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# Strategies to Improve Patient Compliance Regarding Smoking Cessation



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## Abstract

Exposure to cigarette smoke in the oral cavity alters the function of key periodontal pathogens such as *P. gingivalis*, promoting biofilm formation, colonization, and infection. The purpose of this review is to investigate how improved education on smoking can decrease negative oral health risks. Education amongst healthcare professionals and their patients is positively correlated to smoking cessation.

Smoking counseling has been shown to be more effective when given by multiple healthcare professionals outside of and in addition to primary care. Evidence shows that the chances of breaking smoking habits increase as smoking cessation counseling, cost-free medications, and follow up visits increase. Quit rates amongst patients rise when both motivational interviewing and increased health education are implemented by healthcare providers.

Literature indicates there is a need for improved collaboration between the medical and dental fields in order to improve oral health education for the general public. Research also shows that healthcare providers using multiple methods of smoking counseling in conjunction with one another have greater rates of success where decreased smoking rates are concerned.

## Objectives/Aims

Many issues that arise within the oral cavity are preventable, whether it be by regularly implementing basic oral hygiene or abstaining from harmful habits such as smoking.<sup>1</sup> Recent studies suggest that the most effective way to encourage smoking cessation is to increase patient education. The role of a dental hygienist revolves around the concept of preventative care, so naturally oral health education would fall under the umbrella of a hygienist's responsibilities to their patients.

Overall, the general public does not seem to understand the full depth of the negative effects smoking can have on the oral cavity. A 2021 study suggests that the willingness to drop the habit must stem from a deeper understanding of the harm the habit can cause. Without that understanding, the general public may still continue to smoke. Therefore, oral health education must be given greater priority in order to further promote smoking cessation amongst patients.

For health education to be successful, there must be at least two equally involved individuals. One being the patient, displaying a willingness to listen and learn. The second participant being the healthcare provider. It makes sense to assume that in discussions involving the oral cavity and the association to smoking, a dental professional would be the designated healthcare provider to turn to when attempting to gain knowledge on how to quit or about the consequences of smoking. However, smoking cessation is most effective when healthcare providers from different fields are educating the same patient on the ramifications of tobacco use.<sup>3</sup>

Multiple methods of smoking cessation should be used on a patient to increase the rates of lasting smoking cessation. Data indicates that smoking cessation counseling is most effective when given in conjunction with smoking intervention, motivational interviewing, cost-free medications, follow up visits, and increased health education from a trusted healthcare professional.<sup>4</sup>

When looking at the success rates of smoking cessation, the general trend seems to be that multiple modes of education used hand in hand with one another are the most beneficial. This is true not only for the types of education given but also in regards to the types of providers giving the education.

## Methods

This review of the literature looked at Pubmed articles from 2018-2023 to identify the effectiveness of improved education amongst healthcare professionals and their patients in regards to smoking cessation. Search terms used included smoking cessation, smoking education, healthcare providers, oral health, dental health education, motivational interviewing. Recurring ideas and findings found in these articles are presented as overarching concepts in this review.

## Results

To demonstrate the ramifications of smoking to unsuspecting patients, evidence suggests there needs to be stronger collaboration between the dental and medical fields. According to the Journal of the American Dental Association, "dental education still falls short of its true collaborative potential".<sup>3</sup> A greater emphasis on the link by both medical and dental professionals in a joint effort should be made since "there is an accumulating body of evidence that oral health has a bearing on these health outcomes".<sup>3</sup>

In order for an increase in smoking cessation rates to make the greatest impact, more members must be included in the movement than solely patients that smoke or the dental professionals. A review of studies concluded that providing adjunctive counseling by an allied health professional, cost-free smoking cessation medications, and tailored printed materials as means of smoking cessation intervention in primary care raised the number of people achieving smoking cessation.<sup>5</sup>

Several resources go into detail on why a review of strategies to improve education among healthcare workers and, in turn, increase smoking cessation rates is worth any importance. Perhaps the most significant finding from a review of these studies is "dysbiosis [defined as an imbalance of microbial species] of the periodontal microbiome was presented in smokers regardless of their periodontal condition" even after preventative or therapeutic treatment was completed.<sup>7</sup> The results of several short- and long-scale surveys, as well as interview studies conducted, revealed that dental professionals may prioritize clinical experience (i.e. patient comfort) rather than presenting evidence when delivering such interventions of smoking cessation. This hurdle is a barrier that is important to overcome in order for the quality of oral health education (OHE) to increase, resulting in higher rates of smoking cessation among patients.<sup>1</sup>

Other hurdles to overcome on the patient end of the spectrum include patient knowledge concerning different areas of the mouth. In 2021, a questionnaire study found that there were variations in oral health education depending on the specific topic.<sup>2</sup>

A separate study published in 2021 presents results of a randomized clinical trial with the aim to determine if Motivational Interviewing (MI) as opposed to Health Education (HE) gave rise to different outcomes related to smoking cessation among people who smoke with low motivation to quit their habit. Conductors of this study measured the collected data based on the language exhibited by each study subject; depending on that, means of expression, a "yes" or a "no", were recorded. All in all, this study is clinically significant because it exemplifies two effective counseling techniques targeted at smokers that are not entirely convinced to quit smoking. Each technique works differently and may result in different outcomes among varying patients. These techniques may also be even more effective if used in conjunction with one another.<sup>4</sup>

## Conclusion

There is a strong trend amongst the data that suggests no matter the means of intervention, smoking cessation is at its most effective when different methods of intervention are used in conjunction with one another. This concept is true in regards to different types of healthcare professionals providing the education as well as different methods of smoking cessation methods being used together to decrease smoking rates. Such methods include counseling, cost-free medications, and printed smoking cessation materials. In further proof of the effectiveness of collaborative treatments, Motivational Interviewing and Health Education were found to be at their most effective when used together. Perhaps most importantly, quit rates were at their highest when patients were at their most informed on the health repercussions of smoking, thus demonstrating the significance of patient education and the vital role that healthcare providers play as educators.

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