc.ge/Handlers/GetFile.ashx?ID=50946afb-b358-46e1-a7a3-791b92010fab
4. Rein M. G. J. Houben and Peter J. Doddcorresponding author 3. The Global Burden of Latent Tuberculosis Infection: A Re-estimation Using Mathematical Modelling.// PLoS Med. 2016 Oct; 13(10): e1002152. Published online 2016 Oct 25. doi: 10.1371/journal.pmed.1002152
5. Unaids. TB-related deaths among people living with HIV falling, but not by enough. 03 JUNE 2019. Available from: https://www.unaids.org/en/resources/presscentre/featurestories/2019
6. Unaids. Global HIV & AIDS statistics — 2020 fact sheet. Available from: https://www.unaids.org/en/resources/fact-sheet
7. Health Organization 2019. Global tuberculosis report 2019. Available from: https://apps.who.int/iris/bitstream
8. World Health Organization. 24 March 2020 tuberculosis. Available from: https://www.who.int/news-room/fact-sheets
9. 2018 global HIV statistics. Source unaids data 2019. Available from: https://www.avert.org/global-hiv-and-aids-statistics

SUMMARY

KNOWLEDGE RELATED TO HIV/TB/HCV AMONG PRIMARY HEALTH CARE WORKERS AND THE INTEGRATED SCREENING IN KVEMO KARTLI REGION

[1,2]Gamezardashvili A., [1,2]Kanchelashvili G., [1]Gulbiani L., [3]Chikovani N., [1]Kajaia M., [1,2]Kamkamidze G.

[1]Clinic NeoLab/Health Research Union, Tbilisi; [2]University of Georgia, Tbilisi; [3]National center for Disease Control and Public Health, Tbilisi, Georgia

Integration of TB/HIV/HCV screening into primary health care has been implemented in Georgia since 2018. The aim of the program is to strengthen TB, HIV/HCV screening and early detection capabilities in the primary health care, as early detection and treatment are considered to be the most effective strategies to prevent these infections.

The goal of the study was to evaluate and compare the baseline and follow-up knowledge about TB, HIV and HCV infectious among primary health care workers in Kvemo Kartli Region. The study instrument was a self-administered questionnaire.

A total of 459 primary HCWs from Kvemo Kartli region were surveyed. The proportion of HCWs correctly knowing MDR TB definition increased from 34.6% to 82.8% and this difference was statistically significant ($p<0.01$). Nurses were less informed about HIV infection. Only 70.7% of them knew modes of HIV transmission, while 89.3% of physicians answered this question correctly ($p<0.001$). An assessment of knowledge among primary health care workers (PHC) providers is important, as they represent the first level of community contact with health care. The post-test after the training showed significant improvement in knowledge among trained HCWs. Follow-up knowledge and practice surveys are needed to understand the long-term impact of training on the rate screening referrals by PHC providers.

Keywords: integrated screening, HIV, HCV, Tuberculosis.

РЕЗЮМЕ

ЗНАНИЯ, СВЯЗАННЫЕ С ВИЧ/ТБ/ВГС, СРЕДИ РАБОТНИКОВ ПЕРВИЧНОЙ МЕДИЦИНСКОЙ ПОМОЩИ И КОМПЛЕКСНЫЙ СКРИНИНГ В РЕГИОНЕ КВЕМО КАРТЛИ

[1,2]Гамезардашвили А.Р., [1,2]Канчелашвили Г.З., [1]Гулбиани Л.З., [3]Чиковани Н.О., [1]Каджаиа М.Ш., [1,2]Камкамидзе Г.К.

[1]Клиника Неолаб, /Научно-исследовательский союз здравоохранения, Тбилиси; [2]Университет Грузии, Тбилиси; [3]Национальный центр контроля заболеваний и общественного здоровья, Тбилиси, Грузия

Интеграция скрининга на ВИЧ/ТБ/ВГС в первичную медико-санитарную помощь осуществляется в Грузии с 2018 г. Целью программы является усиление возможностей скрининга на ТБ/ВИЧ/ВГС и их раннего выявления в первичной медико-санитарной помощи, поскольку раннее выявление и лечение являются основными наиболее эффективными методами предотвращения этих инфекций. Для улучшения охвата скринингом в регионе Квемо Картли разработана образовательная программа для работников первичного звена здравоохранения.

Цель исследования - оценка и сравнение исходных и полученных знаний о туберкулезе, ВИЧ и инфекционном гепатите С у работников первичного звена медико-санитарной помощи в регионе Квемо Картли. Инструментом исследования была анкета, самостоятельно заполненная 459 медицинскими работниками первичного звена региона Квемо Картли. Доля медицинских работников, знающих как правильно определить туберкулез с множественной лекарственной устойчивостью увеличилась с 34,6% до 82,8%, различие статистически значимо ($p<0,01$). Медсестры были менее информированы о ВИЧ-инфекции. Только 70,7% из них знали пути передачи ВИЧ, 89,3% врачей ответили на этот вопрос правильно ($p<0,001$). Оценка знаний работников первичной медико-санитарной помощи весьма значима, поскольку они представляют первый уровень контакта с медико-санитарной помощью. Тестирование после обучения показало значительное улучшение знаний медработников.

Необходимо проведение дальнейших опросов с целью определения долгосрочного влияния обучения на частоту скрининга ВИЧ/ТБ/ВГС.

რეზიუმე

პირველადი ჯანდაცვის მუშაკთა შორის აივ/ტუბერკულოზი/HCV-თან დაკავშირებული ცოდნა და ინტეგრირებული სკრინინგი ქვემო ქართლის რეგიონში

[1,2]ა. გამეზარდაშვილი, [1,2]გ. ყანჩელაშვილი, [1]ლ. გულბიანი, [3]ნ. ჩიქოვანი, [1]მ. ქაჯაია, [1,2]გ. კამკამიძე

[1]კლინიკა ნეოლაბი/ჯანმრთელობის კვლევის კავშირი, თბილისი; [2]საქართველოს უნივერსიტეტი, თბილისი; [3]დაავადებათა კონტროლისა და საზოგადოებრივი ჯანმრთელობის ეროვნული ცენტრი, თბილისი, საქართველო

აივ ინფექცია, ტუბერკულოზი და C ჰეპატიტის ვირუსი მსოფლიოში ითვლება მაღალი ავადობისა და სიკვდილიანობის ტვირთად, რაც ზიანს აყენებს პირვე-

ლად ჯანდაცვის სისტემებს და ამცირებს პაციენტების სიცოცხლის ხარისხს. აივ ინფიცირებულთა დაახლოებით მეხუთედმა არ იცის საკუთარი დაავადების სტატუსის შესახებ, ტუბერკულოზი რჩება კვლავ სიკვდილობის წამყვან მიზეზად აივ ინფიცირებულთა შორის და შიდსთან დაკავშირებული სიკვდილიანობის დაახლოებით მესამედს შეადგენს. ინტეგრირებული სკრინინგის მიზანია გააუმჯობესოს სამედიცინო დახმარების ხარისხი და პაციენტების გამოსავალი. საქართველოში აივ ინფექციის, ტუბერკულოზისა და C ჰეპატიტის ინტეგრირებული სკრინინგი პირველადი ჯანდაცვის სფეროში ხორციელდება 2018 წლიდან. პროგრამის მიზანია პირველადი ჯანდაცვის სფეროში ტუბერკულოზის, აივ ინფექციისა და C ჰეპატიტის სკრინინგისა და ადრეული გამოვლენის შესაძლებლობების გაძლიერება, რადგან ადრეული გამოვლენა და მკურნალობა ყველაზე ეფექტური სტრატეგიებია ამ ინფექციების თავიდან ასაცილებლად. სკრინინგის გასაუმჯობესებლად ქვემო ქართლის რეგიონში პირველადი ჯანდაცვის მუშაკთა შორის ჩატარდა საგანმანათლებლო პროგრამა.

კვლევის მიზანს წარმოადგენდა ქვემო ქართლის რეგიონის პირველადი ჯანდაცვის მუშაკთა შორის ტუბერკულოზის, აივ ინფექციისა და C ჰეპატიტის შესახებ საბაზისო და შემდგომი ცოდნის შეფასება და შედარება.

კვლევის ინსტრუმენტი იყო თვითშევსებადი კითხვარი. გამოკვლეულია ქვემო ქართლის რეგიონის 459 პირველადი ჯანდაცვის თანამშრომელი. ჯანდაცვის მუშაკთა წილი, რომლებმაც სწორად იციან MDR ტუბერკულოზის განმარტება, ტრეინინგის შემდეგ გაიზარდა 34,6%-დან 82,8%-მდე, სხვაობა სტატისტიკურად სარწმუნოა (p<0,01). ექთნები ნაკლებად იყვნენ ინფორმირებული აივ ინფექციის შესახებ. მათგან მხოლოდ 70.7%-მა იცოდა აივ ინფექციის გადაცემის გზები, ექიმების 89.3%-მა სწორად უპასუხა ამ კითხვას (p<0,01). პირველადი ჯანდაცვის მუშაკების ცოდნის შეფასება მნიშვნელოვანია, რადგან ისინი წარმოადგენენ პაციენტებთან ურთიერთობის პირველ რგოლს. ტრეინინგის შემდგომმა შეფასებამ აჩვენა ჯანდაცვის მუშაკების ცოდნის მნიშვნელოვანი გაუმჯობესება. ტრეინინგის შემდგომი შეფასება და პრაქტიკა აუცილებელია, რათა გაირკვეს გრძელვადიანი გავლენა პირველადი სამედიცინო მომსახურების მიმწოდებლების მიერ სკრინინგის გამოვლენის მაჩვენებლებზე.

A QUALITATIVE STUDY OF KNOWLEDGE, ATTITUDE AND PRACTICE TOWARDS TB IN GEORGIA

[1]Zurashvili T., [1,3]Chakhaia T., [1,2]Kochlamazashvili M., [1,2]Kamkamidze G., [1,2]Butsashvili M.

[1]Health Research Union, Tbilisi, Georgia; [2]Clinic "Neolab", Tbilisi, Georgia;
[3]National Center for TB and Lung Diseases, Tbilisi, Georgia

TB is a global public health problem. According to the WHO data, an estimated 10 million people fell ill with TB worldwide and a total of 1.5 million people died from TB in 2018 [3].

TB remains to be the major public health concern in Georgia too. According to the Global Tuberculosis Report 2019, estimated MDR TB incidence is 14 per 100,000 population, which is higher than the average for the European Region. 31% of previously treated TB cases and 12% of new TB cases were reported to be MDR/rifampicin-resistant (RR) TB. Although there is a decreasing trend during the past years, the estimated TB incidence remained as high as 80 cases per 100,000 population in 2018 [2].

Early detection and adequate treatment of both sensitive and resistant TB cases is the basis for effective TB control. Unfortunately, inadequate knowledge of some health care professionals causes delays in diagnosis and treatment or leads to the prescription of suboptimal treatment, which contributes to the development of resistance. Awareness of TB is usually low in the general population, which leads to delayed referral to a medical facility, which in turn hinders timely initiation of diagnostic and treatment interventions.

Regular Knowledge, Attitude, and Practice (KAP) surveys are important to identify TB-related knowledge scarcities, cultural perceptions, and behaviors that may contribute to problem acknowledgment and action mobilization, or, conversely, to create problems and hinder tuberculosis control. Hence, similar studies facilitate the planning, implementation, and evaluation of informational/educational activities.

The aim of the current study was to explore TB knowledge, attitudes and practice, as well as related barriers and facilitators by conducting FGDs in different target groups (general population and risk groups).

Material and methods. FGDs were conducted in Tbilisi among five different target groups: (1) TB patients; (2) TB contacts; (3) Injecting drug users; (4) health care providers and (5) students. TB patients and their contacts were consecutively selected with the help of the "Patients' Union". IDUs were also consecutively selected through the non-governmental organization "New Vector" providing Needle and Syringe services to IDUs. In the case of health care providers, the researchers contacted medical institutions of different profile, explained