

Knowledge, Attitude and Practice towards Tobacco
Control Activities within Tuberculosis Services in
Armenia:
A Qualitative Study

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ABBREVIATIONS

AUA	American University of Armenia
CME	Continuous medical education
DOTS	Directly observed treatment short course
FCTC	Framework Convention on Tobacco Control
FGD	Focus group discussion
HIV	Human immunodeficiency virus
IDI	In-depth interview
MDR	Multi-drug resistant tuberculosis
MOH	Ministry of Health
NRT	Nicotine replacement therapy
NTCC	National TB Control Center
RR-TB	Rifampicin resistant tuberculosis
TB	Tuberculosis
WHO	World Health Organization
YSMU	Yerevan State Medical University

EXECUTIVE SUMMARY

Introduction

According to the Global TB Report 2017, in Armenia the estimated TB incidence rate was 44 per 100,000 population and the mortality rate was 2.6 per 100,000 population in 2016. According to the 2016 Health System Performance Assessment, the smoking rate among Armenian males was one of the highest in the European region: 53.4%, aged 15 and above. However, only 2.3% of surveyed females reported a positive smoking status. Current epidemiological evidence supports the association between smoking and TB. Both active and passive exposures to tobacco smoke are significantly associated with TB infection, disease, recurrent TB and TB mortality. The recent study conducted by the American University of Armenia, Zvart Avedisian Onanian Center for Health Services Research and Development (AUA/CHSR) revealed that smoking prevalence among male and female TB patients was even higher than in the general population, 67.5% and 5.8%, respectively. Moreover, the proportion of recurrent TB among smokers was significantly higher compared to non-smokers and smoking status was positively associated with the recurrence of TB. The aim of this study was to explore TB physicians' and experts' knowledge, attitude, and practices (KAP) towards tobacco control activities within TB services in Armenia.

Methods

The research team developed and implemented a qualitative research through in-depth interviews (IDI) and focus group discussions (FGD) with TB physicians and experts in the fields of TB and tobacco control. Semi-structured guides were developed to moderate IDIs and FGDs. Overall, 21 inpatient/outpatient TB physicians and 5 experts participated in ten IDIs and four FGDs. The study was conducted in Yerevan (the capital city), Syunik, and Gegharkunik marzes. Directed deductive approach was utilized for the data analysis. Three predetermined themes were developed based on the key recommendations identified by the WHO/International Union against Tuberculosis and Lung Diseases that guided the analysis of the study. The three themes were the following: 1) provision of tobacco dependence treatment to TB patients, 2) establishment of smoke-free environments in TB healthcare facilities, and 3) management support to joint TB and tobacco control interventions.

Results

Provision of tobacco dependence treatment to TB patients – TB physicians acknowledged the health impact of tobacco use on TB treatment and outlined several benefits of quitting for TB treatment. However, knowledge on evidence based tobacco dependence treatment methods among TB physicians was insufficient and TB physicians tended to prioritize the role of individuals' willpower for quitting. TB physicians identified several opportunities associated with TB treatment that can predispose to initiating smoking cessation counseling with their patients, such as the time of the TB diagnosis, regular encounter with TB patients, patients' trust in TB physicians. In the meantime, psychological distress at the point of TB diagnosis, anxiety because of TB treatment, withdrawal symptoms and reluctance to receive pharmacological interventions were listed as possible threatening factors for smoking cessation counseling. TB physicians stated they did not follow a universal algorithm in their practice. They

usually asked their patients about their smoking status, documented it in the medical records and in the e-TB electronic database, and advised their patients to quit. Physicians did not prescribe smoking cessation medicine and more often they employed behavioral and psychological techniques to help their patients to quit smoking.

Establishment of smoke-free healthcare settings – Study participants were supportive to the policy for establishing smoke-free environments in healthcare facilities. They were satisfied with the level of implementation of the policy in TB healthcare settings and listed some measures for banning indoor smoking, such as posting of “No smoking” signs, written warnings, designation of smoking areas in few TB facilities, posting of pictures of lungs damaged by the smoke, and warnings on financial penalties in case of smoking.

Managerial support for integration of tobacco control into TB care – The study findings suggested the absence of any policy or regulation on joint TB and tobacco control activities. The study participants highlighted the need for integrating tobacco dependence treatment into TB treatment guidelines. Absence of trainings on knowledge and skills for providing smoking cessation counseling to TB patients was mentioned as another weakness of managerial support. Though the patients’ smoking status was usually reported in the medical records and the e-TB electronic database, no monitoring and evaluation was performed to track the tobacco use trends among TB patients.

Conclusion/Recommendations

Based on the study findings, the research team developed several recommendations directed to strengthening the existing activities and developing new actions for joint TB and tobacco control, including: 1) establishment of a nationwide healthcare professional partnership between the National TB Control Center and the National Tobacco Control Program; 2) building smoking cessation capacity among TB healthcare providers through development and implementation of smoking cessation training on patient counseling and treatment of tobacco dependence for healthcare providers; 3) development of capacity for enforcing a policy of smoke-free environments for all facilities where outpatient and inpatient services are delivered to TB suspects and TB patients.

INTRODUCTION

Though 2004-2014 was marked as a period of constant decline in the TB burden, Armenia still faces challenges on its path to achieving the Global TB Program goals. According to the Global TB Report 2017, in 2016, the estimated TB incidence rate was 44 per 100,000 population in Armenia, 11% of which were drug-resistant cases.¹ According to the recent data, 47% of Armenian TB patients receiving retreatment have developed drug resistance.¹ In 2016, the overall incidence rate of multi-drug/rifampicin resistant TB (MDR/RR-TB) was 9.6 per 100,000 population.¹ The mortality rate of TB alone was estimated to be 2.1 per 100,000 population in 2016, with an additional 0.52 per 100,000 resulting from the deaths of HIV positive TB cases.¹ However, the overall TB mortality (including HIV positive cases) has declined by 26% between 2015 and 2016 from 3.5 to 2.6 per 100,000.^{2,1}

Armenia was the first among former Soviet Union countries to accede to the World Health Organization (WHO) Framework Convention on Tobacco Control (FCTC) (November 2004). Armenia has since adopted a set of policy measures to reduce tobacco consumption and exposure to tobacco smoke in accordance with the requirements of WHO/ FCTC. Tobacco control in Armenia is primarily regulated by the law “On Restrictions of Tobacco Sales, Consumption, and Usage” (2004) and the law “On Advertising” (2002).³ However, the current legislation has several limitations and the enforcement of the laws is still insufficient.

According to 2016 Health System Performance Assessment, the smoking prevalence among the general Armenian population aged 15 and above was 26.2%, with one of the highest male smoking rates in the European region: 53.4% among males aged 15 and above.⁴ Smoking prevalence among males was the highest within the 20-34 and 35-49 age groups: 64.4% and 62.1%, respectively. In contrast, the smoking prevalence statistics for the adult female population in Armenia were drastically different. Overall, only 2.3% of surveyed females reported a positive smoking status, with the highest prevalence in the 50-64 age group (3.8%).⁴ These numbers are likely underestimated as female smoking is often underreported.

The adverse effects of smoking on a wide range of health conditions is firmly documented, including its effect on cancer and cardiovascular and respiratory diseases,⁵ while its association with TB has been studied since 1918.⁶ Current epidemiological evidence supports the association between smoking and TB.⁷ A systematic review conducted by the International Union against Tuberculosis and Lung Disease (The Union) concluded that both active and

passive exposure to tobacco smoke are significantly associated with TB infection, disease, recurrent TB and TB mortality.⁷

The recent study conducted by the American University of Armenia, Zvart Avedisian Onanian Center for Health Services Research and Development (AUA/CHSR) revealed that the smoking prevalence among male and female TB patients was even higher than in the general population, 67.5% and 5.8%, respectively.⁸ Moreover, the proportion of recurrent TB among smokers was significantly higher compared to non-smokers and smoking status was positively associated with the recurrence of TB.

The WHO/The Union “Monograph on TB and tobacco control” points out the need to join efforts between TB and tobacco national control programs and provides guidelines to managers of these two programs on the implementation of tobacco control activities as an integral part of TB case management interventions.⁹ Addressing tobacco use during provision of TB treatment services, delivery of TB treatment services in smoke-free environments and the managerial support for implementation of tobacco control activities are the key three groups of recommendations for joining TB and tobacco control activities within clinical settings.

The WHO and The Union recommend targeting national TB programs for implementing smoking cessation programs among TB patient population.¹⁰ Smoking cessation programs are envisioned to be even more effective once implemented within the DOTS scheme. According to the WHO estimations, regular contact and delivery of smoking cessation interventions to TB patients within the DOTS scheme have a potential of reaching more than 1 million smokers worldwide, triggering an estimated 40% of patients to make a quit attempt and 67% of those patients to quit successfully.¹¹

The aim of this qualitative research was to explore TB physicians’ and experts’ knowledge, attitude and practices (KAP) towards tobacco control activities within TB services in Armenia.

METHODS

1. Study design

The qualitative study was conducted among TB physicians and experts in the fields of TB and tobacco control to acquire profound understanding of study participants’ KAP towards tobacco control activities within TB care in Armenia. Data were collected through in-depth interviews (IDIs) and focus group discussions (FGDs).

2. Study participants and settings

TB physicians and experts in the fields of TB and tobacco control from Yerevan (the capital city) and two marzes (Syunik and Gegharkunik) participated in the study. To ensure variability in responses and explore tobacco control activities during both intensive and continuation phases of TB treatment, physicians from inpatient and outpatient TB facilities were invited to participate. Overall, 21 outpatient and inpatient TB physicians were recruited with the help of the National Tuberculosis Control Center (NTCC). Five prominent experts in TB and tobacco control participated in the interviews.

3. Study instruments

Two semi-structured interview guides were developed based on the evidence-based key recommendations for joint TB and tobacco control activities (Appendix 1 and 2). The interview guide for TB physicians included domains on knowledge on smoke-free environments, KAP regarding smoking cessation, barriers for provision of smoking counseling and perceived needs for training and future actions. The interview guide for experts/policy makers incorporated sections on joint TB and tobacco control activities, training needs for TB physicians, smoke-free environments, and recommendations on future actions.

The research team also developed a short demographic information form to be completed by participants after FGDs and IDIs (Appendix 3). Guides were developed in English and translated into Armenian by the research team of the CHSR/AUA.

4. Data collection and analysis

The data collection was conducted in June 2017. The IDIs and FGDs were held at the American University of Armenia, NTCC, regional TB facilities and in the workplaces depending on the participants' preferences. The IDIs and FGDs were conducted by trained moderators and the FGDs were accompanied by a note-taker. The sessions were audio recorded with permission of all study participants. All IDIs and FGDs were transcribed and translated into English.

The deductive content analysis approach was utilized for the data analysis. Three predetermined themes were developed based on the key recommendations identified by the WHO/The Union "Monograph on TB and tobacco control" that served as an analysis framework and guided the analysis of the study. The themes were the following: 1) provision of tobacco dependence treatment to TB patients, 2) establishment of smoke-free environments in TB healthcare facilities, and 3) management support to join TB and tobacco control interventions.

5. Categorization of study participants

The direct quotes provided in the boxes in the Results section were abstracted from both IDIs and FGDs. The study participants were categorized into three groups: 1) Outpatient TB physician, 2) Inpatient TB physician, and 3) Experts. The individual informant identifiers specify the category of participants who provided the quote (e.g., Outpatient TB physician), the subhead of the report (e.g., 3.1.1.), and the sequential number of the given category of participant who provided the quote for the given subheading (e.g., 1.). If the same participant provided more than one quote within a single box, these quotes are provided under the same identifier. A single informant who provided quotes in more than one box has different identifiers for each box. After each identifier, the type of applied data collection method (FGD or IDI) and the geographic area of the participant's practice or residency (Yerevan or marz) is provided. Here is an example of a complete identifier for a TB physician from Yerevan, who works in inpatient TB facility and participated in FGD, who provided the first quote for the box under the Results section's subtitle 3.1.1 (Inpatients TB physician 3.1.1.1, FGD, Yerevan).

6. Ethical considerations

The Institutional Review Board of the AUA approved the study for compliance with locally and internationally accepted ethical standards. All participants were informed of their rights (their participation was voluntary, they could stop at any time and refuse to answer any question they chose, and their anonymity and confidentiality were fully respected). Audio-recording was possible only with permission of all participants; if a participant did not want to be audio-recorded, only written notes were taken. The final report does not contain respondents' names, positions, institutions, or any other details that could identify the participants.

RESULTS

Overall, four FDGs (two for inpatient services and two for outpatient services) and 10 IDIs (five with experts and five with physicians) were conducted. The mean duration of the FGDs and IDIs were 44 and 32 minutes, respectively. The overwhelming majority of TB physicians were female (n=19) with the mean age 53.43 (range 27-70). Eleven TB physicians worked in inpatient healthcare facilities (Yerevan n=1, marzes n=10) and 10 worked in outpatient facilities (Yerevan n=8, marzes n=2). On average, they worked as TB physicians for

22.57 years (range 3-41). Only three TB physicians reported being smokers. Only one of the TB physicians reported about participation in a smoking cessation training in the past (Table 1).

The analysis of *tobacco dependence treatment theme* utilized KAP framework KAP to assess the TB physicians' KAP regarding smoking cessation services for TB patients. TB physicians' practices related to provision of smoking cessation services were analyzed by the ABC smoking cessation approach for TB patients recommended by The Union.¹⁰ The ABC is a simple three-step approach that stands for the A-Ask, provision of B-Brief advice and C-Cessation Support processes.

1. Provision of tobacco dependence treatment to TB patients

The theme was analyzed by employing the KAP framework. The major categories identified within the theme were 1) knowledge, 2) attitude, and 3) practice regarding smoking cessation.

1.1. Knowledge regarding smoking cessation

The category of knowledge encompasses three subcategories: smoking burden among Armenian TB patients, importance of quitting among TB patients, and awareness of smoking cessation methods.

1.1.1 Smoking burden among Armenian TB patients

Almost all TB physicians agreed that tobacco use is a major problem for their TB patients. The TB physicians noted that smoking is more prevalent among male TB patients, whereas the prevalence of tobacco use among female TB patients is negligible. Some of the respondents mentioned that high smoking prevalence among TB patients was determined by the fact that TB is a social disease that affects socially vulnerable and poor populations.

“In 90% of cases, most of them [male TB patients] are smokers.”

Inpatient TB physician, 1.1.1.1, FGD, marz

“Of course, the majority of them are males. I very rarely had smoker female patients.”

Outpatient TB physician, 1.1.1.2, FGD, Yerevan

“Our patients are specific. They are from jails and other places, mainly males aged 40 to 60 years old. That is why almost everybody smokes.”

Outpatient TB physician, 1.1.1.3, FGD, Yerevan

1.1.2 Importance of quitting among TB patients

The overwhelming majority of the TB physicians consistently agreed on the need for TB patients to quit smoking. They identified various reasons rationalizing the urgency of smoking cessation, particularly in case of TB. Improved TB treatment effectiveness and outcomes, accelerated recovery, and decreased risk of TB relapse were identified as the most common positive effects of smoking cessation among TB patients, particularly among pulmonary TB patients. Moreover, a few physicians reported patients' weight gain after quitting as another health benefit for TB patients that could accelerate the recovery. Some physicians mentioned other benefits of quitting smoking which were not directly linked to improving TB treatment outcomes, such as improved general health, less intoxication, improved metabolism and immune system.

“... Of course the smoking status affects the treatment process and outcomes. It [smoking] adversely affects the outcomes making it more difficult to treat patients. Smoking negatively affects the recurrence, complications, mortality of TB. I have noticed that.”

Outpatient TB physician, 1.1.2.1, IDI, marz

“... [after quitting] the immune system gets stronger, TB treatment process goes faster, and the recovery process accelerates. The patient also feels better from the psychological perspective.”

Outpatient TB physician, 1.1.2.2, IDI, marz

“All patients should quit smoking, especially pulmonary TB patients as they receive long-lasting treatment for six months. When the TB patient smokes, the smoke penetrates into the lungs. In the meantime, the medication the patient takes reaches the lungs and tries to recover the wound there. When the patient smokes, the smoke irritates the bronchi, the lungs, causes cough, which in its turn injures the site of recovery. Of course, smoking hurts the lungs.”

Outpatient TB physician, 1.1.2.3, IDI, marz

“... Nowadays the prevalence of chronic obstructive pulmonary disease is growing and one of the causes of the disease is tobacco smoking. Smoking is a big problem for all types of TB, especially, for pulmonary TB, because the respiratory tract and the tissues are damaged, and accordingly, the effectiveness of the treatment declines.”

Inpatient TB physician, 1.1.2.4, FGD, marz

“I explain them that weight gain is a positive change for TB patients ... and I warn them not to keep diets”.

Outpatient TB physician, 1.1.2.5, FGD, Yerevan

“It will be good if they quit smoking. It depends on them. First of all, intoxication will diminish. Oxygen will be enough which will change the metabolism.”

Outpatient TB physician, 1.1.2.6, FGD, Yerevan

A few TB physicians were skeptical about the link between smoking and TB and the adverse effects of smoking on the TB treatment process and outcomes. Several comments were made which demonstrated the physicians' doubt of this connection, such as the shortage of statistical data to support the direct effect of smoking and the perception that smoking harms the body but does not specifically impede the process of TB treatment.

"There must be many cases in order to be able to compare [the benefits of quitting smoking among patients]".

Inpatient TB physician, 1.1.2.6, FGD, marz

"If you are asking about TB, I would say that smoking does not have direct effect on TB. It has an influence on bronchial asthma, cardiovascular disease but not on TB. In general, yes, it somehow influences TB but not directly."

Outpatient TB physician, 1.1.2.7, FGD, Yerevan

"I don't think that tobacco use has significant effect on TB treatment outcomes. Patients receive huge amount of medication that will lead to healing anyway. Obviously, if the lungs are healthy, the process of recovery will be faster. There are TB treatment regimens and schemes that treat TB."

Outpatient TB physicians, 1.1.2.8, IDI, marz

1.1.3 Awareness of smoking cessation methods

In general, TB physicians demonstrated poor knowledge of evidence-based smoking cessation methods. Many of the respondents mentioned that they are unaware of specific methods for smoking cessation and in their practice they are inclined to apply only "psychological" [that is behavioral counselling] methods to convince their patients to quit. Some respondents listed smoking cessation methods including nicotine replacement therapy (NRT), (gum and patches), electronic cigarettes and tablets; however, the physicians had doubts about the effectiveness of these methods. Most of the time, physicians emphasized the role of willpower in quitting smoking. According to the participants, the formal smoking cessation methods would only be helpful if the patients were conscious of the problem and had the willpower to quit.

"No, we are not [aware of smoking cessation methods]... I do not know any method."

Inpatient TB physician, 1.1.3.1, FGD, marz

"... Only psychological [behavioral counseling methods]. The patients themselves should be prepared to either decrease smoking or quit abruptly"

Outpatient TB physician, 1.1.3.2, FGD, Yerevan

“I have heard that there were some gums but I do not know about their effectiveness. Or sunflower seeds. There were also gums and Cytisine in the form of tablets....the only method I know is psychological [behavioral counseling methods].”

Outpatient TB physician, 1.1.3.3, FGD, Yerevan

“I know there were patches to apply to the skin. There are also electronic cigarettes: they pretend to smoke but do not actually smoke.”

Inpatient TB physician, 1.1.3.4, FGD, marz

“If the patients are not willing to quit, no medications will help.”

Outpatient TB physician, 1.1.3.5, FGD, Yerevan

The vast majority of experts consistently noted that TB physicians did not have the appropriate knowledge and skills to provide evidence-based tobacco dependence treatment services to their patients. Additionally, they elaborated that their lack of appropriate skills and knowledge was a result of the healthcare system which does not value or emphasize the importance of smoking cessation. Furthermore, some of the experts noted that within the TB control sphere, the majority of training programs have focused on TB physicians' TB-related medical knowledge and did not cover smoking cessation for TB patients.

... TB healthcare providers do not have appropriate knowledge and skills for the provision of smoking cessation counseling... From the very start, no one places value on smoking cessation, no one requires TB healthcare providers to provide smoking cessation services, and thus they are not ready to address this issue. For sure they [TB healthcare providers] have enough time to provide smoking cessation counseling if needed.”

Expert, 1.1.3.6, IDI, Yerevan

“I think that the skills for providing smoking cessation assistance are weak in the overall system, not only among TB healthcare providers but also among other healthcare providers. During their medical education and professional activities physicians do not cover the above mentioned problem.”

Expert, 1.1.3.7, IDI, Yerevan

“They [TB physicians] do not have skills, because there are no specific educational programs for them. Specifically, in the frame of the Global Fund grant projects always targeted pharmacological and medical knowledge/skills purely in a professional sense.”

Expert, 1.1.3.8, IDI, Yerevan

1.2. Attitude regarding smoking cessation

TB physicians' attitude regarding smoking cessation is presented in two subcategories on main perspectives that emerged from participants' responses: opportunity for and threats against providing smoking cessation services to their TB patients.

1.2.1. *Opportunities for providing smoking cessation services to TB patients*

According to the TB physicians, TB diagnosis was a key teachable moment when they could initiate smoking cessation services among their patients. The TB physicians mentioned that after being diagnosed with TB and admitted to an inpatient TB facility, some patients tend to quit smoking, yet they were suspicious about the consistency of quitting behavior among those patients. TB physicians noted that during the continuous patient-provider encounters patients demonstrated strong trust in TB physicians, which might be used as an opportunity to engage their patients in smoking cessation counselling.

TB physicians and experts believed that physicians had a significant role in convincing and motivating their patient to quit. TB physicians and the experts consistently indicated that the long duration of TB treatment enabled physicians to continuously initiate discussions on smoking cessation. Moreover, according to one of the experts, provision of tobacco dependence treatment should be formally integrated into TB healthcare providers' job responsibilities and be applied in their daily practice.

“When smokers get infected and become familiar with the disease, after the counseling they mainly say that they do not smoke since last week. Initially there are many smokers, firstly because our patients are poor people.”

Outpatient TB physician, 1.2.1.1, FGD, Yerevan

“I do not even believe when they say they quit smoking, it is clear that they will smoke again and we always smell it”.

Outpatient TB physician, 1.2.1.2, FGD, Yerevan

“I had cases when patients came and said that they had quit smoking right after starting the TB treatments... Although, they smoked for many years, they quitted smoking when they started to take the TB medications.”

Inpatient TB physician, 1.2.1.3, FGD, marz

“When the patients are admitted to the hospital, one of the first questions we ask is about bad habits. And when we talk about smoking, they state that they do not smoke. To the next question “When did you quit?” they say “It has already been 2 days.”

Inpatient TB physician, 1.2.1.4, FGD, marz

“When the patients come to us they expect us to authoritatively dictate how they should “breathe”. Our role is huge, and we need to tell them what will happen if they continue to smoke or quit smoking. Our role is to present the complications adequately.”

Outpatient TB physician, 1.2.1.5, FGD, Yerevan

“I have noticed that my patients trust me a lot. This is very important. Patients come and tell me: “Doctor, I will do whatever you tell me”. It is a huge thing”.

Outpatient TB physician, 1.2.1.6, IDI, marz

“The difference between us and other physicians is that we are in contact with our patients for a very long time. It is not a week or two, this last for months and even longer.”

Inpatient TB physician, 1.2.1.7, FGD, marz

“They [TB healthcare providers] have a significant role in providing smoking cessation counselling. Moreover, the provision of smoking cessation counselling should be officially included in TB healthcare providers’ job descriptions, and should be integrated into their direct routine functions.”

Expert, 1.2.1.8, IDI, Yerevan

...the treatment is long and their interaction with the physician is very long, and they undergo DOTS every day. Thus, the healthcare provider becomes a person who can have a significant impact on the TB patient.”

Expert, 1.2.1.9, IDI, Yerevan

1.2.2. Threats for providing smoking cessation services to TB patients

The majority of physicians expressed their concerns about several factors which can threaten the provision of smoking cessation counseling, including psychological distress which patients experience upon discovering their diagnosis; anxiety because of the nature of TB treatment (long duration, fear of infecting others, isolation); withdrawal symptoms and; reluctance to accept pharmacological interventions in the scope of TB treatment. Physicians were deeply concerned about the pharmacological interventions for smoking cessation. Presumed interaction between smoking cessation and anti-TB medications, patient resistance to take smoking cessation pharmacotherapy in addition to TB medications, and the possible side effects of smoking cessation pharmacotherapy were mentioned as major drawbacks of acceptance of pharmacotherapy for tobacco dependence treatment. Some of the TB physicians did not consider provision of smoking cessation as their immediate duty and characterized it as a burden. Following this further, TB physicians believed that tobacco dependence treatment is the responsibility of other healthcare professionals (e.g. psychologists, epidemiologists, social workers).

“Tobacco is a narcotic substance... [after quitting] Patients get depressed, irritated, fight at home, feel bad, and they also may become hyperactive. I have patients who do not know how to quit, and they try chewing gum, and eating candy or sunflower seeds. This condition [being diagnosed with TB] is very difficult and it hampers smoking cessation.”

Outpatient TB physician, 1.2.2.1, IDI, marz

“TB patients are already stressed and depressed, they are scared of infecting their family members, they visit their relatives less frequently, and the relatives themselves visit them less frequently. These all have an influence on them and those stressful conditions make them smoke.”

Outpatient TB physician, 1.2.2.2, FGD, Yerevan

“First, they have TB. Not everyone would say “Oh good, I have TB”, this is a big problem. Second, they are isolated from their natural environment. These factors lead patients to continue to smoking or even to start smoking more.”

Inpatient TB physician, 1.2.2.3, FGD, marz

“... [After quitting] they start coughing and complaining: “When we smoke we did not cough so much”. It seems to me it is more psychological rather than somatic.”

Inpatient TB physician, 1.2.2.4, FGD, marz

“If the [tobacco dependence] treatment is pharmacological, we would not offer it to our patients. Our patients receive many medications. Even if they have pain, we cannot prescribe Analgin or Vitamin, they do not want to take it because they take a large amount of medications.”

Outpatient TB physician, 1.2.2.5, FGD, Yerevan

“It depends on what influence those medications would have. For example, our medications have many side effects on the liver... on all other organ systems... So, we should know that, in order not to worsen the condition.”

Outpatient TB physician, 1.2.2.2, FGD, Yerevan

TB physicians were concerned about the interaction between alcohol and anti-TB medications. The majority noted that they prioritize addressing alcohol intake over quitting smoking among their TB patients. Furthermore, physicians believed that TB patients faced too many restrictions throughout TB treatment, therefore, they did not force their patients to quit smoking. One of the experts supported the idea of not burdening TB patients with an additional restriction (smoking ban) given that TB patients already experience a lot of stress.

“I had patients who were strictly prohibited to use alcohol alongside their medications They did not believe me and used alcohol as a result they felt into a coma.”

Outpatient TB physician, 1.2.2.6, FGD, Yerevan

“Do not get into contact with people, do not use alcohol, do not smoke... We have so many “Do nots” that we already do not know which one to emphasize. They have so many

restrictions that they go into psychological shock. If we emphasize quitting smoking so much, that patient will be in very poor condition”.

Outpatient TB physician, 1.2.2.7, FGD, Yerevan

“If they [TB healthcare providers] had to burden such patients with additional treatment or speaking to them about lifestyle changes, they would be afraid to irritate or frighten the patient. In addition to difficult social conditions, these people [TB patients] have other behavioral problems, such as alcohol and drug abuse. Burdening them with extra tasks makes their lives even more difficult.”

Expert, 1.2.2.6, IDI, Yerevan

TB physicians were uncertain about TB patients’ readiness to receive tobacco dependence treatment. The majority of physicians assumed that their patients’ response to the formal tobacco dependence treatment along with TB treatment would not be positive. Very few TB physicians projected a positive attitude among patients regarding tobacco dependence treatment.

They also pointed out several factors that could potentially facilitate acceptance of tobacco dependence treatment, such as type of medications, patients’ general health condition, patients’ individual characteristics, and family support.

“Some patients would like to receive tobacco dependence treatment, some would not. We will know this exactly when we implement it.”

Outpatient TB physician, 1.2.2.8, FGD, Yerevan

“These are patients who will smoke till the last breath. They say “go and let me die, I know what is going on with me.”

Inpatient TB physician, 1.2.2.9, FGD, marz

“I think patients will react very positively, as the majority want to quit but don’t know how”.

Outpatient TB physician, 1.2.2.10, IDI, marz

“It depends on the form of medication - whether those medications are in the form of tablets, liquids, syrup, or something for injections, especially, for drug resistant TB patients....”

Outpatient TB physician, 1.2.2.11, FGD, Yerevan

“It [acceptance of tobacco dependence treatment] depends on who the patient is. I think that young patients that don’t have any psychological problems and are comfortable in the family will agree to take [smoking cessation medications] if the adverse effects of medications are moderate.”

Outpatient TB physician, 1.2.2.8, FGD, Yerevan

An interesting finding regarding the peculiarity of tobacco use among female TB patients emerged while discussing quitting behavior among male and female TB patients. According to the physicians, smoking female TB patients were less receptive to smoking cessation interventions because of their weaker willpower as compared with male smokers.

“Males are more compliant and panicky, that is why they quit smoking easier [compared to women].”

Outpatient TB physician, 1.2.2.12, FGD, Yerevan

“I noticed that smoker women are more depressed. For example, I had a patient who said that she will die if not smoking. Maybe they reduce smoking a little from 10 cigarettes to 7 or 8 and that is all”

Outpatient TB physician, 1.2.2.13, FGD, Yerevan

“...I think quitting smoking is more difficult for women, and the process [of smoking cessation] is longer. We can ask a male patient to decrease the amount of smoked cigarettes by half but in case of women it does not work. They continue to smoke as usual, as they wish”

Outpatient TB physician, 1.2.2.12, FGD, Yerevan

1.3. Practice regarding smoking cessation

The category of practice on smoking cessation has been analyzed through ABC approach that identified three subcategories: A is for Ask, B is for Brief advice, and C is for Cessation support.

1.3.1. A is for Ask

During their routine practice TB physicians usually ask their TB patients' smoking status and record their responses in the medical records and e-TB electronic database. After inquiring smoking status of the patients, some physicians also ask about the duration and amount of cigarettes smoked per day. Outpatient TB physicians further specified that sometimes they learn about the smoking status of newly referred patients from e-TB electronic database.

“There is a special area [for smoking status in medical records]. It is written "Yes" or "No" and we tick it.”

Inpatient TB physician, 1.3.1.1, FGD, marz

“Of course, we ask. We ask about the duration of smoking and daily amount of smoked cigarettes.”

Outpatient TB physician, 1.3.1.2, FGD, Yerevan

“I am just asking if the patient is a smoker or not, and report "yes" or "no", but I am not asking about the number of smoked cigarettes.”

Inpatient TB physician, 1.3.1.3, FGD, marz

“When patients come from the hospital [intensive treatment phase], in e-TB forms it is already written and we have the information about it [smoking status].”

Outpatient TB physician, 1.3.1.4, FGD, Yerevan

1.3.2. B is for Brief advice

After inquiring patients’ smoking status, TB physicians often provide advice on smoking cessation. The overwhelming majority of TB physicians reported that they felt confident while providing smoking cessation advice to their patients. Most physicians shared their concern that there was no universal algorithm to discuss smoking with their patients, and each of them had different approaches. Furthermore, TB physicians added that their patients have very unique needs and the “explanatory” or “psychological” work should be conducted “softly” to prevent the TB patients from becoming more depressed. Most physicians noted that when they provide smoking cessation advice, they emphasize the harmful effect of smoking on the TB treatment process, the severity of the disease and the possible problems the patient might encounter if they continue smoking.

“They [TB patients] may say that it is difficult to quit and I explain to all of them that smoking is very harmful and is a risk factor for this disease [TB]. We also explain that the treatment process will be difficult and there might be problems in the future.”

Outpatient TB physician, 1.3.2.1, FGD, Yerevan

“We understand how to approach the patient. For one patient you should shout, the other one needs to be cared for, for the third patient, you should bring examples, for the fourth patient, you should show his lung's x-ray and explain that the smoking leads to unhealthy conditions.”

Inpatient TB physician, 1.3.2.2, FGD, marz

“...there is no special algorithm to talk to the patient. I have my approach, the other physician has hers/his and so on. Our patients are different from each other and that is why everything is very individual. However, we talk to every patient about the harms of smoking, except those who have already quit.”

Inpatient TB physician, 1.3.2.3, FGD, marz

1.3.3. C is for Cessation support

TB physicians discussed their practices related to their patients' smoking cessation process. The majority of them commonly spoke about the dominating role of willpower by stating that patients who are capable of unaided quitting, do it on their own. As of the smoking cessation assistance, physicians listed several behavioral and psychological techniques they offer to smoking TB patients. Some of the TB physicians shared that they commonly use "scaring" strategies to motivate patients to make a quit attempt. For those patients, who are willing to quit they usually offer behavioral tips (sunflower seeds, chewing gum, candies, etc.) to help them to cope with the withdrawal symptoms. Some of the physicians advised reduction of the number of smoked cigarettes especially for those who failed quitting.

"Sometimes we show their x-rays and the patients see those "holes", as they used to say, and it is very impressive."

Inpatient TB physician, 1.3.3.1, FGD, marz

"There are patients who ask to provide some smoking cessation medications to overcome the dependence faster. I suggest using sweets, gums [not nicotine] or something else. At that moment they can chew those gums for 5 to 10 minutes, overcome that situation and forget about smoking or skip next several cigarettes. That is also an option."

Outpatient TB physician, 1.3.3.2, FGD, Yerevan

"When I examine the patients' lungs I tell: "What a good lungs do you have but unfortunately you smoke and I feel that something is wrong with them." Patient replies that he/she tried to quit. I recommend to try again for a month and tell that I will examine the lungs again to see if cessation helps. Of course it is not a reality but some people believe."

Inpatient TB physician, 1.3.3.3, IDI, marz

"We can just scare them, some of them will be scared and will quit, and some will not. But I do not believe that when facing a stressful situation they will refrain from smoking."

Outpatient TB physician, 1.3.3.4, FGD, Yerevan

"I tell the younger patients, older ones as well, to decrease the amount of smoked cigarettes. They say that they cannot decrease smoking and I advise them to quit abruptly. I heard that there are people who abruptly quitted smoking by willpower, but there are also people who failed."

Outpatient TB physician, 1.3.3.5, FGD, Yerevan

"If the patient smokes 20 cigarettes per day, I advise to reduce it to 6...I tell the patients that any type of treatment is less effective if the patient smokes... especially TB treatment. If the patient tells that he/she can't quit smoking I still continue to talk about harms of smoking for several minutes. But the patient replies that he/she knows that perfectly but is unable to quit."

Inpatient TB physician, 1.3.3.6, IDI, marz

The overwhelming majority of TB physicians commonly reported that they did not prescribe smoking cessation medication to their patients. The most cited reasons for that were lack of knowledge and experience on tobacco dependence treatment, possible interaction with TB medication, and uncertainty about the effectiveness of smoking cessation drugs. Moreover, the TB physicians noted that their patients were reluctant to receive additional medication and had never asked for those medications. Absence of formal tobacco dependence treatment protocols for TB patients approved by the NTCC and the Ministry of Health (MOH) was mentioned as a major factor impeding physicians in providing pharmaceutical treatment for tobacco dependence interventions.

“... I don't know how those medications will interact with TB treatment. These medications for tobacco dependence treatment may harm patients even more. This is why it is better for patient to continue smoking rather quitting.”

Inpatient TB physician, 1.3.3.7, IDI, marz

“First of all, we do not have any information about these medications [for smoking cessation] and we are unaware of their side effects. This is why we don't prescribe them to our patients. We do not have that practice. We do not know the side effects of those medications in general and for TB patients in particular.”

Outpatient TB physician, 1.3.3.8, FGD, Yerevan

“I don't prescribe medication [for smoking cessation] as there are no effective medications. I have tried some, I tried Cytisine, dig the internet but there was no effect. My relatives, my husband tried some, but the medications were not effective that is why I am not confident.”

Inpatient TB physician, 1.3.3.9, IDI, marz

“They [patients] never asked for smoking cessation medications.”

Outpatient TB physician, 1.3.3.10, FGD, Yerevan

“It should be included in the [TB treatment] scheme [approved by the NTCC and MOH]. For each patient we have schemes separately. We need to include smoking cessation medications there for those smokers, who would not be able to quit smoking by psychological interventions or on his/her own. Otherwise, we cannot prescribe the medications.”

Outpatient TB physician, 1.3.3.8, FGD, Yerevan

2. Establishment of smoke-free environments in TB healthcare facilities

Three major categories that emerged from the data to characterize the needs and importance of establishment of smoke-free environment in TB facilities were the following: attitude towards smoke-free environments, implemented interventions to ban smoking in TB facilities, and actions needed to improve the effectiveness of smoking ban.

2.1. Attitude towards smoke-free environments

All TB physicians expressed positive attitude towards the idea of establishing smoke-free environment in public places, including TB facilities. They listed several benefits of having smoke-free environments in TB healthcare settings, including positive image of the facility, promotion of non-smoking culture, helping patients to smoke less and/or to make a quit attempt. However, some of them doubted about success on having complete smoke-free environment.

“Smoking should be prohibited everywhere. Smoking should not be allowed in public places such as shops, polyclinics, etc. where people come and go, It should be allowed only in special outdoor places.”

Outpatient TB physician, 2.1.1, FGD, Yerevan

I definitely support the idea of establishing smoke-free environments. I think agitation of smoking cessation should be a norm both within and outside of a healthcare setting.

Outpatient TB physician, 2.1.2, IDI, marz

Smoke-free environments positively affect the healthcare facility. If the patient enters the hospital and knows that in the hospital it is not allowed to smoke, it triggers patients to at least smoke less. Refraining from smoking even in the hospital is a positive aspect for the patient.

Outpatient TB physician, 2.1.3, IDI, marz

It's not only about image, but also it [being smoke-free environment] creates the culture that in this hospital smoking is banned.

Expert, 2.1.4, IDI, Yerevan

“Yes, we all agree [with the smoke-free environments] but it is impossible to reach such [100% smoke-free] results.”

Inpatient TB physician, 2.1.5, IDI, marz

2.2. Implemented interventions to ban smoking in TB facilities

The majority of TB physicians were excited to mention that they have smoke-free environments established in their TB facilities. The TB physicians commonly shared the idea that their patients cannot smoke inside the facility rather they should go outside. A few TB physicians reported that in the psychiatric TB department of the NTCC patients smoke inside the department and they did not think it was realistic to ensure smoking ban there because of the

patients' mental conditions. Some of them were also uncertain about smoking restriction in the penitentiary hospital. While discussing smoking practice among the personnel, TB physicians mentioned that majority of TB healthcare providers are females and they do not smoke. The successful implementation of smoke-free policy in TB healthcare facilities was supported by several experts, who mentioned that indoor smoking was prohibited and that smoke-free environments were enforced by administration.

"We are happy that we have a smoke-free hospital now."

Inpatient TB physician, 2.2.1, IDI, marz

"Patients can go to smoke out of the facility but not inside."

Outpatient TB physician, 2.2.2, FGD, Yerevan

"Of course, if patients want to smoke they go out."

Inpatient TB physician, 2.2.3, FGD, marz

"The majority of our physicians are women and they do not smoke as it is shameful for women in our region. In our region we don't have smoking women. The ban mostly concerns men. We tell them that if they smoke they will be financially penalized."

Inpatient TB physician, 2.2.4, IDI, marz

"Our colleagues are mainly women and 90% of them do not smoke. Maybe some physicians informally smoke."

Outpatient TB physician, 2.2.5, FGD, Yerevan

"I do believe that the administration of the Republican TB Dispensary ensures "smoke free" environment even from Soviet Union times. But if I am not mistaken, the Republican TB Dispensary has different departments, and I do not know for sure about other departments that are not under the Republican TB Dispensary, for instance, the Penitentiary department."

Expert, 2.2.6, IDI, Yerevan

"Patients from other departments smoke only outside of the facility. We have yard view windows and I noticed that even our employees go to smoke at that place which is allocated for smoking. My patients [psychiatric patients] cannot go there...they smoke inside the hospital. At some hours of the day we take them for a walk and they smoke outside, but during the day our windows and doors (besides entrance door) are always open. ...Because they smoke we have to open the windows and doors not to harm non-smokers. We at least ask them to smoke near the windows."

Inpatient TB physician, 2.2.7, FGD, marz

"Yesterday I was in TB hospital, and saw people smoking in the yard. I did not meet any smoker inside the hospital; I did not see any smoker physician also. In TB healthcare facilities medical personnel wear masks, which means that there is no way to smoke inside [TB healthcare facility]."

Expert, 2.2.8, IDI, Yerevan

Respondents presented several interventions that have been implemented in TB facilities to ban indoor smoking, e.g. posting of “No smoking” signs, written warnings stating that smoking is prohibited, designation of smoking areas in some TB facilities, posting of pictures of lungs damaged by the smoke, and warnings on financial penalties in case of smoking. Some TB physicians stated that smoking ban had been enforced by managers of the respective TB facilities through round-table discussions, directives and other methods. Some of the TB physicians recalled cases when they employed extreme measures to ban smoking inside inpatient healthcare facilities. In contrast to this, there were physicians who could not recall any specific action that had been implemented in their TB facilities for banning smoking and establishing smoke-free environments. Infection control measures, like wearing masks, were mentioned as factor that facilitates the implementation of smoke-free policy in TB healthcare settings.

“We have written warnings on the walls that smoking is prohibited.”

Outpatient TB physician, 2.2.9, FGD, Yerevan

“We have a sign and note in our facility that smoking is prohibited.”

Outpatient TB physician, 2.2.10, FGD, Yerevan

“The fine for smoking is 20 000 drams.”

Inpatient TB physician, 2.2.11, FGD, marz

“We have directives from the managerial staff. Non-smoking signs and information on fines for smoking are posted everywhere in all the departments.”

Inpatient TB physician, 2.2.12, FGD, marz

“We even discharged a patient [for smoking]. I had 2 patients who were discharged from the hospital as a punishment, but the next day we had to readmit them because the infection is more dangerous for the environment than smoking. There was no alternative option.”

Inpatient TB physician, 2.2.13, FGD, marz

“In the upper floors there are signs and people know that smoking is allowed only in allocated places in the corridors, near the windows.”

Outpatient TB physician, 2.2.10, FGD, Yerevan

“There were no special interventions, only discussions, explanations.”

Outpatient TB physician, 2.2.14, FGD, Yerevan

“It is strictly prohibited to smoke inside the department. I can't tell what specific actions are implemented by the administration. Maybe there are some posters displayed, I don't know. I haven't encountered a specific strategy to ban smoking in the healthcare facility. I just know that it is prohibited to smoke, that is it.”

Inpatient TB physician, 2.2.18, IDI, marz

2.3. Actions needed to improve the effectiveness of smoking ban

The majority of TB physicians were satisfied with the level of implementation of smoke-free policy in TB healthcare facilities and stated that no more actions were needed in this regard. Meanwhile some of them outlined several directions of actions, such as distribution of patient educational and video materials, implementation of financial penalties, as one of the most effective means for further enforcement of the smoking ban. One of the respondents from the largest inpatient TB facility shared their experience of having built-in alarm system to detect smoke in some patients' rooms and recommended having those systems incorporated in all TB healthcare facilities to foster effective enforcement of the smoking ban. According to the TB physicians everyone, including administration members, heads of departments, and TB physicians, should be responsible for implementing and enforcing smoke-free ban in their TB facilities.

"I think, whatever is done is enough. I cannot imagine what else could be done."

Inpatient TB physician, 2.3.1, FGD, marz

"The same actions should be continued and be implemented even frequently. In fact, the actions are implemented and we don't have flaws with that regards."

Inpatient TB physician, 2.3.2, IDI, marz

"Maybe we need didactic materials, for example, some interesting pictures. Those materials should be freely available for patients so they could take them if they want."

Outpatient TB physician, 2.3.3, FGD, Yerevan

"I noticed that almost in all TB patients' rooms there are TVs. It would be good if once a week we could play a video or seminar [about smoking and smoke-free policy]."

Inpatient TB physician, 2.3.4, FGD, marz

"I would like to have brochures to give them to patients. I think reading is more informative."

Inpatient TB physician, 2.3.5, FGD, marz

"To increase the effectiveness I guess posters should be displayed describing what happens with the body because of smoking, and video materials should be displayed to show the positive consequences of smoking cessation."

Inpatient TB physician, 2.3.6, IDI, marz

"The most important measures are fines."

Inpatient TB physician, 2.3.7, FGD, Yerevan

"We are trying to ensure smoking ban in the hospital as much as we can...In some of patients' rooms we have fire alarms that is smoke sensitive device. Fire alarms keep the patients away of smoking. As the renovation of the hospital is still in progress and, not all patients' rooms are equipped with fire alarms yet."

Expert, 2.3.8, IDI, Yerevan

“Directors of the organizations [are responsible for these actions].”

Outpatient TB physician, 2.3.9, FGD, Yerevan

“Hmmm. I think administration, heads of the departments, physicians and other healthcare providers are responsible for implementing actions.”

Inpatient TB physician, 2.3.10, IDI, marz

“Actions implemented towards smoking prohibition are effective. There are no problems. I think there is no specific person who should be responsible; rather all of us are responsible.”

Inpatient TB physician, 2.3.11, IDI, marz

3. Management support to implement tobacco control activities into TB treatment

The major categories identified from this theme are joint TB and tobacco policy, training on tobacco control activities for TB patients, monitoring and evaluation of joint TB and tobacco control interventions.

3.1. Joint TB and tobacco policy

TB physicians did not discuss any existing policy or regulation that guided joint TB and tobacco control activities in Armenia. The experts confirmed the absence of such regulations in Armenia. One of the experts clarified this situation and explained that two different divisions of MOH deal with TB control and tobacco control issues.

While discussing future actions on strengthening tobacco control activities in TB management process, the majority of TB physicians highlighted the need for integrating smoking cessation interventions into TB care. TB physicians recommended formalizing provision of tobacco dependence treatment to TB patients through its integration into NTCC approved TB treatment schemes. They also suggested to pilot a small scale program in the NTCC inpatient care department to check the effectiveness of joint TB and tobacco dependence treatment and ask TB patients’ opinion on this matter. Following this further, the study participants identified several organizations that could be responsible for developing and implementing policies and joint actions. One of the experts highlighted the necessity of developing policies for the whole healthcare system in general and not targeting only TB control sphere.

“The whole problem is that one of the subdivisions of MOH deals with TB issues, meanwhile, another subdivision is responsible for Tobacco Control issues. The Public Health department of the MOH and the National Institute of Health (I am not sure about its involvement) are responsible for Tobacco Control issues), while TB deals with Health State Inspectorate, NTCC. Some joint work is needed.”

Expert, 3.1.1, IDI, Yerevan

“The MOH should confirm the inclusion of tobacco dependence treatment in TB treatment schemes.”

Outpatient TB physician, 3.1.2, FGD, Yerevan

“First, we should pilot it [joint TB and Tobacco program] and gain some experience. Afterwards, we will see how it works. We need to train physicians and implement it [tobacco dependence treatment into TB care] and see whether it is effective.”

Outpatient TB physician, 3.1.3, FGD, Yerevan

“The tobacco dependence treatment among TB patients can be initiated... as a pilot program in the Abovyan inpatient unit to see whether it will be effective or not. It is also possible to try to approach patients and ask whether they will be interested in simultaneous tobacco dependence treatment. A new department can be developed where such TB patients will be treated thus the effectiveness of the program could be measured.”

Outpatient TB physician, 3.1.4, IDI, marz

“Joint TB and Tobacco control programs and policies can be developed by Ministry of Health, National Institute of Health and National Tuberculosis Control Center. I would also mention about American University of Armenia and Yerevan State Medical University.”

Expert, 3.1.5, IDI, Yerevan

“In general any particular healthcare facility needs to have development plan, its' strategy, policy. I think in its internal regulations definitely should be provisions of smoke free environments.”

Expert, 3.1.6, IDI, Yerevan

3.2. Training on tobacco control activities for TB patients

The majority of study participants reported about the absence of trainings on knowledge and skills needed to perform tobacco control activities during TB treatment, including tobacco dependence treatment and establishment of smoke-free environments in TB healthcare settings.

Physicians' attitude towards possibility of enhancing their knowledge in the field of tobacco control was not certain across all physicians that participated in the study. Some of the participants expressed strong willingness and need to learn new practices related to tobacco dependence treatment through participation in trainings and later applying new knowledge into their practice. Following this further, one of the experts suggested to include tobacco dependence treatment into formal medical education. However, a few TB physicians were not sure if trainings were needed and had several reasons for being unwilling to participate in trainings. The most common reasons reported were perceived irrelevance of tobacco dependence treatment to

TB physicians' core activities (TB diagnosis and treatment), lack of time, and technical and personal issues.

"... we have never been taught on dependence treatment, we had no such trainings, we do not know the details."

Outpatient TB physician, 3.2.1, FGD, Yerevan

"Educating physicians is one of the proven way to combat smoking."

Expert, 3.2.2, IDI, Yerevan

"Yes, with great pleasure [will participate in the training]. I like learning and I have not learnt new things way back."

Outpatient TB physician, 3.2.3, IDI, marz

"Having a training module on smoking cessation intervention could be helpful. Instead of a training program, it would be better to have a reading material distributed to everybody. I would read that and try to implement."

Outpatient TB physician, 3.2.4, IDI, marz

"...I know a method trough which I advise my patients or others [to quit smoking], but I know only this method. If I knew another method I would use different approaches."

Inpatient TB physician, 3.2.5, FGD, marz

"In order to improve TB healthcare providers' knowledge and skills on tobacco dependence treatment, educational programs should be implemented in their curriculum. It should be included in residency curriculum as well as should be continued in post graduate education. Knowledge on medications and counselling skills acquired during residency cannot stay with you for a long period, it should be updated."

Expert, 3.2.6, IDI, Yerevan

"I would not go for such training because I think it is not my business, considering that I cannot address this issue as a specialist. Shoemaker should sew shoe."

Inpatient TB physician, 3.2.7, FGD, marz

"For that [provision of tobacco dependence treatment] you should have few patients, in that case you would have more time for each patient, accordingly, you could provide assistance. But, for example, if you have 16 patients and half of them are severe patients and you have to do everything to help those patients to overcome that situation, you just will not have enough time for other responsibilities."

Inpatient TB physician, 3.2.8, FGD, marz

"If we had a well-paid and easier job which would make us to feel good... just as a hobby, from humanitarian point of view, we would help people [to quit smoking], why not, everybody would do that, but we go home exhausted and cannot even manage to prepare something to eat for our family... what to say about participating in trainings."

Inpatient TB physician, 3.2.9, FGD, marz

TB physicians' expectations from the tobacco dependence treatment trainings were grouped into two major categories: learning and organizational. While discussing the learning expectation, TB physicians highlighted the need to gain knowledge on dependence treatment methods in general. They were interested to learn both psychological and pharmaceutical approaches to tobacco dependence treatment, including international experience. Some of them were interested in learning about the potential interaction between tobacco dependence treatment pharmacotherapy with TB medications. The majority of TB physicians emphasized that the training content should be practical, useful and applicable to their daily practice.

“I am interested in general, how psychological rather than pharmacological support is provided.”

Outpatient TB physician, 3.2.10, FGD, Yerevan

“I would like to learn new approaches, new equipment, new medications, new treatment schemes, psychological methods. I would love to learn anything and apply it into practice.”

Outpatient TB physician, 3.2.11, IDI, marz

“I am interested in psychological methods and their usage. I rather trust those methods than medications.”

Inpatient TB physician, 3.2.12, FGD, marz

“I would like to learn not only about tobacco dependence but the treatment of dependence in general.”

Outpatient TB physician, 3.2.10, FGD, Yerevan

“It is interesting to learn about foreign experience regarding smoking cessation. If we were informed enough about smoking cessation methods maybe we would use them in our daily practice.”

Inpatient TB physician, 3.2.13, FGD, marz

“Received knowledge should be practical, in order to have something real to talk and explain to patients.”

Outpatient TB physician, 3.2.14, FGD, Yerevan

“The patients take at least 4 medications, later it becomes 2. And we should know how those smoking cessation medications interact with each of them and what side effects could occur. We need to be prepared on what to expect.”

Outpatient TB physician, 3.2.15, FGD, Yerevan

While discussing the organizational issues such as training duration, site, and the trainers, the majority of TB physicians agreed that the optimal duration of the training should be up to 4 days. Participants shared different preferences regarding the settings; some of them preferred their polyclinics, others would like to participate in trainings organized at the AUA. Importantly,

some of the TB physicians from remote areas stated that they would prefer to host the training in their premises rather than to travel to Yerevan. When discussing who should lead the training, they listed psychologists, trained tobacco dependence treatment specialists, biologists, indicating that having past smoker as a trainer would be advantageous. One of the experts stressed the importance of Continuous Medical Education (CME) credits which might serve as a motivator for participation in the trainings.

“It [training] can take from 1 to 3 days, it depends on the volume of information to be provided.”

Outpatient TB physician, 3.2.16, FGD, Yerevan

“In general, training programs lasting more than 1 week become more difficult, though any duration of program would work for me... I have been in the American University of Armenia and I liked it. Any similar place might be good for organizing the training.”

Outpatient TB physician, 3.2.17, IDI, marz

“I would like those seminars and trainings be organized in our hospital. We would not be distracted from our work and all the physicians would be able to participate. I think that would be a better option.”

Inpatient TB physician, 3.2.18, FGD, marz

“The closer the program will be organized to us the better, so we will not go to Yerevan.”

Outpatient TB physician, 3.2.19, IDI, marz

“The trainer should be a psychologist.”

Outpatient TB physician, 3.2.20, FGD, Yerevan

“...I think they [trainers] should be former smokers. Those persons would be able to share their experience.”

Inpatient TB physician, 3.2.21, FGD, marz

“Several professionals should teach. For example, general things could be explained by narcologist, biologist, and some other professionals.”

Outpatient TB physician, 3.2.22, FGD, Yerevan

I think the trainer should be a physician. I am not sure if there is a specialist for tobacco dependence treatment in Armenia? I don't think there is one. Of course, that would be great to have such a professional as a trainer.

Outpatient TB physician, 3.2.17, IDI, marz

I think that TB healthcare providers would like to participate in trainings as frequently they encounter a problem with acquiring continues medical education (CEM) credits.

Expert, 3.2.23, IDI, Yerevan

3.3. Monitoring and evaluation of joint TB and tobacco control interventions

TB physicians shared their experience of documenting patients' smoking status in the medical records and e-TB electronic database. According to them inpatient medical record forms have a special area for recording smoking status, while outpatient medical records for regular TB patients miss that space. Inpatient TB physicians highlighted that they also report smoking status of their patients in the e-TB electronic database, which was later transferred to outpatient TB physicians along with the TB patients' referral. TB physicians also mentioned that during patients' initial counselling, they were collecting smoking-related information, including the age when a patient started to smoke and the number of cigarettes smoked, but verbally without documenting it. Some TB physicians stated that they recorded these details in a narrative form. However, in case of DR-TB, they were also documenting the smoking-related information in the DR program enrollment forms.

However, several experts clarified that the collected information on smoking status, duration and amount of cigarettes smoked per day were not used for the monitoring and evaluation purposes as there were no relevant indicators developed.

“Ambulatory medical records do not have an area for documenting smoking status.”

Inpatient TB physician, 3.3.1, FGD, marz

“In e-TB program, when they [TB patients] come from the hospital, the number of smoked cigarettes [per day] is written. In the paper forms [medical records], we do not have space for that [number of smoked cigarettes], only for drug resistant TB patients we have such a space [in DR program enrollment form].”

Outpatient TB physician, 3.3.2, FGD, Yerevan

“Current medical records for drug resistant TB patients were implemented as a new program which came from abroad. These forms include very detailed information, which is normal for TB.”

Outpatient TB physician, 3.3.3, FGD, Yerevan

“I even ask at what age they started to smoke. There is no area for this information in medical records, but I write it in the anamnesis [medical history] of patients.”

Inpatient TB physician, 3.3.4, FGD, marz

“I document that the patient is a smoker in the section of ‘bad habits’. But I don't write the number of cigarettes smoked per day. I just ask them verbally.”

Outpatient TB physician, 3.3.5, IDI, marz

“There are no indicators for monitoring and evaluating the tobacco control activities within the TB control program.”

Expert, 3.3.6, IDI, Yerevan

“As far as I know we do not have tobacco related indicators for TB patients.”

Expert, 3.3.7, IDI, Yerevan

“I do not know about any indicators for monitoring TB and tobacco interventions.”

Expert, 3.3.8, IDI, Yerevan

CONCLUSIONS/ RECOMMENDATIONS

Based on the study findings the research team came up with the following conclusions and recommendations:

1. Provision of tobacco dependence treatment to TB patients

Knowledge about smoking cessation

- TB physicians acknowledged tobacco use as a major problem for their TB patients, especially among the male population.
- TB physicians identified improved TB treatment effectiveness and outcomes, accelerated recovery, and decreased risk of TB relapse as the most common positive effects of smoking cessation among TB patients.
- TB physicians' demonstrated poor knowledge of evidence-based smoking cessation methods and emphasized the role of willpower in quitting smoking.
 - Experts noted that TB physicians' lack of appropriate knowledge and skills was a result of the overall healthcare system which did not value or emphasize the importance of smoking cessation.

Attitude towards smoking cessation

- TB diagnosis itself, continuous/regular patient-provider encounters, strong trust in physicians, and physicians' perceived significant role in treating TB patients were identified as opportunities to engage the TB patients in smoking cessation counseling.
- TB physicians identified several factors that threatened the provision of smoking cessation counseling, including psychological distress which patients experience upon discovering their diagnosis, anxiety because of the nature of TB treatment (long duration, fear of infecting others, isolation), withdrawal symptoms, and reluctance to accept pharmacological interventions in during the TB treatment.
 - TB physicians prioritized addressing alcohol intake over quitting smoking among their TB patients because of interaction between alcohol and anti-TB medications.

Practice related to smoking cessation

(ABC approach – A for Ask, B for Brief advice and C for Cessation support)

- TB physicians reported that during their routine practice they usually asked their TB patients' smoking status and recorded the responses in the medical records and e-TB electronic database.

- TB physicians usually advised their patients to quit smoking. However, TB physicians stated that there was no universal algorithm according to which to discuss smoking with their patients, and each of them utilized different approaches.
- TB physicians believed that their patients had unique needs and they offered various behavioral and psychological techniques to help them to quit smoking:
 - “Scaring” strategies to motivate.
 - Use of sunflower seeds, chewing gum, candies, etc. to assist.
- TB physicians commonly reported that they did not prescribe smoking cessation medication to their patients.
 - Lack of knowledge and experience on tobacco dependence treatment, possible interaction of pharmacotherapy with TB medication, and uncertainty about the effectiveness of smoking cessation drugs were the most cited reasons for not prescribing pharmacotherapy.

2. *Establishment of smoke-free healthcare settings*

- TB physicians expressed positive attitude towards smoke-free environments in public places, including TB facilities.
 - TB physicians listed interventions implemented in their facilities to ban in-door smoking: “No smoking” signs, written warnings stating that smoking was prohibited, designation of smoking areas in mentioned TB facilities, posting of pictures of lungs damaged by the smoke, and warning on financial penalties in case of smoking.
- TB physicians and experts agreed that smoke-free policy was implemented in TB facilities.
 - TB physicians were satisfied with the level of implementation of smoke-free policy in their TB facilities and mentioned that no additional actions were needed.
 - TB physicians outlined several directions of actions for effective enforcement of the smoking ban: distribution of educational and video materials to TB patients, implementation of fines, and incorporation of built-in alarm systems in TB facilities.

- Administration members, heads of departments, and TB physicians were identified as responsible persons in charge for implementing and enforcing smoke-free ban.

3. *Managerial support for integration of tobacco control into TB care*

- TB physicians and experts confirmed that there was no existing policy or regulation that would guide joint TB and tobacco control activities in Armenia.
- TB physicians and experts discussed the need of integrating tobacco dependence treatment into TB treatment schemes.
 - There was a suggestion to pilot a small scale program in the NTCC to check the effectiveness of joint TB and tobacco dependence treatment program.
 - TB physicians believed that MOH, NTCC, AUA, and Yerevan State Medical University were responsible organizations for joint TB and tobacco control activities.
- TB physicians and experts reported on the absence of trainings that could help to perform tobacco control activities during TB treatment.
 - TB physicians willing to participate in tobacco dependence treatment training expressed several learning expectations: to learn psychological, pharmaceutical approaches, as well as possible drug interaction between NRT and TB medications.
 - Perceived irrelevance of tobacco dependence treatment to TB physicians' core activities (TB diagnosis and treatment), lack of time, and technical and personal issues were the most cited reasons for not participating in tobacco dependence treatment trainings.
- TB physicians reported that they usually document TB patients' smoking status in the medical charts and e-TB electronic database.
 - The inpatient TB medical records contain a special area where the TB patients' smoking status should be recorded.
 - The outpatient TB medical records do not have a designated space where the smoking status should be recorded.
 - Drug resistant (DRTB) patients' medical records require to record more detailed information on DRTB patients' smoking behavior.

- Experts mentioned that no monitoring and evaluation was performed to track the trends of tobacco use among TB patients.

The research team developed several *recommendations* for strengthening the existing and for developing new actions for joint TB and tobacco control efforts.

- To compare the findings of the qualitative study against the international evidence-based recommendations for joint TB and tobacco control activities.
- To establish a nationwide healthcare professional partnership between the National TB Control Center and the National Tobacco Control Program.
 - Prepare a policy paper to provide guidance to managers of national TB and Tobacco control programs to plan and implement joint tobacco control activities within the framework of the existing and evolving TB strategies.
 - Develop technical and operational policies for the identification, reporting of smokers and treatment of tobacco dependence among TB patients in primary health care settings and in TB facilities providing inpatient care.
- Build smoking cessation capacity among TB healthcare providers through development and implementation of smoking cessation training on patient counseling and treatment of tobacco dependence for healthcare providers.
- Develop capacity for enforcing a policy of smoke-free environments for all facilities where outpatient and inpatient services are delivered to TB suspects and TB patients

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TABLES**Table 1. Demographic characteristics of study participants**

CHARACTERISTICS	N (%)	
Age (years), mean (range)	53.43 (27-70)	
Gender		
	Male	2 (9.5)
	Female	19 (90.5)
Place of work	Inpatient	Outpatient
	Yerevan	8 (38.1)
	Marzes	2 (9.5)
Current smoking status		
	Smoker	3 (14.3)
	Non-smoker	18 (85.7)
Working years as TB physician, mean (range)	22.57 (3-41)	
Previous participation in smoking cessation training		
	Yes	1 (4.8)
	No	20 (95.2)

APPENDICES

Appendix 1. Interview guide for in-depth interviews with experts

(English and Armenian versions)

Questions related to joint TB and tobacco control practice

1. What tobacco control measures are implemented in TB care in Armenia?
 - a. *Are there any existing policies or regulations on this issue?*
2. What is the role of TB healthcare providers in providing smoking cessation counseling to TB patients?
3. To what extent TB healthcare providers are engaged in promoting and assisting smoking cessation among TB patients?
4. How do TB physicians report the patients smoking status and/or whether provided consultation in the medical records?
 - a. *What information do medical records contain on smoking related issues?*
5. What is your opinion about TB healthcare providers' knowledge and skills for provision of smoking cessation counseling?
6. What barriers do TB physicians face for providing smoking cessation counseling?
 - a. *Do they have enough time? Patients' motivation? Available resources?*
7. What indicators do you know/use for monitoring and evaluating the tobacco control activities within the TB control program?

Questions related to training needs

8. How the knowledge and skills on tobacco dependence treatment among TB physicians can be improved?
9. Is there a need for course/training on smoking cessation counseling for TB specialists? Why? Why not?
 - a. *What would be the main obstacles? How we can minimize the barriers? What would help to make it easier/faster? To what extent those trainings will be helpful for TB healthcare providers in helping their patients to quit?*

Question on smoke-free environments

10. What do you think about smoke-free policy in healthcare settings?
 - a. *What are the benefits of smoke-free environments?*
 - b. *How being a "Smoke free" environment affects the Hospital image in the community?*
11. To what extent the smoking ban is implemented in TB healthcare facilities?
 - a. *What actions are taken when staff members/patients smoke inside the settings (verbal warnings, disciplinary actions)?*
12. In the recent years what interventions were implemented for banning smoking inside the health facility?

- a. Is there a person assigned to coordinate these interventions?*
 - b. What system and materials (sign, documentation, etc.) were developed and integrated for policy implementation.*
 - c. Were those interventions successful? Why? How?*
- 13. What should be done to make smoking prohibition effective in inpatient/outpatients TB healthcare settings?
 - a. What are the steps and who should do them?*

Questions on future actions

- 14. How could Armenia strengthen its tobacco control policies?
- 15. What kind of joint programs/projects/activities could be implemented to resolve the problem of TB and tobacco in Armenia?
- 16. What institutions and policy makers are responsible for developing such kind of joint programs and policies?
- 17. How international standards and evidence-based recommendations can be applied in Armenia to promote joint actions on Tobacco and TB control?
 - a. How we can implement best international practice in Armenia?*
 - b. What would be the main obstacles during the implementation?*
 - c. What are the steps that will help to overcome those obstacles?*

Other questions

- 18. Please describe the ways how tobacco products and industry influences are banned in TB healthcare facilities.
- 19. Is there any other information regarding this topic you would like to add?

Փորձագետների հետ անհատական հարցազրույցի ուղեցույց

Վայր _____

Վարդ _____

Ամսաթիվ _____

Ժամ _____

Ներածություն

Նպատակ: Դուք հրավիրված եք մասնակցելու այս հարցազրույցին, քանի որ հանդիսանում եք ՏԲ/ծխախոտի դեմ պայքարի ոլորտի առաջատար մասնագետ/փորձագետ: Այսօրվա մեր հանդիպման նպատակն է ծանոթանալ ՏԲ և ծխախոտի դեմ համատեղ պայքարի վերաբերյալ Ձեր մոտեցմանը, առկա քաղաքականությանը, լսել Ձեր կարծիքը ծխից ազատ միջավայրերի, ՏԲ բժիշկների համար ծխախոտային կախվածության բուժման վերաբերյալ դասընթացի անհրաժեշտության և ՏԲ/ ծխախոտի դեմ համատեղ պայքարին ուղղված հետագա գործողությունների վերաբերյալ:

Գաղտնիություն: Ձեր կողմից տրամադրված տեղեկատվությունը կպահպանվի գաղտնի և կկիրառվի միայն հետազոտական նպատակներով: Միայն ամփոփված տվյալները կներկայացվեն վերջնական զեկույցում:

Ձեր մասնակցությունն այս հարցազրույցին կամավոր է: Դուք իրավունք ունեք դադարեցնել հարցազրույցը, երբ ցանկանաք, և դա ոչ մի բացասական հետևանք չի ունենա Ձեր աշխատանքի վրա:

Ընթացակարգ: Այս հարցազրույցը տևելու է մոտավորապես 30-ից 45 րոպե: Մենք կգրառենք և Ձեր թույլտվությամբ նաև կձայնագրենք հանդիպումը՝ համոզված լինելու համար, որ ոչ մի կարևոր ինֆորմացիա բաց չենք թողել:

Ձեր մասնակցությունն այս հարցազրույցին չի նախատեսում որևէ անմիջական օգուտ կամ վնաս, սակայն Ձեր անկեղծ պատասխանները չափազանց կարևոր են մեզ համար և կնպաստեն այս ծրագրի բարեհաջող զարգացմանն ու ներդրմանը: Կարո՞ղ ենք սկսել:

Ա. Հայաստանում ՏԲ-ի և ծխախոտի դեմ համատեղ պայքարի վերաբերյալ հարցեր

1. Ծխախոտի դեմ պայքարի ի՞նչ միջոցառումներ են ներդրվել Հայաստանում ՏԲ բուժման գործընթացում:

ա) Այս հարցի վերաբերյալ գոյություն ունե՞ն արդյոք քաղաքականություն կամ կանոնակարգեր:

2. Ձեր կարծիքով, ո՞րն է ՏԲ բուժաշխատողի դերը ծխախոտային կախվածության բուժման գործընթացում:

3. Ձեր կարծիքով, Հայաստանում ո՞րքանով է ՏԲ բուժաշխատողը ներգրաված ՏԲ հիվանդների շրջանում ծխախոտային կախվածության բուժման խթանման և աջակցության գործընթացում:

4. Նկարագրեք խնդրում եմ, թե ՏԲ բուժաշխատողներն ինչպե՞ս են արձանագրում հիվանդի ծխելու կարգավիճակը և/կամ նրան տրամադրած խորհրդատվությունը բժշկական քարտում:

ա) Ծխելու վերաբերյալ ի՞նչ տեղեկատվություն է ներառված հիվանդի բժշկական քարտում:

5. Ի՞նչ եք կարծում ծխախոտի օգտագործման դադարեցմանն ուղղված խորհրդատվություն տրամադրելու վերաբերյալ ՏԲ բուժաշխատողների գիտելիքների և հմտությունների վերաբերյալ:

6. Ի՞նչ խոչընդոտների են հանդիպում ՏԲ բուժաշխատողները ծխախոտի օգտագործման դադարեցմանն ուղղված խորհրդատվություն տրամադրելիս:

ա) Ունե՞ն բավարար ժամանակ: Հիվանդները մոտիվացվա՞ծ են: Առկա՞ են ռեսուրսներ:

7. Ի՞նչ չափորոշիչներ են կիրառվում/գիտեք ՏԲ բուժման գործընթացում ծխախոտի դեմ պայքարի գործողությունների մշտադիտարկման /մոնիտորինգ/ և գնահատման համար:

Բ) Դասընթացի/վերապատրաստման անհրաժեշտության վերաբերյալ հարցեր

8. Ինչպե՞ս կարելի է բարելավել ՏԲ բուժաշխատողների շրջանում ծխախոտային կախվածության վերաբերյալ գիտելիքները և հմտությունները:

9. Ձեր կարծիքով, կա արդյոք ՏԲ բուժաշխատողների շրջանում ծխախոտային կախվածության բուժման վերաբերյալ դասընթացի/վերապատրաստման անհրաժեշտություն: Ինչո՞ւ: Ինչո՞ւ ոչ:

ա) Որո՞նք են հիմնական խոչընդոտները: Ինչպե՞ս կարող ենք նվազեցնել խոչընդոտները: Ի՞նչը կօգնի արագացնել, բարելավել այն: Որքանո՞վ այդ դասընթացներն օգտակար կլինեն ՏԲ բուժաշխատողների համար:

Գ) Ծխախոտի ծխից ազատ միջավայրերի վերաբերյալ հարցեր

10. Ի՞նչ էք մտածում բուժհաստատություններում ծխախոտի ծխից ազատ քաղաքականության վերաբերյալ:
ա) Որո՞նք են ծխախոտի ծխից ազատ միջավայրերի առավելությունները:
բ) «Ծխախոտի ծխից ազատ» միջավայր լինելն ինչպե՞ս է ազդում բուժհաստատության վարկանիշի վրա:
11. Որքանո՞վ է ծխելու արգելքի քաղաքականությունը ներդրված ՏԲ բուժհաստատություններում:
ա) Ի՞նչ քայլեր են ձեռնարկվում, երբ անձնակազմից կամ հիվանդներից որևէ մեկը ծխում է հաստատության ներսում (բանավոր զգուշացում, կարգապահական տույժեր):
12. Վերջերս ի՞նչ միջամտություններ են իրականացվել ՏԲ առողջապահական հաստատություններում ծխելն արգելելու համար:
ա) Ո՞վ է պատասխանատու այդ միջամտությունների համար:
բ) Ի՞նչ համակարգ/նյութեր (նշաններ/փաստաթղթեր) են պատրաստվել և ներառվել քաղաքականության ներդրման համար:
գ) Արդյոք այդ միջամտություններն արդյունավե՞տ էին: Ինչո՞ւ: Ինչպե՞ս:
13. Ի՞նչ պետք է անել ծխելն ՏԲ բուժհաստատություններում ծխելու արգելքն առավել արդյունավետ իրագործելու համար:
ա) Որո՞նք են քայլերն և ո՞վ պետք է այն իրականացնի:

Դ) Հետագա քայլերի վերաբերյալ հարցեր

14. Ինչպե՞ս կարող է Հայաստանն ուժեղացնել ծխախոտի դեմ պայքարի քաղաքականությունը:
15. Ի՞նչ համատեղ ծրագրեր/գործողություններ պետք է ներդրվեն Հայաստանում ՏԲ և ծխախոտային կախվածության վերաբերյալ խնդիրների միասնական հաղթահարման համար:
16. Ո՞ր կառույցներն են պատասխանատու Հայաստանում նման համատեղ ծրագրի և քաղաքականության մշակման համար:
17. Ինչպե՞ս կարելի է միջազգային չափորոշիչները և գիտական տվյալների վրա հիմնված առաջարկությունները կիրառելի Հայաստանում, որպեսզի խթանեն ՏԲ և ծխախոտի դեմ համատեղ պայքարին ուղղված գործողությունները:
ա) Ինչպե՞ս կարող ենք ներդնել միջազգային լավագույն փորձը Հայաստանում:
բ) Որո՞նք կլինեն հիմնական խոչընդոտները:
գ) Որո՞նք են քայլերը, որոնք կօգնեն հաղթահարել այդ խոչընդոտները:

Ե) Այլ հարցեր

18. Խնդրում եմ նկարագրելք, թե ինչպես է ՏԲ դեմ պայքարի բուժհաստատություններում արգելվում ծխախոտի արտադրատեսակների և ծխախոտային արդյունաբերության ներթափանցումը (վաճառք, գովազդ, հովանավորչություն):
19. Կա արդյոք որևէ բան, որ Դուք կցանկանայիք ավելացնել:

Շնորհակալություն

Appendix 2. Interview guide for focus group discussions with TB physicians
(English and Armenian versions)

Place _____

Date _____

Moderator _____

Time _____

Introduction

Purpose: The purpose of today’s discussion is to learn about your knowledge, attitude, and practice regarding smoking cessation among TB patients, as well as to clarify your perceived needs for training and support for addressing tobacco use among your TB patients. All your views, concerns, perspectives and suggestions are extremely important for us as it will help to design, implement, and evaluate an advocacy and training program for integrating tobacco control measures into tuberculosis (TB) care in Armenia.

Procedures: Our discussion will last about 60 minutes. Please remember that there are no right or wrong answers and you are free to ask for clarification if you do not understand the question. We want this to be a group discussion, so feel free to respond to me and to other members in the group without waiting to be called on. However, we would appreciate if only one person talks at a time. Be ensured that all of you have an equal opportunity to express your opinions. Please be respectful to divergent attitudes expressed by other participants.

Confidentiality: With your permission the session will be audio-recorded to make sure that we will not miss any of the information you provide us with. But you should be aware that it is within your right to ask to turn off the recorder at any time during the interview, whenever you want to. Please be assured that at no time I will record any names or other identifying information. We will protect the information you give us and the audio-recording will be destroyed after completion of the project. You can refuse to answer any question and leave discussion group at any time. You will not be penalised in any way if you decide not to participate.
May I continue?

A. General questions on medical practice

1. Let's start with each of you telling about your daily work activities and years of work as a TB healthcare provider?
 - a. *How many patients do you see per day/week?*
 - b. *How much time do you spend with each patient?*
2. What do you like/dislike most in your work?

B. Knowledge on smoke-free environments in healthcare facilities

3. What do you think about the smoking ban in healthcare facilities?
 - a. *In your opinion how does being a "Smoke-free" environment affect the healthcare facility?*
4. What interventions have been implemented to ban smoking in your healthcare facility during recent years? Please describe to what extent those interventions were successful?
 - a. *How did you learn about those policies, have you been trained?*
5. Please share in your opinion what steps/actions should be implemented to make smoking prohibition more effective in your healthcare facility?
 - a. *Who, do you think, is responsible for implementing those actions?*

C. Knowledge on smoking cessation

6. Do you see many smoking patients in your daily practice? In your opinion, does the smoking status affect their treatment process/outcome (*recurrence/complications/mortality of TB*)? How?
7. Could you suggest few reasons why smoker TB patients should quit/should not quit?
8. Are you familiar with any cessation methods? If yes, what are they?
9. What difficulties, issues can a smoker experience while trying to stop smoking?

D. Attitude towards smoking cessation

10. Please share your opinion on how smoking cessation could influence your patients' TB treatment process and outcomes?
11. In your opinion, what is the role of TB healthcare specialist in helping patients to quit?
 - a. *How do you perceive your responsibility of asking about patients smoking status, advising and assisting patients to quit?*
 - b. *How do you motivate patients to quit?*
12. In your opinion, how would your TB patients react/will react on the provision of smoking cessation assistance during their TB treatment?
 - a. *How do you motivate patients to quit?*

E. Practices regarding smoking cessation

13. How do you identify your TB patients' smoking status?
14. Could you please list/ describe the most common ways your TB patients quit smoking?
15. Please tell us about how do you help your TB patients' to quit smoking?

- a. *Tell us about your success stories? Failures?*
 - b. *How do you identify the smoker's interest in quitting?*
 - c. *How do you inform patients on possibility of quitting smoking?*
 - d. *How comfortable do you feel about advising your patients to quit? Why?*
 - e. *How do you assist patients in quitting smoking? How about those patients who do not want to quit?*
16. How do you report your patients smoking status and/or provided consultation in the medical records?
17. How comfortable do you feel about prescribing your patients medications for quitting smoking? Why?

F. Barriers

18. What are the barriers that you may encounter while providing smoking cessation counselling?
- a. *Do you have enough time? Patients' motivation? Available resources?*

G. Perceived needs for training

19. Would you be interested in taking a course/training on smoking cessation counseling to help your patients to quit? Why? Why not?
20. What would be your main expectations from that course/training?
- a. *How long the training should be? What topics are you most interested in? Who should be the teachers? Where should this trainings be organized?*

H. Questions on future actions

21. Do you have any suggestions on how we can implement smoking cessation services into TB care in Armenia?
22. Is there any other information regarding this topic you would like to add?

Closure of the Focus Group Discussion

We have finished with the discussions today. Thank you very much for participation. Your time is very much appreciated and your comments have been very helpful.

Time at the end of the discussion	_ _ h _ _ min
Comments: Attitudes of the participants during the discussion: Interruptions during the discussion: no/yes (frequency).....	

THANK YOU

Appendix 3. Demographic forms for study participants
(English and Armenian versions)

1.	Age _____
2.	Gender <input type="checkbox"/> Male <input type="checkbox"/> Female
3.	Where do you work? <input type="checkbox"/> Yerevan <input type="checkbox"/> other city _____ <input type="checkbox"/> village _____ <input type="checkbox"/> TB inpatient healthcare facility <input type="checkbox"/> TB outpatient healthcare facility
4.	Which statement best describes you? <input type="checkbox"/> I have never smoked cigarettes <input type="checkbox"/> I smoke cigarettes less than daily <input type="checkbox"/> I smoke cigarettes every day <input type="checkbox"/> I quit smoking cigarettes less than 1 year ago <input type="checkbox"/> I quit smoking cigarettes more than 1 year ago
5.	How many years do you work as a TB physician (excluding residency) _____
6.	Have you ever participated in training on smoking cessation? <input type="checkbox"/> Yes When _____ <input type="checkbox"/> No

Ժողովրդագրական տվյալներ

1.	Տարիք _____
2.	Սեռ <input type="checkbox"/> Տղամարդ <input type="checkbox"/> Կին
3.	Որտե՞ղ եք Դուք աշխատում: <input type="checkbox"/> Երևան <input type="checkbox"/> այլ քաղաք _____ <input type="checkbox"/> գյուղ _____ <input type="checkbox"/> ՏԲ դեմ պայքարի հիվանդանոցային կաբինետ <input type="checkbox"/> ՏԲ դեմ պայքարի արտահիվանդանոցային կաբինետ
4.	Ներքոհիշյալ ո՞ր պնդումն է ամենալավը բնութագրում Ձեզ: <input type="checkbox"/> Ես երբեք ծխախոտ չեմ օգտագործել <input type="checkbox"/> Ես օգտագործում եմ ծխախոտ, բայց ոչ ամեն օր <input type="checkbox"/> Ես օգտագործում եմ ծխախոտ ամեն օր <input type="checkbox"/> Ես թողել եմ ծխելը վերջին 1 տարվա ընթացքում

	<input type="checkbox"/> Ես թողել եմ ծխելը ավելի քան 1 տարի առաջ
5.	Քանի՞ տարի է, որ Դուք աշխատում եք որպես ՏԲ բժիշկ (չհաշված կլինիկական օրդինատորան) _____
6.	Երբևէ մասնակցե՞լ եք ծխախոտի դադարեցման վերաբերյալ վերապատրաստման/դասընթացի:
	<input type="checkbox"/> Այո Ե՞րբ _____
	<input type="checkbox"/> Ոչ

Appendix 4. Consent forms

(English and Armenian versions)

Consent form for IDIs with experts/policy makers

American University of Armenia

Institutional Review Board #1

“Integrating evidence-based tobacco control services into tuberculosis control in Armenia”

Hello! My name is... I am working at the Zvart Avedisian Onanian Center for Health Services Research and Development within the Gerald and Patricia Turpanjian School of Public Health at the American University of Armenia. American University of Armenia (AUA) is conducting a project that aims to design, implement, and evaluate an advocacy and training program for integrating tobacco control measures into tuberculosis (TB) care in Armenia.

You have been invited to participate in this interview because you are a key person for the overall management and coordination of TB/Tobacco control activities. The purpose of our interview today is to learn your opinions on joint TB and tobacco practices, policies, smoke free-environments, TB care specialists’ needs for training on smoking cessation and future possible actions to promote joint actions on Tobacco and TB control.

The information provided by you will remain confidential and will be used only for current project. Only aggregate/summary data will be used in further research. The participation in this interview is completely voluntary. It is your right to withdraw whenever you want; there won’t be any negative consequences related to your work.

Participation in this interview does not have any direct benefit or harm to you, but your responses are valuable for us and will contribute to successful development and implementation of this project.

Today’s interview will last approximately 30-45 minutes. We will take notes throughout the interview. Also with your permission we will audio-record the interview to make sure that we will not miss any of the information you provide.

Here is the card with contact information for the research team. If you have any questions regarding this project you can call the Principal Investigator Dr. Arusyak Harutyunyan, (+37460) 612621 or (+374 94) 630077 (mobile).

If you feel you have not been treated fairly or think you have been hurt by joining the project you should contact Varduhi Hayrumyan, the Human Subject Protection Administrator of the American University of Armenia (37460) 61 25 62.

Do you agree to participate?

Thank you.

If yes, shall we continue?

Իրազեկ համաձայնության ձև
Հայաստանի ամերիկյան համալսարան
Գիտահետազոտական էթիկայի թիվ 1 հանձնաժողով
«Ապացույցների վրա հիմնված ծխախոտի դեմ պայքարի ծառայությունների ներդրումը
տուբերկուլյոզի բուժման մեջ Հայաստանում»

Բարև ձեզ, իմ անունն է: Ես աշխատում եմ Հայաստանի ամերիկյան համալսարանի Ժիրայր և Փաթրիշա Թրփանձեան հանրային առողջապահության ֆակուլտետում: Հայաստանի ամերիկյան համալսարանի Զուարթ Ալետիսեան Օնանեան առողջապահական ծառայությունների հետազոտման և զարգացման կենտրոնն իրականացնում է մի ծրագիր, որի նպատակն է ՏԲ բուժաշխատողների համար մշակել, ներդնել և գնահատել ծխելը դադարեցնելուն ուղղված ուսուցողական դասընթաց:

Դուք հրավիրված եք մասնակցելու այս հարցազրույցին, քանի որ հանդիսանում եք ՏԲ/ծխախոտի դեմ պայքարի ոլորտի առաջատար մասնագետ: Այսօրվա մեր հանդիպման նպատակն է ծանոթանալ ՏԲ և ծխախոտի դեմ համատեղ պայքարի վերաբերյալ Ձեր մտտեցմանը, առկա քաղաքականությանը, լսել Ձեր կարծիքը ծխից ազատ միջավայրերի, ՏԲ բժիշկների համար ծխախոտային կախվածության բուժման վերաբերյալ դասընթացի անհրաժեշտության և ՏԲ/ծխախոտի դեմ համատեղ պայքարին ուղղված հետագա գործողությունների վերաբերյալ:

Ձեր կողմից տրամադրված տեղեկատվությունը կպահպանվի գաղտնի և կկիրառվի միայն հետազոտական նպատակներով: Միայն ամփոփված տվյալները կներկայացվեն վերջնական զեկույցում:

Ձեր մասնակցությունն այս հարցազրույցին կամավոր է: Դուք իրավունք ունեք դադարեցնել հարցազրույցը, երբ ցանկանաք, և դա ոչ մի բացասական հետևանք չի ունենա Ձեր աշխատանքի վրա:

Ձեր մասնակցությունն այս հարցազրույցին չի նախատեսում որևէ անմիջական օգուտ կամ վնաս, սակայն Ձեր անկեղծ պատասխանները չափազանց կարևոր են մեզ համար և կնպաստեն այս ծրագրի բարեհաջող զարգացմանն ու ներդրմանը:

Այս հարցազրույցը տևելու է մոտավորապես 30-ից 45 րոպե: Մենք կգրառենք և Ձեր թույլտվությամբ նաև կձայնագրենք հանդիպումը՝ համոզված լինելու համար, որ ոչ մի կարևոր ինֆորմացիա բաց չենք թողել:

Եթե Դուք որևէ հարց ունենաք այս ծրագրի վերաբերյալ, ապա կարող եք այս այցեքարտում նշված հեռ. համարով զանգահարել գլխավոր հետազոտող Արուսյակ Հարությունյանին (374 60)612621 կամ (374 94) 630077 (բջջային):

Եթե Դուք կարծում եք, որ Ձեզ հետ արդարացի չենք վարվել կամ որևէ կերպ վնաս ենք պատճառել Ձեզ ծրագրի մասնակցության ընթացքում, ապա խնդրում ենք դիմել Հայաստանի ամերիկյան համալսարանի Էթիկայի հանձնաժողովի համակարգող Վարդուհի Հայրումյանին հետևյալ հեռախոսահամարով՝ (374 60) 61 25 62:

Դուք ցանկանո՞ւմ եք մասնակցել:

Շնորհակալություն:

Կարո՞ղ ենք սկսել:

**Consent form for FGDs/IDIs with TB physicians
American University of Armenia
Institutional Review Board #1**

“Integrating evidence-based tobacco control services into tuberculosis control in Armenia”

Hello! My name is... I am working at the Zvart Avedisian Onanian Center for Health Services Research and Development within the Gerald and Patricia Turpanjian School of Public Health at the American University of Armenia. American University of Armenia (AUA) is conducting a project that aims to design, implement, and evaluate an advocacy and training program for integrating tobacco control measures into tuberculosis (TB) care in Armenia.

You have been invited to this meeting because you are a TB healthcare provider. We will have a few such meetings with up to 30-40 other physicians. The purpose of our meeting today is to learn about your knowledge, attitude, and practice regarding smoking cessation, as well as to clarify your perceived needs for training and support for addressing tobacco use among your patients.

The information provided by you will remain confidential and will be used only for current project. Only aggregate/summary data will be used in further research. The participation in this discussion is completely voluntary. It is your right to withdraw whenever you want; there won't be any negative consequences related to your work. Please feel free to share and present your opinions on the discussion questions, because all different opinions are equally important and respected.

Participation in these discussions does not have any direct benefit or harm to you, but your responses are valuable for us and will contribute to successful development and implementation of this project.

Today's discussion will last approximately 1 hour. We will take notes throughout the session. Also with your permission we will audio-record the discussions to make sure that we will not miss any of the information you provide.

Here is the card with contact information for the research team. If you have any questions regarding this project you can call the Principal Investigator Dr. Arusyak Harutyunyan, (+37460) 612621 or (+374 94) 630077 (mobile).

If you feel you have not been treated fairly or think you have been hurt by joining the project you should contact Varduhi Hayrumyan, the Human Subject Protection Administrator of the American University of Armenia (37460) 61 25 62.

Do you agree to participate?

Thank you.

If yes, shall we continue?

Իրազեկ համաձայնության ձև
Հայաստանի ամերիկյան համալսարան
Գիտահետազոտական էթիկայի թիվ 1 հանձնաժողով
«Ապացույցների վրա հիմնված ծխախոտի դեմ պայքարի ծառայությունների ներդրումը
տուբերկուլյոզի բուժման մեջ Հայաստանում»

Բարև ձեզ, իմ անունն է: Ես աշխատում եմ Հայաստանի ամերիկյան համալսարանի Ժիրայր և Փաթրիշա Թրփանձեան հանրային առողջապահության ֆակուլտետում: Հայաստանի ամերիկյան համալսարանի Զուարթ Ալետիսեան Օնանեան առողջապահական ծառայությունների հետազոտման և զարգացման կենտրոնն իրականացնում է մի ծրագիր, որի նպատակն է ՏԲ բուժաշխատողների համար մշակել, ներդնել և գնահատել ծխելը դադարեցնելուն ուղղված ուսուցողական դասընթաց:

Դուք հրավիրված եք մասնակցելու այս հանդիպմանը, քանի որ դուք ՏԲ բուժաշխատողներ եք: Մենք մի քանի նմանատիպ հանդիպումներ կունենանք 30-40 այլ ՏԲ բուժաշխատողների հետ: Այսօրվա մեր հանդիպման նպատակն է ծանոթանալ ծխախոտային կախվածության բուժման վերաբերյալ Ձեր գիտելիքներին, վերաբերմունքին և գործելակերպին, ինչպես նաև պարզել Ձեր մոտեցումը ծխախոտային կախվածության բուժման դասընթացի անհրաժեշտության վերաբերյալ:

Ձեր կողմից տրամադրված տեղեկատվությունը կպահպանվի գաղտնի և կկիրառվի միայն հետազոտական նպատակներով: Միայն ամփոփված տվյալները կներկայացվեն վերջնական զեկույցում:

Ձեր մասնակցությունն այս ծրագրում կամավոր է: Դուք իրավունք ունեք դուրս գալ ծրագրից, երբ ցանկանաք, և դա ոչ մի բացասական հետևանք չի ունենա Ձեր աշխատանքի վրա: Խնդրում եմ ազատ զգացեք Ձեզ, արտահայտեք Ձեր կարծիքը քննարկվող հարցերի վերաբերյալ, քանի որ բոլորիդ կարծիքները հավասարապես կարևոր են մեզ համար և արժանի են ուշադրության:

Ձեր մասնակցությունն այս քննարկումներում չի նախատեսում որևէ անմիջական օգուտ կամ վնաս, սակայն Ձեր անկեղծ պատասխանները չափազանց կարևոր են մեզ համար և կնպաստեն այս ծրագրի բարեհաջող զարգացմանն ու ներդրմանը:

Այսօրվա քննարկումը տևելու է մոտավորապես 1 ժամ: Մենք կգրառենք և Ձեր թույլտվությամբ նաև կձայնագրենք հանդիպումը՝ համոզված լինելու համար, որ ոչ մի կարևոր ինֆորմացիա բաց չենք թողել:

Եթե Դուք որևէ հարց ունենաք այս ծրագրի վերաբերյալ, ապա կարող եք այս այցեքարտում նշված հեռ. համարով զանգահարել գլխավոր հետազոտող Արուսյակ Հարությունյանին (374 60) 612621 կամ (374 94) 630077 (բջջային).

Եթե Դուք կարծում եք, որ Ձեզ հետ արդարացի չենք վարվել կամ որևէ կերպ վնաս ենք պատճառել Ձեզ ծրագրի մասնակցության ընթացքում, ապա խնդրում ենք դիմել Հայաստանի ամերիկյան համալսարանի Էթիկայի հանձնաժողովի համակարգող Վարդուհի Հայրումյանին հետևյալ հեռախոսահամարով՝ (374 60) 61 25 62:

Դուք ցանկանո՞ւմ եք մասնակցել:

Շնորհակալություն:

Կարո՞ղ ենք սկսել: