INNOVATIONS IN EDUCATION AND CLINICAL PRACTICE

A New Curriculum Using Active Learning Methods and Standardized Patients to Train Residents in Smoking Cessation

Jean-Paul Humair, MD, MPH, Jacques Cornuz, MD, MPH

Physicians can play a key role in smoking cessation but often fail to advise smokers effectively, mainly because they lack counseling skills. We need effective training programs starting during residency to improve physicians' smoking cessation interventions and smokers' quit rates. To achieve this goal, we developed a curriculum using active learning methods and the stages-of-change model. A randomized trial demonstrated that this program increased the quality of physician's counseling and smokers' quit rates at 1 year. This paper describes the educational content and methods of this program. Participants learn to assess smokers' stage of change, to use counseling strategies matching the smoker's stage, and to prescribe pharmacological therapy. This 2 half-day training program includes observation of video-clips, interactive workshops, role plays, practice with standardized patients, and written material for physicians and patients. Participants reached learning objectives and appreciated the content and active methods of the program.

KEY WORDS: **smoking cessation; curriculum; graduate medical education; patient simulation.**
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Medical advice and pharmacological therapy are effective and cost-effective smoking cessation interventions in clinical practice.[1] However, physicians lack the skills for smoking cessation counseling and often fail to advise smokers with effective strategies.[2]

Skills training and organizational change are the key features of effective educational programs improving patient outcomes.[3] Role plays and practice with standardized patients are active methods enabling physicians and students to learn "by doing" the skills they need to apply in clinical practice.[3,4] Organizational change strategies include reminder systems, flow sheets, patient education material, and staff involvement to reinforce application of new skills in clinical practice.[3] The single smoking cessation training program that applied these strategies is the only effective curriculum showing a significant increase in quit rates at 1 year.[5] Other programs based on didactic teaching improved physicians' practices in smoking interventions but had no impact on patients' smoking cessation.[6,7]

Smoking cessation is viewed as a process of change through successive stages with increasing motivation to quit, the stages-of-change model.[8] Two programs applied this framework to teach physicians how to provide tailored counseling to smokers; both improved physicians' practices but obtained conflicting results on patients' smoking cessation.[9,10]

We developed and tested a new curriculum for residents based on active methods and the stages-of-change model to teach smoking cessation counseling skills that match the patient's motivation and appropriate use of pharmacological therapy. This paper aims to describe the innovative educational approach of this program, which has been shown to be effective in increasing smoking cessation.[11] We hope it may be useful for those considering starting a similar program at their institution.

TRAINING PROGRAM DESCRIPTION

Context

This project was initiated by its main sponsors, the Swiss Office for Public Health and the Swiss Medical Association. They contracted with both authors to develop and evaluate this new curriculum independently in 2 general internal medicine clinics in university hospitals of Geneva and Lausanne, Switzerland. Four factors facilitated the integration of this curriculum in the busy residency programs of both centers: 1) The recent transfer in both institutions of the existing general internal medicine clinic to a newly created department of community medicine, of which it is the main component. 2) The interest of these departments to include prevention and health promotion in primary care and to integrate public health with clinical practice. 3) The change in educational methods in both residency programs, with a shift from didactic teaching to interactive learning methods. 4) The availability of attending

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Address correspondence and requests for reprints to Dr. Humair: Medical Policlinic, Department of Community Medicine, Geneva University Hospital, 24 Rue Micheli-Du-Crest, CH-1211 Geneva 14, Switzerland (email: Jean-Paul.Humair@hcuge.ch).

physicians (i.e., both authors) trained in general internal medicine and public health, with major interests in clinical prevention, smoking cessation, and medical education.

Principles

This training program is based on 5 principles: 1) Recent evidence-based content on tobacco use and cessation.[1] 2) Behavioral theory: applying the stages-of-change model to interventions which match the smoker's motivation to quit.[8] 3) Pharmacological therapy: teaching the appropriate use of nicotine replacement and bupropion for smoking cessation.[1] 4) Educational methods focusing on active skills training.[3,4] 5) Tobacco control context: use of national data on the burden of smoking-related diseases and adaptation of content to Swiss tobacco control policies.[12]

Learners and Teachers

This training program is primarily designed for postgraduate education of residents. Teachers are the 2 authors, who are experienced physicians active in clinical practice and teaching. Teachers were previously trained in smoking cessation counseling during a Master of Public Health course, currently provide these interventions in clinical practice, and are considered as national experts in smoking cessation. Both sessions are run by 2 teachers.

Educational Objectives

At the end of the program, residents should have reached 8 major objectives. They will: 1) Systematically identify all patients who smoke and assess their level of nicotine addiction. 2) Clearly recommend smoking cessation to all smokers. 3) Assess each smoker's motivation about smoking cessation, using the stages-of-change model to synthesize the smoking cessation process along a continuum: 3.1) "Precontemplation": no intention to quit smoking within 6 months. 3.2) "Contemplation": serious intention to quit smoking in 1–6 months. 3.3) "Preparation": plan to quit smoking within 30 days. 3.4) "Action": smoking cessation for less than 6 months. 4) Counsel all smokers with strategies matching their motivation stage. 4.1) Minimal advice (<3 min) to inform and sensitize smokers in "precontemplation" with personalized messages: benefits of cessation, risks of smoking, and challenging beliefs. 4.2) Brief advice (3–10 min) to motivate smokers in "contemplation" to quit: balancing pros and cons of smoking, discussing personal barriers to cessation and their solutions, and presenting cessation methods. 4.3) Intensive counseling (>10 min) to help all smokers in "preparation" and "action" to quit and remain abstinent: showing support, setting a quit date, and planning behavioral strategies to prevent relapse in high-risk situations. 5) Prescribe nicotine replacement therapy or bupropion to addicted smokers in "preparation" or "action" with adequate instructions; second-line therapies are not detailed, as they are not registered for smoking cessation in Switzerland. 6) Offer written material matching patient's readiness to quit. 7) Follow-up smokers in the short and long term. 8) Organize and facilitate smoking cessation interventions in routine clinical practice.

Educational Activities

The program is designed for 10 to 20 participants and includes two 4-hour sessions scheduled 2 weeks apart to allow practice between sessions. Educational activities include various methods emphasizing active skills training but also providing basic knowledge about tobacco use and cessation. Activities change in a specific order with increasing complexity: observation, analysis, role plays, and practice with standardized patients.

Session 1: Video-clips Observations, Interactive Workshops, and Role Plays

After an initial self-assessment of current smoking cessation practices, the first session has 3 parts focusing each on a patient successively in precontemplation, contemplation, and preparation stages. Each part includes an observation of a videotaped encounter between a smoker and a physician, an interactive workshop, and a role play between participants.

Participants observe 3 video-clips showing smoking cessation interventions by a primary care physician in 3 consultations with the same smoker who is successively in precontemplation, contemplation, and preparation stages. Using a checklist (Appendix I, available online at http://www.jgim.org), participants identify the smoker's motivation stage and the different smoking cessation strategies used by the physician, and then report their observations to the group.

After each video-clip, teachers use the clinical case and learners' observations to conduct a short interactive workshop; using a standard presentation, they provide concepts and evidence about stages of change, nicotine addiction, counseling strategies matching the smoker's motivation, and pharmacological therapy. In the third interactive workshop about smokers in the preparation stage, nicotine replacement products and bupropion are presented and their correct use demonstrated; second-line therapies are only briefly mentioned as they are not available for smoking cessation in Switzerland.

After each interactive workshop, participants group in trios to perform a role play based on a new scenario with a smoker who is successively at the precontemplation, contemplation, and preparation stages. Learners alternatively play the role of the patient, the physician, and the observer who analyzes the role play with the checklist (Appendix I, available online at http://www.jgim.org). After a brief report by all observers, role plays are debriefed with the whole group.

Session 2: Practice with Standardized Patients

The second session is dedicated to the practice of smoking cessation interventions with standardized

patients in small groups. Each participant plays once the role of the physician according to a scenario (Fig. 1) and observes others' interventions with the checklist (Appendix I, available online at http://www.jgim.org). The content and the style of each encounter are then discussed in the large group with input from standardized patients, observers, and "physicians." Teachers comment on each encounter, answer questions, and support their comments with evidence.

Standardized patients, 2 women and 2 men, all former smokers, were recruited from a university program[13] and were trained in four 1-hour sessions by 1 investigator (J-PH). Using written scenarios (example in Fig. 1), each standardized patient was trained to portray a smoker in precontemplation, contemplation, preparation, and action stages. Each has a different profile in terms of age, gender, social situation, cardiovascular risk factors, and smoking-related diseases.

Documents

At the end of the first session, participants receive a set of documents developed for this program to reinforce the physician's knowledge and skills in smoking cessation, to facilitate their implementation in clinical practice, and to provide appropriate information to patients. These documents include: 1) A reference manual summarizing the current knowledge on tobacco use and cessation in clinical practice and including a self-assessment before and after training.[14] 2) Two algorithms summarizing counseling strategies and pharmacological therapy designed for the physician's pocket or desk.[14] 3) A record sheet for consultations with smokers facilitating recording of information on tobacco use and smoking cessation interventions.[14] 4) A set of 6 brochures for patients matching the 6 stages of change: "precontemplation," "contemplation," "preparation," "action," "maintenance," and "relapse"; these brochures were developed in conjunction with a computer-tailored program for smoking cessation.[15,16] 5) A set of patient instructions for use of each nicotine replacement product and bupropion.[14]

These documents were initially written in French and then translated into German, and will soon be available in English, Italian, and Spanish.

PROGRAM EVALUATION

Evaluation of the Training Program

The participants attending the pilot phase evaluated this training program with a self-administered questionnaire (Appendix II, available online at http://www.jgim.org). Their mean (SD) ratings on a 4-point Likert scale show that they reached the major learning objectives: counseling smokers with strategies matching the stage of change (3.65 [0.49]), prescribing pharmacological therapy (3.60 [0.50]), and increasing their skills (3.70 [0.47]) and self-efficacy (3.53 [0.61]) in smoking cessation interventions. With their high mean (SD) ratings on a 5-point Likert scale, they valued the learning of skills applicable in their practice (4.68 [0.48]), their active involvement in learning activities (4.95 [0.23]), and their high global satisfaction (4.84 [0.37]).

Evaluation of Clinical Outcomes

We tested this program in both of our general internal medicine clinics with a cluster randomized trial, of which methods and results were already reported.[11] Compared to the control group, trained residents used all smoking cessation strategies more often and provided counseling of higher quality, even after adjustment for clustering (mean overall score 4.0 vs 2.7; $P = .001$). Patients' smoking abstinence at 1 year was significantly higher in the intervention group (13% vs 5%; $P = .005$), corresponding to a cluster-adjusted odds ratio of 2.8 (95% confidence interval (CI), 1.4 to 5.5).

DISCUSSION

This paper describes an innovative evidence-based program using the stages-of-change model to teach residents how to provide counseling matching the smoker's motivation to stop and to prescribe pharmacological therapy. This program uses various active educational methods, particularly standardized patients to enhance the learning of counseling skills, and includes material facilitating implementation in clinical practice. This training program pleases most participants who achieve the educational objectives. A randomized trial showed that this training program is feasible and effective as it significantly increases the quality of residents' counseling, and most importantly, patients' smoking abstinence at 1 year.[11]

Our experience and results reflect the impact of the whole program and we cannot determine which components made it successful. We believe that active skills training, the stages-of-change conceptual framework, and its inclusion in the residency programs are the key elements that contribute to the effectiveness of this curriculum.

Our program emphasizes active learning of counseling skills with video-clip observations, role plays, and practice with standardized patients. It confirms that effective training programs must go beyond transmission of information and include skills training to change physicians' behavior and to improve patients' outcomes.[3–5] Therefore, it is essential that educational programs define learning objectives in terms of physician's behavior and select appropriate learning methods enabling physicians to apply new knowledge and to practice new skills.

The use of the stages-of-change model as a conceptual framework probably contributes to the effectiveness of this program. Although application of this model in previous smoking cessation training programs resulted in conflicting results,[9,10] it probably helps residents to understand the process of smoking cessation, to structure their

Scenario for Standardized Patient

Standardized patient's script: Mrs. Mary Long

Setting: Practice of a family physician

Personal history: You are Mrs. Mary Long, a young woman aged 34, married, mother of 2 children aged 4 and 2. You work as a secretary.

Reason for encounter: You visit this physician for the second time because of a runny nose and a sore throat. The physician diagnosed a viral rhino-pharyngitis and prescribed a treatment of aspirin and nasal drops.

Past history: You are in general good health and you never had any serious medical problem. Last year you had an episode of low back pain for a few days.

Personal habits: You started to smoke when you were 16 and you currently smoke about 20 cigarettes a day. You think about stopping smoking, maybe in the next few months but not in the near future. For you it is not the right time to stop smoking; you feel under pressure because of your work and your home duties. In the morning, you smoke your first cigarette approximately ½ hour after waking up while you drink a cup of coffee. You already tried to stop smoking a year ago for a week but you became so nervous and restless that your family urged you to start smoking again. A cigarette allows you to relax during or after stressful moments; you also enjoy it while drinking coffee, after a nice meal, or when meeting friends or colleagues. You know that tobacco smoking is harmful but you do not feel concerned by this danger. You ignore that smoking increases the risk of respiratory infections. You believe that smoking is harmful for your children's health and that you do not show them a good example. You are sometimes upset by your husband who stopped smoking 5 years ago and disapproves of your smoking. You are very concerned by the possible weight gain if you stop smoking. You do not have any other risk behavior.

Situation: You are at the end of the consultation. While reading his notes, your physician just realizes that you are a smoker and he is about to raise this issue with you.

Instructions: You let the physician start the discussion at this moment of the consultation. You give information about smoking only when the physician asks for it. **You think about stopping smoking but you are not yet ready for it.** If the physician asks you questions for which there is no answer in the script, you may: 1) answer negatively; 2) answer that it is normal and that you do not have the condition raised by his question; or 3) answer according to your own personal history or experience.

Script of Mrs. Mary Long' physician

Setting: Practice of a family physician

Medical history: You see Mrs. Mary Long for the second time. She is a young woman aged 34, married, mother of 2 children aged 4 and 2, and works as a secretary. She comes because of a runny nose and a sore throat. You diagnose a viral rhino-pharyngitis and prescribe a treatment of aspirin and nasal drops. She is in general good health and never had any serious medical problem. Last year, she had an episode of low back pain for a few days.

Situation: You are at the end of the consultation. While reading your notes, you realize that she is a smoker. You already advised her briefly to stop smoking at the previous visit but she was not ready to quit smoking at that time.

Instructions: You start the discussion at this moment of the consultation and raise the issue of smoking. You have a maximum of **8 minutes** for your intervention.

FIGURE 1. Scenarios for standardized patient and physician scripts.

interventions, and to have more realistic expectations of the effect of counseling.

Our experience shows that residency provides a unique opportunity for intensive training in smoking cessation. Residents appreciate active learning methods enabling them to reach learning objectives and to enhance their self-efficacy. They may then have the basic knowledge and skills in smoking cessation for their professional career. Three prerequisites are necessary to integrate successfully a smoking cessation curriculum in residency programs: program including learning objectives in preventive care, use of interactive educational methods, and availability of an expert trained in smoking cessation.

Like any medical service, training in smoking cessation should occur not only during postgraduate training, but also in medical school and continuing education programs. We must therefore develop a coherent and global approach to recognize smoking cessation as a routine clinical activity and to implement training during all phases of medical education. The feasibility and effectiveness of this program should ideally be tested in undergraduate and continuing education and its content and format eventually adapted. For 2 years, we have included practicing physicians in this program with the choice to attend either the first or both sessions; from our experience, this program is applicable for this audience who provided very positive feedback.

The next challenge is to promote and disseminate this program to train and involve more physicians.[1] The dissemination process includes training future trainers, building networks with existing training institutions, medical associations, and health care services, reproducing printed material, and planning sessions that fit institutional needs. The extension of training programs to a large scale is a critical step in having a significant public health impact. If we want to reduce the harmful effects of tobacco smoking and bring significant long-term health benefits to a population, we need many trained physicians able to provide effective smoking cessation interventions.

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APPENDIX I

Checklist for observation of video-clips, role plays and encounters with standardized patients

Which strategies did the physician use to counsel or assist the patient for smoking cessation during the video-clip/role play/encounter with a standardized patient you just watched? Check your observations on the list below.

Strategy	Observed
Identify tobacco use	
Assess tobacco consumption: daily consumption, duration	
Assess motivation to stop smoking: intention and deadline to stop, quit attempts	
Assess nicotine dependence: time to 1st cigarette in the morning, withdrawal symptoms	
Inform about benefits of smoking cessation	
Inform about health risks of tobacco smoking	
Challenge patient's justifications to smoke or not to quit	
Ask the patient to weigh "pros" and "cons" of smoking	
Discuss patient's obstacles to smoking cessation: withdrawal, stress, relapse, weight gain, loss of pleasure, other smokers, depression	
Personalize information about tobacco use: health, family, look, money	
Recommend reducing cigarette consumption progressively	
Recommend stopping smoking abruptly and completely	
Offer assistance for smoking cessation	
Leave to the patient the decision to stop smoking	
Coerce the patient to stop smoking	
Suggest a quit date for complete smoking cessation	
Suggest practical strategies to prevent relapse: identify, anticipate, avoid risk situations, alternative behavior during smoking urges, social support from family, friends and colleagues, discard smoking equipment, rewards	
Inform about smoking cessation and withdrawal process	
Prescribe nicotine replacement therapy: patch, chewing-gum, nasal spray, inhaler, tablet	specify:
Prescribe bupropion	
Give instructions about use of nicotine replacement therapy or bupropion	
Give written material about smoking cessation	
Say that smoking will be discussed again at next visit	
Arranged an appointment to discuss smoking cessation	
Refer to a smoking cessation program / specialist	
Refer for smoking cessation therapy by hypnosis / acupuncture	specify:

APPENDIX II

Evaluation questionnaire for participants in the training program

This questionnaire aims to collect your opinions about the training program in smoking cessation that you just attended in order to improve its content and format. This questionnaire is anonymous; analysis and reports of these data will respect confidentiality.

A. Comments

A1. Indicate the main positive points which you appreciated in this smoking cessation training program:

_____

_____

_____

_____

_____

_____

_____

_____

A2. Indicate the main negative points which must be improved in this smoking cessation training program:

_____

_____

_____

_____

_____

_____

For each item of section **B**, please rate how the **objectives** listed below were achieved at the end of this smoking cessation-training program; tick the box corresponding the best to your personal opinion on the following 4-point scale:

1 = objective not achieved at all

2 = objective not really achieved

3 = objective partially achieved

4 = objective completely achieved

B. Achievement of educational objectives	**1**	**2**	**3**	**4**
To know the risks of tobacco use	☐1	☐2	☐3	☐4
To know the benefits of smoking cessation	☐1	☐2	☐3	☐4
To describe the basic principles of nicotine dependence	☐1	☐2	☐3	☐4
To describe the process of smoking cessation through motivation stages	☐1	☐2	☐3	☐4
To understand the physician's role in smoking cessation	☐1	☐2	☐3	☐4
To know the effectiveness of physicians' interventions for smoking cessation	☐1	☐2	☐3	☐4
To describe the process of smoking cessation through motivation stages	☐1	☐2	☐3	☐4
To identify systematically patients who smoke	☐1	☐2	☐3	☐4
To assess smoker's motivation to stop smoking	☐1	☐2	☐3	☐4
To advise smokers with strategies matching their motivation to stop	☐1	☐2	☐3	☐4
To prescribe pharmacological therapy for smoking cessation	☐1	☐2	☐3	☐4
To increase your self-confidence in motivating and helping your patients to stop smoking	☐1	☐2	☐3	☐4
To increase your skills in initiating and providing smoking cessation intervention with your patients who smoke	☐1	☐2	☐3	☐4
To increase your self-efficacy in smoking cessation interventions with your patients who smoke	☐1	☐2	☐3	☐4

For each item of section **C**, please rate the duration of the different educational activities in this smoking cessation-training program; tick the box corresponding the best to your personal opinion on the following 5-point scale:

1 = far too short
2 = a bit too short
3 = right duration
4 = a bit too long
5 = far too long

C. Duration of activities	**1**	**2**	**3**	**4**	**5**
Whole program	☐1	☐2	☐3	☐4	☐5
Interactive workshops	☐1	☐2	☐3	☐4	☐5
Video-clips observations	☐1	☐2	☐3	☐4	☐5
Role plays	☐1	☐2	☐3	☐4	☐5
Encounters with standardized patients	☐1	☐2	☐3	☐4	☐5

For each item of section **D**, please give your suggestions for the various educational activities in this smoking cessation-training program; tick the box corresponding the best to your personal opinion on the following scale:

- to maintain
- to improve
- to suppress

D. Suggestions for future educational activities	**to maintain**	**to improve***	**to suppress***
Whole program	☐	☐	☐
Interactive workshops	☐	☐	☐
Video-clips observations	☐	☐	☐
Role plays	☐	☐	☐
Encounters with standardized patients	☐	☐	☐

***Your suggestions:**

For each item of section **E**, please indicate your personal opinions about this smoking cessation-training program in general; tick the box corresponding the best to your personal opinion on the following 5-point scale:

1 = I totally disagree
2 = I rather disagree
3 = neutral opinion
4 = I rather agree
5 = I totally agree

E. Global evaluation	**1**	**2**	**3**	**4**	**5**
I had sufficient prior knowledge to follow this program	☐1	☐2	☐3	☐4	☐5
The objectives of this program were clearly stated	☐1	☐2	☐3	☐4	☐5
I achieved the objectives of this program	☐1	☐2	☐3	☐4	☐5
I learned a lot during this program	☐1	☐2	☐3	☐4	☐5
I can apply in my practice what I learned in this program	☐1	☐2	☐3	☐4	☐5
Educational activities of this program were relevant	☐1	☐2	☐3	☐4	☐5
This program was globally well organized	☐1	☐2	☐3	☐4	☐5
I could actively participate in the educational activities of this program	☐1	☐2	☐3	☐4	☐5
Teachers of this program were well prepared	☐1	☐2	☐3	☐4	☐5
The documents distributed in this program are useful	☐1	☐2	☐3	☐4	☐5
The atmosphere in this program was pleasant	☐1	☐2	☐3	☐4	☐5
I am satisfied with this program	☐1	☐2	☐3	☐4	☐5
I will recommend this program to my colleagues	☐1	☐2	☐3	☐4	☐5

For each item of sections **F, G, H and I**, please indicate your personal opinions about the format of the different educational activities in this smoking cessation-training program; tick the box corresponding the best to your personal opinion on the following 5-point scale:

1 = I totally disagree

2 = I rather disagree

3 = neutral opinion

4 = I rather agree

5 = I totally agree

F. Interactive workshops	**1**	**2**	**3**	**4**	**5**
Interactive workshops were relevant for stated objectives	☐1	☐2	☐3	☐4	☐5
Interactive workshops enabled me to practice what I learned	☐1	☐2	☐3	☐4	☐5
I learned a lot during interactive workshops	☐1	☐2	☐3	☐4	☐5
Interactive workshops were well integrated with the whole program	☐1	☐2	☐3	☐4	☐5
Interactive workshops were well organized	☐1	☐2	☐3	☐4	☐5
I could actively participate in the interactive workshops	☐1	☐2	☐3	☐4	☐5
Teachers of interactive workshops were well prepared	☐1	☐2	☐3	☐4	☐5
Material used in interactive workshops was of high quality	☐1	☐2	☐3	☐4	☐5
Documents distributed after interactive workshops are useful	☐1	☐2	☐3	☐4	☐5
The atmosphere during interactive workshops was pleasant	☐1	☐2	☐3	☐4	☐5

G. Video-clips observations	**1**	**2**	**3**	**4**	**5**
Video-clips observations were relevant for stated objectives	☐1	☐2	☐3	☐4	☐5
Video-clips observations enabled me to practice what I learned	☐1	☐2	☐3	☐4	☐5
I learned a lot during video-clips observations	☐1	☐2	☐3	☐4	☐5

Video-clips observations were well integrated with the whole program	☐1	☐2	☐3	☐4	☐5
Video-clips observations were well organized	☐1	☐2	☐3	☐4	☐5
I could actively participate in the video-clips observations	☐1	☐2	☐3	☐4	☐5
Teachers of video-clips observations were well prepared	☐1	☐2	☐3	☐4	☐5
Material used in video-clips observations was of high quality	☐1	☐2	☐3	☐4	☐5
The checklist used during video-clips observations was useful	☐1	☐2	☐3	☐4	☐5
The atmosphere during video-clips observations was pleasant	☐1	☐2	☐3	☐4	☐5

H. Role plays	**1**	**2**	**3**	**4**	**5**
Role plays were relevant for stated objectives	☐1	☐2	☐3	☐4	☐5
Role plays enabled me to practice what I learned	☐1	☐2	☐3	☐4	☐5
I learned a lot during role plays	☐1	☐2	☐3	☐4	☐5
Role plays were well integrated with the whole program	☐1	☐2	☐3	☐4	☐5
Role plays were well organized	☐1	☐2	☐3	☐4	☐5
I could actively participate in the role plays	☐1	☐2	☐3	☐4	☐5
Teachers intervening after role plays were well prepared	☐1	☐2	☐3	☐4	☐5
Scenarios of role plays were of high quality	☐1	☐2	☐3	☐4	☐5
The checklist used for observations of role plays was useful	☐1	☐2	☐3	☐4	☐5
The atmosphere during role plays was pleasant	☐1	☐2	☐3	☐4	☐5

I. Encounters with standardized patients (SP)	**1**	**2**	**3**	**4**	**5**
Encounters with SP were relevant for stated objectives	☐1	☐2	☐3	☐4	☐5
Encounters with SP enabled me to practice what I learned	☐1	☐2	☐3	☐4	☐5
I learned a lot during encounters with SP	☐1	☐2	☐3	☐4	☐5
Encounters with SP were well integrated with the whole program	☐1	☐2	☐3	☐4	☐5

Encounters with SP were well organized	☐1	☐2	☐3	☐4	☐5
I could actively participate in the encounters with SP	☐1	☐2	☐3	☐4	☐5
Teachers intervening after encounters with SP were well prepared	☐1	☐2	☐3	☐4	☐5
Standardized patients were well prepared	☐1	☐2	☐3	☐4	☐5
Scenarios of encounters with SP were of high quality	☐1	☐2	☐3	☐4	☐5
The checklist used for observations of encounters with SP was useful	☐1	☐2	☐3	☐4	☐5
The atmosphere during encounters with SP was pleasant	☐1	☐2	☐3	☐4	☐5

Other comments:

End of the questionnaire, we thank you for your kind cooperation