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Evaluation of Tobacco Dependence Treatment Trainings for Primary Healthcare Physicians

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ABBREVIATIONS

AUA - American University of Armenia

CHSR - Center for Health Services Research and Development

CME - Continuous Medical Education

FCTC - Framework Convention on Tobacco Control

FGDs - Focus Group Discussions

FTND - Fagerstrom Test for Nicotine Dependence

IRB - Institutional Review Board

KAP - Knowledge, Attitude and Practice

MOH - Ministry of Health

NRT - Nicotine Replacement Therapy

WHO - World Health Organization

EXECUTIVE SUMMARY

Introduction

The tobacco epidemic is one of the biggest public health threats killing around 6 million people per year worldwide. The smoking rate among the Armenian men is one of the highest in the European region (63% in 2010). Armenia was the first former Soviet Union country to accede to the World Health Organization (WHO) Framework Convention on Tobacco Control (FCTC). Armenia's progress in implementing the FCTC Article 14 is less than satisfactory. Although FCTC Article 14 highlights that the parties/countries should strengthen or create a training capacity to arm physicians with the evidence-based smoking cessation counselling and treatment knowledge and skills, no formal smoking cessation training has been designed for primary healthcare providers in Armenia. The Center for Health Services Research and Development (CHSR) within the Gerald and Patricia Turpanjian School of Public Health, American University of Armenia (AUA) implemented a project aimed to develop a national capacity in implementing the FCTC Article 14 in Armenia. In the scope of this project the CHSR designed, implemented and evaluated the first smoking cessation training program for practicing primary healthcare professionals in Armenia to arm them with the evidence-based smoking cessation counseling and treatment knowledge and skills.

Methods

A 2-day training curriculum was developed based on evidence-based international resources and were adapted to the local context. The Ministry of Health accredited the training curriculum and designated five continuing medical education (CME) credits for those who take the course. The training participants (intervention group) were identified through the existing network of family physicians' association with assistance from Yerevan and Gyumri Municipalities' Health Departments. Overall, 58 primary healthcare physicians (family physicians and general practitioners) from 18 polyclinics in Yerevan (n=40) and Gyumri (n=18) participated in the 2-day trainings. Control group participants (n=51) were selected by convenience among those physicians who were available at the time of visits to the polyclinics (Yerevan (n=36) and Gyumri (n=15)). Upon completion of the study all control group participants were invited to participate in tobacco dependence treatment seminars (shorter version of the trainings). Overall, 37 primary healthcare physicians from 8 polyclinics in Yerevan and Gyumri participated in the seminars and received all the materials. Additional 12 (Yerevan (n=9) and Gyumri (n=3)) control group participants who did not attend the seminars received the training materials.

The project employed a quasi-experimental design to evaluate the overall effectiveness of the trainings (the intervention). We utilized three measurements: training expectations (training expectation survey), training improvement (pre- and post-training test), and training effectiveness (knowledge, attitude and practice (KAP) survey). Training expectation survey and pre- and post-training tests were administered only among intervention group participants, while the training effectiveness survey that aimed to evaluate primary healthcare physicians' KAP regarding smoking cessation was administered among both the intervention and control group participants during the baseline (pre-intervention) and follow-up (post-intervention) data collections.

We performed paired analysis to compare the baseline and follow-up data. The continuous variables such as knowledge, attitude, practice, and confidence scores were compared using the paired t-test. The McNemar's test was used for matched data with binary outcomes and Wilcoxon signed-rank test for matched data with multiple levels.

Results

Overall, 108 participants completed the baseline KAP survey¹ (52.78% (n=57)-intervention group; 47.22% (n=51)-control group). The mean age of the participants was 53.19 (SD=10.19) and most of them were females: 97.22% (n=105). The intervention and control groups were not statistically significantly different in terms of baseline socio-demographic characteristics.

Training expectation survey -The vast majority of participants (more than 80%) reported that the training course strongly met all its objectives and almost all the participants (except two) agreed or strongly agreed that the training course was well-organized, the training enhanced their knowledge and skills in smoking cessation and the trainers were knowledgeable about the training topics. The most frequently reported positive aspects of the trainings included high quality of trainers, delivery of up-to-date information and proper organization of the training, while the shortage of time was identified as the main negative aspect.

Training improvement survey - The mean pre-and post-training test scores were 5.93 and 11.29, respectively. On average, the mean test score among all participants increased by 5.36 (5.93 vs. 11.29, $p \leq 0.001$). The increase of the mean test score was statistically significant in all three groups 4.94 (6.26 vs.11.21), 5.50 (6.33 vs. 11.83), 5.61(5.28 vs.10.90) respectively, $p \leq 0.001$).

Training effectiveness survey - Those who completed both baseline and follow-up surveys were included in the baseline vs. follow-up paired analysis (57 pairs-intervention group, 48 pairs-control group). Comparison of baseline and follow-up knowledge scores revealed significant improvement in the intervention group (10.23 vs. 12.46, $p < 0.001$) but not in the control group (9.56 vs.8.85, $p = 0.529$). There was a statistically significant increase in the proportion of the intervention group physicians that answered correctly to most of the knowledge questions. The mean medication score also improved significantly in the intervention group (3.23 vs. 5.51, $p < 0.001$) but not in the control group. The baseline and follow-up attitude scores were not statistically significantly different either in the intervention group (16.54 vs. 16.65, $p = 0.681$) or in the control group (15.21 vs. 15.81, $p = 0.194$), which might be due to high baseline scores.

Paired analysis revealed significant improvement in the intervention group regarding all components of the 5 A model: higher proportion of intervention group physicians were always 1) *asking* more details about patients' smoking behavior (the time of the first smoked cigarette (38.60% vs. 63.16% , $p = 0.003$), smoking behavior at home (70.18% vs. 75.44%, $p = 0.051$), and previous quit attempts (63.16% vs. 80.70%, $p = 0.019$)), 2) *advising* smoking patients on the need to quit (91.23% vs. 100.0%, $p = 0.025$), 3) assessing patients' willingness to quit (49.12% vs. 66.67%, $p = 0.005$), 4) *assisting* patients to quit (e.g. prescribing

¹ One intervention group participant joined the training when the KAP survey was already completed

pharmacological treatment: Cytisine (1.75% vs. 24.56%, $p<0.001$), NRT (5.36% vs. 24.56%, $p<0.001$), and Varenicline (3.51% vs. 8.77%, $p<0.001$) and 5) *arranging* follow-up appointment to review the patients' progress in quitting (21.05% vs. 50.88%, $p<0.001$). Overall, the mean practice scores improved significantly in the intervention group (10.23 vs. 15.12, $p<0.001$) but not in the control group (9.98 vs. 10.33, $p=0.605$).

The results of baseline and follow-up comparison of participants' confidence in providing tobacco dependence treatment revealed a statistically significant improvement in the intervention group physicians' confidence related to all the listed statements. The mean confidence score statistically significantly improved in the intervention group (4.44 vs. 6.28, $p<0.001$) but not in the control group (4.13 vs. 4.60, $p=0.208$).

At follow-up, the proportion of intervention group participants that rated the listed barriers as being "important" decreased for all items and for the three of them the decrease was statistically significant. Those barriers included: lack of smoking cessation specialists to refer patients to for further assistance (54.39% vs. 29.82%, $p=0.027$), insufficient training on smoking cessation (63.16 vs. 29.82, $p=0.003$) and insufficient knowledge on smoking cessation interventions (56.14 vs. 36.84, $p=0.011$).

Conclusions/Recommendations

Based on the study findings, the research team developed a set of recommendations including: 1) implement the tobacco dependence treatment training for all primary healthcare physicians in Armenia to provide them with the evidence-based smoking cessation counseling and treatment knowledge and skills; 2) adapt and implement the tobacco dependence treatment training package for other healthcare professional groups (e.g. cardiologists, oncologists, TB physicians, nurses and others) to ensure provision of evidence-based assistance on quitting to all patients at any medical contact; 3) incorporate tobacco dependence treatment course into the graduate and post-graduate training curricula of all health professionals.

1. INTRODUCTION

The tobacco epidemic is one of the biggest public health threats killing around 6 million people per year worldwide.¹ Eastern Europe has the highest smoking rates in Europe, yet tobacco dependence treatments are virtually unavailable to smokers in many Eastern European countries.² The smoking rate among the Armenian men is one of the highest in the European region (63% in 2010).^{3,4} Smoking is also remarkably prevalent among Armenian physicians (48.5% - male, 12.8% - female) and medical students (50.0% - male, 7.7% - female).⁵

Armenia was the first former Soviet Union country to accede to the World Health Organization (WHO) Framework Convention on Tobacco Control (FCTC) (November 2004); soon after that Armenia adopted a national tobacco control law to ban smoking in healthcare, education, and cultural facilities, as well as public transport.⁶ The country also banned tobacco advertising on TV and radio (2002), on billboards (2006), and subsequently it introduced larger (30%) health warnings on cigarette packs (2006). One of the areas where Armenia's progress is less than satisfactory is the implementation of the FCTC Article 14. The Ministry of Health (MOH) approved "Guidelines for tobacco cessation counseling and treatment" for primary healthcare physicians in 2009, however no further steps were undertaken to enable physicians to implement these guidelines.

The WHO FCTC Article 14 states:

- Healthcare workers should play a central role in promoting tobacco cessation and offering support to tobacco users who want to quit.
- All healthcare workers should be trained to record tobacco use, give brief advice, encourage a quit attempt, and refer tobacco users to specialized tobacco dependence treatment services where appropriate.

- Tobacco control and tobacco cessation should be incorporated into the training curricula of all health professionals and other relevant occupations both at pre- and post-qualification levels, and in continuous professional development. Training should include information about tobacco use and its harmful effects, the benefits of cessation, and the influence that trained workers can have in prompting quitting among patients⁶.

Studies suggest that trained physicians are about twice as likely to offer assistance to their patients who smoke compared to non-trained physicians.^{7,8} Yet, inadequate training on tobacco dependence and its treatment is one of the major obstacles to acquiring consistent and effective treatment of tobacco dependence.^{9,10} Surveys indicated that up to 30% of medical students in Eastern European countries use tobacco products.¹¹ This is another important barrier to the provision of quitting assistance, as physicians who smoke are less likely to advise patients to quit.

Physicians play key role to initiate and promote smoking cessation. Smoking is a chronic disease and repeated, opportunity-based interventions are most effective in addressing physical dependence and modifying deeply ingrained patterns of beliefs and behavior.¹² The US Clinical Practice Guideline for Treating Tobacco Use and Dependence recommends that tobacco use should be addressed at every patient visit using the 5 A's model.¹³ The 5 A's model is an evidence-based approach to increase smoking cessation. The 5 A's methodology has been used in a variety of smoking cessation intervention programs.¹⁴ According to this model, clinicians should *ask* about smoking status of patients at each visit and document smoking status in the patient's medical record. Physicians should then deliver personal *advice* to quit smoking and *assess* the willingness to make a quit attempt. If the patient is willing to quit, the clinician should *assist* him/her in making a quit attempt by offering medication and providing or referring for counseling or additional treatment, and *arrange* for follow-up contacts to prevent relapse. If the patient is unwilling to make a quit

attempt, the physician should provide a motivational intervention and arrange to address tobacco dependence at the next clinic visit (Appendix 1).^{13,14}

Although FCTC Article 14 highlights that the parties/countries should strengthen or create a training capacity to arm physicians with the evidence-based smoking cessation counselling and treatment knowledge and skills, no formal smoking cessation training had been designed for primary healthcare providers in Armenia. In order to address this gap CHSR within the Gerald and Patricia Turpanjian School of Public Health at the American University of Armenia (AUA) implemented a project aimed to develop a national capacity in implementing the FCTC Article 14 in Armenia through: a) building smoking cessation training capacity of the medical faculty through training on evidence-based methods and tools; b) training primary healthcare physicians to provide them with knowledge and skills to provide smoking cessation counselling to smokers; c) developing a White Paper: “Mapping the FCTC Article 14 Implementation in Armenia” and discussing it with the health policymakers and other stakeholders; d) strengthening the support from the key stakeholders including: the policy and decision-making community and the institutions of medical education in order to sustain the project outcomes and advocate for a system-wide change.

Throughout the scope of this project CHSR designed, implemented and evaluated the first smoking cessation training program for practicing primary healthcare professionals in Armenia. The goal of the trainings was to provide Armenian physicians with the evidence-based smoking cessation counseling and treatment knowledge and skills so that they are able to motivate and assist patients to quit.

2. METHODS

2.1 Training materials, facilitators and participants

Formative research - The majority of smoking cessation treatment approaches is based on the evidence from high-income countries that have different socioeconomic background and healthcare system. Therefore, the application of the existing best practices in a transition country such as Armenia (and perhaps in other low or lower-middle income countries) requires a careful examination and a thorough adjustment of the approaches to be used in knowledge transfer. This necessitated a formative research during the development of the training course including 1) a qualitative research¹⁵ with future beneficiaries to clarify the perceived needs for training and 2) a pharmaceutical market research¹⁶ to determine availability, affordability, and prices of the smoking cessation drugs. The results of the formative research were extensively used during the training development/adaptation.

Training materials - A 2-day training curriculum (see Appendix 2) was developed by the research team and included (a) didactic sessions on tobacco epidemics; neurobiology of nicotine addiction; the role of primary healthcare professionals in smoking cessation (5 A's); motivational interviewing; pharmacotherapy for smoking cessation; relapse prevention; and (b) interactive sessions including case studies, role play and film demonstrations, as well as demonstration of the breath carbon monoxide (CO) monitors as an example of a motivational visual aid in smoking cessation counseling. The film “30 seconds” produced by the English National Centre for Smoking Cessation and Training was used to highlight the importance of delivering a brief intervention to smokers by primary healthcare physicians.¹⁷ It was translated/adapted and voice overed in Armenian. Another film, “Living without Smoking” was used as a visual tool to demonstrate the “ideal” physician-patient encounters and cumulative impact of brief interventions in primary care settings to motivate patients to quit smoking. The film was developed during a joint research grant between the Swiss Agency

for Development and Cooperation together with the Swiss National Science Foundation through the University of Geneva.

All the training materials were developed based on evidence-based international resources and were adapted to the local context using the findings of the formative research conducted in the frame of this project. The Ministry of Health accredited the training curriculum and designated five continuing medical education (CME) credits to the physicians that were involved in the training sessions.

Training facilitators - Smoking cessation trainings were conducted by the CHSR's senior researcher Arusyak Harutyunyan, MD, MPH and research assistant and clinical psychologist Armine Abrahamyan, MS, MPH, and the senior lecturer from the Department of Family Medicine, Yerevan State Medical University Armine Danielyan, PhD. Dr. Arusyak Harutyunyan, the Principal Investigator of this project, is the only expert in Armenia that has the Mayo Clinic's provisional Tobacco Treatment Specialist Certificate.

Training participants - The training participants (the intervention group) were identified through the existing network of family physicians' association with assistance from Yerevan and Gyumri Municipalities' Health Departments. Overall, 58 primary healthcare physicians (family physicians and general practitioners) from 18 polyclinics in Yerevan (n=40) and Gyumri (n=18) participated in the 2-day trainings (two trainings in Yerevan and one training in Gyumri). Control group participants (n=51) were selected by convenience among those physicians who were available at the time of visits to the polyclinics (Yerevan (n=36) and Gyumri (n=15)). Trainings were conducted in May, 2016. Upon completion of the study, all control group participants were invited to participate in the tobacco dependence treatment seminars (a shorter version of the trainings). Overall, 37 primary healthcare physicians from 8 polyclinics in Yerevan and Gyumri participated in the seminars and received all the materials. An additional 12 control group participants (Yerevan (n=9) and

Gyumri ($n=3^2$) who did not attend the seminars received only the training materials.

2.2 Evaluation design, study instruments and data collection

The project employed a quasi-experimental design to evaluate the overall effectiveness of the intervention/trainings.

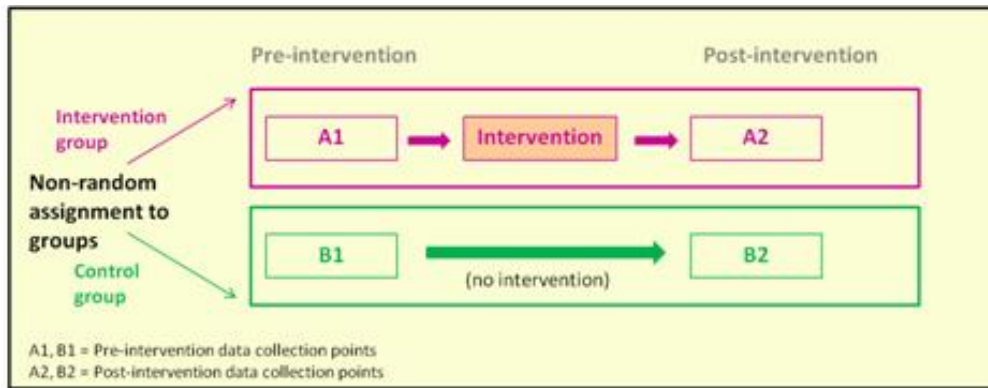


Figure 1. Evaluation design

For the evaluation of the intervention/trainings, the research team utilized three measurements: training expectation, training improvement, and training effectiveness.

Evaluation

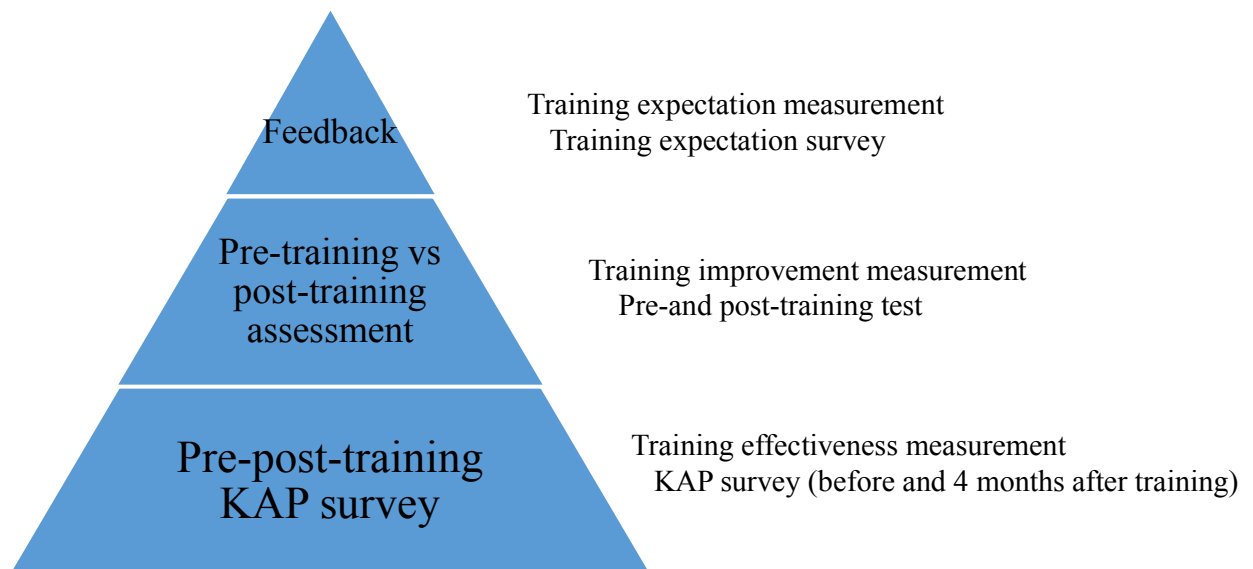


Figure 2. Training evaluation

² One participant did not complete the follow-up KAP survey

Training expectation survey - Upon completion of the training (at the end of the 2nd day), participants were asked to complete a short training expectation evaluation questionnaire (see Appendix 3) to assess their satisfaction with the training course. The project team developed the questionnaire based on widely used evaluation questionnaires and translated/adapted it into Armenian.¹⁸ This evaluation questionnaire contained 20 multiple choice and 6 open-ended questions. The mean duration of completing this evaluation form was 10 minutes.

Training improvement survey - In order to measure the training impact on the physicians' knowledge improvement, the pre- and post-training test was developed based on the training materials and contained 14 multiple-choice questions (see Appendix 4). Intervention group participants completed the pre-training test at the beginning of the 1st day of the training and the post-training test was administered upon completion of the training (at the end of the 2nd day). Both training tests were evaluated by the research team and the answers were discussed with the participants at the end of the training. Each participant received individual feedback on training improvement at the end of the training. The mean duration of completing the pre- and post-training tests was 12 minutes.

Training effectiveness survey - The study team utilized a self-reported, structured questionnaire to evaluate primary healthcare physician's knowledge, attitude and practice (KAP) regarding smoking cessation (see Appendix 5). The KAP survey questionnaire had five main sections including: primary healthcare physicians' knowledge, attitudes, and practices regarding smoking cessation, as well as questions on physicians' confidence and potential obstacles in providing smoking cessation counseling. The survey questionnaire also included the questions on socio-demographic characteristics of the study participants. The mean duration of completing the KAP questionnaire was 20 minutes.

The KAP questionnaire was administered among both the intervention and control group participants during the baseline (pre-intervention) and follow-up (post-intervention) data collections. The intervention group participants completed the baseline KAP questionnaire at the beginning of the 1st day of the training. The trained interviewer visited the control group participants at their polyclinics and asked them to complete the questionnaire. The follow-up KAP survey was conducted four months after the baseline measurements in both the intervention and control groups. Trained interviewers visited polyclinics and distributed self-administered questionnaires to the intervention group participants at their convenience. The control group participants were asked to complete the follow-up KAP questionnaire before tobacco dependence treatment seminars. The trained interviewers visited those control group participants who were not present at the seminars. They completed the KAP questionnaires at the time and place convenient for them and then received the training materials.

2.1 Data management and analysis

Single data entry was performed using SPSS 22.0 statistical package followed by logical and range checks to ensure the accuracy of data. Statistical analysis was done using SPSS 22.0 and STATA 13.0 statistical software. The study team used descriptive statistics to summarize the participant's characteristics. The mean, median, standard deviation and corresponding ranges were generated for the continuous variables and categorical variables were represented by percentages. Simple comparative analysis for categorical data included Pearson's Chi-square (χ^2) tests and Fisher's exact test (Yerevan vs. Gyumri; pre- vs. post-training answers, intervention vs. control groups) and for continuous variables, independent t-test (intervention vs. control, Yerevan vs. Gyumri), paired t-test (pre- vs. post-training scores, baseline vs. follow-up scores) and one-way ANOVA (to compare 3 groups

categorized according to the place and date of training) were used. In all analyses, statistical significance was accepted at $p < 0.05$.

Training expectation evaluation questionnaire included both “close-ended” and “open-ended” questions. “Open-ended” questions allowed participants to provide specific feedback. The open-ended questions were analyzed using content analysis.¹⁹ The content analysis involves both manifest (visible, obvious components) and latent (interpretation of the underlying meaning of the text) content.^{19,20} In the first step of the analysis, the answers were read by the researchers. The manifest messages that occurred more than 5 times were “coded” and sorted according to content and meaning.²⁰ The sets of codes were included into categories. The manifest messages that occurred less than 5 times were included in the “Other” category. In the second step, a binary index (yes/no) was created with the purpose of exploring whether the created categories were present or absent in the individual’s answers.²¹

Training improvement survey questionnaire contained 14 multiple-choice questions with only one correct answer. In order to calculate the overall pre- and post-training test scores each correct answer was scored as one point, while incorrect or missing responses were scored as zero, which resulted in the maximum possible score of 14 points and a minimum score of 0.

The analysis of *training effectiveness survey* (KAP survey) data was performed by comparing the intervention and control groups, as well as baseline and follow-up data by both groups. Knowledge score was calculated by giving 1 point to correct answers, and 0 to wrong, “do not know” or missing answers. The range of general knowledge score was 0 to 16 and medication knowledge score was 0 to 7. Attitude score was calculated by awarding 1 point to the desired answer and 0 to the wrong or missing answers. The higher the attitude score indicated more positive attitude toward smoking cessation. The range of attitude score was from 0 to 18. Practice score was calculated in two ways. First, the practice score 1 was

calculated by giving 1 point if the respondent mentioned that he/she always includes recommended procedures in everyday practice and 0 if he/she answered “never”, “sometimes” or did not answer to that question. The practice score 2 was calculated by giving 1 point to “always” answers, 0.5 point to answered “sometimes” and 0 to those who answered “never” or did not answer to that question. The range for practice scores was from 0 to 28. During the calculation of the confidence score 1 point was awarded to those “confident” answers and 0 to “not at all confident” or “a little confident” answers. The range of confidence score was 0 to 8. The KAP survey questionnaire with the scoring template is provided in Appendix 6. In addition, we calculated the percent score to express the mean score as a percentage of the maximal possible score.

We performed paired analysis to compare the baseline and follow-up data. Only those who completed both baseline and follow-up surveys were included in the paired analysis (57 pairs-intervention group, 48 pairs-control group). The continuous variables such as knowledge, attitude, practice, and confidence scores were compared using paired t-test. The McNemar’s test was used for matched data with binary outcomes and Wilcoxon signed-rank test for matched data with multiple levels. During the paired analysis the multiple level answers options of knowledge questions were collapsed into binary levels: “do not know” responses were combined with the wrong answers and coded as “0”, and right responses were coded as “1”. For example, for the statement “Patients should only be asked about their smoking history if they have a smoking related disease/ illness”, “true” response (wrong answer) and “do not know” answers were combined and coded as “0”, “false” (right answer) was coded as “1”.

2.2 Ethical considerations

The AUA Institutional Review Board (IRB) approved that the study was in compliance with locally and internationally accepted ethical standards. The research team

obtained an oral consent from the study participants before the surveys (Appendix 7). All study instruments did not include any identifiable information. ID system was developed to manage the training improvement (pre-and post-training test) and training effectiveness surveys (KAP questionnaire), as well as the electronic database. Only the study investigators had an access to the obtained information as well as the database. The final report does not contain respondents' names, positions, institutions, or any other details that could identify the participants.

Upon completion of the follow-up KAP survey, the control group participated in smoking cessation seminars and received all the training materials. The control group participants who refused to participate in the seminar also received the training materials.

3. RESULTS

3.1 Socio-demographic characteristics of participants

Table 1 presents the socio-demographic characteristics of the participants derived from the baseline KAP questionnaires. Overall, 108 participants completed the baseline KAP survey³ (intervention group - 52.78% (n=57)- and control group - 47.22% (n=51)).

The mean age of the participants was 53.19 (SD=10.19): the mean age of intervention and control groups were 51.98 (SD: 10.00) and 54.51 (SD: 10.34), respectively (Table 1).

Most of the participants were females: 96.49% (n=55) and 98.04% (n=50) in the intervention and control groups, respectively. On average the participants worked as healthcare physicians for 25.41 (SD: 12.80) years: 24.53 (SD: 12.79) and 26.42 (SD: 12.87) years in intervention and control groups, accordingly. The majority of the participants in both the intervention and control groups mentioned that they did not participate in smoking cessation trainings prior to this intervention: 70.18% (n=40) and 66.67% (n=34), respectively. The vast majority of participants (87.96% (n=95)) were not teaching at any educational institution. The intervention and control groups were not statistically significant different in terms of baseline socio-demographic characteristics (Table 1).

3.2 Results from the training expectation survey

The participants were asked to share their opinions on the extent of which the training course met its objectives (Table 2). The vast majority of participants (more than 80%) reported that the training course strongly met all its objectives and none of them mentioned that the course did not meet any of its objectives. According to the majority of participants the training course strongly met its objective in a) providing appropriate knowledge on smoking hazards and smoking related disease (92.98 %, n=53); b) identifying the advantages of quitting (98.25%, n=56); c) understanding the neurobiology of tobacco dependence

³ One intervention group participant joined the training when the KAP survey was already completed

(92.98%, n=53); d) defining the role of primary healthcare physicians in smoking cessation (94.74%, n=54), e) providing smoking cessation counselling depending on the patients' stage of motivation (87.50%, n=35); f) prescribing smoking cessation drugs (87.72%, n=50); and g) increasing self-confidence and commitment to support patients to quit (80.70%, n=46). These answer options were compared between Yerevan and Gyumri participants and no statistically significant differences were observed between the groups.

Participants were asked to share their impressions with the design and delivery process of the trainings (Table 3). All the participants (except two) agreed or strongly agreed with all the provided statements on this. The great majority of participants strongly agreed that the training course was well-organized (92.98 %, n=53), the training enhanced their knowledge and skills in smoking cessation (91.23%, n=52), and that the trainers were knowledgeable about the training topics (94.74%, n=54) (Table 3). Most of the participants (68.42% (n=39)) strongly agreed that they expect to use the knowledge and skills gained from the training, while the rest of them (29.82%, n=17) agreed with this statement. All the participants either agreed (10.53%, n=6) or strongly agreed (87.72%, n=50) that they were satisfied with the training course. There was no statistically significant difference between Yerevan and Gyumri participants in regards to their impressions with the trainings.

Table 4 summarises the results of the “open ended” questions that allowed participants to provide specific feedback on positive and negative aspects of the training as well as skills or lessons learned during the training. The most frequently reported positive aspects of the training included clear content of the materials (38.18%, n=21), teaching style (16.36%, n=9), delivery of up-to-date information (14.55%, n=8), high quality of trainers (10.91 %, n=6) and proper organization of the training (10.91 %, n=6). While reporting about negative aspects of the training, the shortage of time was identified as the main negative aspect (32.50 %, n=13).

When asked about three skills or lessons learned during the training that would be applied at their worksite/practice, participants identified motivational interviewing (61.40 %, n=35), pharmacotherapy (58.93%, n=33), and counselling skills (15.79%, n=9). Only one primary healthcare physician from Yerevan (2.50 %, n=1) and three physicians from Gyumri (17.65%, n=3) reported that they were eager to use CO monitors in their daily practice.

Training participants provided their suggestions on how the trainings could be improved. The suggestions included: repeating the training in the future (9.7%, n=5), change the training location (5.77%, n=3) and allocate more time for the training (5.77%, n=3). Several physicians (46.42%, n=24) had other suggestions including organizing smoking cessation training for all primary healthcare physicians, allocating more time for the pharmacotherapy session, adding more role plays, and discussions during the training, and distributing CO monitors to physicians.

3.3 Results from the training improvement survey

3.3.1 Pre-and post-training test results

The pre-training test revealed varying degree of knowledge related to different components of the tobacco dependence treatment (Table 5). The majority of the participants (96.55%, n= 56) correctly agreed with the statement that withdrawal symptoms reach their maximum intensity in the first 24 to 72 hours. About three-quarters of the participants (74.14%, n= 43) correctly recognized the definition of the ex-smoker (quitted smoking at least six months ago) and 67.24% (n= 39) identified from the listed options the combination nicotine replacement therapy as the most effective pharmacotherapy for treating tobacco dependence. Participants' knowledge regarding the duration of craving and correct order of 5 A's components during the pre-training test was low. For instance, more than half of the participants (55.17%, n=32) wrongly chose the correct order of the 5 A's components as: "ask, assess, advice, assist, arrange" rather than "ask, advice, assess, assist, arrange" (13.79%,

n=8) and 55.17% (n=32) wrongly believed that cravings usually last 24-72 hours, rather than 3-5 minutes (15.52%, n=9). However, the percentage of correct answers to these questions improved about four times after the trainings (68.97% and 72.41%, respectively). During the pre-training test only one respondent correctly answered the question regarding the mechanism of Cytisine. However, during the post-training test 72.41% of primary healthcare physicians correctly answered this question (Table 5).

During the pre-training test about one third of the participants correctly recognized the definition of relapse (34.48%, n=20), knew that the person should not eat or drink 15 minutes before or during the use of the nicotine gum (34.48%, n=20), and correctly identified that nicotine is not a carcinogen (29.31%, n=17). After the training, the proportion of correct answers to these three questions significantly increased by about three-fold: 91.38%, 93.10%, and 84.48%, respectively (Table 5).

The knowledge on motivational interviewing, which aims to promote initial motivation for smoking cessation, did not change significantly after the training (43.10 % to 48.28 % respectively, $p=0.164$). The two-fold statistically significant increase in knowledge was observed for questions regarding Forgerstrom test for assesment of the nicotine dependence level, the side effects of Varenicline, and the most effective method for treating nicotine dependence (39.66% vs. 91.38%, 41.38% vs.91.38%, 51.72% vs.96.55%, respectively) (Table 5). During the pre-training test about half of the participants correctly answered that 50-60% of smokers die because of tobacco-related diseases. However, the knowledge improvement on this after the training was marginally statistically significant (50.00% vs. 67.24%, $p=0.072$) (Table 5).

3.3.2 Pre-and post-training test scores

The mean score for the pre-training test was 5.93 (SD=2.01) with the median of 6 while the mean score for the post-training test was 11.29 (SD=1.83) with the median of 11.

The ANOVA test revealed that both during the pre-training test and post-training test there were no statistically significant differences in mean scores between the three training groups ($p = 0.186$ and $p = 0.285$, respectively) (Table 6).

The study found a statistically significant difference in pre- and post-training tests scores. On average, the mean test score increased by 5.36 (5.93 vs. 11.29) with $SD=2.34$ ($p \leq 0.001$). The increase of the mean test score was statistically significant in all three groups 4.94 (6.26 vs.11.21), 5.50 (6.33 vs. 11.83), 5.61(5.28 vs.10.90) respectively, $p \leq 0.001$). The one-way ANOVA established that there was no statistically significant difference in score improvements between three groups ($p = 0.643$) (Table 6).

3.4 Results from the training effectiveness survey

3.4.1 Participants' knowledge about tobacco dependence treatment

General knowledge

Table 7 summarizes the results of participants' baseline knowledge on tobacco dependence treatment by the intervention and control groups. Most of the participants (82.41%, $n=89$) knew that patients should not only be asked about their smoking history if they have a smoking-related disease and that smoking cessation advice given by a health professional to a patient increases the patient's chances of quitting (89.81%, $n=97$). On the other hand, the majority of them did not know that smoking cessation advice should be linked to the patient's current health/illness (87.04%, $n=94$). Physicians knew (79.63%, $n=86$) that it is recommended to advise elderly patients to quit smoking as the damage of smoking can be reversed, but there was a statistically significant difference between the intervention and control groups in this regard (85.96% vs. 72.55%, $p=0.019$). Most of the participants (92.59%, $n=100$) knew that smokers who quit smoking at any age reduce their risk of premature death and they (84.26%, $n=91$) recognized smoking as a chronic disorder associated with relapse. On average, out of 16 knowledge questions 62.38% (mean

knowledge score=9.98) were answered correctly (Table 7). Overall, at baseline, the mean knowledge score was 9.98 (SD:2.43) and there was no significant difference between the intervention and groups.

The paired analysis revealed that the mean knowledge score significantly improved from baseline to follow-up in the intervention group (10.23 vs. 12.46, $p<0.001$) but not in the control group (9.56 vs.8.85, $p=0.529$) (Table 8). There was a statistically significant increase in the proportion of the intervention group physicians that answered correctly to most of the knowledge questions. For instance, at follow-up, significantly more intervention group physicians know that counselling includes assisting patients to set a quit date (61.40 % vs. 82.46%, $p=0.007$), most of the withdrawal symptoms from smoking cessation disappear within 4 weeks of abstinence (57.89% vs. 92.98%, $p<0.001$), follow-up appointments should be made for the patients who are willing to stop smoking within the first week after quitting (78.95% vs. 91.23%, $p=0.021$), smoking is a chronic disorder associated with relapse (85.96% vs. 96.49%, $p=0.034$), quitting smoking at any age reduces patients' risk of premature death (89.47% vs. 98.25, $p=0.014$) and that nicotine replacement therapies are not contraindicated for people with cardiovascular diseases (42.11% vs. 80.70%, $p<0.001$).

Pharmacotherapy knowledge

Out of 7 questions related to smoking cessation medications on average only 39.95% of questions were answered correctly at the baseline (mean medication knowledge score=2.8) (Table 9). About three-quarters of the participants (74.07%, $n=80$) knew that nicotine gum and patches are recommended for the treatment of nicotine dependence in smoking patients. On the other hand, only few participants (12.04%, $n=13$) mentioned Cytisine and Bupropion as recommended medication for treatment of nicotine dependence. At the baseline the intervention group physicians were significantly more knowledgeable about smoking cessation pharmacotherapy than control group physicians (3.23 vs. 2.31, $p=0.002$).

At follow-up, the mean medication score improved significantly in the intervention group (3.23 vs. 5.51, $p<0.001$) and did not change in the control group (Table 10). In the intervention group, the knowledge improvement was observed in regards to all listed medications, while in the control group there was statistically significant improvement only in terms of knowledge on nicotine lozenges as smoking cessation medication (31.25% vs. 50.00%, $p=0.025$) (Table 10).

3.4.2 Participants' attitude towards tobacco dependence treatment

Overall, participants demonstrated a positive attitude towards tobacco dependence treatment with an average attitude score of 15.84 (out of max possible score of 18). The percent score showing positive agreement with the statements was 88.01%. The intervention and control groups were significantly different in terms of attitude scores (16.54 vs. 15.06, $p<0.001$) (Table 11). Most of the participants considered nicotine dependence as a chronic relapsing disease (81.48%, $n=88$) and agreed that routinely asking about patient's smoking status is their responsibility (93.52%, $n=101$) but the answers were statistically different between the intervention and control groups (89.47% vs. 72.55, $p=0.015$, 100.00% vs. 86.27%, $p=0.013$ respectively). Participants also demonstrated high agreement with the statements that: they serve as a role model for their patients and the public (93.59%, $n=101$), it is their responsibility to motivate patients to stop smoking (91.67%, $n=99$), counseling on harmful effects of smoking usually helps with smoking cessation (91.67%, $n=99$), they should help patients who are motivated to stop smoking (93.52%, $n=101$), and that they should discuss relapse with patients (94.44%, $n=102$). Most of the participants (80.56%, $n=87$) disagreed that their patients' acute health problems take precedence over smoking cessation counseling/advice and there was a statistically significant difference between the intervention and control group (91.23% vs. 68.63%, $p=0.001$). Most of the participants disagreed that quitting is an individual choice and it is not up to them to advise a patient to

quit smoking (93.52%, n=101). They also disagreed that they do not have sufficient time to provide advice and counseling to all their patients who smoke during routine consultations (76.85%, n=83), but there was a statistically significant difference between the intervention and control groups (87.72% vs. 64.71%, p=0.011) (Table 11).

The comparison of the baseline and follow-up attitude scores did not reveal a statistically significant difference either in the intervention group (16.54 vs. 16.65, p=0.681) or in the control group (15.21 vs. 15.81, p=0.194), which might be due to high baseline scores (Table 12). There was a significant improvement in the intervention group at the follow-up regarding considering nicotine/tobacco dependence as a chronic relapsing disease (89.47% vs. 98.25%, p=0.046) and considering as their responsibility to motivate patients to stop smoking (91.23% vs. 98.25%, p=0.046). Interestingly, at follow-up a higher proportion of intervention group participants mentioned about not having sufficient time to provide advice and counseling to all patients who smoke during routine consultations (12.28% vs. 35.09%, respectively, p=0.002) (Table 12).

3.4.3 Participants' practice related to tobacco dependence treatment

Overall, out of 28 practice questions on average only 35.43% items were always performed in physicians' daily practice (mean practice score 1=9.92) (Table 13). The practice scores 1 and 2 were not significantly different between the intervention and control groups at baseline.

At baseline most of the physicians mentioned about always *asking* about patients' smoking status (74.07% (n=80)), number of cigarettes smoked per day (70.37% (n=76)), but only 29.63% (n=32) were always recording patients' smoking history in the medical records. A relatively high proportion of participants were always *advising* a smoking patient to quit (87.96% (n=95)). About half of participants mentioned about always advising to stop abruptly (51.85% (n=56)) and 60.19% (n=65) were always advising patients to reduce the

number of daily cigarettes. Most of the participants (73.15%, n=79) mentioned about always asking if the patients intend to stop smoking and 53.70% (n=58) were always **assessing** patients willingness to quit. In regards to **assisting** in smoking cessation, most of the participants (76.85%, n=83) were always discussing the risks of smoking and benefits of smoking cessation with patients. However, many participants were never giving self-help materials to the patients (62.04%, n=67) and were never using pharmacological aids with patients (37.04%, n=40). A majority of the participants were never prescribing Cytisine (54.63%, n=59), Nicotine gum (49.53%, n=53), and Varenicline (84.26%, n=91). Less than half of the participants (41.67%, n=45) mentioned that they never **arrange** a follow-up appointment to review the progress of patients on quitting smoking (Table 13).

The mean practice scores 1 and 2 improved significantly from baseline to follow-up in the intervention group (10.34 vs. 14.96, $p < 0.001$ and 14.30 vs. 18.97, $p < 0.001$, respectively) but not in the control group (10.03 vs. 10.25, $p = 0.739$ and 13.94 vs. 14.88, $p = 0.117$, respectively) (Table 14). Table 14 summarizes the results of the baseline and follow-up comparisons for the participants' practice in providing tobacco dependence treatment according to the 5 A model.²² The results indicated statistically significant improvement in the intervention group regarding all components of the 5 A's model.

Ask. At follow-up there was no significant difference in the intervention group physician's practice regarding always asking about patients' smoking status (78.95% vs. 77.19%, $p = 0.923$). However, higher proportion of the intervention group physicians reported about always asking more details about smoking history: the time of the first smoked cigarette (38.60% vs. 63.16%, $p = 0.003$), patients' smoking behaviour at home (70.18% vs. 75.44%, $p = 0.051$), and patients' previous quit attempts (63.16% vs. 80.70%, respectively, $p = 0.019$).

Advise. At follow-up a higher proportion of the participants, in both the intervention and control groups, reported about always advising smoking patients on the need to quit, but the difference was statistically significant only in the intervention group (91.23% vs. 100.0%, $p=0.025$).

Assess. A significantly higher proportion of intervention group participants reported that they assess patients' willingness to quit at follow-up as compared to the baseline (49.12% vs. 66.67%, $p=0.005$).

Assist. Study results revealed that more intervention group physicians in the follow-up were always discussing the use of pharmacological aids such as NRT with patients (14.04% vs. 59.65%, $p<0.001$) and proposing their help to patients in quitting (45.61% vs. 85.96%, $p<0.001$). Similarly, more intervention group physicians were advising on behavioral "tricks" for quitting (29.82% vs. 64.91%, $p<0.001$), and preventing relapse (36.84% vs. 73.68%, $p<0.001$), giving self-help materials (3.51% vs. 31.58%, $p<0.001$) and assisting the smoking patients to set up the target quit date (29.82% vs. 73.68%, $p<0.001$). At follow-up there was also significant improvement in prescribing pharmacological treatment: Cytisine (1.75% vs. 24.56%, $p<0.001$), NRT (5.36% vs. 24.56%, $p<0.001$), and Varenicline (3.51% vs. 8.77%, $p<0.001$).

Arrange. The follow-up results also highlighted that more physicians in the intervention group set up a follow-up appointment to review the patients' progress in quitting (21.05% vs. 50.88%, $p<0.001$).

3.4.4 Participants' confidence in providing tobacco dependence treatment

The participants were asked to rate their confidence in providing tobacco dependence treatment. Most of the respondents were confident in educating patients on the general health risks of smoking (76.85%, $n=83$), advising smokers on how to quit smoking (62.96%, $n=68$), assessing the willingness of the patient to quit smoking (62.04%, $n=67$), and motivating

patients to consider quitting (58.33%, n=63). They were not at all confident in discussing various smoking cessation treatment options with patients (22.22%, n=24), recommending appropriate smoking cessation medications (45.37%, n=49), and helping recent quitters to cope with withdrawal symptoms (21.30%, n=23) (Table 15). The intervention and control groups were statistically significantly different only in terms of negotiating a target quit date for the patient to stop smoking (22.81% vs 45.10%, p=0.019).

The mean confidence score was 4.22 (out of max possible 8) and the score was not significantly different between intervention and control groups (4.44 vs. 3.98, p=0.367). The percent confidence score was 52.78% (Table 15).

The mean confidence score statistically significantly improved from baseline to follow-up in the intervention group (4.44 vs. 6.28, p<0.001) but not in the control group (4.13 vs. 4.60, p=0.208) (Table 16). The results of baseline and follow-up comparison of participants' confidence in providing tobacco dependence treatment revealed a statistically significant improvement in intervention group physicians' confidence related to all the listed statements. Meanwhile, statistically significant improvement among control group participants was only related to their confidence in advising smokers on how to quit smoking, motivating patients to consider quitting, and negotiating a target quit date for the patients to stop smoking (Table 16).

3.4.5 Barriers in providing tobacco dependence treatment

Table 17 summarizes the participants rating of the listed barriers that hinder them from helping patients to stop smoking. According to participants' ratings the important barriers in descending order were the following: patients' noncompliance with information given on smoking cessation (46.30%, n=50), insufficient training on smoking cessation interventions (45.37%, n=49), followed by a lack of patient education material (brochures/pamphlets) (43.52%, n=47), lack of smoking cessation specialists to refer patients

to for further assistance (43.52%, n=47), and insufficient knowledge on smoking cessation interventions (41.67%, n=42). When asked about the lack of time as a barrier in assisting patients to quit smoking, half of the participants (50.00%) rated it as somewhat of a barrier and 30.56% identified it as an important barrier.

Table 18 demonstrates the results from the baseline and follow-up comparison of barriers' ratings. At follow-up the proportion of intervention group participants that rated the listed barriers as being "important" decreased for all items and for the three of them the decrease was statistically significant. Those barriers included: lack of smoking cessation specialists to refer patients to for further assistance (54.39% vs. 29.82%, p=0.027), insufficient training on smoking cessation intervention (63.16 vs. 29.82, p=0.003) and insufficient knowledge on smoking cessation interventions (56.14 vs. 36.84, p=0.011). In contrast, in the control group we observed the increase in the proportion of participants that rated the listed barriers as "important" ones and for three of the items the increase was statistically significant. Those barriers included: lack of smoking cessation specialists to refer patients to for further assistance (33.33% vs. 47.92%, p=0.051), insufficient training on smoking cessation intervention (27.08% vs. 52.08%, p=0.009) and lack of awareness of smoking cessation guidelines (27.08% vs. 50.00, p=0.015) (Table 18).

4. CONCLUSIONS AND RECOMMENDATIONS

The AUA Turpanjian School of Public Health research team 1) built smoking cessation training capacity on evidence-based methods and tools for teaching physicians the basic skills for working with smokers, and 2) designed, implemented and evaluated the first smoking cessation training program for practicing primary healthcare physicians in Armenia. Throughout the implementation of the project the research team collaborated and built partnership with the key stakeholders, including the Ministry of Health, National Institute of Health, Yerevan State Medical University, and Yerevan and Gyumri Municipalities.

The MOH accredited tobacco dependence treatment training package developed based on evidence-based international resources and adapted to the local context was implemented and evaluated among primary healthcare physicians in Yerevan and Gyumri. The research team used several measurements to evaluate the effectiveness of the training including a training expectation survey, pre- and post-training tests and knowledge, attitude, and practice (KAP) survey that was administered before the training and at 4-months follow-up. The results of the evaluation demonstrated high satisfaction with the content, design and delivery process of the training, as well as significant improvement in physicians' knowledge and self-reported practice and confidence in tobacco dependence treatment four months after participation in the training.

In addition, the evaluation results demonstrated that at 4-months after the training significantly lower proportion of primary healthcare physicians were rating lack of smoking cessation specialists to refer patients to for further assistance, insufficient training on smoking cessation and insufficient knowledge on smoking cessation interventions as “important” barriers that hinder them from helping patients to stop smoking. However, there was no statistically significant change in regards to ratings of other barriers that were not targeted by the trainings, including lack of physicians/patients time, lack of patient education material

(brochures/pamphlets), and patients' non-compliance with information given on smoking cessation.

Taking into consideration the study findings, the research team presents the following recommendations:

1. Implement the tobacco dependence treatment training for all primary healthcare physicians in Armenia to provide them with the evidence-based smoking cessation counseling and treatment knowledge and skills.
2. Regularly update the National Smoking Cessation Guideline and implement it into the primary healthcare physicians' practice.
3. Adapt and implement the tobacco dependence treatment training package for other healthcare professional groups (e.g. cardiologists, oncologists, TB physicians, nurses, and others) to ensure provision of evidence-based assistance on quitting to all patients at any medical contact.
4. Incorporate tobacco dependence treatment courses into the graduate and post-graduate training curricula of all health professionals.
5. Develop nationwide interventions targeting physicians' perceived barriers hindering them from helping patients to stop smoking.
6. Continue the work towards further strengthening the support from key stakeholders, including the policy and decision making community and the institutions of medical education to sustain the project outcomes and advocate for a system-wide change in implementation of physicians' tobacco dependence treatment trainings.

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TABLES

Table 1. Socio-demographic characteristics of the participants

Variables	Total (n=108) % (n)	Intervention (n=57) % (n)	Control (n=51) % (n)	p-value
Age (years), mean (SD)	53.19 (10.19)	51.98 (10.00)	54.51 (10.34)	0.202
Gender, female	97.22 (105)	96.49 (55)	98.04 (50)	0.625
Working years as healthcare physician, mean (SD)	25.41(12.80)	24.53 (12.79)	26.42 (12.87)	0.450
Previous participation in smoking cessation training				
Yes	30.56 (33)	29.82 (17)	31.37 (16)	0.552
No	68.52 (74)	70.18 (40)	66.67 (34)	
Teaching at educational institution				
Yes	10.19 (11)	8.77 (5)	11.76 (6)	0.872
No	87.96 (95)	89.47 (51)	86.27 (44)	

Table 2. Participants' opinion about trainings

Variable		Total (n=57) % (n)	Yerevan (n=40) % (n)	Gyumri (n=17) % (n)	p-value
How well the training course met its objectives, % (n)					
Knowledge on smoking hazards and smoking related disease	Did not meet	0.00 (0)	0.00 (0)	0.00 (0)	0.800
	Partially meet	5.26 (3)	5.00 (2)	5.88 (1)	
	Strongly meet	92.98 (53)	92.98 (37)	94.12 (16)	
Identify advantages of quitting	Did not meet	0.00 (0)	0.00 (0)	0.00 (0)	0.511
	Partially meet	1.75 (1)	2.50 (1)	0.00 (0)	
	Strongly meet	98.25 (56)	97.50 (39)	100.0 (17)	
Understand neurobiology of tobacco dependence	Did not meet	0.00 (0)	0.00 (0)	0.00 (0)	0.827
	Partially meet	7.02 (4)	7.50 (3)	5.88 (1)	
	Strongly meet	92.98 (53)	92.50 (37)	94.12 (16)	
Define the role of PHP in smoking cessation	Did not meet	0.00 (0)	0.00 (0)	0.00 (0)	0.891
	Partially meet	5.26 (3)	5.00 (2)	5.88 (1)	
	Strongly meet	94.74 (54)	95.00 (38)	94.12 (16)	
Provide smoking cessation counseling depends on the patient's stage of motivation	Did not meet	0.00 (0)	0.00 (0)	0.00 (0)	0.609
	Partially meet	12.50 (5)	12.50 (5)	17.65 (3)	
	Strongly meet	87.50 (35)	87.50 (35)	82.35 (14)	
Prescribe smoking cessation drugs	Did not meet	0.00 (0)	0.00 (0)	0.00 (0)	0.097
	Partially meet	10.53 (6)	5.00 (2)	23.53 (4)	
	Strongly meet	87.72 (50)	92.50 (37)	76.47 (13)	
Increase self-confidence and commitment to support patients to quit	Did not meet	0.00 (0)	0.00 (0)	0.00 (0)	0.615
	Partially meet	17.54 (10)	15.00 (6)	23.53 (4)	
	Strongly meet	80.70 (46)	82.50 (33)	76.47 (13)	

Table 3. Participants' impressions with the design and delivery process of the trainings

Variable		Total (n=57) % (n)	Yerevan (n=40) % (n)	Gyumri (n=17) % (n)	p-value
Shared impressions with the following statements, % (n)					
The training was well organized	Strongly disagree	0.00 (0)	0.00 (0)	0.00 (0)	0.360
	Disagree	0.00 (0)	0.00 (0)	0.00 (0)	
	Agree	7.02 (4)	5.00 (2)	1.76 (2)	
	Strongly agree	92.98 (53)	9.50 (38)	88.24 (15)	
The training sessions were relevant to my expectations	Strongly disagree	0.00 (0)	0.00 (0)	0.00 (0)	0.241
	Disagree	1.75 (1)	2.50 (1)	0.00 (0)	
	Agree	17.54 (10)	22.50 (9)	5.88 (1)	
	Strongly agree	80.70 (46)	75.00 (30)	94.12 (16)	
The training sessions were relevant to my needs	Strongly disagree	0.00 (0)	0.00 (0)	0.00 (0)	0.932
	Disagree	0.00 (0)	0.00 (0)	0.00 (0)	
	Agree	22.81 (13)	22.50 (9)	23.53 (4)	
	Strongly agree	77.19 (44)	77.50 (31)	76.47(13)	
The training enhanced my knowledge and skills in smoking cessation	Strongly disagree	0.00 (0)	0.00 (0)	0.00 (0)	0.312
	Disagree	0.00 (0)	0.00 (0)	0.00 (0)	
	Agree	7.02 (4)	10.00 (4)	0.00 (0)	
	Strongly agree	91.23 (52)	87.50 (35)	100.00 (17)	
I expect to use the knowledge and skills gained from this training	Strongly disagree	0.00 (0)	0.00 (0)	0.00 (0)	0.407
	Disagree	0.00 (0)	0.00 (0)	0.00 (0)	
	Agree	29.82 (17)	25.00 (10)	41.18 (7)	
	Strongly agree	68.42 (39)	75.50 (29)	58.82 (10)	
The content was well organized and easy to follow	Strongly disagree	0.00 (0)	0.00 (0)	0.00 (0)	0.596
	Disagree	0.00 (0)	0.00 (0)	0.00 (0)	
	Agree	10.53 (6)	12.50 (5)	5.88 (1)	
	Strongly agree	87.72 (50)	85.00 (34)	94.12 (16)	
The materials distributed were helpful	Strongly disagree	0.00 (0)	0.00 (0)	0.00 (0)	0.131
	Disagree	0.00 (0)	0.00 (0)	0.00 (0)	
	Agree	17.54 (10)	22.50 (9)	5.88 (1)	
	Strongly agree	82.46 (47)	77.50 (31)	94.12 (16)	
The trainer was knowledgeable about the training topics	Strongly disagree	0.00 (0)	0.00 (0)	0.00 (0)	0.891
	Disagree	0.00 (0)	0.00 (0)	0.00 (0)	
	Agree	5.26 (3)	5.00 (2)	5.88 (1)	
	Strongly agree	94.74 (54)	95.00 (38)	94.12 (16)	

Variable		Total (n=57) % (n)	Yerevan (n=40) % (n)	Gyumri (n=17) % (n)	p-value
The teaching quality was high	Strongly disagree	0.00 (0)	0.00 (0)	0.00 (0)	0.456
	Disagree	0.00 (0)	0.00 (0)	0.00 (0)	
	Agree	10.53 (6)	12.50 (5)	5.88 (1)	
	Strongly agree	89.47 (51)	87.50 (35)	94.12 (16)	
The course content matched the learning objectives	Strongly disagree	0.00 (0)	0.00 (0)	0.00 (0)	0.596
	Disagree	0.00 (0)	0.00 (0)	0.00 (0)	
	Agree	10.53 (6)	12.50 (5)	5.88 (1)	
	Strongly agree	87.72 (50)	85.00 (34)	94.12 (16)	
The trainers were receptive to participant comments and questions	Strongly disagree	0.00 (0)	0.00 (0)	0.00 (0)	0.700
	Disagree	0.00 (0)	0.00 (0)	0.00 (0)	
	Agree	8.77 (5)	10.00 (4)	5.88 (1)	
	Strongly agree	89.47 (51)	87.50 (35)	94.12 (16)	
There was enough time allocated for questions and discussion	Strongly disagree	0.00 (0)	0.00 (0)	0.00 (0)	0.755
	Disagree	1.75 (1)	2.50 (1)	0.00 (0)	
	Agree	8.77 (5)	10.00 (4)	5.88 (1)	
	Strongly agree	87.72 (50)	85.00 (34)	94.12 (16)	
Overall, I am satisfied with the training course	Strongly disagree	0.00 (0)	0.00 (0)	0.00 (0)	0.596
	Disagree	0.00 (0)	0.00 (0)	0.00 (0)	
	Agree	10.53 (6)	12.50 (5)	5.88 (1)	
	Strongly agree	87.72 (50)	85.00 (34)	94.12 (16)	

Table 4. Participants' specific feedback on the trainings

Variable	Total (n=57) % (n)	Yerevan (n=40) % (n)	Gyumri (n=17) % (n)	p-value
Positive aspects of the training				
Clear content	38.18 (21)	25.00 (10)	73.33 (11)	0.004
High quality of trainers	10.91 (6)	7.50 (3)	20.00 (3)	0.179
Teaching style	16.36 (9)	2.50 (1)	53.33 (8)	<0.001
Up-to-date information	14.55 (8)	12.50 (5)	20.00 (3)	0.350
Well-organized training	10.91 (6)	10.00 (4)	13.33 (2)	0.350
Other	81.82 (45)	80.00 (32)	86.67 (13)	0.310
Negative aspects of the training				
Short duration of the training	32.50 (13)	30.00 (9)	40.00 (4)	0.743
Other	30.00 (12)	30.00 (9)	30.00 (3)	0.678
Skills or lessons learned during the training that will be taken back to worksite/practice				
Motivational interviewing skills	61.40 (35)	57.50 (23)	70.59 (12)	0.245
Conselling skills	15.79 (9)	15.00 (6)	17.65 (3)	0.254
Pharmacotherapy	58.93 (33)	50.00 (20)	81.25 (13)	0.092
CO monitor measurments	7.02 (4)	2.50 (1)	17.65 (3)	0.045
Relapse prevention	8.77 (5)	7.50 (3)	11.76 (2)	0.238
Other	29.82 (17)	25.00 (10)	41.18 (7)	0.190

Table 5. Pre-and post-training test responses

Questions	Pre-training (n=58) % (n)	Post-training (n=58) % (n)	p-value	
Ex-smoker is a person who				
1. has not smoked more than 100 cigarettes in his/her life-time	3.45 (2)	22.41 (13)	<0.001	
2. has smoked, but not on a daily basis	0 (0)	0 (0)		
3. has quit smoking at least six months ago*	74.14 (43)	75.86 (44)		
4. has quit smoking at least two months ago	22.41 (13)	1.72 (1)		
Relapse is...				
A. a return to regular smoking by someone who has quit				
B. smoking of any number of cigarettes once a week				
C. smoking less than one cigarette per day in up to three days in one week before any scheduled visit				
D. regular smoking for at least three days after a period of at least 24 hours without any smoking				
	1 A.B	36.21 (21)	0 (0)	<0.001
	2 A.C	8.62 (5)	6.90 (4)	
	3 A.D	34.48 (20)	91.38 (53)	
	4 B.C	10.34 (6)	0 (0)	
	<i>checked only one option</i>	8.63 (5)	1.72 (1)	
	<i>missing</i>	1.72 (1)	0 (0)	
Which one is TRUE about motivational interviewing?				
1. should be offered only to those smokers who want to quit	15.52 (9)	5.17 (3)	0.164	
2. counselor should provide a patient/smoker with an advice on changing smoking behavior	29.31(17)	32.76 (19)		
3. aims to promote initial motivation for smoking cessation	43.10 (25)	48.28 (28)		
4. is applicable only for tobacco dependence treatment	6.90 (4)	13.79 (8)		
	<i>checked more than one option</i>	3.45 (2)		0 (0)
	<i>missing</i>	1.72 (1)		0 (0)

Questions		Pre-training (n=58) % (n)	Post-training (n=58) % (n)	p-value
Which of the following is TRUE about tobacco-related mortality?				
1. tobacco kills around 3 million people each year		24.14 (14)	8.62 (5)	
2. 50-60 % of smokers die because of tobacco- related disease		50.00 (29)	67.24 (39)	
3. approximately 50% of tobacco- related deaths occur in low- and middle-income countries		10.34 (6)	6.90 (4)	0.072
4. by 2030, there will be around 5 million deaths every year		12.07 (7)	15.52 (9)	
	<i>checked more than one option</i>	0 (0)	1.72 (1)	
	<i>missing</i>	3.45 (2)	0 (0)	
Which of the following is FALSE about nicotine?				
1. nicotine is a drug able to induce an addiction as strong as that of heroin or cocaine		31.03 (18)	8.62 (5)	
2. nicotine is carcinogen		29.31 (17)	84.48 (49)	
3. inhaled nicotine reaches the arterial blood circulation of the brain via the lungs in as little as 7 seconds		5.17 (3)	3.45 (2)	<0.001
4. the half-life of nicotine is about 120 minutes		31.03 (18)	3.45 (2)	
	<i>checked more than one option</i>	3.45 (2)	0 (0)	
	<i>missing</i>	0 (0)	0 (0)	
Withdrawal symptoms reach their maximum intensity in the first 24 to 72 hours.				
	True	96.55 (56)	98.28 (57)	0.496
	False	3.45 (2)	1.72 (1)	
	Missing	0 (0)	0 (0)	
Craving usually lasts:				
1. 24-72 hours		55.17 (32)	29.31 (17)	
2. 3-5 minutes		15.52 (9)	68.97 (40)	
3. 3-5 hours		8.62 (5)	0 (0)	
4. 3-5 days		17.24 (10)	1.72 (1)	<0.001
	<i>checked more than one option</i>	1.72 (1)	0 (0)	
	<i>missing</i>	1.72 (1)	0 (0)	

Questions		Pre-training (n=58) % (n)	Post-training (n=58) % (n)	p-value
Please choose the correct order of 5 A's components				
1. assess, advise, ask, arrange, assist		6.90 (4)	0 (0)	<0.001
2. ask, assess, advice, assist, arrange		55.17 (32)	27.59 (16)	
3. ask, advice, assess, assist, arrange		13.79 (8)	72.41 (42)	
4. arrange, ask, advice, assess, assist		1.72 (1)	0 (0)	
5. assess, advice, assist, ask, arrange		13.79 (8)	0 (0)	
	<i>missing</i>	8.62 (5)	0 (0)	
The combination of counseling and pharmacotherapy is the most effective method for treating nicotine dependence and should be offered to each patient trying to quit.				
	True	51.72 (30)	96.55 (56)	<0.001
	False	44.83 (26)	3.45 (2)	
	<i>missing</i>	3.45 (2)	0 (0)	
Which of the following is the most effective for treating tobacco dependence?				
1. Nicotine gum		8.62 (5)	0 (0)	<0.001
2. Bupropion		3.45 (2)	1.72 (1)	
3. Combination nicotine replacement therapy (NRT)		67.24 (39)	77.59 (45)	
4. Nicotine patch		1.72 (1)	0 (0)	
5. Cytisine		3.45 (2)	18.97 (11)	
	<i>missing</i>	15.52 (9)	1.72 (1)	
Which questions are used in shorter version of Fagerström Test for nicotine dependence to assess nicotine dependence level?				
A. How soon after you wake up do you smoke your first cigarette?				<0.001
B. Do you find it difficult to refrain from smoking in places where it is forbidden (e.g., in church, in the cinema, in the train, in the restaurant, etc.)?				
C. How many cigarettes do you smoke per day?				
D. Do you smoke more frequently during the first hours after waking than during the rest of the day?				
	1 A. B	13.79 (8)	1.72 (1)	
	2 A.C	39.66 (23)	91.38 (53)	

Questions	Pre-training (n=58) % (n)	Post-training (n=58) % (n)	p-value
3 A.D	12.06 (7)	6.90 (4)	
4 B.C	6.90 (4)	0 (0)	
<i>checked only one option</i>	6.90 (4)	0 (0)	
<i>missing</i>	20.69 (12)	0 (0)	
Which is the most commonly reported side effect associated with Varenicline?			
1. Visual disturbance	1.72 (1)	0 (0)	<0.001
2. Nausea	41.38 (24)	91.38 (53)	
3. Headache	17.24 (10)	0 (0)	
4. Insomnia	5.17 (3)	8.62 (5)	
<i>checked more than one option</i>	0 (0)	0 (0)	
<i>missing</i>	34.48 (20)	0 (0)	
What is the mechanism of action of Cytisine?			
1. Blocks nicotinic acetylcholine receptors and inhibits the re-uptake of noradrenaline and dopamine in the synapses	24.14 (14)	17.24 (10)	<0.001
2. as a type of nicotine replacement therapy it delivers nicotine to the body	17.24 (10)	1.72 (1)	
3. agonist of $\alpha 4\beta 2$ nicotinic acetylcholine receptors	6.90 (4)	5.17 (3)	
4. partial agonist of $\alpha 4\beta 2$ nicotinic acetylcholine receptors	1.72 (1)	72.41 (42)	
<i>checked more than one option</i>	0 (0)	1.72 (1)	
<i>missing</i>	50.00 (29)	1.72 (1)	
Which of the following is true about nicotine gum?			
1. should be used as ordinary chewing gum	13.79 (8)	0 (0)	<0.001
2. shouldn't eat or drink 15 minutes before or during use of the gum	34.48 (20)	93.10 (54)	
3. initial dose is 1-2 gum per 4 hours	8.62 (5)	6.90 (4)	
4. can cause allergic reactions	8.62 (5)	0 (0)	
<i>checked more than one option</i>	1.72 (1)	0 (0)	
<i>missing</i>	32.76 (19)	0 (0)	

*Correct answers are **highlighted**

Table 6. Pre-and post-training test scores

		Pre-training score	Post-training score	Post and pre- training score difference	p-value*
Total (n=58)	Mean	5.93	11.29	5.36	≤0.001
	SD	2.01	1.83	2.34	
	Range	1-11	4-14	-3-11	
Group 1 n=19 (32.8%)	Mean	6.26	11.21	4.94	≤0.001
	SD	1.76	1.39	2.27	
	Range	3-9	8-13	0-8	
Group 2** n=18 (31.0%)	Mean	6.33	11.83	5.50	≤0.001
	SD	1.57	1.72	1.46	
	Range	3-8	7-14	3-8	
Group 3 n=21 (36.2%)	Mean	5.28	10.90	5.61	≤0.001
	SD	2.45	2.21	2.99	
	Range	1-11	4-14	-3-11	

* Paired t-test

**Gyumri

Table 7. Participants' knowledge about tobacco dependence treatment

Statement <i>Please indicate if the following statements are true or false</i>		Total (n=108) % (n)	Intervention (n=57) % (n)	Control (n=51) % (n)	p-value
Patients should only be asked about their smoking history if they have a smoking related disease/ illness.	True	13.89 (15)	14.04 (8)	13.73 (7)	0.319
	False	82.41 (89)	84.21 (48)	80.39 (41)	
	Don't know	1.85 (2)	0.00 (0)	3.92 (2)	
Most smokers will successfully quit smoking on their own without assistance.	True	12.96 (14)	8.77 (5)	17.65 (9)	0.166
	False	71.30 (77)	71.93 (41)	70.59 (36)	
	Don't know	12.96 (14)	17.54 (10)	7.84 (4)	
Patients who have their first cigarette within half an hour of waking are likely to be less dependent on nicotine than patients who have it much later in the day.	True	16.67 (18)	14.04 (8)	19.61 (10)	0.215
	False	58.33 (63)	66.67 (38)	49.02 (25)	
	Don't know	24.07 (26)	19.30 (11)	29.41 (15)	
Smoking cessation advice given by a health professional to a patient increases the patient's chances of quitting.	True	89.81 (97)	91.23 (52)	88.24 (45)	0.868
	False	1.85 (2)	1.75 (1)	1.96 (1)	
	Don't know	8.33 (9)	7.02 (4)	9.80 (5)	
When advising patients to stop smoking, the advice should never be linked to the patient's current health/illness.	True	87.04 (94)	91.23 (52)	82.35 (42)	0.170
	False	12.96 (14)	8.77 (5)	17.65 (9)	
	Don't know	0.00 (0)	0.00 (0)	0.00 (0)	
Counseling patients on smoking cessation includes assisting the patient to set a quit date.	True	56.48 (61)	61.40 (35)	50.98 (26)	0.570
	False	14.81 (16)	12.28 (7)	17.65 (9)	
	Don't know	27.78 (30)	26.32 (15)	29.41 (15)	
A common withdrawal symptom that occurs after quitting smoking is weight loss.	True	9.26 (10)	3.51 (2)	15.69 (8)	0.055
	False	73.15 (79)	75.44 (43)	70.59 (36)	
	Don't know	16.67 (18)	21.05 (12)	11.76 (6)	
Most of the withdrawal symptoms from smoking cessation disappear within 4 weeks of abstinence.	True	55.56 (60)	57.89 (33)	52.94 (27)	0.483
	False	12.04 (13)	8.77 (5)	15.69 (8)	
	Don't know	30.56 (33)	33.33 (19)	27.45 (14)	

Statement		Total (n=108) % (n)	Intervention (n=57) % (n)	Control (n=51) % (n)	p-value
<i>Please indicate if the following statements are true or false</i>					
Follow-up appointments should be made for the patients who are willing to stop smoking within the first week after quitting.	True	70.37 (76)	78.95 (45)	60.78 (31)	0.102
	False	7.41 (8)	3.51 (2)	11.76 (6)	
	Don't know	19.44 (21)	15.79 (9)	23.53 (12)	
There is no need of advising elderly patients who smoke (those above 60 years) to quit as the damage from smoking is already present and cannot be reversed.	True	15.74 (17)	7.02 (4)	25.49 (13)	0.019
	False	79.63 (86)	85.96 (49)	72.55 (37)	
	Don't know	4.63 (5)	7.02 (4)	1.96 (1)	
Smoking is a chronic disorder associated with relapse.	True	84.26 (91)	85.96 (49)	82.35 (42)	0.977
	False	8.33 (9)	8.77 (5)	7.84 (4)	
	Don't know	5.56 (6)	5.26 (3)	5.88 (3)	
Nicotine replacement therapies are contraindicated for people with cardiovascular disease.	True	28.70 (31)	21.05 (12)	37.25 (19)	0.130
	False	36.11 (39)	42.11 (24)	29.41 (15)	
	Don't know	33.33 (36)	36.84 (21)	29.41 (15)	
Smokers who quit at any age reduce their risk of premature death.	True	92.59 (100)	89.47 (51)	96.08 (49)	0.196
	False	5.56 (6)	8.77 (5)	1.96 (1)	
	Don't know	0.93 (1)	1.75 (1)	0.00 (0)	
Nicotine is as addictive as other drugs such as heroin or cocaine.	True	61.11 (66)	61.40 (35)	60.78 (31)	0.743
	False	26.85 (29)	29.82 (17)	23.53 (12)	
	Don't know	10.19 (11)	8.77 (5)	11.76 (6)	
Use of nicotine patch increases successful quitting.	True	62.96 (68)	61.40 (35)	64.71 (33)	0.145
	False	7.41 (8)	3.51 (2)	11.76 (6)	
	Don't know	27.78 (30)	33.33 (19)	21.57 (11)	
Medication is effective only when accompanied by counseling.	True	90.74 (98)	91.23 (52)	90.20 (46)	0.853
	False	0.00 (0)	0.00 (0)	0.00 (0)	
	Don't know	9.26 (10)	8.77 (5)	9.80 (5)	
Knowledge score*	Mean	9.98	10.35	9.57	0.095
	SD	2.43	2.39	2.43	
	Percent score	62.38	64.69	59.80	

* Max possible score was 16.

Table 8. Participants' knowledge about tobacco dependence treatment: baseline vs. follow-up (paired analysis)

Statement <i>Please indicate if the following statements are true or false</i>	Intervention (n=57)			Control (n=48)			
	Baseline % (n)	Follow-up % (n)	p-value	Baseline % (n)	Follow-up % (n)	p-value	
Patients should only be asked about their smoking history if they have a smoking related disease/ illness.	True/Don't know	14.04 (8)	10.53 (6)	0.739	14.59 (7)	20.83 (10)	0.366
	False	84.21 (48)	87.72 (50)		83.33 (40)	77.08 (37)	
Most smokers will successfully quit without assistance.	True/Don't know	26.31 (15)	10.52 (6)	0.013	22.92 (11)	18.75 (9)	0.439
	False	71.93 (41)	89.47 (51)		72.92 (35)	81.25 (39)	
Patients who have their first cigarette within half an hour of waking are likely to be less dependent on nicotine than patients who have it much later in the day.	True/Don't know	33.34 (19)	14.03 (8)	0.012	50.00 (24)	37.50 (18)	0.157
	False	66.67 (38)	84.21 (48)		47.92 (23)	60.42 (29)	
Smoking cessation advice given by a health professional to a patient increases the patient's chances of quitting.	True	91.23 (52)	96.49 (55)	0.103	87.50 (42)	87.50 (42)	1.000
	False/Don't know	8.77 (5)	1.75 (1)		12.50 (6)	12.50 (6)	
When advising patients to stop smoking, the advice should never be linked to the patient's current health/illness.	True/Don't know	91.23 (52)	92.98 (53)	0.706	83.33 (40)	87.50 (42)	0.206
	False	8.77 (5)	7.02 (4)		16.67 (8)	8.33 (4)	
Counseling patients on smoking cessation includes assisting the patient to set a quit date.	True	61.40 (35)	82.46 (47)	0.007	52.08 (25)	58.33 (28)	0.655
	False/Don't know	38.60 (22)	14.04 (8)		45.81 (22)	41.67 (20)	
A common withdrawal symptom that occurs after quitting smoking is weight loss.	True/Don't know	24.56 (14)	26.31 (15)	0.842	25.00 (12)	31.25 (15)	0.491
	False	75.44 (43)	71.93 (41)		72.92 (35)	68.75 (33)	

Statement <i>Please indicate if the following statements are true or false</i>	Intervention (n=57)			Control (n=48)			
	Baseline % (n)	Follow-up % (n)	p-value	Baseline % (n)	Follow-up % (n)	p-value	
Most of the withdrawal symptoms from smoking cessation disappear within 4 weeks of abstinence.	True	57.89 (33)	92.98 (53)	<0.001	52.08 (25)	54.17 (26)	1.000
	False/Don't know	42.10 (24)	1.75 (1)		45.84 (22)	45.84 (22)	
Follow-up appointments should be made for the patients who are willing to stop smoking within the first week after quitting.	True	78.95 (45)	91.23 (52)	0.021	62.50 (30)	81.25 (39)	0.046
	False/Don't know	19.30 (11)	3.51 (2)		33.33 (16)	18.75 (9)	
There is no need of advising elderly patients who smoke (those above 60 years) to quit as the damage from smoking is already present and cannot be reversed.	True/Don't know	14.04 (8)	7.02 (4)	0.103	27.08 (13)	27.08 (13)	1.000
	False	85.96 (49)	91.23 (52)		72.92 (35)	72.92 (35)	
Smoking is a chronic disorder associated with relapse.	True	85.96 (49)	96.49 (55)	0.034	83.33 (40)	87.50 (42)	0.739
	False/Don't know	14.03 (8)	3.51 (2)		12.50 (6)	10.42 (5)	
Nicotine replacement therapies are contraindicated for people with cardiovascular disease.	True/Don't know	57.89 (33)	14.03 (8)	<0.001	66.67 (32)	78.72 (37)	0.134
	False	42.11 (24)	80.70 (46)		29.17 (14)	17.02 (8)	
Smokers who quit smoking at any age reduce their risk of premature death.	True	89.47 (51)	98.25 (56)	0.014	95.83 (46)	89.58 (43)	0.180
	False/Don't know	10.52 (6)	0.00 (0)		2.08 (1)	8.33 (4)	
Nicotine is as addictive as other drugs such as heroin or cocaine.	True	61.40 (35)	78.95 (45)	0.018	62.50 (30)	70.83 (34)	0.467
	False/Don't know	38.59 (21)	19.30 (11)		33.33 (16)	29.16 (14)	
Use of nicotine patch increases successful quitting.	True	61.40 (35)	94.74 (54)	< 0.001	64.58 (31)	68.75 (33)	0.670
	False/Don't know	36.84 (21)	3.51 (2)		33.34 (16)	31.25 (15)	

Statement <i>Please indicate if the following statements are true or false</i>	Intervention (n=57)			Control (n=48)			
	Baseline % (n)	Follow-up % (n)	p-value	Baseline % (n)	Follow-up % (n)	p-value	
Medication is effective only when accompanied by counseling.							
	True/Don't know	100.00 (57)	98.24 (56)	0.317	100.00 (48)	97.92 (47)	0.317
	False	0.00 (0)	1.75 (1)		0.00 (0)	2.08 (1)	
Knowledge score*							
	Mean	10.23	12.46	< 0.001	9.56	9.85	0.529
	SD	2.46	1.57		2.43	2.48	
	Percent score	63.93	77.85		59.77	61.59	

*Max possible score was 16.

Table 9. Participants' knowledge about smoking cessation medications

Which of the following medications are recommended for the treatment of tobacco dependence in smoking patients (YES for those that are recommended and NO for those not recommended)		Total (n=108) % (n)	Intervention (n=57) % (n)	Control (n=51) % (n)	p-value
Nicotine gum					
Yes		74.07 (80)	82.46 (47)	64.71 (33)	0.093
No		5.56 (6)	1.75 (1)	9.80 (5)	
Don't know		18.52 (20)	15.79 (9)	21.57 (11)	
Nicotine patch					
Yes		74.07 (80)	80.70 (46)	66.67 (34)	0.085
No		6.48 (7)	1.75 (1)	11.76 (6)	
Don't know		16.67 (18)	15.79 (9)	17.65 (9)	
Nicotine syrup					
Yes		20.37 (22)	26.32 (15)	13.73 (7)	0.355
No		23.15 (25)	24.56 (14)	21.57 (11)	
Don't know		48.15 (52)	45.61 (26)	50.98 (26)	
Nicotine lozenges					
Yes		40.74 (44)	49.12 (28)	31.37 (16)	0.300
No		12.96 (14)	12.28 (7)	13.73 (7)	
Don't know		40.74 (44)	36.84 (21)	45.10 (23)	
Bupropion tablets					
Yes		12.04 (13)	15.79 (9)	7.84 (4)	0.157
No		15.74 (17)	10.53 (6)	21.57 (11)	
Don't know		62.96 (68)	66.67 (38)	58.82 (30)	
Carbamazepine tablets					
Yes		3.70 (4)	5.26 (3)	1.96 (1)	0.250
No		43.52 (47)	50.88 (29)	35.29 (18)	
Don't know		43.52 (47)	38.60 (22)	49.02 (25)	
Cytisine					
Yes		12.04 (13)	19.30 (11)	3.92 (2)	0.071
No		30.56 (33)	29.82 (17)	31.37 (16)	
Don't know		48.15 (52)	45.61 (26)	50.98 (26)	
Medication knowledge score*					
Mean		2.80	3.23	2.31	0.002
SD		1.59	1.60	1.44	
Percent score		39.95	46.12	33.05	

* Max possible score was 7.

Table 10. Participants' knowledge about smoking cessation medications: baseline vs. follow-up (paired analysis)

Which of the following medications are recommended for the treatment of tobacco dependence (YES for recommended and NO for not recommended)	Intervention (n=57)			Control (n=48)			
	Baseline % (n)	Follow-up % (n)	p-value	Baseline % (n)	Follow-up % (n)	p-value	
Nicotine gum	Yes	82.46 (47)	98.25 (56)	0.002	66.67 (32)	75.00 (36)	0.317
	No/Don't know	17.54 (10)	0.00 (0)		29.16 (14)	18.75 (9)	
Nicotine patch	Yes	80.70 (46)	98.25 (56)	0.007	68.75 (33)	77.08 (37)	0.593
	No/Don't know	17.54 (10)	1.75 (1)		27.09 (13)	18.75 (9)	
Nicotine syrup	Yes/Don't know	71.93 (41)	36.84 (21)	0.001	64.58 (31)	60.42 (29)	0.739
	No	24.56 (14)	43.86 (25)		20.83 (10)	27.08 (13)	
Nicotine lozenges	Yes	49.12 (28)	73.68 (42)	0.002	31.25 (15)	50.00 (24)	0.025
	No/Don't know	49.12 (28)	21.05 (12)		58.33 (28)	41.67 (20)	
Bupropion tablets	Yes	15.79 (9)	77.19 (44)	<0.001	8.33 (4)	10.42 (5)	0.655
	No/Don't know	77.20 (44)	10.53 (6)		79.16 (38)	79.16 (38)	
Carbamezapine tablets	Yes/Don't know	43.86 (25)	5.26 (3)	<0.001	50.00 (24)	60.42 (29)	0.285
	No	50.88 (29)	75.44 (43)		35.42 (17)	29.17 (14)	
Cytisine	Yes	19.30 (11)	84.21 (48)	<0.001	4.17 (2)	10.42 (5)	0.157
	No/Don't know	75.43 (43)	12.28 (7)		81.25 (39)	79.16 (38)	
Medication knowledge score*	Mean	3.23	5.51	< 0.001	2.35	2.79	0.120
	SD	1.60	1.15		1.44	1.49	
	Percent score	46.12	78.70		33.63	39.88	

* Max possible score was 7

Table 11. Participants' attitude towards tobacco dependence treatment

Statement		Total (n=108) % (n)	Intervention (n=57) % (n)	Control (n=51) % (n)	p-value
<i>Please indicate if you agree or disagree with the following statements.</i>					
I consider nicotine/tobacco dependence as a chronic relapsing disease, thus I diagnose and treat tobacco dependence as any other chronic disease.	Agree	81.48 (88)	89.47 (51)	72.55 (37)	0.015
	Disagree	14.81 (16)	7.02 (4)	23.53 (12)	
It is my responsibility to assist patients to stop smoking.	Agree	99.07 (107)	100.00 (57)	98.04 (50)	0.288
	Disagree	0.93 (1)	0.00 (0)	1.96 (1)	
It is my responsibility to routinely ask about patient's smoking habits.	Agree	93.52 (101)	100.00 (57)	86.27 (44)	0.013
	Disagree	4.63 (5)	0.00 (0)	9.80 (5)	
It is my responsibility to routinely advise smoking patients to quit smoking.	Agree	99.07 (107)	98.25 (56)	100.00 (51)	0.342
	Disagree	0.93 (1)	1.75 (1)	0.00 (0)	
I serve as role model for my patients and the public.	Agree	93.52 (101)	92.98 (53)	94.12 (48)	0.498
	Disagree	5.56 (6)	7.02 (4)	3.92 (2)	
A patient's chances of quitting smoking are doubled if I advise him/her to quit.	Agree	75.00 (81)	75.44 (43)	74.51 (38)	0.911
	Disagree	25.00 (27)	24.56 (14)	25.49 (13)	
It's not worth discussing benefits of smoking cessation with patients as patients already know they should quit.	Agree	28.70 (31)	22.81 (13)	35.29 (18)	0.133
	Disagree	70.37 (76)	77.19 (44)	62.75 (32)	
It is my responsibility to motivate patients to stop smoking.	Agree	91.67 (99)	91.23 (52)	92.16 (47)	0.813
	Disagree	6.48 (7)	7.02 (4)	5.88 (3)	
My patients' acute health problems take precedence over smoking cessation counseling/advice.	Agree	17.59 (19)	5.26 (3)	31.37 (16)	0.001
	Disagree	80.56 (87)	91.23 (52)	68.63 (35)	
Patients are not receptive to receiving smoking cessation assistance from healthcare providers.	Agree	14.81 (16)	10.53 (6)	19.61 (10)	0.157
	Disagree	83.33 (90)	89.47 (51)	76.47 (39)	
Smoking Cessation counseling improves my relationship with patients.	Agree	79.63 (86)	82.46 (47)	76.47 (39)	0.441
	Disagree	20.37 (22)	17.54 (10)	23.53 (12)	

Statement		Total (n=108) % (n)	Intervention (n=57) % (n)	Control (n=51) % (n)	p-value
<i>Please indicate if you agree or disagree with the following statements.</i>					
Quitting smoking is an individual choice. It's not up me to advice a patient to quit smoking.	Agree	5.56 (6)	5.26 (3)	5.88 (3)	0.869
	Disagree	93.52 (101)	94.74 (54)	92.16 (47)	
I do not have sufficient time to provide advice and counseling to all my patients who smoke during routine consultations.	Agree	21.30 (23)	12.28 (7)	31.37 (16)	0.011
	Disagree	76.85 (83)	87.72 (50)	64.71 (33)	
It is uncomfortable to counsel my smoking patients on quitting smoking.	Agree	0.93 (1)	0.00 (0)	0.00 (0)	-
	Disagree	99.07 (107)	100.00 (57)	98.04 (50)	
Counseling on health harms from smoking usually helps with smoking cessation.	Agree	91.67 (99)	92.98 (53)	90.20 (46)	0.889
	Disagree	3.70 (4)	3.51 (2)	3.92 (2)	
I should help patients who are motivated to stop smoking.	Agree	93.52 (101)	96.49 (55)	90.20 (46)	0.132
	Disagree	4.63 (5)	1.75 (1)	7.84 (4)	
I should monitor patients' progress in attempting to quit.	Agree	87.96 (95)	96.49 (55)	78.43 (40)	0.007
	Disagree	11.11 (12)	3.51 (2)	19.61 (10)	
I should discuss relapse with patients.	Agree	94.44 (102)	98.25 (56)	90.20 (46)	0.127
	Disagree	4.63 (5)	1.75 (1)	7.84 (4)	
Attitude score*	Mean	15.84	16.54	15.06	<0.001
	SD	2.18	1.44	2.57	
	Percent score	88.01	91.91	83.66	

*Max possible score was 18.

Table 12. Participants' attitude towards tobacco dependence treatment: baseline vs. follow-up (paired analysis)

Statement <i>Please indicate if you agree or disagree with the following statements.</i>	Intervention (n=57)			Control (n=48)		
	Baseline % (n)	Follow-up % (n)	p-value	Baseline % (n)	Follow-up % (n)	p-value
I consider nicotine/tobacco dependence as a chronic relapsing disease, thus I diagnose and treat tobacco dependence as any other chronic disease.			0.046			0.001
	Agree	89.47 (51)	98.25 (56)	72.92 (35)	93.75 (45)	
	Disagree	7.02 (4)	0.00 (0)	22.92 (11)	2.08 (1)	
It is my responsibility to assist patients to stop smoking.			-			0.157
	Agree	100.00 (57)	100.00 (57)	97.92 (47)	93.75 (45)	
	Disagree	0.00 (0)	0.00 (0)	2.08 (1)	6.25 (3)	
It is my responsibility to routinely ask about patient's smoking habits.			0.157			0.180
	Agree	100.00 (57)	96.49 (55)	87.50 (42)	95.83 (46)	
	Disagree	0.00 (0)	3.51 (2)	8.33 (4)	2.08 (1)	
It is my responsibility to routinely advise smoking patients to quit smoking.			0.317			0.317
	Agree	98.25 (56)	100.00 (57)	100.00 (48)	97.92 (47)	
	Disagree	1.75 (1)	0.00 (0)	0.00 (0)	2.08 (1)	
I serve as role model for my patients and the public.			0.655			0.655
	Agree	92.98 (53)	91.23 (52)	93.75 (45)	93.75 (45)	
	Disagree	7.02 (4)	7.02 (4)	4.17 (2)	6.25 (3)	
A patient's chances of quitting smoking are doubled if I advise him/her to quit.			0.071			0.059
	Agree	75.44 (43)	87.72 (50)	77.08 (37)	87.50 (42)	
	Disagree	24.56 (14)	12.28 (7)	22.92 (11)	12.50 (6)	

Statement <i>Please indicate if you agree or disagree with the following statements.</i>	Intervention (n=57)			Control (n=48)			
	Baseline % (n)	Follow-up % (n)	p-value	Baseline % (n)	Follow-up % (n)	p-value	
It's not worth discussing benefits of smoking cessation with patients as patients already know they should quit.							
	Agree	22.81 (13)	21.05 (12)	0.808	31.25 (15)	35.42 (17)	0.655
	Disagree	77.19 (44)	78.95 (45)		66.67 (32)	64.58 (31)	
It is my responsibility to motivate patients to stop smoking.							
	Agree	91.23 (52)	98.25 (56)	0.046	91.67 (44)	93.75 (45)	1.000
	Disagree	7.02 (4)	1.75 (1)		6.25 (3)	6.25 (3)	
My patients' acute health problems take precedence over smoking cessation counseling/advice.							
	Agree	5.26 (3)	7.02 (4)	0.655	31.25 (15)	14.58 (7)	0.059
	Disagree	91.23 (52)	92.98 (53)		68.57 (33)	85.42 (41)	
Patients are not receptive to receiving smoking cessation assistance from healthcare providers.							
	Agree	10.53 (6)	10.53 (6)	1.000	20.83 (10)	20.83 (10)	1.000
	Disagree	89.47 (51)	89.47 (51)		75.00 (36)	79.17 (38)	
Smoking cessation counseling improves my relationship with patients.							
	Agree	82.46 (47)	89.47 (51)	0.206	77.08 (37)	68.75 (33)	0.366
	Disagree	17.54 (10)	10.53 (6)		22.92 (11)	29.17 (14)	
Quitting smoking is an individual choice. It's not up me to advice a patient to quit smoking.							
	Agree	5.26 (3)	3.51 (2)	0.655	4.17 (2)	2.08 (1)	0.564
	Disagree	94.74 (54)	94.74 (54)		93.75 (45)	97.92 (47)	
I do not have sufficient time to provide advice and counseling to all my patients who smoke during routine consultations.							
	Agree	12.28 (7)	35.09 (20)	0.002	29.17 (14)	18.75 (9)	0.166
	Disagree	87.72 (50)	63.16 (36)		66.67 (32)	81.25 (39)	

Statement <i>Please indicate if you agree or disagree with the following statements.</i>	Intervention (n=57)			Control (n=48)		
	Baseline % (n)	Follow-up % (n)	p-value	Baseline % (n)	Follow-up % (n)	p-value
It is uncomfortable to counsel my smoking patients on quitting smoking.	Agree 100.00 (57) Disagree 0.00 (0)	98.25 (56) 1.75 (1)	-	97.92 (47) 2.08 (1)	97.92 (47) 2.08 (1)	-
Counseling on health harms from smoking usually helps with smoking cessation.	Agree 92.98 (53) Disagree 3.51 (2)	96.49 (55) 1.75 (1)	0.564	89.58 (43) 4.17 (2)	91.67 (44) 8.33 (4)	0.414
I should help patients who are motivated to stop smoking.	Agree 96.49 (55) Disagree 1.75 (1)	96.49 (55) 1.75 (1)	1.000	89.58 (43) 8.33 (4)	89.58 (43) 8.33 (4)	1.000
I should monitor patients' progress in attempting to quit.	Agree 96.49 (55) Disagree 3.51 (2)	96.49 (55) 1.75 (1)	0.564	81.25 (39) 16.67 (8)	83.33 (40) 14.58 (7)	1.000
I should discuss relapse with patients.	Agree 98.25 (56) Disagree 1.75 (1)	96.49 (55) 3.51 (2)	1.000	93.75 (45) 4.17 (2)	85.42 (41) 14.58 (7)	0.059
Attitude score*	Mean 16.54 SD 1.44 Percent score 91.91	16.65 1.49 92.50	0.681	15.21 2.53 84.49	15.81 2.61 87.85	0.194

*Max possible score was 18.

Table 13. Participants' practice related to tobacco dependence treatment

In your daily interactions with patients, how often do you perform the following procedures?		Total (n=108) % (n)	Intervention (n=57) % (n)	Control (n=51) % (n)	p-value
ASK					
I ask about the patients smoking status.					
	Never	0.93 (1)	0.00 (0)	1.96 (1)	0.376
	Sometimes	24.07 (26)	21.05 (12)	27.45 (14)	
	Always	74.07 (80)	78.95 (45)	68.63 (35)	
I ask about the number of cigarettes smoked per day.					
	Never	0.93 (1)	0.00 (0)	1.96 (1)	0.499
	Sometimes	27.78 (30)	26.32 (15)	29.41 (15)	
	Always	70.37 (76)	73.68 (42)	66.67 (34)	
I ask about the time of the first cigarette.					
	Never	12.96 (14)	3.51 (2)	23.53 (12)	0.001
	Sometimes	44.44 (48)	57.89 (33)	29.41 (15)	
	Always	39.81 (43)	38.60 (22)	41.18 (21)	
I ask if the patient smokes indoor at home.					
	Never	9.26 (10)	8.77 (5)	9.80 (5)	0.520
	Sometimes	25.00 (27)	21.05 (12)	29.41 (15)	
	Always	64.81 (70)	70.18 (40)	58.82 (30)	
I ask about the previous quit attempts of smoking patients.					
	Never	2.78 (3)	1.75 (1)	3.92 (2)	0.548
	Sometimes	37.04 (40)	33.33 (19)	41.18 (21)	
	Always	59.26 (64)	63.16 (36)	54.90 (28)	
I record the patients smoking history in the medical records.					
	Never	30.56 (33)	24.56 (14)	37.25 (19)	0.295
	Sometimes	39.81 (43)	45.61 (26)	33.33 (17)	
	Always	29.63 (32)	29.82 (17)	29.41 (15)	
In order to diagnose nicotine dependence among smokers I mostly use Classification of tobacco dependence in the ICD10CM.					
	Never	82.41 (89)	89.47 (51)	74.51 (38)	0.545
	Sometimes	7.41 (8)	5.26 (3)	9.80 (5)	
	Always	3.70 (4)	3.51 (2)	3.92 (2)	
ADVISE					
I advise a smoking patient on the need to quit.					
	Never	1.85 (2)	1.75 (1)	1.96 (1)	0.671
	Sometimes	9.26 (10)	7.02 (4)	11.76 (6)	
	Always	87.96 (95)	91.23 (52)	84.31 (43)	
I advise to reduce the number of daily cigarettes.					
	Never	7.41 (8)	3.51 (2)	11.76 (6)	0.250
	Sometimes	32.41 (35)	35.09 (20)	29.41 (15)	
	Always	60.19 (65)	61.40 (35)	58.82 (32)	
I advise to stop smoking abruptly.					
	Never	12.04 (13)	10.53 (6)	13.73 (7)	0.646
	Sometimes	34.26 (37)	38.60 (22)	29.41 (15)	
	Always	51.85 (56)	50.88 (29)	52.94 (27)	

In your daily interactions with patients, how often do you perform the following procedures?		Total (n=108) % (n)	Intervention (n=57) % (n)	Control (n=51) % (n)	p-value
ASSESS					
I assess if patients who smoke are willing to quit at that particular time.					
	Never	12.96 (14)	15.79 (9)	9.80 (5)	0.470
	Sometimes	30.56 (33)	33.33 (19)	27.45 (14)	
	Always	53.70 (58)	49.12 (28)	58.82 (30)	
I ask if the patient intends to stop smoking.					
	Never	1.85 (2)	0.00 (0)	3.92 (2)	0.042
	Sometimes	25.00 (27)	17.54 (10)	33.33 (17)	
	Always	73.15 (79)	82.46 (47)	62.75 (32)	
ASSIST					
I assess nicotine dependence among smokers using the Fagerström nicotine dependence test (FTND) ask					
	Never	77.78 (84)	80.70 (46)	74.51 (38)	0.710
	Sometimes	13.89 (15)	12.28 (7)	15.69 (8)	
	Always	4.63 (5)	3.51 (2)	5.88 (3)	
I discuss the risks of smoking and benefits of quitting smoking with patients.					
	Never	3.70 (4)	1.75 (1)	5.88 (3)	0.373
	Sometimes	19.44 (21)	22.81 (13)	15.69 (8)	
	Always	76.85 (83)	75.44 (43)	78.43 (40)	
I discuss personal barriers to cessation.					
	Never	10.19 (11)	8.77 (5)	11.76 (6)	0.463
	Sometimes	39.81 (43)	45.61 (26)	33.33 (17)	
	Always	49.07 (53)	45.61 (26)	52.94 (27)	
I discuss the use of pharmacological aids such as nicotine replacement therapy with patients.					
	Never	37.04 (40)	40.35 (23)	33.33 (17)	0.204
	Sometimes	41.67 (45)	45.61 (26)	37.25 (19)	
	Always	20.37 (22)	14.04 (8)	27.45 (14)	
I propose to help the patient in quitting.					
	Never	18.52 (20)	17.54 (10)	19.61 (10)	0.677
	Sometimes	39.81 (43)	36.84 (21)	43.14 (22)	
	Always	41.67 (45)	45.61 (26)	37.25 (19)	
I advise on behavioral “tricks”.					
	Never	20.37 (22)	22.81 (13)	17.65 (9)	0.813
	Sometimes	49.07 (53)	47.37 (27)	50.98 (26)	
	Always	29.63 (32)	29.82 (17)	29.41 (15)	
I give a practical advice to prevent relapse.					
	Never	17.59 (19)	22.81 (13)	11.76 (6)	0.192
	Sometimes	36.11 (39)	38.60 (22)	33.33 (17)	
	Always	43.52 (47)	36.84 (21)	50.98 (26)	
I give self-help materials.					
	Never	62.04 (67)	64.91 (37)	58.82 (30)	0.737
	Sometimes	33.33 (36)	29.82 (17)	37.25 (19)	
	Always	3.70 (4)	3.51 (2)	3.92 (2)	

In your daily interactions with patients, how often do you perform the following procedures?		Total (n=108) % (n)	Intervention (n=57) % (n)	Control (n=51) % (n)	p-value
I assist the smoking patient to set up a target quit date.	Never	25.00 (27)	22.81 (13)	27.45 (14)	0.015
	Sometimes	51.85 (56)	43.86 (25)	60.78 (31)	
	Always	19.44 (21)	29.82 (17)	7.84 (4)	
I refer the patient to other specialists.	Never	65.74 (71)	71.93 (41)	58.82 (30)	0.695
	Sometimes	24.07 (26)	26.32 (15)	21.57 (11)	
	Always	0.93 (1)	1.75 (1)	0.00 (0)	
I prescribe Cytisine.	Never	54.63 (59)	66.67 (38)	41.18 (21)	0.029
	Sometimes	37.04 (40)	28.07 (16)	47.06 (24)	
	Always	3.70 (4)	1.75 (1)	5.88 (3)	
I prescribe NRT (gum).	Never	49.53 (53)	51.79 (29)	47.06 (24)	0.904
	Sometimes	38.32 (41)	37.50 (21)	39.22 (20)	
	Always	4.67 (5)	5.36 (3)	3.92 (2)	
I prescribe Varenicline.	Never	84.26 (91)	82.46 (47)	86.27 (44)	0.319
	Sometimes	5.56 (6)	7.02 (4)	3.92 (2)	
	Always	1.85 (2)	3.51 (2)	0.00 (0)	
I prescribe other pharmacological treatment.	Never	85.19 (92)	80.70 (46)	90.20 (46)	0.230
	Sometimes	10.19 (11)	14.04 (8)	5.88 (3)	
	Always	0.93 (1)	1.75 (1)	0.00 (0)	
I use another strategy.	Never	65.74 (71)	63.16 (36)	68.63 (35)	0.432
	Sometimes	21.30 (33)	26.32 (15)	15.69 (8)	
	Always	7.41 (8)	8.77 (5)	5.88 (3)	
ARRANGE					
I set up a follow up appointment to review the progress of patients on quitting smoking.	Never	41.67 (45)	38.60 (22)	45.10 (23)	0.167
	Sometimes	42.59 (46)	40.35 (23)	45.10 (23)	
	Always	14.81 (16)	21.05 (12)	7.84 (4)	
Practice score 1*	Mean	9.92	10.21	9.59	0.521
	SD	5.00	4.86	5.17	
	Percent score	35.43	36.46	34.25	
Practice score 2*	Mean	14.12	14.43	13.77	0.405
	SD	4.06	3.54	4.59	
	Percent score	50.43	51.54	49.18	

*Max possible score was 28

Table 14. Participants' practice related tobacco dependence treatment: baseline vs. follow-up (paired analysis)

In your daily interactions with patients, how often do you perform the following procedures?	Intervention (n=57)			Control (n=48)			
	Baseline % (n)	Follow-up % (n)	p-value	Baseline % (n)	Follow-up % (n)	p-value	
ASK							
I ask about the patients smoking status.							
	Never	0.00 (0)	1.75 (1)	0.973	0.00 (0)	2.08 (1)	0.557
	Sometimes	21.05 (12)	19.30 (11)		27.08 (13)	20.83 (10)	
	Always	78.95 (45)	77.19 (44)		70.83 (34)	77.08 (37)	
I ask about the number of cigarettes smoked per day.							
	Never	0.00 (0)	3.51 (2)	0.104	2.08 (1)	2.08 (1)	0.439
	Sometimes	26.32 (15)	12.28 (7)		27.08 (13)	33.33 (16)	
	Always	73.68 (42)	82.46 (47)		68.75 (33)	64.58 (31)	
I ask about the time of the first cigarette.							
	Never	3.51 (2)	3.51 (2)	0.003	22.92 (11)	10.42 (5)	0.323
	Sometimes	57.89 (33)	31.58 (18)		29.17 (14)	45.83 (22)	
	Always	38.60 (22)	63.16 (36)		41.67 (20)	43.75 (21)	
I ask if the patient smokes indoor at home.							
	Never	8.77 (5)	1.75 (1)	0.051	8.33 (4)	10.42 (5)	0.159
	Sometimes	21.05 (12)	21.05 (12)		29.17 (14)	41.67 (20)	
	Always	70.18 (40)	75.44 (43)		60.42 (29)	43.75 (21)	
I ask about the previous quit attempts of smoking patients.							
	Never	1.75 (1)	0.00 (0)	0.019	0.00 (0)	4.17 (2)	0.771
	Sometimes	33.33 (19)	19.30 (11)		41.67 (20)	37.50 (18)	
	Always	63.16 (36)	80.70 (46)		58.33 (28)	58.33 (28)	
I record the patients smoking history in the medical records.							
	Never	24.56 (14)	17.54 (10)	0.259	35.42 (17)	20.83 (10)	0.173
	Sometimes	45.61 (26)	43.86 (25)		33.33 (16)	43.75 (21)	
	Always	29.82 (17)	38.60 (22)		31.25 (15)	35.42 (17)	

In your daily interactions with patients, how often do you perform the following procedures?	Intervention (n=57)			Control (n=48)		
	Baseline % (n)	Follow-up % (n)	p-value	Baseline % (n)	Follow-up % (n)	p-value
In order to diagnose nicotine dependence among smokers I mostly use Classification of tobacco dependence in the ICD10CM.						
Never	89.47 (51)	43.86 (25)	<0.001	75.00 (36)	70.83 (34)	0.348
Sometimes	5.26 (3)	38.60 (22)		10.42 (5)	14.58 (7)	
Always	3.51 (2)	15.79 (9)		4.17 (2)	6.25 (3)	
ADVISE						
I advise a smoking patient on the need to quit.						
Never	1.75 (1)	0.00 (0)	0.025	2.08 (1)	0.00 (0)	0.404
Sometimes	7.02 (4)	0.00 (0)		8.33 (4)	6.25 (3)	
Always	91.23 (52)	100.00 (57)		89.58 (43)	93.75 (45)	
I advise to reduce the number of daily cigarettes.						
Never	3.51 (2)	10.53 (6)	0.456	12.50 (6)	6.25 (3)	0.627
Sometimes	35.09 (20)	26.32 (15)		27.08 (13)	35.42 (17)	
Always	61.40 (35)	61.40 (35)		60.42 (29)	56.25 (27)	
I advise to stop smoking abruptly.						
Never	10.53 (6)	10.53 (6)	0.855	12.50 (6)	10.42 (5)	0.963
Sometimes	38.60 (22)	40.35 (23)		29.17 (14)	27.08 (13)	
Always	50.88 (29)	49.12 (28)		54.17 (26)	56.25 (27)	
ASSESS						
I assess if patients who smoke are willing to quit at that particular time.						
Never	15.79 (9)	0.00 (0)	0.005	6.25 (3)	8.33 (4)	0.146
Sometimes	33.33 (19)	33.33 (19)		29.17 (14)	43.75 (21)	
Always	49.12 (28)	66.67 (38)		60.42 (29)	47.92 (23)	
I ask if the patient intends to stop smoking.						
Never	0.00 (0)	0.00 (0)	0.414	4.17 (2)	2.08 (1)	0.417
Sometimes	17.54 (10)	14.04 (8)		31.25 (15)	27.08 (13)	
Always	82.46 (47)	85.96 (49)		64.58 (31)	70.83 (34)	

In your daily interactions with patients, how often do you perform the following procedures?	Intervention (n=57)			Control (n=48)		
	Baseline % (n)	Follow-up % (n)	p-value	Baseline % (n)	Follow-up % (n)	p-value
ASSIST						
I assess nicotine dependence among smokers using the Fagerström nicotine dependence test (FTND)						
Never	80.70 (46)	19.30 (11)	<0.001	75.00 (36)	75.00 (36)	0.622
Sometimes	12.28 (7)	35.09 (20)		14.58 (7)	14.58 (7)	
Always	3.51 (2)	43.86 (25)		6.25 (3)	10.42 (5)	
I discuss the risks of smoking and benefits of quitting smoking with patients.						
Never	1.75 (1)	0.00 (0)	0.085	4.17 (2)	4.17 (2)	0.968
Sometimes	22.81 (13)	12.28 (7)		14.58 (7)	12.50 (6)	
Always	75.44 (43)	87.72 (50)		81.25 (39)	83.33 (40)	
I discuss personal barriers to cessation.						
Never	8.77 (5)	3.51 (2)	0.067	8.33 (4)	2.08 (1)	0.859
Sometimes	45.61 (26)	38.60 (22)		35.42 (17)	45.83 (22)	
Always	45.61 (26)	56.14 (32)		54.17 (26)	50.00 (24)	
I discuss the use of pharmacological aids such as nicotine replacement therapy with patients.						
Never	40.35 (23)	5.26 (3)	<0.001	31.25 (15)	25.00 (12)	0.736
Sometimes	45.61 (26)	35.09 (20)		39.58 (19)	60.42 (29)	
Always	14.04 (8)	59.65 (34)		27.08 (13)	14.58 (7)	
I propose to help the patient in quitting.						
Never	17.54 (10)	3.51 (2)	<0.001	16.67 (8)	12.50 (6)	0.362
Sometimes	36.84 (21)	10.53 (6)		45.83 (22)	47.92 (23)	
Always	45.61 (26)	85.96 (49)		37.50 (18)	39.58 (19)	
I advise on behavioral “tricks”.						
Never	22.81 (13)	7.02 (4)	<0.001	14.58 (7)	18.75 (9)	0.298
Sometimes	47.37 (27)	28.07 (16)		54.17 (26)	35.42 (17)	
Always	29.82 (17)	64.91 (37)		29.17 (14)	39.58 (19)	

In your daily interactions with patients, how often do you perform the following procedures?		Intervention (n=57)			Control (n=48)		
		Baseline % (n)	Follow-up % (n)	p-value	Baseline % (n)	Follow-up % (n)	p-value
I give a practical advice to prevent relapse.							
	Never	22.81 (13)	3.51 (2)	<0.001	10.42 (5)	8.33 (4)	0.829
	Sometimes	38.60 (22)	21.05 (12)		33.33 (16)	41.67 (20)	
	Always	36.84 (21)	73.68 (42)		52.08 (25)	50.00 (24)	
I give self-help materials.							
	Never	64.91 (37)	22.81 (13)	<0.001	58.33 (54)	43.75 (21)	0.182
	Sometimes	29.82 (17)	45.61 (26)		37.50 (18)	45.83 (22)	
	Always	3.51 (2)	31.58 (18)		4.17 (2)	4.17 (2)	
I assist the smoking patient to set up a target quit date.							
	Never	22.81 (13)	8.77 (5)	<0.001	25.00 (12)	27.08 (13)	0.184
	Sometimes	43.86 (25)	17.54 (10)		62.50 (30)	39.58 (19)	
	Always	29.82 (17)	73.68 (42)		8.33 (4)	31.25 (15)	
I refer the patient to other specialists.							
	Never	71.93 (41)	49.12 (28)	0.007	56.25 (27)	58.33 (28)	0.564
	Sometimes	26.32 (15)	33.33 (19)		22.92 (11)	31.25 (15)	
	Always	1.75 (1)	7.02 (4)		0.00 (0)	2.08 (1)	
I prescribe Cytisine.							
	Never	66.67 (38)	22.81 (13)	<0.001	41.67 (20)	54.17 (26)	0.582
	Sometimes	28.07 (16)	49.12 (28)		45.83 (22)	31.25 (15)	
	Always	1.75 (1)	24.56 (14)		6.25 (3)	8.33 (4)	
I prescribe NRT (gum).							
	Never	51.79 (29)	15.79 (9)	<0.001	45.83 (22)	45.83 (22)	0.278
	Sometimes	37.50 (21)	54.39 (31)		39.58 (19)	39.58 (19)	
	Always	5.36 (3)	24.56 (14)		4.17 (2)	6.25 (3)	
I prescribe Varenicline.							
	Never	82.46 (47)	50.88 (29)	<0.001	85.42 (41)	77.08 (37)	0.052
	Sometimes	7.02 (4)	35.09 (20)		4.17 (2)	12.50 (6)	
	Always	3.51 (2)	8.77 (5)		0.00 (0)	6.25 (3)	

In your daily interactions with patients, how often do you perform the following procedures?	Intervention (n=57)			Control (n=48)		
	Baseline % (n)	Follow-up % (n)	p-value	Baseline % (n)	Follow-up % (n)	p-value
I prescribe other pharmacological treatment.						
Never	80.70 (46)	71.93 (41)	0.768	91.67 (44)	75.00 (36)	0.003
Sometimes	14.04 (8)	19.30 (11)		4.17 (2)	18.75 (9)	
Always	1.75 (1)	1.75 (1)		0.00 (0)	2.08 (1)	
I use another strategy.						
Never	63.16 (36)	63.16 (36)	0.575	68.75 (33)	47.92 (23)	0.116
Sometimes	26.32 (15)	24.56 (14)		14.58 (7)	35.42 (17)	
Always	8.77 (5)	5.26 (3)		6.25 (3)	4.17 (2)	
ARRANGE						
I set up a follow up appointment to review the progress of patients on quitting smoking.						
Never	38.60 (22)	7.02 (4)	<0.001	41.67 (20)	43.75 (21)	0.448
Sometimes	40.35 (23)	42.11 (24)		47.92 (23)	31.25 (15)	
Always	21.05 (12)	50.88 (29)		8.33 (4)	18.75 (9)	
Practice score 1*						
Mean	10.34	14.96	<0.001	10.03	10.25	0.739
SD	4.74	5.83		4.84	5.19	
Percent score	36.93	53.43		35.82	36.61	
Practice score 2*						
Mean	14.30	18.97	<0.001	13.94	14.88	0.117
SD	3.63	4.07		4.43	4.04	
Percent score	51.07	67.75		49.79	53.14	

*Max possible score was 28.

Table 15. Participants' confidence in providing tobacco dependence treatment

Please rate your confidence in performing the following to help your patients quit smoking:	Total (n=108) % (n)	Intervention (n=57) % (n)	Control (n=51) % (n)	p-value
Educating patients on the general health risks of smoking.				
Not at all confident	3.70 (4)	1.75 (1)	5.88 (3)	0.467
A little confident	18.52 (20)	17.54 (10)	19.61 (10)	
Confident	76.85 (83)	80.70 (46)	72.55 (37)	
Advising smokers on how to quit smoking.				
Not at all confident	10.19 (11)	7.02 (4)	13.73 (7)	0.369
A little confident	25.00 (27)	22.81 (13)	27.45 (14)	
Confident	62.96 (68)	68.42 (39)	56.86 (29)	
Assessing the willingness of the patient to quit smoking.				
Not at all confident	10.19 (11)	10.53 (6)	9.80 (5)	0.858
A little confident	27.78 (30)	29.82 (17)	25.49 (13)	
Confident	62.04 (67)	59.65 (34)	64.71 (33)	
Discussing various smoking cessation options with patients.				
Not at all confident	22.22 (24)	17.54 (10)	27.45 (14)	0.167
A little confident	27.78 (30)	35.09 (20)	19.61 (10)	
Confident	49.07 (53)	47.37 (27)	50.98 (26)	
Recommending appropriate smoking cessation medications for the patient.				
Not at all confident	45.37 (49)	42.11 (24)	49.02 (25)	0.575
A little confident	24.07 (26)	28.07 (16)	19.61 (10)	
Confident	30.56 (33)	29.82 (17)	31.37 (16)	
Motivating patients to consider quitting.				
Not at all confident	12.04 (13)	5.26 (3)	19.61 (10)	0.066
A little confident	27.78 (30)	31.58 (18)	23.53 (12)	
Confident	58.33 (63)	61.40 (35)	54.90 (28)	
Negotiating a target quit date for the patient to stop smoking.				
Not at all confident	33.33 (36)	22.81 (13)	45.10 (23)	0.019
A little confident	27.79 (30)	28.07 (16)	27.45 (14)	
Confident	37.96 (41)	49.12 (28)	25.49 (13)	
Helping recent quitters learn how to cope with withdrawal symptoms.				
Not at all confident	21.30 (23)	15.79 (9)	27.45 (14)	0.295
A little confident	31.48 (34)	35.09 (20)	27.45 (14)	
Confident	44.44 (48)	47.37 (27)	41.18 (21)	
Confidence score*				
Mean	4.22	4.44	3.98	0.367
SD	2.62	2.61	2.65	
Percent score	52.78	55.48	49.75	

* Max possible score was 8.

Table 16. Participants' confidence in providing tobacco dependence treatment: baseline vs. follow-up (paired analysis)

Please rate your confidence in performing the following to help your patients quit smoking:	Intervention (n=57)			Control (n=48)		
	Baseline % (n)	Follow-up % (n)	p-value	Baseline % (n)	Follow-up % (n)	p-value
Educating patients on the general health risks of smoking.						
Not at all confident	1.75 (1)	1.75 (1)	0.024	6.25 (3)	4.17 (2)	0.824
A little confident	17.54 (10)	3.51 (2)		16.67 (8)	20.83 (10)	
Confident	80.70 (46)	94.74 (54)		75.00 (36)	75.00 (36)	
Advising smokers on how to quit smoking.						
Not at all confident	7.02 (4)	0.00 (0)	0.010	10.42 (5)	2.08 (1)	0.016
A little confident	22.81 (13)	12.28 (7)		29.17 (14)	20.83 (10)	
Confident	68.42 (39)	87.72 (50)		58.33 (28)	75.00 (36)	
Assessing the willingness of the patient to quit smoking.						
Not at all confident	10.53 (6)	1.75 (1)	0.029	8.33 (4)	0.00 (0)	0.698
A little confident	29.82 (17)	21.05 (12)		22.92 (11)	31.25 (15)	
Confident	59.65 (34)	77.19 (44)		68.75 (33)	68.75 (33)	
Discussing various smoking cessation options with patients.						
Not at all confident	17.54 (10)	5.26 (3)	<0.001	25.00 (12)	18.75 (9)	0.940
A little confident	35.09 (20)	17.54 (10)		18.75 (9)	33.33 (16)	
Confident	47.37 (27)	77.19 (44)		54.17 (26)	45.83 (22)	
Recommending appropriate smoking cessation medications for the patient.						
Not at all confident	42.11 (24)	5.26 (3)	<0.001	45.83 (22)	20.83 (10)	0.070
A little confident	28.07 (16)	22.81 (13)		20.83 (10)	45.83 (22)	
Confident	29.82 (17)	71.93 (41)		33.33 (16)	31.25 (15)	
Motivating patients to consider quitting.						
Not at all confident	5.26 (3)	1.75 (1)	0.047	16.67 (8)	8.33 (4)	0.041
A little confident	31.58 (18)	21.05 (12)		25.00 (12)	16.67 (8)	
Confident	61.40 (35)	77.19 (44)		56.25 (27)	72.92 (35)	

Please rate your confidence in performing the following to help your patients quit smoking:	Intervention (n=57)			Control (n=48)		
	Baseline % (n)	Follow-up % (n)	p-value	Baseline % (n)	Follow-up % (n)	p-value
Negotiating a target quit date for the patient to stop smoking.						
Not at all confident	22.81 (13)	10.53 (6)	0.001	43.75 (21)	29.17 (14)	0.031
A little confident	28.07 (16)	17.54 (10)		29.17 (14)	27.08 (13)	
Confident	49.12 (28)	71.93 (41)		25.00 (12)	41.67 (20)	
Helping recent quitters learn how to cope with withdrawal symptoms.						
Not at all confident	15.79 (9)	1.75 (1)	0.002	25.00 (12)	12.50 (6)	0.119
A little confident	35.09 (20)	28.07 (16)		29.17 (14)	33.33 (16)	
Confident	47.37 (27)	70.18 (40)		41.67 (20)	50.00 (24)	
Confidence score*						
Mean	4.44	6.28	<0.001	4.13	4.60	0.208
SD	2.61	2.17		2.60	2.47	
Percent score	55.48	78.51		51.56	57.55	

* Max possible score was 8.

Table 17. Barriers in providing tobacco dependence treatment

How would you rate the following as barriers that hinder you from helping patients to stop smoking?	Total (n=108) % (n)	Intervention (n=57) % (n)	Control (n=51) % (n)	p-value
Patients are not interested in receiving smoking cessation information.				
Not a barrier	28.70 (31)	22.81 (13)	35.29 (18)	0.168
Somewhat a barrier	46.30 (50)	45.61 (26)	47.06 (24)	
Important barrier	25.00 (27)	31.58 (18)	17.65 (9)	
Patients do not comply with information given on smoking cessation.				
Not a barrier	9.26 (10)	7.02 (4)	11.76 (6)	0.193
Somewhat a barrier	44.44 (48)	38.60 (22)	50.98 (26)	
Important barrier	46.30 (50)	54.39 (31)	37.25 (19)	
Lack of time/ time with patients is limited.				
Not a barrier	19.44 (21)	12.28 (7)	27.45 (14)	0.056
Somewhat a barrier	50.00 (54)	49.12 (28)	50.98 (26)	
Important barrier	30.56 (33)	38.60 (22)	21.57 (11)	
Patients have more immediate health problems to be addressed.				
Not a barrier	42.59 (46)	36.84 (21)	49.02 (25)	0.311
Somewhat a barrier	38.89 (42)	45.61 (26)	31.37 (16)	
Important barrier	17.59 (19)	17.54 (10)	17.65 (9)	
Lack of smoking cessation specialists to refer patients to for further assistance.				
Not a barrier	18.52 (20)	14.04 (8)	23.53 (12)	0.062
Somewhat a barrier	37.04 (40)	31.58 (18)	43.14 (22)	
Important barrier	43.52 (47)	54.39 (31)	31.37 (16)	
Lack of patient education material (brochures/pamphlets).				
Not a barrier	9.26 (10)	7.02 (4)	11.76 (6)	0.008
Somewhat a barrier	46.30 (50)	35.09 (20)	58.82 (30)	
Important barrier	43.52 (47)	57.89 (33)	27.45 (14)	
Insufficient training on smoking cessation interventions.				
Not a barrier	15.74 (17)	8.77 (5)	23.53 (12)	<0.001
Somewhat a barrier	38.89 (42)	28.07 (16)	50.98 (26)	
Important barrier	45.37 (49)	63.16 (36)	25.49 (13)	
Lack of awareness of smoking cessation Guidelines.				
Not a barrier	12.96 (14)	5.26 (3)	21.57 (11)	0.006
Somewhat a barrier	47.22 (51)	43.86 (25)	50.98 (26)	
Important barrier	38.89 (42)	50.88 (29)	25.49 (13)	
Insufficient knowledge on smoking cessation interventions.				
Not a barrier	11.11 (12)	5.26 (3)	17.65 (9)	0.003
Somewhat a barrier	46.30 (50)	38.60 (22)	54.90 (28)	
Important barrier	41.67 (42)	56.14 (32)	25.49 (13)	

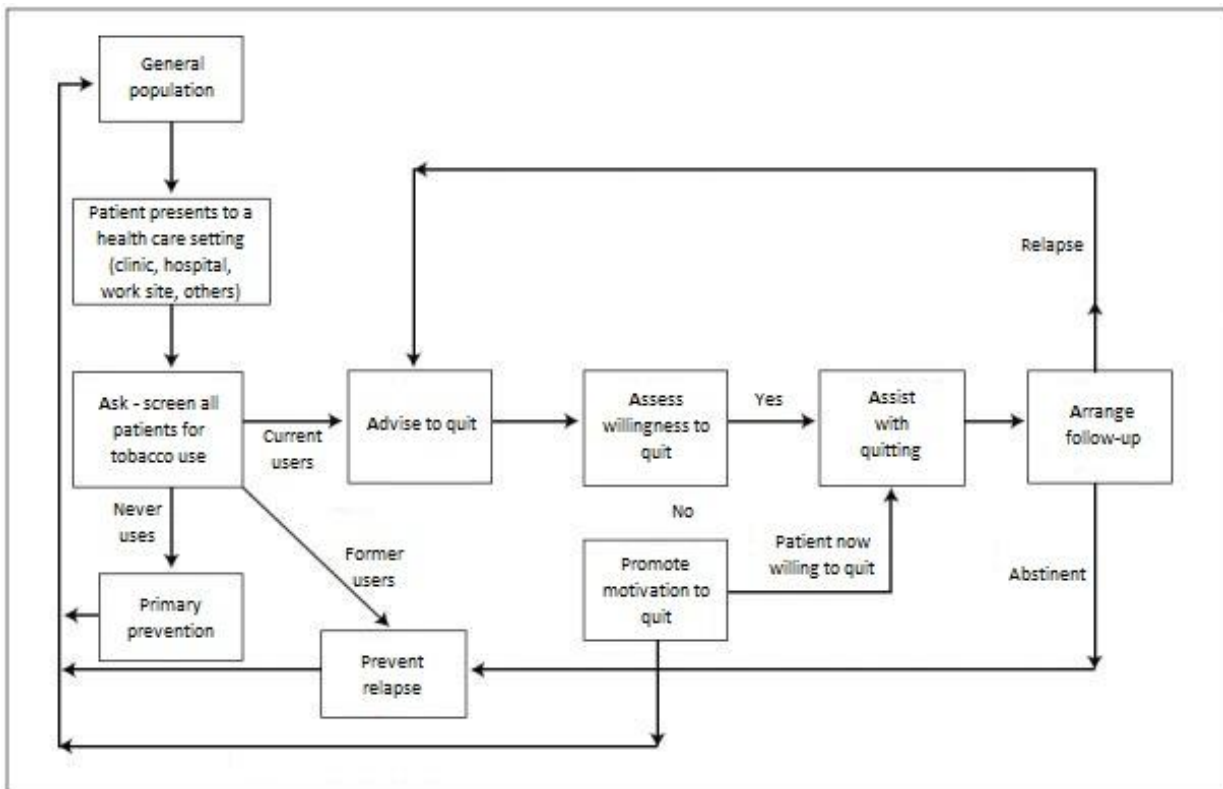
Table 18. Barriers in providing tobacco dependence treatment: baseline vs. follow-up (paired analysis)

How would you rate the following as barriers that hinder you from helping patients to stop smoking?	Intervention (n=57)			Control (n=48)		
	Baseline % (n)	Follow-up % (n)	p-value	Baseline % (n)	Follow-up % (n)	p-value
Patients are not interested in receiving smoking cessation information.						
Not a barrier	22.81 (13)	14.04 (8)	0.359	35.42 (17)	22.92 (11)	0.364
Somewhat a barrier	45.61 (26)	47.37 (27)		45.83 (22)	54.17 (26)	
Important barrier	31.58 (18)	36.84 (21)		18.75 (9)	20.83 (10)	
Patients do not comply with information given on smoking cessation.						
Not a barrier	7.02 (4)	8.77 (5)	0.246	10.42 (5)	6.25 (6)	0.532
Somewhat a barrier	38.60 (22)	47.37 (27)		50.00 (24)	62.50 (30)	
Important barrier	54.39 (31)	42.11 (24)		39.58 (19)	29.17 (14)	
Lack of time/ time with patients is limited.						
Not a barrier	12.28 (7)	7.02 (4)	0.683	25.00 (12)	25.00 (12)	0.367
Somewhat a barrier	49.12 (28)	61.40 (35)		52.08 (25)	39.58 (19)	
Important barrier	38.60 (22)	29.82 (17)		22.92 (11)	33.33 (16)	
Patients have more immediate health problems to be addressed.						
Not a barrier	36.84 (21)	38.60 (2)	0.583	47.92 (23)	43.75 (21)	0.273
Somewhat a barrier	45.61 (26)	49.12 (28)		31.25 (15)	22.92 (11)	
Important barrier	17.54 (10)	10.53 (6)		18.75 (9)	29.17 (14)	
Lack of smoking cessation specialists to refer patients to for further assistance.						
Not a barrier	14.04 (8)	15.79 (9)	0.027	18.75 (9)	10.42 (5)	0.051
Somewhat a barrier	31.58 (18)	52.63 (30)		45.83 (22)	35.42 (17)	
Important barrier	54.39 (31)	29.82 (17)		33.33 (16)	47.92 (23)	

How would you rate the following as barriers that hinder you from helping patients to stop smoking?	Intervention (n=57)			Control (n=48)		
	Baseline % (n)	Follow-up % (n)	p-value	Baseline % (n)	Follow-up % (n)	p-value
Lack of patient education material (brochures/pamphlets).						
Not a barrier	7.02 (4)	1.75 (1)	0.389	10.42 (5)	16.67 (8)	0.273
Somewhat a barrier	35.09 (20)	52.63 (30)		58.33 (28)	35.42 (17)	
Important barrier	57.89 (33)	43.86 (25)		29.17 (14)	45.83 (22)	
Insufficient training on smoking cessation interventions.						
Not a barrier	8.77 (5)	15.79 (9)	0.003	20.83 (10)	12.50 (6)	0.009
Somewhat a barrier	28.07 (16)	50.88 (29)		52.08 (25)	33.33 (16)	
Important barrier	63.16 (36)	29.82 (17)		27.08 (13)	52.08 (25)	
Lack of awareness of smoking cessation Guidelines.						
Not a barrier	5.26 (3)	7.02 (4)	0.191	20.83 (10)	12.50 (6)	0.015
Somewhat a barrier	43.86 (25)	52.63 (30)		50.00 (24)	31.25 (15)	
Important barrier	50.88 (29)	38.60 (22)		27.08 (13)	50.00 (24)	
Insufficient knowledge on smoking cessation interventions.						
Not a barrier	5.26 (3)	12.28 (7)	0.011	16.67 (8)	16.67 (8)	0.114
Somewhat a barrier	38.60 (22)	49.12 (28)		54.17 (26)	35.42 (17)	
Important barrier	56.14 (32)	36.84 (21)		27.08 (13)	45.83 (22)	

APPENDICES

Appendix 1.5 A's model for treatment of tobacco use and dependence



Source: Clinical Practice Guideline: Treating Tobacco Use and Dependence: 2008 Update

Appendix 2. The 2-day training (English and Armenian versions)

Learning Objectives:

Upon completion of the training, participant will be able to:

1. Define smoking as a chronic disease and describe the scope of the problem.
2. Describe the neurobiology of tobacco dependence.
3. Define the role and responsibilities of primary healthcare physicians in tobacco control, particularly in tobacco dependence treatment.
4. Define the fundamental elements of evidence based tobacco treatment delivery and techniques for addressing smoking with patients using the 5 A's, 5 R's, and motivational interviewing skills for smoking cessation in clinical settings.
5. Deliver effective advice to quit smoking to patients.
6. Describe principles in the use of pharmacotherapy and best practices in the use of first-line pharmacotherapy for smoking cessation.
7. Be familiar with the practice tools (Patient tobacco use survey, Documentation and evaluation forms etc.) and protocols for applying them in their practice setting.

Ծխախոտային կախվածության բուժման դասընթաց առողջության առաջնային պահպանման օղակի բուժաշխատողների համար

Դասընթացի նպատակները/խնդիրները:

Դասընթացի ավարտին մասնակիցները կկարողանան՝

1. Ձևակերպել ծխախոտի օգտագործումը որպես քրոնիկ ախտադարձային հիվանդություն և սահմանել խնդրի արդիականությունը:
2. Նկարագրել ծխախոտային կախվածության նյարդակենսաբանական մեխանիզմները:
3. Սահմանել առողջության առաջնային պահպանման օղակի բուժաշխատողների դերը և գործառույթները ծխախոտային կախվածության բուժման գործընթացում:
4. Կլինիկական պրակտիկայում կիրառել ծխախոտային կախվածության բուժման հինգ «A»-երի և հինգ «R»-ի ռազմավարությունը, ինչպես նաև իրականացնել ծխելը դադարեցնելուն ուղղված մոտիվացնող հարցազրույց:
5. Տրամադրել ծխելը դադարեցնելուն ուղղված արդյունավետ համառոտ խորհրդատվություն:
6. Կլինիկական պրակտիկայում կիրառել ծխախոտային կախվածության բուժման առաջին շարքի դեղորայքի օգտագործումը:
7. Կլինիկական պրակտիկայում կիրառել մի շարք աշխատանքային «գործիքներ», ինչպիսիք են՝ ծխախոտի օգտագործման պացիենտի հարցարանը, գրանցման և գնահատման թերթիկները և այլն:

Appendix 3. Training expectation survey (English and Armenian versions)
How well the training course met its objectives?

	Statement	Did not meet at all	Partially meet	Strongly meet
1.	To know about smoking hazards and smoking related disease.	1	2	3
2.	To identify advantages of quitting.	1	2	3
3.	To understand neurobiology of tobacco dependence.	1	2	3
4.	To define the role of primary healthcare physicians in smoking cessation.	1	2	3
5.	To provide smoking cessation counseling depending on the patient's stage of motivation.	1	2	3
6.	To prescribe smoking cessation drugs.	1	2	3
7.	To increase self-confidence and commitment to support patients to quit.	1	2	3

Please share your impressions with the following questions.

		Strongly disagree	Disagree	Agree	Strongly agree
8.	The training was well organized.	1	2	3	4
9.	The training sessions were relevant to my expectations.	1	2	3	4
10.	The training sessions were relevant to my needs.	1	2	3	4
11.	The training enhanced my knowledge and skills in smoking cessation.	1	2	3	4
12.	I expect to use the knowledge and skills gained from this training.	1	2	3	4
13.	The content was well organized and easy to follow.	1	2	3	4
14.	The materials distributed were helpful.	1	2	3	4
15.	The trainer was knowledgeable about the training topics.	1	2	3	4
16.	The teaching quality was high.	1	2	3	4
17.	The course content matched the learning objectives.	1	2	3	4
18.	The trainers were receptive to participant comments and questions.	1	2	3	4
19.	There was enough time allocated for questions and discussion.	1	2	3	4
20.	Overall, I am satisfied with the training course.	1	2	3	4

21. Please list **three positive** aspects of this training?

22. Please list **three negative** aspects of this training?

23. Please list three skills or lessons that you learned during this training that you will take back to your worksite/practice.

a)

b)

c)

24. What information/topics should be added to this training?

25. How could the course be improved?

26. Other comments:

Thank you for completing this form

Դասընթացի գնահատման ձև

Որքանո՞վ է դասընթացը հաջողել իր նպատակներին հասնելու հարցում:

	Հարցադրում	Բոլորովին չի հաջողել	Մասամբ հաջողել է	Լիովին հաջողել է
1.	Իմանալ ծխելու ռիսկերը, ծխելու հետ կապված հիվանդությունները:	1	2	3
2.	Իմանալ ծխելը դադարեցնելու առավելությունները:	1	2	3
3.	Հասկանալ ծխախոտային կախվածության նյարդակենսաբանական մեխանիզմները:	1	2	3
4.	Պատկերացնել բժշկի դերը ծխելը դադարեցնելու գործընթացում:	1	2	3
5.	Տրամադրել ծխելը դադարեցնելուն ուղղված խորհրդատվություն՝ համաձայն հիվանդի մոտիվացիոն փուլի:	1	2	3
6.	Նշանակել դեղամիջոցներ՝ ծխելը դադարեցնելուն օժանդակելու նպատակով:	1	2	3
7.	Բարձրացնել սեփական ուժերի նկատմամբ Ձեր վստահությունը և հաստատակամությունը հիվանդին ծխախոտամոլությունից ազատելու հարցում:	1	2	3

Խնդրում եմ նշել Ձեր տպավորությունները հետևյալ հարցերի վերաբերյալ:

		Լիովին համաձայն չեմ	Համաձայն չեմ	Համաձայն եմ	Լիովին համաձայն եմ
8.	Դասընթացը լավ կազմակերպված էր:	1	2	3	4
9.	Դասընթացը համապատասխանում էր իմ սպասելիքներին:	1	2	3	4
10.	Դասընթացը համապատասխանում էր իմ կարիքներին:	1	2	3	4
11.	Դասընթացը ընդլայնեց իմ գիտելիքները և հմտությունները ծխելը դադարեցնելու վերաբերյալ:	1	2	3	4
12.	Ես կօգտագործեմ դասընթացից ստացած գիտելիքները և հմտությունները:	1	2	3	4
13.	Դասընթացի բովանդակությունը լավ կազմակերպված և մատչելի էր:	1	2	3	4

14.	Տրամադրված նյութերը օգտակար էին և նպատակային:	1	2	3	4
15.	Դասավանդողները բանիմաց էին և պատրաստված:	1	2	3	4
16.	Դասավանդման որակը բարձր էր:	1	2	3	4
17.	Դասավանդողները գործում էին թրեյնինգի նպատակներին համապատասխան:	1	2	3	4
18.	Դասավանդողները բաց էին մասնակիցների մեկնաբանությունների և հարցերի նկատմամբ:	1	2	3	4
19.	Հարցերի և քննարկումների համար տրամադրվում էր բավարար ժամանակ:	1	2	3	4
20.	Ընդհանուր առմամբ, ես գոհ եմ դասընթացից:	1	2	3	4

21. Խնդրում ենք նշել դասընթացի **3 հիմնական դրական** կողմերը:

22. Խնդրում ենք նշել դասընթացում առկա **3 հիմնական թերությունները**:

23. Խնդրում եմ թվարկել այս դասընթացից ստացած երեք հմտություններ և դասեր, որոնք կկիրառեք Ձեր պրակտիկայում:

ա)

բ)

գ)

24. Ի՞նչ տեղեկատվություն կամ թեմաներ կավելացնեիք դասընթացի մեջ:

25. Դասընթացի ո՞ր ասպեկտները կբարելավեիք:

26. Այլ մեկնաբանություններ՝

Շնորհակալություն մասնակցության համար

ԹԵՍՏ

Տարբերակման համար (ID) ` _____ Ամսաթիվ _____ / _____ / _____ (օր/ամիս/տարի)

1. «Նախկին ծխող» է համարվում այն անձը, ով
1. իր կյանքի ընթացքում չի ծխել ավելին, քան 100 գլանակ
2. ծխում է, բայց ոչ ամեն օր
3. դադարեցրել է ծխելը առնվազն վեց ամիս առաջ
4. դադարեցրել է ծխելը առնվազն երկու ամիս առաջ

2. Ծխելը դադարեցրած անհատի «Ախտադարձ»ը՝
 - Ա. վերադարձն է կանոնավոր ծխելու վարքագծին
 - Բ. ցանկացած քանակի գլանակներ շաբաթական մեկ օր ծխելու իրավիճակը
 - Գ. որևէ նախատեսված այցին նախորդող մեկ շաբաթվա ընթացքում առավելագույնը երեք օր՝ օրական մեկից քիչ գլանակ օգտագործելը
 - Դ. ավելի քան 24 ժամ չծխելուց հետո առնվազն երեք օր կանոնավոր ծխելն է
- | | |
|----------|---------|
| 1. Ա. Բ. | 3. Ա.Դ. |
| 2. Ա. Գ. | 4. Բ.Գ. |

3. **Մոտիվացնող հարցազրույցը՝**
1. պետք է տրամադրել միայն այն ծխողներին, ովքեր ցանկանում են թողնել ծխելը
2. խորհրդատուն հիվանդին/այցելուին խորհուրդներ է տալիս ծխախոտ օգտագործելու վարքը փոխելու վերաբերյալ
3. նպատակ ունի խթանել ծխելը դադարեցնելու նախնական մոտիվացիան
4. կիրառվում է միայն ծխախոտային կախվածության բուժման համար

4. Ո՞ր պնդումն է ճիշտ **ծխելու հետևանքով առաջացած մահացության** վերաբերյալ:
1. ամբողջ աշխարհում տարեկան 3 միլիոն մարդ է մահանում
2. ծխողների 50-60 %-ը մահանում է ծխելու հետևանքով առաջացած հիվանդություններից
3. ծխելու հետևանքով առաջացած մահերի 50% բաժին է ընկնում ցածր և միջին եկամուտ ունեցող երկրներին
4. մինչ 2030թ. տարեկան 5 միլիոն մարդ կմահանա ծխախոտի օգտագործման հետևանքով

5. **Նիկոտինի** վերաբերյալ ո՞ր պնդումն է սխալ:
1. նիկոտինը կարող է առաջացնել կախվածություն, որն առնվազն այնքան ուժեղ է, որքան հերոինից կամ կոկայինից կախվածությունը
2. քաղցկեղածին է
3. մինչև 7 վայրկյանում թոքերից հասնում է գլխուղեղին
4. կիսատրոհման պարբերությունը՝ 120 րոպե

12. Վարինիկլինի օգտագործման դեպքում ո՞րն է ամենահաճախ հանդիպող կողմնակի ազդեցությունը:

1. տեսողության խանգարում
2. սրտխառնոց
3. գլխացավ
4. անքնություն

13. Ո՞րն է **ցիտիզինի** ազդեցության մեխանիզմը:

1. արգելափակում է հակախոլիներգիկ նիկոտինային ընկալիչները և խոչընդոտում նորադրենալինի և դոֆամինի վերակլանումը նյարդային վերջույթներում
2. հանդիսանում է նիկոտինային փոխարինման բուժման տեսակ և օրգանիզմ մատակարարում է նիկոտին
3. α4β2 նիկոտինային ագետիլխոլինային ընկալիչների պաշարիչ է
4. α4β2 նիկոտինային ագետիլխոլինային ընկալիչների մասնակի ազոնիստ է

14. Ո՞րն է ճիշտ **նիկոտինային մաստակի** վերաբերյալ՝

1. պետք է ծամել ինչպես սովորական մաստակը
2. օգտագործելուց 15 րոպե առաջ և օգտագործելու ընթացքում չպետք է ուտել կամ խմել
3. սկզբնական դեղաչափը՝ 1-2 հատ յուրաքանչյուր 4 ժամը մեկ
4. կարող է առաջացնել մաշկի ալերգիկ երևույթներ

Շնորհակալություն

Appendix 5. KAP questionnaire: training effectiveness survey (English and Armenian versions)

(for evaluating smoking cessation KAP among primary healthcare physicians)

ID number: _____	Date: ____/____/____ (dd/mm/yy)
Age _____	Gender <input type="checkbox"/> Male <input type="checkbox"/> Female
How long have you been working as a primary healthcare physician? (Please do not count the clinical residency)	_____
Have you ever participated in smoking cessation training?	<input type="checkbox"/> Yes (Please specify) _____ _____
Are you teaching now?	<input type="checkbox"/> Yes (Please specify) _____ _____
	<input type="checkbox"/> No

I. KNOWLEDGE

Please indicate if the following statements are true or false

	Statement	True	False	Don't know
1	Patients should only be asked about their smoking history if they have a smoking related disease/ illness.			
2	Most smokers will successfully quit smoking on their own without assistance.			
3	Patients who have their first cigarette within half an hour of waking are likely to be less dependent on nicotine than patients who have it much later in the day.			
4	Smoking cessation advice given by a health professional to a patient increases the patient's chances of quitting.			
5	When advising patients to stop smoking, the advice should never be linked to the patient's current health/illness.			
6	Counseling patients on smoking cessation includes assisting the patient to set a quit date.			
7	A common withdrawal symptom that occurs after quitting smoking is weight loss.			
8	Most of the withdrawal symptoms from smoking cessation disappear within 4 weeks of abstinence.			
9	Follow-up appointments should be made for the patients who are willing to stop smoking within the first week after quitting.			
10	There is no need of advising elderly patients who smoke(those above 60 years) to quit as the damage from smoking is already present and cannot be reversed			
11	Smoking is a chronic disorder associated with relapse.			
12	Nicotine replacement therapies are contraindicated for people with cardiovascular disease.			
13	Smokers who quit smoking at any age reduce their risk of			

	Statement	True	False	Don't know
	premature death.			
14	Nicotine is as addictive as other drugs such as heroin or cocaine.			
15	Use of nicotine patch increases successful quitting.			
16	Medication is effective only when accompanied by counseling.			

17. Which of the following medications are recommended for the treatment of tobacco dependence in smoking patients? (Kindly tick YES for those that are recommended and NO for those not recommended).

	Medication	Yes	No	Don't know
a)	Nicotine gum			
b)	Nicotine patch			
c)	Nicotine syrup			
d)	Nicotine lozenges			
e)	Bupropion tablets			
f)	Carbamezapine tablets			
g)	Cytisine			

II. ATTITUDE

This section addresses your perceptions on the role of healthcare providers in smoking cessation. Please indicate if you agree or disagree with the following statements. Kindly tick the appropriate answer.

	Statement	Agree	Disagree
18	I consider nicotine/tobacco dependence as a chronic relapsing disease, thus I diagnose and treat tobacco dependence as any other chronic disease.		
19	It is my responsibility to assist patients to stop smoking.		
20	It is my responsibility to routinely ask about patient's smoking habits.		
21	It is my responsibility to routinely advise smoking patients to quit smoking		
22	I serve as role model for my patients and the public.		
23	A patient's chances of quitting smoking are doubled if I advise him/her to quit.		
24	It's not worth discussing benefits of smoking cessation with patients as patients already know they should quit.		
25	It is my responsibility to motivate patients to stop smoking.		
26	My patients' acute health problems take precedence over smoking cessation counseling/advice.		
27	Patients are not receptive to receiving smoking cessation assistance from healthcare providers		
28	Smoking Cessation counseling improves my relationship with patients.		
29	Quitting smoking is an individual choice. It's not up me to advice a patient to quit smoking.		
30	I do not have sufficient time to provide advice and counseling to all my patients who smoke during routine consultations.		
31	It is uncomfortable to counsel my smoking patients on quitting smoking.		
32	Counseling on health harms from smoking usually helps with smoking		

	Statement	Agree	Disagree
	cessation.		
33	I should help patients who are motivated to stop smoking.		
34	I should monitor patients' progress in attempting to quit.		
35	I should discuss relapse with patients.		

III. PRACTICE

This section addresses the range of activities performed by healthcare providers to encourage patients to quit smoking. In your daily interactions with patients, how often do you perform the following procedures? Kindly tick the appropriate answer.

	Procedure	Never	Sometimes	Always
36	I ask about the patients smoking status.			
37	I ask about the number of cigarettes smoked per day.			
38	I ask about the time of the first cigarette.			
39	I assess nicotine dependence among smokers using the Fagerström nicotine dependence test (FTND).			
40	I ask if the patient smokes indoor at home.			
41	I ask if the patient intends to stop smoking.			
42	I ask about the previous quit attempts of smoking patients.			
43	I record the patients smoking history in the medical records.			
44	I advise a smoking patient on the need to quit.			
45	I advise to reduce the number of daily cigarettes.			
46	I advise to stop smoking abruptly.			
47	I discuss the risks of smoking and benefits of quitting smoking with patients.			
48	I discuss personal barriers to cessation.			
49	I assess if patients who smoke are willing to quit at that particular time.			
50	I discuss the use of pharmacological aids such as nicotine replacement therapy with patients.			
51	I propose to help the patient in quitting.			
52	I advise on behavioral "tricks".			
53	I give a practical advice to prevent relapse.			
54	I give self-help materials.			
55	I assist the smoking patient to set up a target quit date.			
56	I set up a follow up appointment to review the progress of patients on quitting smoking.			
57	I refer the patient to other specialists (please specify _____).			
58	I prescribe Cytisine.			
59	I prescribe NRT (gum).			
60	I prescribe Varenicline.			
61	I prescribe other pharmacological treatment (please specify _____).			

	Procedure	Never	Sometimes	Always
	_____).			
62	I use another strategy (please specify _____).			
63	In order to diagnose nicotine dependence among smokers I mostly use Classification of tobacco dependence in the ICD10CM.			

IV. CONFIDENCE

Please rate your confidence in performing the following to help your patients quit smoking. Kindly tick the appropriate answer.

	Statement	Not at all confident	A little confident	Confident
64	Educating patients on the general health risks of smoking.			
65	Advising smokers on how to quit smoking.			
66	Assessing the willingness of the patient to quit smoking.			
67	Discussing various smoking cessation treatment options with patients.			
68	Recommending appropriate smoking cessation medications for the patient.			
69	Motivating patients to consider quitting.			
70	Negotiating a target quit date for the patient to stop smoking.			
71	Helping recent quitters learn how to cope with withdrawal symptoms.			

V. BARRIERS

This section addresses barriers that you may face in helping patients quit smoking. How would you rate the following as barriers that hinder you from helping patients to stop smoking? (Kindly tick the appropriate answer).

	Statement	Not a barrier	Somewhat a barrier	Important barrier
72	Patients are not interested in receiving smoking cessation information.			
73	Patients do not comply with information given on smoking cessation.			
74	Lack of time/ time with patients is limited.			
75	Patients have more immediate health problems to be addressed.			
76	Lack of smoking cessation specialists to refer patients to for further assistance.			
77	Lack of patient education material (brochures/pamphlets).			
76	Insufficient training on smoking cessation Interventions			

78	Lack of awareness of smoking cessation Guidelines			
80	Insufficient knowledge on smoking cessation Interventions			

81. How well prepared do you believe you are today in counseling your patients to quit smoking? (Circle one)

1. Not at all prepared
2. Somewhat prepared
3. Adequately prepared
4. Very well prepared

Thank you!

Հարցաշար

(ծխելը դադարեցնելուն ուղղված գիտելիքների, վերաբերմունքի և գործելակերպի գնահատումը առաջնային օդակի բուժաշխատողների շրջանում)

Տարբերակման համար (ID) ` _____	Ամսաթիվ _____/_____/____ (օր/ամիս/տարի)
Տարիք _____	Սեռ <input type="checkbox"/> Տղամարդ <input type="checkbox"/> Կին
Քանի՞ տարի է, որ Դուք աշխատում եք որպես ԱԱՊ բժիշկ (չհաշված կլինիկական օրդինատուրան)	_____
Երբևէ մասնակցե՞լ եք ծխախոտի դադարեցման վերաբերյալ վերապատրաստման/դասընթացի:	<input type="checkbox"/> Այո (մանրամասնել) _____ <input type="checkbox"/> Ոչ
Ներկայումս Դուք դասավանդո՞ւմ եք որևէ կրթական հաստատությունում:	<input type="checkbox"/> Այո (մանրամասնել) _____ <input type="checkbox"/> Ոչ

I) ԳԻՏԵԼԻՔՆԵՐ

Խնդրում եմ նշել արդյո՞ք հետևյալ պնդումները ճիշտ են կամ սխալ:

	Պնդումներ	Ճիշտ	Սխալ	Զգիտեմ
1.	Հիվանդներին պետք է հարցնել իրենց ծխելու վարքագծի վերաբերյալ միայն այն դեպքում, եթե նրանք ունեն ծխելու հետ կապված հիվանդություն:			
2.	Ծխողների մեծամասնությունը հաջողությամբ կդադարեցնի ծխելը ինքնուրույն՝ առանց աջակցության:			
3.	Այն հիվանդները, ովքեր ծխում են իրենց օրվա առաջին ծխախոտը արթնանալուց հետո կես ժամվա ընթացքում, ավելի քիչ կախվածություն ունեն նիկոտինից, քան նրանք, ովքեր առաջին ծխախոտը ծխում են ավելի ուշ:			
4.	Առողջապահության ոլորտի մասնագետի տրամադրած ծխելը դադարեցնելու խորհրդատվությունը բարձրացնում է հիվանդների՝ ծխելը դադարեցնելու հնարավորությունները:			
5.	Ծխելը դադարեցնելու խորհրդատվությունը երբեք չպետք է պայմանավորված լինի հիվանդի ներկայիս առողջական վիճակի/հիվանդության հետ:			
6.	Հիվանդներին տրվող ծխելը դադարեցնելու խորհրդատվությունը ներառում է ծխելը թողնելու օրվա սահմանումը:			
7.	Հաճախ հանդիպող գրկանքի ախտանշան է համարվում ծխելը դադարեցնելուց հետո քաշի կորուստը:			

	Պնդումներ	Ճիշտ	Սխալ	Չգիտեմ
8.	Ծխելը դադարեցնելու հետևանքով ի հայտ եկած գրկանքի ախտանշանների մեծ մասն անհետանում են գրկանքի 4 շաբաթների ընթացքում:			
9.	Այն հիվանդների համար, ովքեր ցանկանում են ծխելը թողնելուց հետո մեկ շաբաթվա ընթացքում դադարեցնել ծխելը, պետք է կազմակերպվեն հերթական այցեր:			
10.	Կարիք չկա մեծահասակ ծխողներին (60 տարեկանից բարձր) խորհուրդ տալ դադարեցնել ծխելը, քանի որ ծխելու վնասներն արդեն առկա են և դարձելի չեն:			
11.	Ծխելը քրոնիկ ախտադարձային հիվանդություն է:			
12.	Նիկոտինային փոխարինող բուժումը հակացուցված է սիրտ անոթային հիվանդություններով մարդկանց համար:			
13.	Ցանկացած տարիքում ծխելը դադարեցրած մարդիկ նվազեցնում են իրենց վաղաժամ մահվան ռիսկը:			
14.	Նիկոտինը կախվածություն առաջացնող այնպիսի թմրանյութ է, ինչպիսիք են՝ հերոինը կամ կոկայինը:			
15.	Նիկոտինային սպեղանու օգտագործումը բարձրացնում է ծխելը դադարեցնելու հաջողությունը:			
16.	Դեղամիջոցներով բուժումը արդյունավետ է միայն այն դեպքում, երբ համատեղվում է խորհրդատվության հետ:			

17. Նշվածներից ո՞ր դեղամիջոցներն են առաջարկվում ծխող հիվանդների շրջանում ծխախոտային կախվածության բուժման համար: Ընտրե՛ք ԱՅՈ, որոնք առաջարկվում են և ՈՉ, որոնք չեն առաջարկվում:

	Դեղամիջոցներ	Այո	Ոչ	Չգիտեմ
ա)	Նիկոտինի մաստակ			
բ)	Նիկոտինի սպեղանի			
գ)	Նիկոտինի սիրոպ			
դ)	Նիկոտինի ենթալեզվային հաբեր			
ե)	Բուպրոպիոն			
զ)	Կարբամեզապին			
է)	Ցիտիզին			

II) ՎԵՐԱԲԵՐՄՈՒՆՔ

Այս բաժինը ծխելը դադարեցնելու գործում առողջապահության ոլորտի մասնագետի դերի մասին Ձեր պատկերացումներին է վերաբերում: Խնդրում եմ նշել արդյո՞ք համաձայն եք կամ համաձայն չեք հետևյալ պնդումների հետ: Ընտրե՛ք համապատասխան պատասխանը:

	Պնդումներ	Համաձայն եմ	Համաձայն չեմ
18.	Ես դիտարկում եմ նիկոտինային կախվածությունը որպես քրոնիկ ախտադարձային հիվանդություն՝ կիրառելով ախտորոշման և քրոնիկ հիվանդության վարման համապատասխան գործառույթները:		
19.	Ես պետք է աջակցեմ հիվանդին ծխելը դադարեցնելու գործում:		
20.	Ես պետք է պարբերաբար հարցնեմ հիվանդի ծխելու մասին:		
21.	Ես պետք է պարբերաբար խորհուրդ տամ հիվանդներին դադարեցնել ծխելը:		
22.	Ես օրինակ եմ ծառայում իմ հիվանդների և հասարակության համար:		
23.	Եթե ես խորհուրդ տամ իմ հիվանդներին դադարեցնել ծխելը, նրանց ծխելը դադարեցնելու հնարավորությունները կկրկնապատկվեն:		
24.	Կարիք չկա քննարկել ծխելը դադարեցնելու առավելություններն այն հիվանդների հետ, ովքեր արդեն գիտեն, որ պետք է դադարեցնեն ծխելը:		
25.	Ես պետք է մոտիվացնեմ հիվանդներին դադարեցնել ծխելը:		
26.	Իմ հիվանդների սուր առողջական խնդիրներն ավելի կարևոր են, քան ծխելը դադարեցնելու խորհուրդ/խորհրդատվություն տրամադրելը:		
27.	Հիվանդները չեն ընդունում առողջապահության ոլորտի մասնագետի կողմից տրվող ծխելը դադարեցնելու աջակցությունը:		
28.	Ծխելը դադարեցնելու խորհրդատվությունը բարելավում է իմ փոխհարաբերությունները հիվանդի հետ:		
29.	Ծխելը դադարեցնելը անհատի ընտրությունն է: Ես պարտավոր չեմ հիվանդներին խորհուրդ տալ դադարեցնել ծխելը:		
30.	Ես չունեմ բավարար ժամանակ իմ բոլոր ծխող հիվանդներին հերթական այցելությունների ժամանակ խորհուրդ կամ խորհրդատվություն տրամադրելու համար:		
31.	Ես անհարմար եմ զգում իմ ծխող հիվանդներին ծխելը դադարեցնելու խորհրդատվություն տրամադրելուց:		
32.	Ծխելու առողջական վնասների մասին խորհրդատվությունը սովորաբար օգնում է ծխելը դադարեցնելու գործընթացին:		
33.	Ես պետք է օգնեմ հիվանդներին, ովքեր մոտիվացված են ծխելը դադարեցնելու հարցում:		
34.	Ես պետք է վերահսկեմ հիվանդների ծխելը դադարեցնելու փորձերի առաջընթացը:		
35.	Ես պետք է հիվանդների հետ քննարկեմ ախտադարձը:		

III) ԳՈՐԾԵԼԱԿԵՐՊ

Այս բաժինը վերաբերում է առողջապահության ոլորտի մասնագետի իրականացրած գործունեությանը, որն ուղղված է հիվանդների ծխելը դադարեցնելն աջակցելուն: Հիվանդների հետ Ձեր առօրյա շփման ժամանակ, որքա՞ն հաճախ եք իրականացնում հետևյալ գործընթացները: Ընտրե՛ք համապատասխան պատասխանը:

	Գործընթացներ	Երբեք	Երբեմն	Միշտ
36.	Ես հարցնում եմ հիվանդներին իրենց ծխելու կարգավիճակի մասին:			
37.	Ես հարցնում եմ, թե քանի ծխախոտ են օրական օգտագործում:			
38.	Ես հարցնում եմ, թե երբ են օգտագործել իրենց առաջին ծխախոտը:			
39.	Ծխողների շրջանում իրականացնում եմ նիկոտինային կախվածության աստիճանի գնահատում, կիրառելով Ֆագերստրոմի հարցաթերթիկը:			
40.	Ես հարցնում եմ արդյոք հիվանդը ծխում է տանը:			
41.	Ես հարցնում եմ արդյոք հիվանդը ցանկություն ունի դադարեցնել ծխելը:			
42.	Ես հարցնում եմ ծխող հիվանդի ծխելը դադարեցնելու նախորդ փորձերի մասին:			
43.	Ես գրանցում եմ հիվանդների ծխելու վարքագծի պատմությունը իրենց բժշկական քարտերում:			
44.	Ես ծխող հիվանդներին խորհուրդ եմ տալիս դադարեցնել ծխելը:			
45.	Ես խորհուրդ եմ տալիս նվազեցնել օրական օգտագործվող ծխախոտի քանակը:			
46.	Ես խորհուրդ եմ տալիս դադարեցնել ծխելը միանգամից:			
47.	Ես հիվանդների հետ քննարկում եմ ծխելու ռիսկերը և ծխելը դադարեցնելու առավելությունները:			
48.	Ես քննարկում եմ ծխելը դադարեցնելու անհատական խոչընդոտները:			
49.	Ես գնահատում եմ ծխող հիվանդների համապատասխան ժամանակահատվածում ծխելը դադարեցնելու պատրաստակամությունը:			
50.	Ես հիվանդների հետ քննարկում եմ դեղամիջոցների օգտագործումը, ինչպիսին է՝ նիկոտինային փոխարինող բուժումը:			
51.	Ես իմ օգնությունն եմ առաջարկում հիվանդներին ծխելը դադարեցնելու գործում:			
52.	Ես խորհուրդ եմ տալիս վարքային «հնարքներ»:			
53.	Ես տալիս եմ ախտադարձը կանխարգելելու գործնական խորհուրդներ:			

	Գործընթացներ	Երբեք	Երբեմն	Միշտ
54.	Ես տալիս եմ ինքնօգնության տպագիր նյութեր:			
55.	Ես աջակցում եմ ծխող հիվանդներին սահմանել ծխելը թողնելու օրը:			
56.	Ես կազմակերպում եմ հերթական այց՝ հիվանդների ծխելը դադարեցնելու առաջընթացը վերանայելու համար:			
57.	Ես ուղղորդում եմ հիվանդին այլ մասնագետի մոտ (խնդրում եմ պարզաբանել _____):			
58.	Ես նշանակում եմ Ցիտիզին:			
59.	Ես նշանակում եմ նիկոտինի մաստակ:			
60.	Ես նշանակում եմ Վարինիկլին:			
61.	Ես նշանակում եմ այլ դեղորայքային բուժում (խնդրում եմ պարզաբանել _____):			
62.	Ես օգտագործում եմ այլ ռազմավարություն (խնդրում եմ պարզաբանել _____):			
63.	Ծխող հիվանդների մոտ նիկոտինային կախվածության առկայության դեպքում կիրառում եմ ախտորոշումը, գրանցելով ՀՄԴ-10 կոդը հաշվետվական ձևերում:			

IV) ԻՆՔՆԱՎՍՍԱՀՈՒԹՅՈՒՆ

Խնդրում եմ գնահատել Ձեր ինքնավստահությունը հետևյալ գործընթացները իրականացնելու վերաբերյալ, որոնք միտված են օգնելու հիվանդներին ծխելը դադարեցնելու գործում: Ընտրե՛ք համապատասխան պատասխանը:

	Պնդումներ	Վստահ չեմ	Փոքր ինչ վստահ եմ	Վստահ եմ
64.	Մարդկանց տեղեկացնել ծխելու առողջական ռիսկերի մասին:			
65.	Խորհուրդ տալ հիվանդների, թե ինչպես դադարեցնեն ծխելը:			
66.	Գնահատել հիվանդների ծխելը դադարեցնելու պատրաստակամությունը:			
67.	Հիվանդների հետ քննարկել ծխելը դադարեցնելու տարբեր բուժման տարբերակներ:			
68.	Հիվանդներին առաջարկել ծխելը դադարեցնելու համապատասխան դեղամիջոց:			
69.	Մոտիվացնել հիվանդներին ծխելը դադարեցնելու գործում:			
70.	Քննարկել հիվանդի ծխելը թողնելու թիրախային օրը:			
71.	Վերջերս ծխելը դադարեցրածներին օգնել հաղթահարել զրկանքի ախտանշանները:			

Վ) ԽՈՉԸՆԴՈՏՆԵՐ

Այս բաժինը վերաբերում է այն խոչընդոտներին, որոնց Դուք կարող եք հանդիպել հիվանդներին ծխելը դադարեցնելու աջակցություն ցուցաբերելու ժամանակ: Ինչպե՞ս կգնահատեք հետևյալ պնդումները՝ որպես խոչընդոտներ, որոնք կարող են հետ պահել Ձեզ հիվանդներին ծխելը դադարեցնելու աջակցություն ցուցաբերելուց: Ընտրե՛ք համապատասխան տարբերակը:

	Պնդումներ	Խոչընդոտ չէ	Ինչ որ չափով խոչընդոտ է	Կարևոր խոչընդոտ է
72.	Հիվանդները չեն ուզում ստանալ տեղեկատվություն ծխելը դադարեցնելու վերաբերյալ:			
73.	Հիվանդները չեն հետևում ծխելը դադարեցնելու մասին տրամադրված տեղեկատվությանը:			
74.	Ժամանակի սղությունը/հիվանդների հետ ժամանակը սահմանափակ է:			
75.	Հիվանդներն ունեն ուշադրության արժանի ավելի կարևոր առողջական խնդիրներ, քան ծխելը:			
76.	Ծխելը դադարեցնելու ոլորտում մասնագետների պակասը, որը թույլ չի տալիս հիվանդների ուղեգրել հետագա աջակցության:			
77.	Հիվանդների ուսուցողական նյութերի պակասը (բրոշուրներ/թռուցիկներ)			
78.	Ծխելը դադարեցնելու վերաբերյալ ոչ բավարար վերապատրաստումը:			
79.	Ծխելը դադարեցնելու ուղեցույցների պակասը:			
80.	Ծխելը դադարեցնելու միջամտությունների ոչ բավարար իմացություն:			

81. Ձեր կարծիքով Դուք այժմ պատրաստ եք Ձեր հիվանդներին տրամադրել ծխելը դադարեցնելու աջակցություն/օգնություն: Ընտրե՛ք մեկ տարբերակ:

1. Պատրաստ չեմ:
2. Ինչ -որ չափով պատրաստ եմ:
3. Բավարար պատրաստ եմ:
4. Լիովին պատրաստ եմ:

Appendix 6. KAP questionnaire: scoring template

ID number: _____	Date: ____/____/____ (dd/mm/yy)
Age _____	Gender <input type="checkbox"/> Male <input type="checkbox"/> Female
How long have you been working as a primary healthcare physician? (Please do not count the clinical residency)	_____
Have you ever participated in smoking cessation training?	<input type="checkbox"/> Yes (Please specify) _____ _____
Are you teaching now?	<input type="checkbox"/> Yes (Please specify) _____ _____
	<input type="checkbox"/> No

I. KNOWLEDGE

Please indicate if the following statements are true or false

	Statement	True	False	Don't know
1	Patients should only be asked about their smoking history if they have a smoking related disease/ illness.	0	1	0
2	Most smokers will successfully quit smoking on their own without assistance.	0	1	0
3	Patients who have their first cigarette within half an hour of waking are likely to be less dependent on nicotine than patients who have it much later in the day.	0	1	0
4	Smoking cessation advice given by a health professional to a patient increases the patient's chances of quitting.	1	0	0
5	When advising patients to stop smoking, the advice should never be linked to the patient's current health/illness.	0	1	0
6	Counseling patients on smoking cessation includes assisting the patient to set a quit date.	1	0	0
7	A common withdrawal symptom that occurs after quitting smoking is weight loss.	0	1	0
8	Most of the withdrawal symptoms from smoking cessation disappear within 4 weeks of abstinence.	1	0	0
9	Follow-up appointments should be made for the patients who are willing to stop smoking within the first week after quitting.	1	0	0
10	There is no need of advising elderly patients who smoke(those above 60 years) to quit as the damage from smoking is already present and cannot be reversed	0	1	0
11	Smoking is a chronic disorder associated with relapse.	1	0	0

	Statement	True	False	Don't know
12	Nicotine replacement therapies are contraindicated for people with cardiovascular disease.	0	1	0
13	Smokers who quit smoking at any age reduce their risk of premature death.	1	0	0
14	Nicotine is as addictive as other drugs such as heroin or cocaine.	1	0	0
15	Use of nicotine patch increases successful quitting.	1	0	0
16	Medication is effective only when accompanied by counseling.	0	1	0

17. Which of the following medications are recommended for the treatment of tobacco dependence in smoking patients? (Kindly tick YES for those that are recommended and NO for those not recommended)

	Medication	Yes	No	Don't know
a)	Nicotine gum	1	0	0
b)	Nicotine patch	1	0	0
c)	Nicotine syrup	0	1	0
d)	Nicotine lozenges	1	0	0
e)	Bupropion tablets	1	0	0
f)	Carbamezapine tablets	0	1	0
g)	Cytisine	1	0	0

II. ATTITUDE

This section addresses your perceptions on the role of healthcare providers in smoking cessation. Please indicate if you agree or disagree with the following statements. Kindly tick the appropriate answer.

	Statement	Agree	Disagree
18	I consider nicotine/tobacco dependence as a chronic relapsing disease, thus I diagnose and treat tobacco dependence as any other chronic disease.	1	0
19	It is my responsibility to assist patients to stop smoking.	1	0
20	It is my responsibility to routinely ask about patient's smoking habits.	1	0
21	It is my responsibility to routinely advise smoking patients to quit smoking.	1	0
22	I serve as role model for my patients and the public.	1	0
23	A patient's chances of quitting smoking are doubled if I advise him/her to quit.	1	0
24	It's not worth discussing benefits of smoking cessation with patients as patients already know they should quit.	0	1
25	It is my responsibility to motivate patients to stop smoking.	1	0
26	My patients' acute health problems take precedence over smoking cessation counseling/advice.	0	1
27	Patients are not receptive to receiving smoking cessation assistance from healthcare providers	0	1
28	Smoking Cessation counseling improves my relationship with patients.	1	0
29	Quitting smoking is an individual choice. It's not up me to advice a patient	0	1

	Statement	Agree	Disagree
	to quit smoking.		
30	I do not have sufficient time to provide advice and counseling to all my patients who smoke during routine consultations.	0	1
31	It is uncomfortable to counsel my smoking patients on quitting smoking.	0	1
32	Counseling on health harms from smoking usually helps with smoking cessation.	1	0
33	I should help patients who are motivated to stop smoking.	1	0
34	I should monitor patients' progress in attempting to quit.	1	0
35	I should discuss relapse with patients.	1	0

III. PRACTICE

This section addresses the range of activities performed by healthcare providers to encourage patients to quit smoking. In your daily interactions with patients, how often do you perform the following procedures? Kindly tick the appropriate answer.

	Procedure	Never	Sometimes	Always
36	I ask about the patients smoking status.	0	0 or 0.5	1
37	I ask about the number of cigarettes smoked per day.	0	0 or 0.5	1
38	I ask about the time of the first cigarette.	0	0 or 0.5	1
39	I assess nicotine dependence among smokers using the Fagerström nicotine dependence test (FTND)	0	0 or 0.5	1
40	I ask if the patient smokes indoor at home.	0	0 or 0.5	1
41	I ask if the patient intends to stop smoking.	0	0 or 0.5	1
42	I ask about the previous quit attempts of smoking patients.	0	0 or 0.5	1
43	I record the patients smoking history in the medical records.	0	0 or 0.5	1
44	I advise a smoking patient on the need to quit.	0	0 or 0.5	1
45	I advise to reduce the number of daily cigarettes.	0	0 or 0.5	1
46	I advise to stop smoking abruptly.	0	0 or 0.5	1
47	I discuss the risks of smoking and benefits of quitting smoking with patients.	0	0 or 0.5	1
48	I discuss personal barriers to cessation.	0	0 or 0.5	1
49	I assess if patients who smoke are willing to quit at that particular time.	0	0 or 0.5	1
50	I discuss the use of pharmacological aids such as nicotine replacement therapy with patients.	0	0 or 0.5	1
51	I propose to help the patient in quitting.	0	0 or 0.5	1
52	I advise on behavioral "tricks".	0	0 or 0.5	1
53	I give a practical advice to prevent relapse.	0	0 or 0.5	1
54	I give self-help materials.	0	0 or 0.5	1
55	I assist the smoking patient to set up a target quit date.	0	0 or 0.5	1
56	I set up a follow up appointment to review the progress of patients on quitting smoking.	0	0 or 0.5	1
57	I refer the patient to other specialists (please	0	0 or 0.5	1

	Procedure	Never	Sometimes	Always
	specify_____).			
58	I prescribe Cytisine.	0	0 or 0.5	1
59	I prescribe NRT (gum).	0	0 or 0.5	1
60	I prescribe Varenicline.	0	0 or 0.5	1
61	I prescribe other pharmacological treatment (please specify _____).	0	0 or 0.5	1
62	I use another strategy (please specify _____).	0	0 or 0.5	1
63	In order to diagnose nicotine dependence among smokers I mostly use Classification of tobacco dependence in the ICD10CM.	0	0 or 0.5	1

IV. CONFIDENCE

Please rate your confidence in performing the following to help your patients quit smoking Kindly tick the appropriate answer.

	Statement	Not at all confident	A little confident	Confident
64	Educating patients on the general health risks of smoking	0	0	1
65	Advising smokers on how to quit smoking.	0	0	1
66	Assessing the willingness of the patient to quit smoking	0	0	1
67	Discussing various smoking cessation treatment options with patients	0	0	1
68	Recommending appropriate smoking cessation medications for the patient	0	0	1
69	Motivating patients to consider quitting	0	0	1
70	Negotiating a target quit date for the patient to stop smoking	0	0	1
71	Helping recent quitters learn how to cope with withdrawal symptoms	0	0	1

V. BARRIERS

This section addresses barriers that you may face in helping patients quit smoking. How would you rate the following as barriers that hinder you from helping patients to stop smoking? (Kindly tick the appropriate answer).

	Statement	Not a barrier	Somewhat a barrier	Important barrier
72	Patients are not interested in receiving smoking cessation information.			
73	Patients do not comply with information given on smoking cessation.			

74	Lack of time/ time with patients is limited.			
75	Patients have more immediate health problems to be addressed.			
76	Lack of smoking cessation specialists to refer patients to for further assistance.			
77	Lack of patient education material (brochures/pamphlets).			
78	Insufficient training on smoking cessation Interventions			
79	Lack of awareness of smoking cessation Guidelines			
80	Insufficient knowledge on smoking cessation Interventions			

81. How well prepared do you believe you are today in counseling your patients to quit smoking? (Circle one)

1. Not at all prepared
2. Somewhat prepared
3. Adequately prepared
4. Very well prepared

Thank you!

Appendix 7. Oral consent form (English and Armenian versions)

Intervention group

Hello! My name is... I am working at the Center for Health Services Research and Development within the School of Public Health at the American University of Armenia. American University of Armenia (AUA) is conducting a smoking cessation training that aims to improve smoking cessation Knowledge, Attitude and Practice (KAP) among primary healthcare physicians.

You are invited to participate in this survey because currently you are working as a primary healthcare physician and express willingness to participate in smoking cessation training.

If you agree to participate, you will be asked to individually complete a questionnaire (with the duration of up to 15 minutes) that assess your Knowledge, Attitude and Practice (KAP) related to smoking cessation, one and three months after completion of the training.

The information provided by you will remain confidential and will be used only for current project. The participation in this survey is completely voluntary. You will not be penalized in any way if you decide not to participate.

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 generate reliable information on smoking cessation Knowledge Attitude and Practice (KAP) among primary healthcare physicians.

Here is the card with contact information for the research team. If you have any questions regarding this survey 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 survey you should contact Dr. Kristina Akopyan, the Human Subject Protection Administrator of the American University of Armenia (37460) 612561.

Do you agree to participate?

Thank you.

If yes, shall we continue?

Միջամտության խումբ

Բարև ձեզ, իմ անունն..... է: Ես աշխատում եմ Հայաստանի ամերիկյան համալսարանի Հանրային առողջապահության ֆակուլտետում: Հայաստանի ամերիկյան համալսարանի Առողջապահական ծառայությունների հետազոտման և զարգացման կենտրոնն իրականացնում է վերապատրաստման դասընթաց, որի նպատակն է առողջության առաջնային պահպանման օղակի բուժաշխատողների շրջանում բարելավել ծխախոտի օգտագործման դադարեցնելու վերաբերյալ գիտելիքները, վերաբերմունքը և գործելակերպը:

Դուք հրավիրված եք մասնակցելու այս հարցմանը, քանի որ հետաքրքրություն եք հայտնել մասնակցելու ծխախոտի օգտագործման դադարեցնելուն վերաբերող դասընթացին և որպես բժիշկ աշխատում եք առողջության առաջնային պահպանման օղակում:

Եթե Դուք համաձայնեք մասնակցել, ապա Ձեզ կինդրենք այսօր և դասընթացի ավարտից երեք ամիս հետո ինքնուրույն լրացնել հարցաթերթիկը, որը գնահատում է ծխախոտի օգտագործման դադարեցնելուն ուղղված ձեր գիտելիքները, վերաբերմունքը և գործելակերպը: Հարցաթերթիկի լրացումը կտևի մոտավորապես 15 րոպե: Հարցման ընթացքում ձեր կողմից տրամադրված տեղեկատվությունը կպահպանվի գաղտնի և կկիրառվի միայն այս հետազոտության շրջանակում: Ձեր մասնակցությունն այս ծրագրում կամավոր է: Ձեզ ոչինչ չի սպառնում, եթե դուք հրաժարվեք մասնակցել այս հարցմանը:

Ձեր մասնակցությունն այս հարցմանը չի նախատեսում որևէ անմիջական օգուտ կամ վնաս, սակայն Ձեր անկեղծ պատասխանները չափազանց կարևոր են մեզ համար և կնպաստեն հավաստի տեղեկություն ստանալ ծխախոտի օգտագործման դադարեցնելուն ուղղված առողջության առաջնային պահպանման օղակի բուժաշխատողների գիտելիքների, վերաբերմունքի և գործելակերպի վերաբերյալ:

Եթե դուք որևէ հարց ունենաք այս հարցման 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 հարցմանը մասնակցելու ընթացքում, ապա խնդրում ենք դիմել Հայաստանի ամերիկյան համալսարանի Էթիկայի հանձնաժողովի համակարգող Քրիստինա Հակոբյանին հետևյալ հեռախոսահամարով՝ (374 60) 612561:

Դուք ցանկանո՞ւմ եք մասնակցել:

Շնորհակալություն:

Կարո՞ղ ենք սկսել:

Control group

Hello! My name is... I am working at the Center for Health Services Research and Development within the School of Public Health at the American University of Armenia. American University of Armenia (AUA) is conducting a research that aims to evaluate/assess smoking cessation Knowledge, Attitude and Practice (KAP) among primary healthcare physicians.

You are invited to participate in this survey because you are working as a primary healthcare physicians and you are available at the time of our visits to polyclinics.

If you agree to participate, you will be asked to individually complete a questionnaire (with the duration of up to 15 minutes) that assess your Knowledge, Attitude and Practice (KAP) related to smoking cessation, one and after three months.

The information provided by you will remain confidential and will be used only for current project. The participation in this survey is completely voluntary. You will not be penalized in any way if you decide not to participate.

Participation in this survey does not have any direct benefit or harm to you, but your responses are valuable for us and will contribute to generate reliable information on smoking cessation Knowledge Attitude and Practice (KAP) among primary healthcare physicians.

Here is the card with contact information for the research team. If you have any questions regarding this survey 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 survey you should contact Dr. Kristina Akopyan, the Human Subject Protection Administrator of the American University of Armenia (37460) 612561.

Do you agree to participate?

Thank you.

If yes, shall we continue?

Համեմատական խումբ

Բարև ձեզ, իմ անունն է: Ես աշխատում եմ Հայաստանի ամերիկյան համալսարանի Հանրային առողջապահության ֆակուլտետում: Հայաստանի ամերիկյան համալսարանի Առողջապահական ծառայությունների հետազոտման և զարգացման կենտրոնն իրականացնում է հետազոտություն, որի նպատակն է առողջության առաջնային պահպանման օղակի բուժաշխատողների շրջանում գնահատել ծխախոտի օգտագործման դադարեցնելու վերաբերյալ գիտելիքները, վերաբերմունքը և գործելակերպը:

Դուք հրավիրված եք մասնակցելու այս հարցմանը, քանի որ որպես բժիշկ աշխատում եք առողջության առաջնային պահպանման օղակում և մեր կողմից պոլիկլինիկա այցելելու ժամանակ գտնվել եք Ձեր աշխատավայրում:

Եթե Դուք համաձայնեք մասնակցել, ապա Ձեզ կխնդրենք այսօր և երեք ամիս հետո ինքնուրույն լրացնել հարցաթերթիկը, որը գնահատում է ծխախոտի օգտագործման դադարեցնելուն ուղղված ձեր գիտելիքները, վերաբերմունքը և գործելակերպը:

Հարցաթերթիկի լրացումը կտևի մոտավորապես 15 րոպե: Հարցման ընթացքում ձեր կողմից տրամադրված տեղեկատվությունը կպահպանվի գաղտնի և կկիրառվի միայն այս հետազոտության շրջանակում: Ձեր մասնակցությունն այս ծրագրում կամավոր է: Ձեզ ոչինչ չի սպառնում, եթե դուք հրաժարվեք մասնակցել այս հարցմանը:

Ձեր մասնակցությունն այս հարցմանը չի նախատեսում որևէ անմիջական օգուտ կամ վնաս, սակայն Ձեր անկեղծ պատասխանները չափազանց կարևոր են մեզ համար և կնպաստեն հավաստի տեղեկություն ստանալ ծխախոտի օգտագործման դադարեցնելուն ուղղված առողջության առաջնային պահպանման օղակի բուժաշխատողների գիտելիքների, վերաբերմունքի և գործելակերպի վերաբերյալ:

Եթե դուք որևէ հարց ունենաք այս հարցման 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 հարցմանը մասնակցելու ընթացքում, ապա խնդրում ենք դիմել Հայաստանի ամերիկյան համալսարանի Էթիկայի հանձնաժողովի համակարգող Քրիստինա Հակոբյանին հետևյալ հեռախոսահամարով՝ (374 60) 612561:

Դուք ցանկանո՞ւմ եք մասնակցել:

Շնորհակալություն:

Կարո՞ղ ենք սկսել: