

A Survey of Dental Students Regarding Smoking Cessation: A US-Armenia Cross Cultural Comparison



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Ashton Alarcon, Columbia College of Dental Medicine, 2023

Alex Gordon, Columbia College of Dental Medicine, 2023

Natella Gharibyan, MD, American University of Armenia MPH, 2021

Arusyak Harutyunyan, MD, MPH, Senior Researcher, Research Assistant Professor, Turpanjian School of Public Health

Kim Hekimian, PhD, Assistant Professor, Pediatrics and Institute of Human Nutrition

Lynn Tepper, PhD, Clinical Professor, College of Dental Medicine

Research Question: This study measures dental students' tobacco use, and their knowledge, attitudes and confidence about providing tobacco cessation counseling to future patients. In addition, the survey measures the effects of the COVID-19 crisis on the attitudes/practices of students and their surrounding community regarding tobacco use. A cross-cultural comparison between these variables is done between dental students in the USA and Armenia.

BACKGROUND

Tobacco remains a leading cause of preventable death, especially in lower-middle-income countries like Armenia where smoking prevalence is high (53.4% men, 2.4% women). Armenia's government has prioritized tobacco control to reduce the burden of cardiovascular disease, the number one cause of death in the country. Tobacco use also leads to poor oral health outcomes. Dentists are uniquely positioned to counsel patients in smoking cessation, yet few receive adequate training for this role. Dental schools in the US and Armenia have known disparities in how they train students to address their patients regarding tobacco cessation. Notably, Columbia University College of Dental Medicine (CDM) has a required module on smoking cessation counseling; Yerevan State Medical University (YSMU) does not.

OBJECTIVES

This study measures dental students' tobacco use, and their knowledge, attitudes and confidence about providing tobacco cessation counseling to future patients. In addition, the survey measures knowledge about the association between smoking and adverse COVID 19 outcomes. The data will be used to compare and evaluate education needs to promote smoking cessation counseling training in both dental schools.

TABLES

Table 1: Percentage of Dental Students at CDM and YSMU Responding Yes/No, or Strongly Agree-Strongly Disagree Regarding the Impact of COVID-19 on Smoking Behavior and Perceptions

Statement	CDM (n=66)	YSMU(n=199)
I have encouraged my family and/or friends to quit smoking because of COVID-19.	Y: 22.73% N: 22.73% N/A: 54.55%	Y: 41.75% N: 32.99% N/A: 25.26%
I know someone who quit smoking because of COVID-19.	Y: 6.06% N: 93.94%	Y: 9.74% N: 90.26%
The COVID-19 crisis has raised concern about the risks of smoking amongst the general population.	SA: 26.15% A: 44.62% N: 20.00% D: 6.15% SD: 3.08%	SA: 10.82% A: 39.69% N: 40.21% D: 8.76% SD: 0.52%
The COVID-19 crisis is a good opportunity to encourage smokers to quit smoking.	SA: 45.31% A: 37.5% N: 8.00% D: 3.13% SD: 1.56%	SA: 17.53% A: 47.42% N: 24.23% D: 8.76% SD: 2.06%

TABLES

Table 2: Percentage of Dental Students, By Gender (M,F) and In Total (T), Currently Using Cigarettes and E-Cigarettes

Product Used	CDM Male (n=21) Female (n=44) Total (n=66)	YSMU Male n=72 Female n=127 Total n=199	P-values
Cigarettes	M (n=3): 14.9% F (n=4): 9.09% T (n=7): 10.6%	M (n=32): 44.4% F (n=0): 0% T (n=32): 16.1%	M: 0.004 F: 0.3229 T: 0.0067
E-Cigarettes	M (n=15): 71.4% F (n=16): 36.4% T (n=31): 48.5%	M (n=33): 45.8% F (n=8): 6.30% T (n=41): 20.60%	M: 0.3020 F: 0.0832 T: 0.0326

Table 3: Dental Students' Knowledge About Tobacco Use and Cessation, by Knowledge Domain and in Total at CDM and YSMU

Knowledge Domain	Number of Items (Max Score)	Average Score at CDM (n=66)	Average Score at YSMU(n=199)	P-values
Oral Health Effects	11	9.37	7.76	0.0000
General Health Effects	15	6.58	5.6	0.0008
Smoking Cessation Approaches	9	6.48	4.65	0.0000
Pharmacotherapy	7	3.87	1.97	0.0000
Smoking and COVID-19	4	2.83	2.62	0.1783
Total	46	29.02	23.04	0.0000

Table 4: Percentage of Dental Students at CDM and YSMU Reporting Participation in Coursework Regarding Tobacco Health Effects, Smoking Cessation, and Dentists' Role

Dental School Education In	CDM(n=66)	YSMU(n=199)	P-values
1. Effects of Smoking on Oral Health	76.5%	18.4%	0.0000
2. Effects of Smoking on General Health	86.7%	21.9%	0.0000
3. Smoking Cessation Approaches	72.1%	6.9%	0.0000
4. Dentists' Specific Role in Smoking Cessation	76.4%	21.4%	0.0000

METHODS

A cross-sectional online survey design was used. Questionnaire items were developed through literature review, expert input, face and content validity. The questionnaire was translated into Armenian and pre-tested in both English and Armenian. Prior to implementation, reliability for internal consistency of domain items was analyzed through Cronbach's alpha and question items were revised. An online link to the survey was sent to all enrolled dental students, in July, 2020, at both schools (CDM~270, YSMU =638). Data collection is ongoing and comparative analysis will be completed by the end of October, 2020. Data are analyzed through SPSS for frequencies and bi-variate comparisons.

FINDINGS

- Total completed response rates thus far are 68/~270 (25.2%) at CDM and 201/638 (31.5%) at YSMU
- Table 1: The COVID-19 crisis has impacted the smoking habits and attitudes of dental students and their surrounding at both CDM and YSMU.
- Table 2: Cigarette use is higher amongst students at YSMU than at CDM, specifically comparing the male populations (p=0.004). E-cigarette use is higher amongst students at CDM than at YSMU (p = 0.0326).
- Table 3: CDM students are more knowledgeable than YSMU students in all domains (p=0.0000 overall) except the relation between smoking and COVID-19 (p=0.1783)
- Table 4: Significantly fewer students at YSMU report receiving coursework in smoking effects on oral health and general health, smoking cessation approaches, and the role of the dentist in smoking cessation compared to students at CDM (p=0.0000).

DISCUSSION

Strengths: This study is the first to measure these variables among dental students in Armenia, and the first to measure the use of e-cigarettes amongst dental students and their knowledge about the relation between smoking and COVID-19 anywhere, to our knowledge. The online survey method was feasible and produced response rates sufficient to test most of our hypotheses. The Cronbach's Alpha analysis revealed high levels of internal consistency for the domains measured, an indicator of reliability. The data gathered can be used to improve disparities in smoking cessation training between the two schools.

Limitations: Some hypotheses cannot be tested because of the small number of smokers at CDM. In addition, the number of respondents in the later years of study was insufficient to compare the effects of further training on knowledge, attitudes and confidence.

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