


# Implementation of Tobacco Cessation Program for Dental Undergraduates in their Curriculum: The Need and Suggested Plan

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## ABSTRACT

Tobacco use causes enormous morbidity and mortality because of the high risk of tobacco addiction-related diseases. It is one of the leading causes of preventable death in the world and an important cause of premature death. The Clinical Practice Guidelines for Treating Tobacco Use and Dependence 2008 Update state that the clinician is responsible for providing a brief tobacco cessation intervention to all tobacco-using patients. Dental students generally report feeling unprepared to counsel tobacco-using patients to quit because of a lack of knowledge and confidence in the effectiveness of such tobacco cessation measures. These drawbacks of knowledge and confidence related to tobacco cessation measures can be overcome through the introduction of adequate and special systematic training as a part of the dental curriculum. If dentists are to provide tobacco cessation counseling regularly, such counseling must become a more prominent component of the dental curriculum. Hence, this article aims at suggesting and implementing systematic tobacco cessation program (TCP) for dental undergraduates in their curriculum.

**Keywords:** Cessation, Curriculum, Dental undergraduates, Tobacco, Tobacco cessation, Tobacco cessation counseling, Tobacco cessation methods, Tobacco products, Tobacco regulations, Tobacco use.

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## INTRODUCTION

It has been proven that tobacco use exhibits major deteriorating effects on not only oral health but also general health.<sup>1,2</sup> Tobacco addiction can be fatal enough to cause death, thus it is found to be a major cause of preventable death and premature death in the world. Tobacco use has a high risk of addiction-related diseases and might cause enormous morbidity and mortality in the users.<sup>3</sup> Tobacco addiction therefore is a worldwide problem.

India is the second most populated country in the world facing tobacco cessation as a catastrophe. India accounts for 12% of the world's tobacco users, according to the World Health Organization (WHO). It has been estimated that 30% of adult males and 3–5% of adult females in India smoke (2002 WHO Report).<sup>4–7</sup> Among this huge Indian population, approximately 120 million Indians are tobacco users. Based on statistics from 2009, on average 900,000 people die every year in India due to tobacco addiction.

As these statistics are alarming, dental institutes have to enforce appropriate measures to implement tobacco cessation programs (TCP) in their respective institutes. Especially in India as it is believed that a large population of tobacco users are ignorant of the health risks that tobacco addiction causes.<sup>4</sup> Hence, the aim of this article is to incorporate a TCP in their formal educational curriculum which would equip the dental undergraduates to enable to practice tobacco cessation on their patients.

## DISCUSSION

A systematic formal module for tobacco cessation has been introduced into the dental curriculum by the World Health Organization and the Global Health Professional Student Survey (GHPSS). However, the current curriculum on tobacco cessation in many countries does not appear to be systematic, as per the survey

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conducted in India, Pakistan, Bangladesh, Nepal, and Malaysia. About 50% of them found that currently tobacco cessation in dentistry is a hidden curriculum and not an elaborate formal curriculum. Tobacco cessation is a problem in developing countries and is currently a hidden curriculum, which is taught as and when the topic arises. Hence, it should be a separate module and has to be formally included in the dental curriculum. Most of the students across these countries indicated that tobacco cessation training is important and the topics regarding ill effects of nicotine addiction, treatment, counseling, and relapse have to be incorporated into the syllabus. Hence, dental educators must revise the existing curriculum and add tobacco cessation training programs in their dental schools.<sup>8,9</sup>

The six Kerns steps Golden rules for the implementation of curriculum:

1. Problem identification and general needs assessment.
2. Needs assessment for targeted learners.
3. Goals and objectives.
4. Educational strategies.
5. Implementation.
6. Evaluation and feedback.

### Step 1: Problem Identification and General Needs Assessment

#### *Present Scenario*

There is no special training currently in tobacco cessation for dental students, and it is taught merely as a part of a didactic one-hour lecture. This one-hour lecture covers tobacco cessation and its effects on oral tissues. Apart from this lecture, nothing much is presently being done for training dental students for tobacco cessation. As health professionals, dentists often encounter tobacco users. We as dental professionals know the harmful effects of tobacco on oral as well as general health. Therefore, it becomes our moral duty to identify such users and counsel them to quit the fatal habit. With the alarming tobacco statistics in India, there is a need for cessation programs in dental institutes.

According to the 2008, Clinical Practice Guidelines for treating tobacco use and dependence, it is the responsibility of the clinician to provide tobacco cessation protocols for all patients who are tobacco users. However, dental undergraduate students feel less prepared to counsel these patients due to the lack of knowledge and confidence among the undergraduates. A survey conducted by Shibly O in 2010 on 3rd and 4th year dental students regarding tobacco cessation protocols, in which he found that the students required a more formal and systematic approach towards TCP. He also reported that the dental students were provided with little or no training in tobacco cessation. Dentists have to therefore offer tobacco cessation counseling to their patients regularly and such a module with patient counseling should become a routine procedure.<sup>9,10</sup>

Currently, tobacco cessation methods aid only those patients who have decided to quit the tobacco habit. However, all patients are not motivated enough nor are willing to attempt to quit. This means that this group of habitués who show high dependence rates should be counselled by the health care professionals who are dental students in the institutes. Dental students play a pivotal role in the fight against tobacco use in society. Hence, a specific program needs to be designed to train the students so that they are fully equipped with the required knowledge, skill, and attitude to counsel tobacco users and help them quit the habit.<sup>3</sup>

All health professionals, more so dental professionals, should play a pivotal role in the struggle to curb tobacco use in society. In a study conducted by Mehrotra et al. 2010, it was shown that 88% of health professionals were aware of advising their patients regarding quitting the tobacco habit. Dentists as health professionals have to be not only aware but also should have the knowledge, attitude, and skills of tobacco cessation. Hence, they should be specifically trained in the stepwise protocols of tobacco cessation.<sup>11</sup>

India is highly prevalent in tobacco addiction, so it is high time that every dental student is well versed in the de-addiction protocol. As there is no systematic TCP for dental undergraduates, we need to address this gap in the curriculum.

### Step 2: Needs Assessment for Targeted Learners

The dental curriculum does not contain systematic training for tobacco cessation. It is covered merely in theory as a lecture. Practically, the topic is dealt with as and when the need arises. That is in the clinics during the rotational postings, whenever a patient is encountered with a tobacco habit, the student is expected to identify the tobacco user. Then the students would explain the ill effects of tobacco to the patient and advise the patient to quit the habit. The student does not follow up with patients nor does he/she be sure whether the patients are compliant enough to follow their advice to quit tobacco use. As there was no follow-up, the students expressed difficulty in understanding if their patients were either trying or had overcome their tobacco habit. In addition, the students' experience did not measure their competence in tobacco cessation methods. Since there was no follow-up of the patients, the students could merely identify a tobacco user and probably refer the patient to a tobacco cessation expert. As a result, the students are not experienced in handling tobacco dependent patients.

### Step 3: Goals and Objectives

Hence, the goal of this article is to formulate a TCP for undergraduates in their formal educational curriculum.

The objectives of this paper are, by the end of the TCP, that undergraduate students should be able to:

1. To list the ill-effects of tobacco use.
2. Motivate the patients to quit tobacco.
3. Practise tobacco cessation in patients.

### Step 4: Educational Strategies

The next step is to organize the educational strategies for TCP. These will include tobacco cessation methods, which would enable the students to the tobacco cessation experiences. The 3rd year and 4th year Bachelor of Dental Surgery (BDS) students are involved in the TCP.

In the BDS third year 1st term, lectures shall be taken for the students. One faculty member shall deliver lectures in four sessions of one hour each, to cover the topics mentioned below. Prior reading material will be provided to the students.

The curricular content of these lectures will include:

- Tobacco history along with its sociocultural aspects.
- Etiopathogenesis of tobacco use and its epidemiology.
- Biological effects of tobacco use on oral and systemic health.
- Definition and analysis of the addictive process of nicotine use.
- Dependence on tobacco, its prevention and treatment.

After the lectures are completed, a written test on the topics covered in the lecture will be taken. The knowledge component, which is the cognitive domain of the students, will be assessed.

The third-year 1st term students are posted to clinics in various departments on rotation. During this posting in clinics, the third-year 1st-term students will be engaged in discussions. The topics (content) for discussion will include:

- The understanding of the chain of events involved in the TCP.
- Basic principles involved in the application of the tobacco cessation program.
- The development of clinical skills for tobacco use prevention, cessation, and relapse.

These discussions on tobacco cessation, in a small group in clinics will further help the students in delivering a strong knowledge base for managing patients with tobacco use both theoretically and practically. This approach has recently been studied by Motov SM and Marshall JP suggested theory as well as practical applications namely: didactic lectures, case study groups, and practical small-group teaching.<sup>7</sup>

A lecture exclusively on the TCP would be taken for one hour for the third BDS students for their theoretical knowledge. In clinics, the TCP requires students to record a detailed tobacco use history during case history recording. A complete oral, dental, and periodontal assessment is done by the student to determine the complete oral health status of the patients. The students document the interactions with patients using tobacco will be supervised by a faculty member. A checklist will be made to assess if all the required questions have been asked. A quota of a minimum of 10 patient screenings should be done in the 2nd term of the third year.

The student then prepares a treatment plan for his/her patient. This will enable the student to know the patient's needs clearly. Once these records (dental assessment and treatment plan) are taken, the student counsels the identified tobacco user. The patients are motivated for cessation by explaining the ill effects of tobacco on their oral health.

After a comprehensive lecture on the TCP and a test conducted on lecture and reading materials, the third-year students will be posted to clinics in various departments on rotation. During this posting in clinics, the students will be instructed to begin identifying the tobacco users in the clinics. A date has to be fixed by the student as a "quit date". After setting a quit date, the 3rd year BDS student has to refer the patient to the final-year BDS student. As a first step, dentists should be able to identify and assess tobacco users. Fiore et al., in 1990 in his study presented a program of the National Cancer Institute Program wherein the tobacco cessation status is checked during every clinic visit, all the tobacco users are asked to quit, and a quit date is set for these tobacco users.<sup>12</sup>

After the student identifies a patient as a tobacco user and refers the patient to his senior, he/she will be deemed "experienced" in tobacco cessation.

Our TCP is based on the Tobacco Cessation Curriculum, which was proposed for the dental hygienists at Indiana University School of Dentistry, USA.

There are three phases involved in Tobacco cessation treatment. They are Preparation, Intervention, and Maintenance. The aim of the Preparation phase is to motivate tobacco users to quit their habit. The preparation phase ensures that the student is confident and is successful in motivating their patients for tobacco use during the tobacco cessation treatment. Any number and combinations of interventions can be used so as to ensure that tobacco users achieve abstinence. However, for permanent abstinence, maintenance becomes necessary, which includes support, coping strategies, and substitute behaviors. Most of the tobacco users show behavioral change and are willing to quit tobacco use after the advice from a health professional. Quite a few patients were offered a tobacco cessation kit from any voluntary organization, or even samples of nicotine replacement products. Few other patients help from media campaigns or community programs. Apart from counseling and NRT, many other strategies like hypnosis, acupuncture, and behavioral programs were used to motivate the patient to quit their tobacco habit. For more successful tobacco quitters, the Tobacco Cessation Programs should include multiple or combinations of interventions rather

than only one intervention. The best way for the tobacco users to help them quit the habit is to simply follow the advice given by the health professional. This is not only effective but also cost-effective. Tobacco users who are not chronic users and are willing to quit usually can get rid of the habit by self-care. But chronic tobacco users who fail to quit by self-care will undertake a formal tobacco cessation program. Most people can get rid of the addiction by support, maintenance, and additional strategies and could prevent relapse. Therefore, dental health professionals can prove to play a major role in assisting their tobacco-using patients to quit the habit. In addition to counseling, health professionals can offer nicotine replacement products such as nicotine gum or transdermal patches to their tobacco users. Chronic tobacco users who are strongly addicted generally benefit from these nicotine replacement products. By advising and counseling the patients, the health professionals will increase the knowledge of the patients about tobacco cessation methods and further can encourage the large population of tobacco users who are willing to quit.<sup>12-14</sup>

As part of the orientation of their class, the final-year students will be given a fifteen-minute reminder about the Tobacco Cessation Program. The students in the final year are posted in the 1st and 2nd term in each dental specialty department on rotation. Five to six students are posted at one time. Here the teaching methods are made more elaborate. The students are encouraged to record a complete history of patients who use tobacco in any form. Now, a faculty tobacco cessation expert comes in. The faculty, who is an expert conducts one-to-one counseling sessions with students during the tobacco cessation training. After this one-to-one counseling exercise, the student makes a presentation to the tobacco user, which will be observed by the expert faculty member. This assignment will include all forms of tobacco use. The expert faculty member observes the communication between the student and the patient and he/she evaluates whether the student made a successful presentation or not. The concerned faculty member gives feedback to the student. The students' presentations and the faculty's decision will consider the 5 As of tobacco cessation strategies, namely: Ask, advise, assess, assist, and arrange. These 5 A's are followed by all tobacco users who are enrolled in the tobacco cessation program. This protocol was given by Dr. Shibly O, in his study titled, 'Effect of Tobacco Counseling by Dental Students on Patient Quitting Rate'.<sup>15,16</sup>

### *The 5 A's and 5 R's*

#### *5 A's*

- "Ask" in this step, the history of the patient is taken wherein the patient is asked about his/her tobacco habits mainly the duration of tobacco addiction, and the types and frequency of tobacco use.
- "Advise," where the patient is advised regarding the ill effects of tobacco on oral health. Counseling the patient is done by explaining how quitting tobacco will improve not only oral health but also overall health. Encourage the patient to share any personal problem that might be associated with tobacco use. The patient's current condition and further outcomes of tobacco use must be explained to the patient. The Health Professional should give personalized, non-judgmental advice to quit tobacco habits such patients.
- "Assess" the patient's willingness to quit tobacco. This is quantitatively recorded on a scale of 1-10 (10 being "most willing" and 1 being "least willing"). Patients who are serious about quitting will do so willingly within two weeks. Usually,

this is true if the score on the quantitative scale is seven or above. These patients are offered further assistance to quit. If their score is six or less, patients are told they are informed that their willingness score should be higher. To help them increase their score, brochures are given to them. Such patients are then recalled and another score is recorded.

- “Assist”, assistance from the health professionals to the tobacco users in quitting the habit should be further done by offering nicotine replacement patches and some other methods to avoid the temptation to use tobacco, for example, discarding all tobacco products from their homes.
- “Arrange” The follow-up sessions have to be arranged for patients. Such sessions would enable the health professional to know the patient’s ability to quit or abstain from tobacco use. If the patient does not smoke or use tobacco for at least six months, then it is confirmed that the patient has quit the habit.

The students can be asked to make stickers to place in the patient chart to summarize the tobacco assessment and counseling given and use nicotine gum. Follow-up with tobacco users who try to quit should be done.

### 5 R’s

The 5 R’s are: 1. Relevant information on tobacco use, 2. Risks of tobacco use, 3. Rewards of quitting, 4. Roadblocks to quitting, and 5. Repeating this motivational advice.

This motivational advice and intervention can increase the patient’s willingness to quit their tobacco habit. Therefore, the healthcare provider could use these 5 R’s during the tobacco cessation program. The five R’s are: Relevance, Risks, Rewards, Roadblocks, and Repetition.

#### Relevance

Explain the personal relevance of quitting the tobacco habit to the patient.

#### Risks

Instruct the patient to be aware of the damaging effects involved in tobacco use.

#### Rewards

Make sure to inform the patient about the health benefits of quitting tobacco use.

#### Roadblocks

The patient is told to identify hurdles or challenges involved in quitting tobacco.

#### Repetition

The motivational intervention is repeated to all tobacco users, especially to those who are still unmotivated to quit. The health professional should also make it clear to tobacco users that many patients require several attempts to quit before they totally give up the habit.<sup>15–18</sup>

The follow-up sessions are arranged by the students for the tobacco users based on their willingness to quit the habit.

The follow-up consists of three contacts:

1. The first contact is a “telephone call” which is made to the patient one day before the quit date. This phone call will ensure

moral support to the patient and hence will emphasize the importance of quitting.

2. In the second contact session, either a “follow-up visit or phone call” is made two weeks after the scheduled quit date. This is done to encourage the patient to continue to abstain from tobacco. If the patient fails to abstain then, the challenges the patient is facing should be discussed. These challenges are further addressed. The patient is again motivated to quit his/her habit.
3. The third contact will be a final assessment. Here, a follow-up session is arranged after six months wherein the patient is asked about tobacco usage. If there is complete abstinence, then the patient is congratulated. If the patient has relapsed, the reasons must be dealt with, and ways to overcome these challenges and barriers must be discussed. Patients are then offered other strategies to help them quit completely.<sup>9</sup>

During the clinical posting, the final year BDS students have to compulsorily complete a quota of 10 patients.

Coan et al.<sup>17</sup> in their study, stated that the faculty members recognized constructive ways to motivate a tobacco user to quit. In addition, the student should understand the nature of the addictive process, how it reacts in a particular patient, and what are the effects of nicotine use and cessation attempts for that individual. The factors for tobacco addiction have to be recognized by both clinicians and patients. Practically both the patient and healthcare professional should be aware of the addictive process and co-create an individualized treatment modality. This de-addiction process can take longer than expected.<sup>17</sup>

By including the TCP in the BDS Curricula, it is hoped these behaviors and skills in understanding the tobacco user and in making a customized cessation plan will carry forward into post-graduation practice.

### Step 5: Implementation

Identify resources needed for the tobacco cessation program.

- *Personnel*: A trained faculty/expert, administrative support, patients.
- *Time*: From the faculty, technical support and students.
- *Facilities*: Designated space, equipment, clinical sites.
- *Funding/costs*: Required for the full setup.

Moher M et al.<sup>14</sup> found strong evidence that interventions directed toward individual tobacco users increase the likelihood of quitting tobacco cessation. These interventions consist of recording the complete tobacco history of the patient and advice from a health professional, individual and group counseling, and pharmacological treatment to help quit tobacco use. Self-help interventions are less effective. Although people taking up these interventions are more likely to stop, the absolute numbers who quit are low.<sup>12</sup> The importance of allowing tobacco users to gradually take control of their tobacco cessation was reflected in long-term studies. When encouraging tobacco cessation, it should clearly be emphasized that complete cessation remains the ultimate goal, but tobacco users in the pre-contemplation stage need to progress along the behavioral model. Sustained tobacco cessation reduction can be achieved and maintained with nicotine replacement therapy (NRT). Tobacco cessation reduction also promotes abstinence in tobacco users who are unable or unwilling to quit tobacco cessation abruptly.<sup>3</sup>

## Step 6: Evaluation and Feedback

Step 6 closes the loop in the curriculum development cycle, and–

- Gives information to guide individuals and the curriculum in cycles of improvement.
- Program evaluation results can be used to.
  - Seek support for curriculum,
  - Assess individual achievement.
  - Satisfy external requirements.
  - Forms a basis for presentations and publications.

The tobacco use cessation (TUC) curriculum designed a comprehensive three-year (2003–06) evaluation program, which included an assessment of existing TUC education; dental hygiene teachers' willingness to include TUC into the education curriculum; and development of a pre-test/post-test assessment instrument and faculty development program. This ensured an average increase of 85 minutes spent on TUC within the dental hygiene curriculum. There was an upgrade in the percentage of faculty members who formally taught and assessed the use of 5As and 5Rs during the TUC training program.<sup>19</sup>

## CONCLUSION

Oral health promotion and prevention of oral diseases is the main objective of dentistry. Hence, as Dental Professionals, we must continue the development and implementation of this objective. This article appears promising to integrate the TCP into the undergraduate education curricula for dental students. The reefing of our tobacco cessation curriculum will make sure that the next generation dentists are confident to manage tobacco users and will surely contribute to society by helping them quit their habit. Tobacco cessation is a skill that has to be developed and mastered by our dental graduates which will further help prevent serious, life-threatening illnesses among our TCP should be made an important part of the dental curriculum.

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