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A video feedback-based tobacco cessation counselling course for undergraduates-preliminary results

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Abstract

Background—Hungary has one of the highest rates of tobacco use and decayed, missing and filled teeth in Europe, and the number of lung cancer-related deaths per annum is amongst the highest globally. As it is estimated that the rate of smokers who see their dentist or physician annually is about 70%, to involve all healthcare providers in tobacco intervention seems to be a promising strategy to reduce tobacco use in countries like Hungary. Such an intervention should obviously include the dental health team. It has already been suggested by experts on this topic that instruction in tobacco use prevention and cessation counselling for dental professionals and students of dentistry should be included in under- and postgraduate curricula.

Objectives—To present a novel, video feedback-based undergraduate cessation counselling programme, which has recently been introduced to the dental curriculum at the Faculty of Dentistry, Szeged, Hungary.

Methods—Applying a problem-based learning approach, the programme consists of three main activities: a small-group interactive training session led by a faculty member, where students learn about the basic science and clinical aspects of tobacco use, including counselling skills; student interactions with professional actors (i.e. standardised patients) simulating real-life dental situations, which are recorded for post hoc evaluation; and finally an evaluation of the recorded performance of each student, with the participation of the actor, the student and a faculty member.

Results—With the help of this new approach, students had the chance to learn about and develop a deeper understanding of tobacco-related professional dental communication in realistic, case-based dental scenarios. Students have reported increased confidence in tobacco counselling after having participated in this programme. Furthermore, this method appears to be an ideal tool for the evaluation of both verbal and non-verbal tobacco counselling skills.

Conclusion—To our knowledge, we are the first to have applied video feedback combined with behavioural modification methods in the teaching of tobacco cessation counselling. We conclude that teaching method can help dentists better understand smokers, gain confidence in tobacco cessation counselling and become more effective promoters of a smoke-free lifestyle. In addition, this method can be easily adapted to other healthcare educational settings, including other oral health training programmes.

Keywords

tobacco cessation; curricular development; dental students; education

Introduction

Many of the chronic illnesses of the 21st century can be traced back to alcohol consumption, sedentary lifestyle, unhealthy nutrition and smoking. Smoking, in particular, is a global public health problem (1). Alcohol consumption, together with smoking, increases the risk of oral diseases along with other smoking-related diseases such as the different types of cancer, cardiovascular diseases and stroke (2–8). Indeed, smoking is accountable for 50% of the avoidable mortality in the world (9).

Smoking has a definitively negative effect on the health status of the oral cavity. A direct connection has been established with diseases such as oral cancer (10), periodontitis (11) and leucoplakia (7), but the direct influence of smoking on dental caries is still not verified. Population-based epidemiological studies have found that periodontitis is more common in smokers than in non-smokers (12,13). Smoking also favours colonisation by specific periodontopathic bacteria, and this contributes to the disease severity of periodontitis in smokers (14).

Hungary is one of the leading countries in the world in terms of lung cancer prevalence (15), and the number of decayed, missing and filled teeth is also amongst the highest in Europe (16,17), which, as demonstrated by Haikola et al. (18) in a Finnish sample, are not completely unrelated to smoking. It is well known that most smokers begin smoking whilst in their teens, and there is evidence that a considerable percentage of smoking adolescents do wish to quit; however, they fail to do so without professional help (19). Amongst adolescents, depression, stress and low self-confidence increase the probability of starting tobacco use (20,21). Parental and peer attitudes greatly determine adolescent smoking patterns as well (21–24). In addition, adolescent smoking is also influenced by social factors such as lower socio-economic status and living environment (25). Taken together, these suggest that beyond established adult smokers, adolescents should be a distinguished focus group of prevention and cessation counselling.

In terms of chances for cessation counselling, dentists seem to be in quite an advantageous situation; according to Garvey (26), about 70% of smokers visit a dentist per year. Furthermore, dentists are in a special situation, as they may be the first to notice damage caused by regular tobacco use, sometimes well before the actual manifestation of any kind of oral disease. Thus, a possible and very promising strategy to reduce the prevalence of smoking-related oral diseases or even mortality is to increase the involvement of the dental

team in tobacco prevention and cessation counselling (27). To reach that end, the implementation of tobacco use- and cessation-related education for dental students and dentists is essential (28,29).

Indeed, the recent years have seen an increasing interest in the introduction and development of tobacco use prevention and cessation counselling into dental curricula, and, as a result, a number of principles seem to add up to what Davis et al. (30) refer to as a paradigm shift. One of those emerging principles is the use of standardised patients (31–34), which may be interpreted as a long missed link between classroom-based role-play and the actual clinical situation, providing a smoother transfer between the classroom and reality. Smoking is an addiction, both psychologically and in neurobiological terms (35,36), which means that any intervention aimed at cessation is likely to meet patient resistance. Therefore, another important (and long-recognised) aspect is that the method taught should be based on reducing resistance through patients' intrinsic motivation (37). Brief motivational interviewing (BMI) (38) seems to be especially appropriate for this purpose. As Koerber et al. put it: 'The practitioner facilitates change by establishing rapport with the patient, providing a structure to the interview (...), assessing the importance of issues to the patient, and assessing the confidence a patient has in being able to change. The practitioner then encourages the patient to choose a behavior or behaviors that he or she feels able to do...' (39). As a guideline and framework, the '5As' method is recommended and used (29,40). A great advantage of the BMI/5As methodology is that it allows prevention and cessation counselling work even in a busy public health setting, without simplifying intervention to the level of asking patients whether they smoke and then telling them they should not. Furthermore, Shibly (29) found this methodology especially efficient in the dental setting, reaching an overall 22% quit rate in 6 months upon counselling by dental students. This obviously suggests that these methods are well transferable and efficient at the same time. Finally, Davis et al. (30) emphasise that performance assessment in the process of teaching should be reflective, for which they give logs, diaries and portfolios as examples, so that the accomplishments and personal development are well documented.

These facts, recommendations, guidelines and the long-term experience in dentist–patient communication of our team motivated us to start a new course in dental education regarding tobacco intervention, based mainly on the well-established methodological tenets described earlier. However, as new elements, we introduced professional actors as standardised patients and video feedback as a novel tool for reflective (self-) assessment. The new university course was officially added to the dental curriculum at the University of Szeged in 2010 and at the Semmelweis University, Budapest, in 2011. This study describes the course as it has been introduced at the University of Szeged. The title of the course is 'Smoking prevention in the dental practice', and it includes a 60 min theoretical class per week and four practice sessions. During the practice sessions, students have the chance to practice various dentist–patient communication situations with professional actors. These encounters are recorded, and the video is analysed. The course proposal was accepted by the Education Committee of the dental school in November 2009 and instituted in February 2010. The aim of the present communication is to briefly introduce our tobacco-related dental communication training course and to share the experiences we have gained during this course.

Methods

Aims of the course

The ultimate aim of the course is that dental students be able to help patients with behavioural and pharmaceutical cessation techniques. A further – similarly important – goal is to provide students the theoretical basis and practical skills that will make them congruent role models for cessation. Three key facts are emphasised throughout the course, which might well be considered as the foundations of the course: first, although 75–85% of smokers want to quit smoking (41), only a small percentage can succeed without professional help; second, it is reasonable to assume that about two-thirds of all young smokers had actually made cessation attempts during the previous year in Hungary (42); and third, that the relationship between the dentist and the patient opens up a platform for personal guidance and consultation, which increases the probability of successful cessation (43).

In terms of curriculum development, the primary goal of this pilot study was to assess the applicability and efficacy of this new course.

Teachers and course design

The educational team of this programme is a multidisciplinary team, which involves a professor of dental sciences, two dentists, a specialist of preventive medicine, a general practitioner, a communication specialist and four specially trained professional actors.

The course has been designed in a problem-based learning (PBL) framework, which, particularly over the past two decades, has become increasingly common in dental education (44,45). It comprises three main, consecutive phases, as described below (see Table 1 for an item-wise course description).

So far, 70 students have finished this course.

The first phase is a theoretical preparation phase. In this first phase, students acquire a substantial amount of background knowledge on various aspects of nicotine addiction in physiological and pathophysiological terms, and about psychological tobacco dependence as well. This phase of the course follows the lines laid out by Ramseier et al. (46). Several topics of the theoretical sessions are covered by guest lecturers, so that students have the chance to learn directly from professionals of the different fields involved.

The second phase comprises practical preparation. In this phase, students practice skills on each other after that they are trained how to use practical interventional techniques, most importantly the technique of motivational interviewing (MI). MI is a patient-oriented method to increase the patients' inner motivation to change their behaviour by exploring and resolving ambivalence (47). As dentists have only a limited timeframe at their disposal for cessation support, it is advisable that the shorter, questionnaire-based form of MI, better known as 'BMI' be used in the dental practice (48). The efficacy of MI and BMI in connection with dependent behaviour is supported by several studies (49–52). From our point of view, it is particularly important that Koerber et al. (39) found this method to be

successfully applicable to the dental curriculum. Therefore, we put emphasis on the thorough knowledge of this method. Students learn that the most important aspects they have to assess are patients' readiness to change (47), how important that change for the patient is (53), and how much the patient is convinced that the change can actually be made (37). Students are familiarised with the evaluation of the BMI questionnaires, and they are also taught the patient guidance styles to be used with BMI, as described by Rollnick et al. (54).

Students also obtain information about evidence-based methods for tobacco use cessation, including the well-established 5As Method (55) and its combination with pharmacotherapeutic solutions.

In the practical part of this phase, students obtain a written manual, which describes the BMI protocol step-by-step, summarises the 5As Method and contains scenario scripts, which describe the ways, concepts and methods of tobacco cessation support. With the help of this manual, students have the chance to practice their newly acquired skills in pairs, based on made-up situations.

In the third, intervention practice phase, students participate in an interactive, video feedback-supported communication training, which is the real methodological novelty of this approach. With the help of professional actors real-life dental encounters are simulated, these encounters are recorded and then evaluated together with the actor, students and teachers. The simulated situations are complex ones, based on expert experience. The situations centre around three basic patient attitudes: seeking help with cessation, hesitation and refusal (see Table 2 for an example). Both verbal and non-verbal skills are evaluated, so that students are able to learn about and gain a deeper understanding of the particularities of communication in clinical situations through direct involvement. Written feedback (in the form of an evaluation sheet) is given by both a teacher and the actor playing the patient. Points to be evaluated by the teacher include various aspects of verbal and non-verbal communication, history taking and the ability to obtain medical information through, whilst the patient sheet gives an opportunity to aspects like friendliness, openness towards the psychological concerns of the patient or conversational style. Both the teacher and the actor rate each particular aspect from 0 to 2 (see Table 3 for a selection of items and evaluation). Students' videos are also discussed in a group training session, where expert feedback on desirable communicative elements and ones to be avoided is provided.

The students who have finished the course are working with real patients now, which means an excellent opportunity for efficacy and progress assessment. For that reason, evaluation sheets from the first two semesters of the course have been saved, and now patients treated by former course attendees are asked to do the same evaluation. This way it will be possible to tell whether the students can apply the knowledge and skills acquired in the course with real situations as well, and progress assessment at the individual level will be possible as well.

Assessment

A short questionnaire about the course and its methodology was administered to attendees. Three questions were asked. The first one addressed general satisfaction with the course (Did the course fulfill your expectations?), the second one asked participants to evaluate the theoretical part (please evaluate the theoretical education during the course.), whilst the third one sought to assess satisfaction with the video feedback part (please evaluate the video feedback sessions.). Participants were instructed to rate these aspects on a five-point Likert scale, where 1 meant poor, 2 meant below average, 3 meant average, 4 meant good and 5 meant excellent. Students were also asked to give a descriptive evaluation. The questionnaire was approved by the Institutional Review Board at the University of Szeged.

Results

Evaluation of the course-student feedback

As this course has not been part of the curriculum for long, it would be difficult to evaluate it in terms of actual cessation support efficacy. Therefore, we concentrate on student feedback, which is an important measure of how effective the course may be and how well it fits into the curriculum. Obviously, if students find a course useful, interesting and well-constructed, the efficacy of that course in terms of knowledge transfer increases. Furthermore, such a course is likely to generate more interest amongst future students as well.

Here, we present the results of the student evaluation of our latest course. Altogether 40 questionnaires were completed.

Results are presented in Fig. 1. To summarise the results, more than 90 ($n > 36$)% of the respondents rated all aspects as excellent or good, which signifies a high level of satisfaction. Only 5% ($n = 2$) indicated average general satisfaction, and two and a half per cent ($n = 1$) rated the course in general as poor. Neither the theoretical nor the video feedback sessions were rated lower than average. Satisfaction with the video feedback sessions was remarkable: 77.5% rated them as excellent.

As for the descriptive evaluations, they could be divided into two large groups: those who expressed students' satisfaction with the course and those making technical suggestions. The first group included comments like 'I found it very useful. Actually, students on the general medicine track should take this course as well' or 'What I liked about this course is that it deals with a completely new topic, which has not been dealt with before in the official curriculum. What is more, we can use what we have learnt not only in our dental practice, but in our private lives as well' and 'Now I understand why it is difficult for smokers to give up tobacco use!' Typical comments from the second group are as follows:

'Real smokers should be involved in the course, so that we would have a direct chance to ask them how they feel about the way we communicate' or 'A wider variety of scenarios for the video sessions would be useful'.

Finally, it is important to point out that the ratings of the corresponding points on the student evaluation sheets filled by course teachers and actors largely overlapped.

Discussion

To our knowledge, we are the first to integrate a video feedback– based and simulation–based undergraduate tobacco cessation counselling course into a university curriculum.

Although the course is too recent to be evaluated in terms of actual cessation support efficacy, student feedback shows that it was welcome and possibly filled a long-standing void experienced by students too. That is, student responses revealed that there exists a communicative gap between smokers and non-smokers in connection with smoking ('Real smokers should be involved...'; 'Now I understand why...'), which is possibly related to the increasing (also legal) stigmatisation of smoking on one hand and the lack of ongoing professional communication on the other. That smoking is something 'bad' is increasingly and righteously realised; however, at the same time, smokers possibly perceive stigmatisation, which may make them hide their habit or feel guilty about it, so that finally they will rather not talk to their dentist about their tobacco-related problems. This is just complicated by the fact that dentists who themselves smoke will shy away from the topic too, possibly so as not to lose patients' respect. One might say that tobacco-related popular communication operates mostly at the emotional level, inducing an uncertain and maybe uncanny feeling that there is 'something wrong' with people who smoke. We believe that a key aspect in professional tobacco prevention is that tobacco use should not be demonised as a personality defect. Prevention and cessation counselling require an atmosphere of unconditional acceptance based on firm scientific knowledge of the multifactorial nature of tobacco dependence and also a firm knowledge of the most efficient methods. It is against such a background that efficient patient education and cessation support can happen. We are positive that our course is a step towards that goal.

The survey and written feedback show that the novel aspect of this course, simulation with video feedback, turned out to be a great success. Obviously, this method gives a 'closest to the real thing' experience, one step beyond training in pairs with peers, but still without the risks of working with real patients. This means a smoother transition from the classroom to reality with the chance of learning about one's strengths and weaknesses, supported by professional feedback. It is very important to emphasise that teacher observations on student performance largely overlapped with actor ratings, which indicated that video recording offers an optimal tool of evaluation.

We have learned a lot from students' direct personal reactions during the course as well. For instance, students who had taken the course admittedly only because they needed credits became interested and actively involved by the end of the sessions. More importantly, we know about students who quit smoking under the influence of the course, which is a very important, if unplanned effect – as the course was not directed at student cessation. A third, and not less important observation was that, as they were learning about smoking in detail, participants gradually gave up their 'blaming' attitude towards smokers, and they finally became able to establish a rapport that was optimal for behavioural interventions.

Pieces of student feedback suggesting technical changes are being considered, and they will be used for the further development of the course, whenever possible.

Conclusions

In conclusion, our recently introduced tobacco prevention and cessation counselling course for undergraduate students has been successful in several respects.

First and foremost, it was almost unequivocally popular with students, who welcomed it as a long missed, interesting and useful curricular element. This means that students were actually interested in what was taught, which is obviously a factor that increases the success of knowledge and skill transfer.

Second, the reactions of students corroborated our conviction that in order to increase the efficacy of professional cessation help efforts, 'serious talk' about smoking is essential, to take these efforts beyond the popular imagery of fighting against some widely defined evil and to get rid of the communicative block resulting from the stigmatisation of smoking. A course like ours offers facts, evidence-based methods and the chance to put the newly acquired knowledge to the test immediately. This latter element makes the whole process a very intense learning experience.

Third, simulation with video feedback, the key element of our new course, has proven to be a very useful method. By its introduction, it became possible for students to gain next-to-real experience with counselling and to have professional feedback on their performance, without risking real-life consequences. It also turned out that the video recordings can be used very well to assess how well a particular student is doing, as video-based teacher ratings largely overlapped with the ratings of actor questionnaires.

Fourth, using standard questionnaires administered to actual patients, each student can monitor their own development from time to time, and thus, the long-term efficacy of the course can be assessed as well.

Finally, we believe that the introduction of this course into the curriculum of the Faculty of Dentistry at the University of Szeged has filled a long-standing void, and we are also positive that the actual cessation support efficacy results will corroborate its usefulness. At the same time, we suggest that simulation with video feedback can be a very strong element of any behavioural intervention programme, as it offers the chance to put theory into practice immediately, but without the risks of immediate real-life application. Therefore, we recommend that this methodology should be an integral part of tobacco intervention teaching methodologies.

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Fig. 1.

Results of the student satisfaction survey. Results are represented as the percentage of the total number of respondents who rated a given aspect at the same level. It is obvious that the majority of participants rated all aspects as excellent or good, which signifies a high level of satisfaction. See methods for details.

TABLE 1

Course structure.

Topic	Allocated time (h)	Course phase
The epidemiology of smoking	2	TP
National and international epidemiology, with special emphasis on oral diseases	2	TP
The chemistry of cigarette smoke. The pathophysiology of smoking.	2	TP
The behavioural background of smoking	2	TP
Smoking as addiction	1	TP
Risk groups	1	TP
Behavioural modification	1	PP
Clinical interventions and preventing relapse	1	PP
Options for assisting tobacco cessation. Pharmacologically and/or psychologically supported cessation.	4	PP
Brief motivational interviewing	2	PP
Individual consultation	1	IP
Consultation on the phone	1	IP
Video simulation	4	IP
Course evaluation	1	-

TP, theoretical preparatory phase; PP, practical preparatory phase; IP, interventional practice.

TABLE 2

An example of the scenarios for the video feedback practice.

Situation # 3: the patient who refuses to quit
<p>Description: it is the patient's first appointment. He is a typical hedonist who considers harmful habits as part of enjoying life, so much so that these almost seem to be part of his identity. Several years of drinking and smoking have done persistent harm to his oral cavity, which is aggravated by poor oral hygiene. His teeth are discoloured and loose, his gums are atrophic. He seeks help with these problems; however, quitting smoking is the last thing he wants to hear about, what is more, he seems to take even the mention of it as an offence</p> <p>Dental status: gingival atrophy, plaques and severe calculus formation</p> <p>Educational goal: to learn how to approach such patients, how to gain their confidence and how to make them understand that they share a goal with the dentist, which is reaching a solution to their own problem. This should be done by establishing a positive tone and guiding the patient towards the realisation that the majority of their problems stem from smoking, rather than directly telling them so. It should be made clear that the dentist accepts the patient's present decision, but at the same time, cessation help should be offered in case the patient changed their mind. Aggressive reactions are best left without any response, and in no way should they result in counter-aggression. At the end of the appointment, the patient should possibly get an appointment card for the next appointment, on which the accessibilities of the nearest cessation centre are given</p>

TABLE 3

Items from teachers' video evaluation sheet.

Aspect Evaluation			
Non-verbal communication			
Communicates with facial expressions	0	1	2
Verbal communication			
Introduces himself/herself	0	1	2
History taking			
Asks questions regarding the patient's environment	0	1	2
Diagnosis			
Succeeds in making the patient understand the essence of the diagnosis/problem	0	1	2
Providing information			
The patient has got involved in therapeutic decisions to a satisfactory extent	0	1	2
Rapport			
Managed to establish a good rapport	0	1	2

The main aspects/categories are printed in bold. For each category, only one item is given here as an example. Evaluation: 0 – failed to do so; 1 – partially succeeded in doing so; 2 – carried it out in a satisfactory manner.