

Dental Patients' Awareness on Effects of Smoking and Patients' Perception on the Role of Dentists in Smoking Cessation Activities

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Background: This study aims to assess the awareness of patients towards effects of smoking on their general and oral health and their perception towards the role of dentists in smoking cessation activities. **Methodology:** Study population consists of 114 patients chosen through convenient sampling for a period of six months. Self-administered questionnaires on knowledge of impact of smoking on health and role of dentists in smoking cessation, were distributed and collected within the same visit. Descriptive statistics and Chi-square test were used to analyze the data. **Results:** The results showed that education level did not have significant effect on smoking status ($p > 0.05$). More than 90% of the respondents were aware of the effect of smoking on their general health. Both smokers and non-smokers showed positive attitude towards dentists' role in smoking cessation activities.

1. Introduction

According to World Health Organization (WHO) 2018 report, 7 million people died due to tobacco related diseases each year. More than 6 million of those deaths were the result of direct tobacco use while around 13% were non-smokers who were exposed to second-hand smoke (1). Tobacco use is the single greatest preventable cause of death in the world and WHO has demonstrated that tobacco use is a contributing risk factor for 6 of the 8 leading causes of death worldwide (1). The National Health and Morbidity Survey 2015 reported that approximately 22.8% of Malaysian population aged 15 years and above were smokers and 37.1% of Malaysian adults aged 15 years and above were exposed to secondhand smoke (SHS) at home (2)

Smoking has been established as a cause of death for various systemic illnesses including lung cancer, respiratory diseases and cardiovascular diseases (3, 4). It also causes premature hair loss, hair-graying and skin ageing (5, 6, 7, 8). Oral diseases such as staining of teeth and restoration, halitosis, impaired wound healing and periodontal diseases are some of the effects of smoking. (9, 10, 11, 12).

Ensuring a healthy prosperous population practicing healthy lifestyle habits has become a main agenda among many countries including Malaysia. Prevention of smoking and educating the population especially among youths is a very important step towards tobacco control. To encourage no smoking and helping smokers to quit have become a very important agenda for health professionals and the communities. Tobacco

control aims to improve the health of community by eradicating or reducing contact to tobacco smoke and burning up tobacco products (Shakeel & Farrukh, 2016) (13, 14). It is claimed that helping tobacco user to quit is part of role of healthcare professionals especially dentists and that tobacco cessation is part of practice in dentistry (15). Dentists have been recognized as the ideal healthcare professional as they are the first to see the effect of tobacco in mouth. Evidences have shown that smokers that received assistance from healthcare workers are more likely to quit smoking compared to those who do not receive any support (16, 17, 18).

2. Methodology

The research questionnaire was adopted from a previous study done by G. Rikard-Bell (19) et al and Terrades et al (20). The English version was translated into Malay language and pretested on 12 individuals who were not part of the survey and any doubts were rectified. The questionnaire included demography, smoking status and knowledge of effects of smoking on general and oral health and the role of dentists in smoking cessation activities.

Sample size was calculated based on estimated available on proportion of target population. The proportion was set at 27% and 95% confidence interval. The calculated sample size was 112 and, in this study, 114 patients chosen through convenient sampling were included.

Patients were given the option to answer either the English or Malay version. They were given 15 to 20 minutes to answer the question after which they were collected back. The researcher was also available to clarify any doubts in the questionnaire. Descriptive statistics and chi-squared test analysis was done and results were tabulated.

3. Results

Out of the 114 respondents, 24.5% were smokers, 69.2% were non-smokers and 6.1% were ex-smokers. The mean age was 34.5 years. 29.8% completed education up to secondary level while 24.6% completed certificate and pre university programme and 43.9% completed tertiary level. However, there is no association between education level and smoking status ($p > 0.05$)

Patients' knowledge on effect of smoking

Table 1 represents results of patients' knowledge on effect of smoking on health. Regardless of smoking status, patients were very much aware that smoking is detrimental to general health. More than 90% of the patients agreed that smoking can lead to lung cancer and heart problems. With regards to oral health, most patients were aware that it can cause teeth staining, halitosis, gum disease and oral cancer.

60.5% of patients were aware that it caused bad taste and there was significant association between smoking status and awareness that smoking causes bad taste ($p < 0.05$). 75% of ex-smokers agreed that it can cause bad taste compared to 44.4% of smokers and 64% of non-smokers who said 'yes'.

Only 46.5% of patients correctly thought that smoking could affect wound healing while the rest either did not know (33.3%) or answered 'no' (20.2%). Overall a higher percentage of non-smokers and ex-smokers answered that they are aware of the negative effects of smoking compared to smokers.

Attitude of respondents towards role of dentists in smoking cessation counseling.

Overall respondents showed a positive attitude towards role of dentists in smoking cessation. Patients' top expectation of the role of dentist were that dentists should provide smoking advice to patients who smoke (93%) and dentists should be interested in the smoking status of their patients (91%).

To the question that dentists should "only provide oral care and nothing more", 66.7% of the respondents disagreed with this statement which means that about 33% do agree that dentists should only provide dental care and put aside any smoking issues. More smokers tend to agree (26%) to this

statement compared to non-smokers (25%) and ex-smokers (12.5%) but this is not significant ($P > 0.05$).

74.6% of the respondents agreed that dentists should give smoking advice in the dental surgery and majority (86.8%) of them expected the dentist to explain the effects of smoking on oral health to their patients.

There is a strong association between smoking status and to the question that "Dentists do not know how to help patients to stop smoking". Even though the overall disagreement to this question was 74.6%, more ex-smokers tend to agree (37.5%) that dentists do not know how to help patients stop smoking compared to smokers (22.2%) and non-smokers (6.3%). The result is significant at $P = 0.003$.

Table 1 – Knowledge of respondents on effects of smoking on general and oral health

Smoking causes:		Smokers (%)	Non-smokers (%)	Ex-smokers (%)	Total (%)
lung cancer	Yes	92.6	97.5	100.0	96.5
	No	0.0	1.3	0.0	0.9
	Don't know	7.4	1.3	0.0	2.6
heart disease	Yes	88.9	92.4	91.2	91.2
	No	0.0	2.5	12.5	2.6
	Don't know	11.1	5.1	6.1	6.1
teeth staining	Yes	88.9	96.2	100.0	94.7
	No	3.7	1.3	0.0	1.8
	Don't know	7.4	2.5	0.0	3.5
halitosis	Yes	94.1	96.6	100.0	96.2
	No	0	1.7	0	1.3
	Don't know	5.9	1.7	0	2.5
bad taste	Yes	44.4	64.6	75.0	60.5
	No	25.9	6.3	0.0	10.5
	Don't know	29.6	29.1	25.0	28.9
teeth decay	Yes	78.4	75.6	100.0	76.1
	No	11.1	3.8	0.0	5.3
	Don't know	18.5	20.5	0.0	18.6
affects wound healing	Yes	44.4	46.8	50.0	40.5
	No	29.6	16.5	25.0	20.2
	Don't know	25.9	36.7	25.0	33.3
gum disease	Yes	77.8	82.3	100.0	82.5
	No	3.7	3.8	0.0	3.5
	Don't know	18.5	13.9	0.0	14.0
oral cancer	Yes	74.1	91.1	100.0	87.7
	No	3.7	2.5	0.0	2.6
	Don't know	22.2	6.3	0.0	9.6

Table 2 - Role of dentists in smoking cessation

I would		Smokers (%)	Non-smokers (%)	Ex-smokers (%)	Total %
expect my dentist to be interested in my smoking status	Agree	85.2	75.9	100.0	79.8
	Disagree	0.0	7.6	0.0	5.3
	Neither	14.8	16.5	0.0	14.9
expect my dentist to explain the effects of smoking on oral health	Agree	85.2	86.1	100.0	86.8
	Disagree	0.0	5.1	0.0	3.5
	Neither	14.8	8.9	0.0	9.6
appreciate my dentist to provide smoking advice to patients who smoke	Agree	85.2	96.2	87.5	93.0
	Disagree	0.0	2.5	0.0	1.8
	Neither	14.8	1.3	12.5	5.3
change my dentist if my dentist asked me about my smoking status every visit	Agree	25.9	11.4	12.5	14.9
	Disagree	55.6	81.0	75.0	74.6
	Neither	18.5	7.6	12.5	10.5
Dentists should be interested in smoking status of their patients	Agree	85.2	92.4	100.0	91.2
	Disagree	3.7	5.1	0.0	4.4
	Neither	11.1	2.5	0.0	4.4
Dentists should provide oral care, nothing more	Agree	25.9	25.3	12.5	24.6
	Disagree	59.3	67.1	87.5	66.7
	Neither	14.8	7.6	0.0	8.8
Dentists should not give smoking cessation advice	Agree	25.9	15.2	0.0	16.7
	Disagree	55.6	78.5	100.0	74.6
	Neither	18.5	6.3	0.0	8.8
Dentists do not know how to help patients to stop smoking	Agree	22.2	6.3	37.5	12.3
	Disagree	51.9	83.5	62.5	74.6
	Neither	25.9	10.1	0.0	13.2

4. Discussion

Majority of respondents correctly indicated that smoking is a risk factor for development of lung cancer (96.5%) and heart problems (91.2%), tooth staining (94.7%) and halitosis (96.2%) but its effect on their taste buds and wound healing is less acknowledged. This could probably be due to nicotine in tobacco suppressing the appetite of the smoker and hence the smoker consumes less food (22).

A study by Fabrice Cheruel et al (23) showed that smokers exhibited significantly lower taste sensitivity than non-smokers and the higher the nicotine dependence (Fagestrom scores), the lower the taste sensitivity. The study also showed that smoking cessation could lead to recovery of the sensitivity. Our results showed significance difference between smoking status and smoking caused bad taste with higher percentage of ex-smokers agreeing to this. Presumably the ex-smokers in this study must have recovered from their low taste sensitivity after cessation of smoking and has begun to enjoy their food much better than when they were smokers.

It is well known that smoking delays wound healing and aggravate periodontal problems. Our results showed that only 40.5% of respondents were aware and 33.3% did not know that smoking could affect wound healing. This could have serious clinical consequences to the patients who have or will undergo surgical procedures such as tooth extraction or periodontal therapy (21).

Compared to non-smokers and ex-smokers, most smokers are also not aware that smoking can cause oral cancer (8.5%, 0% and 25.9% respectively) and gum disease (17.5%, 0% and 22.2% respectively). Also, more smokers are less aware of the effect of smoking to health compared to non-smokers and ex-smokers and this is a cause of concern which emphasize the need for dental professionals to play a more active role in smoking cessation activities.

Majority of the respondents have a very positive attitude towards the role of dentists in smoking cessation activities. The fact that more ex-smokers claimed that dentists do not know how to help patients to stop smoking compared to smokers probably came from their experience in attempting to quit smoking and not getting much needed help from the dental professionals. Thus it is important for dental professionals to undergo proper training and update themselves with latest techniques in counseling patients who are making efforts to quit smoking. A dentist should be able to recognize a patient as a smoker and they have a duty to inform patients of the options available to them to quit smoking.

5. Conclusion

Even though patients in this study have good knowledge of the effects of smoking to general health, there are still some aspects of health especially oral health that patients especially smokers need to be more informed and educated about. Dentists are the first persons to check and assess the patient's oral health condition and could play a more active role in helping patients aware of the effects of smoking and in helping smokers to quit the habit. Thus, dentists have to regularly attend training to update and equip themselves to carry out this important role.

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