Scientific Publications

Global Journal of Epidemiology and Infectious Disease, 2025, 5, 6011
www.scipublications.com/journal/index.php/gjeid
DOI: 10.31586/gjeid.2025.6011

Article

Tobacco-control policy support and tobacco use: SMOKES study

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Abstract

Background: Tobacco control policies are implemented globally to reduce tobacco-related morbidity and mortality. Emerging evidence suggests that individual tobacco use may influence the level of support for these policies. However, the extent to which personal use affects policy endorsement remains underexplored, particularly among young adults in academic settings. **Aims:** This study aimed to examine whether college students who use tobacco exhibit lower support for tobacco control policies compared to their non-user counterparts. **Methods:** We conducted a multi-center, cross-sectional study involving 2403 college students from various provinces in Iran. Tobacco use was ascertained based on self-reported consumption of cigarettes, electronic cigarettes, and hookah. Attitudes toward tobacco control policies were evaluated using a structured survey instrument, and comparative analyses were performed to assess differences in policy support between tobacco users and non-users. **Results:** The analysis revealed that tobacco users demonstrated significantly lower support for tobacco control policies compared to non-users. This association was consistently observed across users of cigarettes, electronic cigarettes, and hookah, suggesting a systematic pattern irrespective of the type of tobacco product used. **Conclusion:** These findings indicated a clear association between tobacco use and reduced endorsement of tobacco control policies among Iranian college students. These results have potential implications for public health policy, emphasizing the importance of addressing individual tobacco use behaviors in the development and implementation of tobacco control strategies. Further research is needed to elucidate the underlying mechanisms of this relationship.

Keywords: Tobacco, Tobacco Control Policies, Tobacco Use, College Students, Policy, Smoking, Electronic Cigarette, Hookah

How to cite this paper:
Assari, S., Mohammadi, M., Pashmchi, M., Aghaeimeybodi, F., & Pallera, J. A. (2025). Tobacco-control policy support and tobacco use: SMOKES study. *Global Journal of Epidemiology and Infectious Disease*, *5*(1), 6011.
DOI: 10.31586/gjeid.2025.6011

Received: January 2, 2025
Revised: February 27, 2025
Accepted: March 4, 2025
Published: March 6, 2025

1. Background

Tobacco use remains a major health concern worldwide [1-3], responsible for millions of preventable deaths annually and contributing substantially to the burden of chronic diseases [4-6]. Beyond its direct impact on morbidity and mortality, tobacco consumption imposes widespread socioeconomic costs, affecting healthcare systems and communities [7-10]. This widespread impact highlights the critical need for implementing effective and socially acceptable tobacco control measures to reduce tobacco-related harms [11-15].

Regarding the significant health and societal consequences of tobacco use, a diverse range of tobacco control policies have been implemented at both local and global levels

[16-19]. These policies, including public smoking restrictions, cessation support programs, taxation, and advertising bans, have been demonstrated effectiveness in reducing tobacco consumption and associated health risks [15,16,20]. However, while evidence supports their success in certain regions, economic, cultural, and regulatory differences may affect their acceptance and overall impact across populations [21-23]. As a result, further research is needed to evaluate the effectiveness and adaptability of these policies in less-studied environments, particularly in non-Western contexts.

Despite evidence supporting the effectiveness of tobacco control policies in reducing smoking rates, these measures are not accepted by everyone [24,25]. Some individuals and communities view these policies as an interference with personal liberty, suggesting that such initiatives might limit the freedom to choose to use tobacco products [26]. This perspective appears to be influenced by cultural values and personal beliefs, which may lead to opposition against what is perceived as government overreach [27,28]. Research in this area suggests that the success of tobacco control policies may depend not only on their health benefits but also on how well they respect individual choices [29,30]. Future studies might examine how these perceptions are associated with policy acceptance, potentially informing strategies that balance public health goals with respect for personal freedom.

An understanding of the relationship between individual tobacco use and support for tobacco control policies is essential for the development of nuanced public health strategies. If tobacco users are found to be less supportive of control measures, this may indicate that grassroots initiatives should prioritize targeted education, tailored communication, and engagement strategies that address the specific concerns and beliefs of this group. Psychological inquiry into this dynamic could further elucidate whether resistance to such policies stems from deeply held beliefs in personal autonomy and the right to make individual choices, apprehensions about personal restrictions, or cognitive dissonance that arises when users rationalize their own behavior. Clarifying these factors could inform the design of more effective interventions that reconcile personal liberties with public health objectives.

Despite the potential importance of these issues, research specifically examining the association between tobacco use and support for tobacco control policies remains limited [31]. This gap is particularly pronounced among young adults in international settings, where socio-cultural dynamics may differ markedly from those observed in Western populations [32,33]. Moreover, existing studies have often overlooked college student populations, a demographic that is not only at risk for tobacco initiation but also pivotal for the success of future public health interventions [34-37].

To explore these questions further, the SMOKES study [38] was designed and implemented. SMOKES, which stands for the Study of Measurement of Knowledge and Examination of Support for tobacco control policies, focused on college students to examine their support for various tobacco control policies. The study also looked at tobacco use patterns and gathered information on attitudes, knowledge, and motivation, as well as the context in which emerging tobacco products are used. By investigating these factors, the study seeks to understand how they might be associated with the level of support for tobacco control efforts among young adults. This approach may provide insights that could inform future policy initiatives and educational campaigns related to tobacco control.

Addressing these research gaps, the present study focuses on the relationship between tobacco use and support for tobacco control policies within an Iranian college student population. Examining this association in a non-Western context provides a unique opportunity to uncover culturally specific insights and challenges that may influence policy effectiveness. The primary objective of this study is to compare the levels of support for tobacco control policies between tobacco users and non-users among Iranian college students.

2. Methods

2.1. Design and Setting

A multi-center, cross-sectional study was conducted among colleges and universities in Iran between November 2024 and January 2025. The SMOKES study adhered to the principles outlined in the Declaration of Helsinki and received approval from the Ethics Committee of Shahid Sadoughi University of Medical Sciences, Yazd, Iran (Ethics Code: IR.SSU.MEDICINE.REC.1403.159). Participation was entirely voluntary, and informed consent was obtained from all of participants before the study.

2.2. SMOKES Study Overview:

The SMOKES study [38] (Study of Measurement of Knowledge and Examination of Support for tobacco control policies) was designed to assess college students' attitudes toward various tobacco control measures. This investigation not only evaluated the level of support for these policies but also delved into patterns of tobacco use among the participants. In addition, the study collected comprehensive data on students' attitudes, knowledge, and motivation regarding tobacco consumption, while also examining the contextual factors surrounding the use of emerging tobacco products. By exploring these interrelated dimensions, the SMOKES study aims to shed light on how personal tobacco use may influence the endorsement of tobacco control efforts among young adults. The insights gained from this multifaceted approach have the potential to inform the development of targeted policy interventions and educational campaigns aimed at reducing tobacco-related harm. The detailed information on the study's methods, rationale, and sample characteristics, have been discussed previously [38].

2.3. Sample and Sampling

To enhance diversity in terms of ethnicity, geography, and types of colleges/universities and majors, we selected 15 provinces and included at least one college or university from each province. Although the sample reflects the demographic characteristics of Iranian college students, the results are not nationally representative.

2.4. Survey Mode and Measurement Tool:

The study employed an online survey, administered in Farsi, to gather a comprehensive set of data covering several domains. This study administered online, with an invitation link distributed via college student groups in social media, inviting students to participate.

2.5. Measures and Variables

Background Data: Participants provided detailed socio-demographic information, including self-identified ethnicity and indicators of socioeconomic status through questions on family and personal income, marital status, employment status, and residence type and location. In addition, the survey assessed personal behaviors related to tobacco use as well as attitudes toward vaping and tobacco control policies. University-related details were also collected to contextualize the sample; respondents reported their province, academic major, level of study (ranging from associate's degrees to doctoral programs), type of institution, and year of study.

Tobacco Use: The survey assessed participants' tobacco use behaviors by distinguishing between ever and current use of conventional cigarettes, electronic cigarettes, and hookah. Similar measures were applied across all tobacco products, with separate single-item questions used to determine ever and current use for each product type, including cigarettes, e-cigarettes, and hookah [38].

Tobacco Policy Support: A series of survey items were developed to evaluate participants' support for tobacco control policies. For instance, one item asked, "To what

extent do you support banning the advertisement and sale of electronic cigarettes on online websites and social media platforms such as Instagram?" A comprehensive list of these items is presented in Table 1. Participants indicated their responses using a 5-point Likert scale, where 1 corresponded to "Strongly Disagree," 2 to "Disagree," 3 to "Neutral," 4 to "Agree," and 5 to "Strongly Agree." An average score was then computed for each respondent, yielding a continuous variable ranging from 1 to 5. Higher scores on this scale reflect a greater level of approval for tobacco control and restriction policies. This continuous measure allowed us to quantitatively assess and compare the degree of policy support across our study sample [38].

Table 1. Items used to measure approval of tobacco control policies in the sample

Item #	Item Text
6	The university has a responsibility to adopt policies that reduce the use of all nicotine products and lower the risk of nicotine addiction.
7	The university has a responsibility to adopt policies that ensure people have smoke-free and nicotine-free air to breathe.
8	To what extent do you support banning the advertisement and sale of electronic cigarettes for individuals under 18 years old?
9	To what extent do you support banning the advertisement and sale of electronic cigarettes in supermarkets?
10	To what extent do you support banning the advertisement and sale of electronic cigarettes on online websites and social media platforms such as Instagram?
11	To what extent do you support the implementation of educational and preventive programs on the harms of electronic cigarettes in the media?

2.6. Statistical Analysis

All statistical analyses were performed using Stata 18. Initially, descriptive statistics were performed to summarize the sample characteristics. Frequencies and percentages were used for categorical variables, while means were reported for continuous variables along with standard deviations (or interquartile ranges). Subsequently, composite scores for our tobacco-control policy support were developed. Then a linear regression model (ordinary least squares) was applied with tobacco-control policy support as the outcome and tobacco use as a predictor. Statistical significance determined at a p-value of <0.05.

3. Results

A total of 2403 college students participated in the study. Age of participants ranged from 15 to 60, with a mean of 22.30 (SE = .07; 95% CI = 22.16 to 22.44). The male to female ratio was 1:1. The characteristics of participants of the SMOKES study is summarized Table 2.

Table 2. Participants in the Study

	n	%
Sex		
Male	1,201	50.00%
Female	1,201	50.00%
Ethnicity		
Fars	1,356	57.75%
Turk	265	11.29%
Lur	136	5.79%
Kurd	160	6.81%

Mazani	138	5.88%
Arab	28	1.19%
Balouch	47	2.00%
Gilak	112	4.77%
Bakhtiari	41	1.75%
Semnani	12	0.51%
Other	53	2.26%
Province		
Tehran	255	10.64%
Razavi Khorasan	210	8.76%
Fars	136	5.68%
East Azerbaijan	135	5.63%
Esfahan	221	9.22%
Yazd	350	14.61%
Khuzestan	119	4.97%
Kerman	119	4.97%
Sistan and Balouchestan	118	4.92%
Kermanshah	166	6.93%
Mazandaran	262	10.93%
Gilan	138	5.76%
Semnan	73	3.05%
Alborz	52	2.17%
Hamedan	42	1.75%
Residence		
Living with Family	1,198	49.90%
Dormitory	970	40.40%
Private Housing (Without Family)	228	9.50%
Other	5	0.21%
University Level		
Associate's Degree	62	2.58%
Bachelor's Degree	926	38.57%
Master's Degree	160	6.66%
Doctorate or Higher	1,253	52.19%
University Major		
Humanities and Social Sciences	233	9.76%
Basic Sciences	90	3.77%
Engineering and Technology	318	13.32%
Medicine	1,036	43.38%
Dentistry	212	8.88%
Pharmacy	68	2.85%
Nursing	118	4.94%
Allied Health	194	8.12%
Agriculture and Natural Resources	11	0.46%
Architecture and Arts	88	3.69%
Veterinary Medicine	20	0.84%

University Type		
Governmental	1,826	76.12%
Non-Governmental/Private	573	23.88%

Table 3 presents the bivariate correlations between support for tobacco control policies and various sociodemographic as well as tobacco use variables. There was no significant association between age and policy support ($r = 0.013$). In contrast, female participants demonstrated significantly higher support ($r = 0.090$, $p < 0.01$), and those who were working also reported slightly increased support ($r = 0.050$, $p < 0.05$). Conversely, higher household income was linked to significantly lower support for tobacco control policies ($r = -0.058$, $p < 0.01$). Marital status revealed that individuals who were married showed greater endorsement of these policies ($r = 0.067$, $p < 0.01$), while parental marital status did not exhibit a significant correlation ($r = 0.013$).

Tobacco use variables displayed negative associations with policy support. Specifically, any current tobacco use was strongly associated with reduced support ($r = -0.356$, $p < 0.01$), and the number of tobacco products used also correlated negatively ($r = -0.344$, $p < 0.01$). Analysis by product type indicated that current cigarette use ($r = -0.334$, $p < 0.01$), current electronic cigarette use ($r = -0.210$, $p < 0.01$), and current hookah use ($r = -0.191$, $p < 0.01$) were each significantly linked to lower support for tobacco control policies. Furthermore, patterns of use revealed that single tobacco users ($r = -0.216$, $p < 0.01$) and dual tobacco users ($r = -0.249$, $p < 0.01$) were less supportive of these policies, whereas poly-tobacco users exhibited a smaller, yet statistically significant, negative correlation ($r = -0.078$, $p < 0.01$).

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Table 3. Bivariate correlations between support for tobacco control policies and sociodemographic and tobacco use data

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1 Support for Tobacco-Control Policies															
2 Age (Years)	0.013														
3 Sex (Female)	.090**	-.004													
4 Employed	.050*	-.230**	.135**												
5 Ethnic Minority	.037	-.012	-.046*	-.030											
6 Household Income	-.058**	.021	-.024	-.008	-.031										
7 Married (Self)	.067**	.437**	.064**	-.154**	-.017	-.006									
8 Parents Married	.013	-.076**	-.033	.065**	-.114**	.010	-.038								
9 Current Tobacco Use (Any)	-.356**	.067**	-.204**	-.146**	-.019	.065**	-.005	-.002							
10 Current Tobacco Use (n)	-.344**	.051*	-.210**	-.169**	-.032	.078**	.001	-.001	.900**						
11 Current Cigarette Use	-.334**	.044*	-.177**	-.133**	-.040*	.065**	-.047*	-.009	.800**	.822**					
12 Current Electronic Cigarette Use	-.210**	.057**	-.139**	-.147**	-.041*	.069**	.027	-.004	.481**	.671**	.414**				
13 Current Hookah Use	-.191**	.014	-.140**	-.095**	.010	.038	.037	.011	.642**	.684**	.290**	.191**			
14 Current Single Tobacco Use	-.216**	.066**	-.111**	-.052*	.009	.009	-.007	.000	.747**	.404**	.435**	.026	.347**		
15 Current Dual Tobacco Use	-.249**	.015	-.143**	-.129**	-.032	.091**	-.009	-.009	.511**	.685**	.579**	.519**	.405**	-.110**	
16 Current Poly Tobacco Use	-.078**	.011	-.080**	-.079**	-.022	.008	.021	.010	.232**	.495**	.289**	.482**	.361**	-.050*	-.034

Note: Pearson Correlation was used. * $p<0.05$; ** $p<0.01$

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As shown in Table 4, the linear regression model revealed that any current tobacco use was significantly associated with lower support for tobacco control policies (B = -0.663, SE = 0.038, Beta = -0.348, 95% CI [-0.737, -0.589], p < 0.001), indicating that tobacco users tend to be less favorable toward these regulatory measures. In contrast, being married (self) emerged as a significant positive predictor (B = 0.175, SE = 0.070, Beta = 0.054, 95% CI [0.038, 0.311], p = 0.012), suggesting that married individuals show greater endorsement of tobacco control initiatives. Additionally, identifying as an ethnic minority was linked to increased policy support (B = 0.061, SE = 0.031, Beta = 0.038, 95% CI [0.000, 0.122], p = 0.048). Other variables, including sex (female) (B = 0.025, SE = 0.032, p = 0.431), parental marital status (B = -0.033, SE = 0.062, p = 0.596), age (B = 0.006, SE = 0.005, p = 0.232), current employment status (B = 0.015, SE = 0.027, p = 0.595), and high family income (B = -0.083, SE = 0.063, p = 0.189) did not significantly predict support for tobacco control policies.

Table 4. summarizes the results of linear regression model

	Beta	SE	95%	CI	Sig
Current Tobacco Use (Any)	-.663	.038	-.737	-.589	< .001
Sex (Female)	.025	.032	-.037	.087	.431
Ethnic Minority	.061	.031	.000	.122	.048
Married (Self)	.175	.070	.038	.311	.012
Married Parents	-.033	.062	-.155	.089	.596
Age (Years)	.006	.005	-.004	.016	.232
Working (Self)	.015	.027	-.039	.069	.595
Family Income (High)	-.083	.063	-.207	.041	.189

Outcome: Mean Support for Tobacco Control Policies

4. Discussion

Our findings indicated that college students who use tobacco are significantly less supportive of tobacco control policies compared to their non-user counterparts. This pattern was consistently observed across all types of tobacco products examined, suggesting that individual tobacco consumption is linked with a broader reluctance to back policies designed to reduce tobacco use and its adverse health impacts.

The conceptual model underlying the SMOKES study [38], posits that tobacco use is influenced by a combination of social constructs, such as education, and cognitive factors, including attitudes, knowledge, and support for tobacco control policies. This framework suggests that individuals who exhibit higher levels of support for these policies are generally less inclined to use tobacco products. Although the study differentiates among three types of tobacco products (cigarettes, electronic cigarettes, and hookah) the hypothesis is that greater policy support will be associated with lower usage of all tobacco products. Furthermore, the model anticipates that individuals engaging in single, dual, or poly-tobacco use may represent more complex behavioral patterns and a heightened propensity for risk-taking, thereby signaling the need for specialized intervention strategies.

In summary, the SMOKES study conceptual model proposes that social determinants create a contextual backdrop that shapes individual motivations and attitudes toward tobacco use. These factors, coupled with the quality of tobacco-related knowledge and the context or place of use, drive the decision to engage in tobacco use—whether it be single, dual, or poly use across different products. Understanding these interrelated components is essential not only for delineating patterns of tobacco use but also for informing targeted public health interventions and tobacco control policies tailored to the needs of college students, who are the future leaders in their communities. Based on the Social Ecological

Model (SEM) [39], this framework considers multiple levels of influence (from individual to interpersonal, community, and policy levels) to capture how social determinants (such as socioeconomic status, ethnicity, and geographic context) interact with individual factors (like knowledge, attitudes, and motivation) to shape both tobacco use behaviors and support for tobacco control policies. The Health Belief Model (HBM) [40] suggests that perceptions of benefits related to tobacco policies influence individuals' decisions to support them; accordingly, inaccurate knowledge about the harms and benefits of tobacco may affect both tobacco consumption and the backing of policies designed to mitigate these harms. Meanwhile, Social Cognitive Theory (SCT) [41] highlights the dynamic interplay between personal factors, environmental influences, and behavioral decisions, such as the choice to endorse or oppose tobacco control measures. This theory emphasizes that observational learning and outcome expectations from smoking contribute to shaping behaviors, including the acceptance or rejection of tobacco control policies.

4.1. Implications

The implications of these results are considerable. They suggest that public health initiatives must not only address the physical aspects of tobacco use but also consider the underlying attitudes and beliefs that contribute to policy resistance. In light of these findings, it may be beneficial to tailor interventions and educational campaigns that specifically target the cognitive and behavioral factors associated with tobacco use, thereby fostering greater support for regulatory measures.

Furthermore, the degree of support for tobacco control policies among college students is a crucial factor in shaping broader community norms and bolstering public health advocacy [42]. As future leaders, these students are well-positioned to influence societal attitudes and participate in long-term policy-making processes. Their backing of tobacco control measures not only contributes to healthier campus environments but also reflects wider community acceptance—an essential element for the effective implementation and sustainability of these policies [43-45]. By actively engaging in and endorsing these initiatives, college students can help cultivate a collective responsibility for tobacco regulation, thereby playing a key role in advancing public health efforts on a larger scale.

4.2. Limitations

However, several limitations must be acknowledged. The cross-sectional design of this study restricts our ability to draw causal inferences, as it remains unclear whether tobacco use influences policy support or vice versa. In addition, reliance on self-reported data for both tobacco consumption and policy attitudes may introduce biases such as recall inaccuracies or social desirability effects. Finally, the study's focus on college students in Iran may limit the generalizability of the findings to other populations or cultural contexts.

4.3. Strengths

Despite these limitations, the study boasts notable strengths. The multi-center approach enabled us to capture a diverse sample of college students from various provinces, providing a broad view of tobacco use and policy support within the academic setting. Furthermore, the comprehensive inclusion of multiple tobacco products allowed for a nuanced understanding of how different forms of tobacco use relate to attitudes toward tobacco control.

4.4.. Future Research

Future research should aim to overcome the constraints of cross-sectional data by employing longitudinal designs that can better elucidate the directionality of the observed associations. It would also be valuable to explore the psychological mechanisms (such as

cognitive dissonance or normalization of behavior) that may underline the reduced support for tobacco control policies among users. Expanding this research to include other demographic groups and international settings could further clarify the role of cultural and socioeconomic factors in shaping policy attitudes.

5. Conclusion

In conclusion, our study reveals a significant association between tobacco use and lower support for tobacco control policies among Iranian college students. This finding highlights the importance of addressing limited policy support as a barrier to the effective implementation of regulatory measures. Actively involving tobacco users in public health discussions and policy forums may help foster broader acceptance of these initiatives.

Authors Contribution:

Conceptual design: SA, MM, MP; Data Collection: MM, MP, FA; IRB approval: FA; Data Entry: MM, MP; Data Cleaning: MM, MP, SA; Analysis: SA; First Draft: SA, JAP; Revision: SA, MM, MP, FA, JAP; Approval: SA, MM, MP, FA, JAP.

Funding:

Shervin Assari tobacco research is supported by funds provided by The Regents of the University of California, Tobacco-Related Diseases Research Program, Grant Number no T32IR5355 (Grant DOI:10.17920/G9HK13; PI = Assari). Assari has also received support from the National Cancer Institute of the National Institutes of Health under FDA Center for Tobacco Products (CTP) under Award Number U54CA229974. The content is solely the responsibility of the authors and does not necessarily represent the official views of the NIH or the Food and Drug Administration.

John Ashley Pallera is supported by funds from the National Institutes of Health, National Institute on Drug Abuse Substance Abuse Research Training (SART) program (1R25DA050723) and National Institute on Minority Health and Health Disparities grant to the Urban Health Institute (S21 MD000103). Shervin Assari tobacco research is supported by funds provided by The Regents of the University of California, Tobacco-Related Diseases Research Program, Grant Number no T32IR5355 (Grant DOI:10.17920/G9HK13; PI = Assari).

References

[1] Jatoi, I.; Cummings, K.M.; Cazap, E. Global tobacco problem getting worse, not better. *Journal of Oncology Practice* **2009**, *5*, 21.
[2] Bartecchi, C.E.; MacKenzie, T.D.; Schrier, R.W. The global tobacco epidemic. *Scientific American* **1995**, *272*, 44-51.
[3] Navas-Acien, A. Global tobacco use: old and new products. *Annals of the American Thoracic Society* **2018**, *15*, S69-S75.
[4] Siddiqi, K.; Husain, S.; Vidyasagaran, A.; Readshaw, A.; Mishu, M.P.; Sheikh, A. Global burden of disease due to smokeless tobacco consumption in adults: an updated analysis of data from 127 countries. *BMC medicine* **2020**, *18*, 1-22.
[5] He, H.; Pan, Z.; Wu, J.; Hu, C.; Bai, L.; Lyu, J. Health effects of tobacco at the global, regional, and national levels: results from the 2019 global burden of disease study. *Nicotine and Tobacco Research* **2022**, *24*, 864-870.
[6] Collaborators, G.T. Spatial, temporal, and demographic patterns in prevalence of smoking tobacco use and attributable disease burden in 204 countries and territories, 1990–2019: a systematic analysis from the Global Burden of Disease Study 2019. *Lancet (London, England)* **2021**, *397*, 2337.
[7] Goodchild, M.; Nargis, N.; d'Espaignet, E.T. Global economic cost of smoking-attributable diseases. *Tobacco control* **2018**, *27*, 58-64.
[8] Ekpu, V.U.; Brown, A.K. The economic impact of smoking and of reducing smoking prevalence: review of evidence. *Tobacco use insights* **2015**, *8*, TUI. S15628.
[9] Pechacek, T.F.; Asma, S.; Blair, N.; Eriksen, M.P. Tobacco: global burden and community solutions. *Evidence-based Cardiology* **2002**, 103-113.
[10] Makate, M.; Whetton, S.; Tait, R.J.; Dey, T.; Scollo, M.; Banks, E.; Norman, R.; Pidd, K.; Roche, A.M.; Allsop, S. Tobacco cost of illness studies: a systematic review. *Nicotine and Tobacco Research* **2020**, *22*, 458-465.
[11] Ashley, M.J.; Cohen, J.; Bull, S.; Ferrence, R.; Poland, B.; Pederson, L.; Gao, J. Knowledge about tobacco and attitudes toward tobacco control: how different are smokers and nonsmokers? *Canadian journal of public health* **2000**, *91*, 376-380.
[12] Bialous, S.A.; Kaufman, N.; Sarna, L. Tobacco control policies. In Proceedings of the Seminars in Oncology Nursing, 2003; pp. 291-300.

[13] Cummings, K.M. Community-wide interventions for tobacco control. *Nicotine & Tobacco Research* **1999**, *1*, S113-S116.
[14] Department of Health. Local Tobacco Control Initiatives Maryland. Available online: https://health.maryland.gov/phpa/ohpetup/Pages/tob_local_initiatives.aspx (accessed on
[15] Flor, L.S.; Reitsma, M.B.; Gupta, V.; Ng, M.; Gakidou, E. The effects of tobacco control policies on global smoking prevalence. *Nature Medicine* **2021**, *27*, 239-243.
[16] Levy, D.T.; Chaloupka, F.; Gitchell, J. The effects of tobacco control policies on smoking rates: a tobacco control scorecard. *Journal of Public Health Management and Practice* **2004**, *10*, 338-353.
[17] Warner, K.E.; Mendez, D. Tobacco control policy in developed countries: yesterday, today, and tomorrow. *Nicotine & Tobacco Research* **2010**, *12*, 876-887.
[18] Levy, D.T.; Tam, J.; Kuo, C.; Fong, G.T.; Chaloupka, F. The impact of implementing tobacco control policies: the 2017 tobacco control policy scorecard. *Journal of Public Health Management and Practice* **2018**, *24*, 448-457.
[19] Kaur, J.; Jain, D. Tobacco control policies in India: implementation and challenges. *Indian journal of public health* **2011**, *55*, 220-227.
[20] Peruga, A.; López, M.J.; Martinez, C.; Fernández, E. Tobacco control policies in the 21st century: achievements and open challenges. *Molecular oncology* **2021**, *15*, 744-752.
[21] Greaves, L.; Jategaonkar, N. Tobacco policies and vulnerable girls and women: toward a framework for gender sensitive policy development. *Journal of Epidemiology & Community Health* **2006**, *60*, ii57-ii65.
[22] Dutra, L.M.; Farrelly, M.C.; Nonnemaker, J.; Bradfield, B.; Gaber, J.; Patel, M.; Hair, E.C. Differential relationship between tobacco control policies and US adult current smoking by poverty. *International journal of environmental research and public health* **2019**, *16*, 4130.
[23] Solomon, A. Gender, women, and the future of tobacco control. *Drugs and Alcohol Today* **2020**, *20*, 249-262.
[24] Willemsen, M.C.; Kiselinova, M.; Nagelhout, G.E.; Joossens, L.; Knibbe, R.A. Concern about passive smoking and tobacco control policies in European countries: an ecological study. *BMC Public Health* **2012**, *12*, 876, doi:10.1186/1471-2458-12-876.
[25] Rennen, E.; Nagelhout, G.E.; van den Putte, B.; Janssen, E.; Mons, U.; Guignard, R.; Beck, F.; de Vries, H.; Thrasher, J.F.; Willemsen, M.C. Associations between tobacco control policy awareness, social acceptability of smoking and smoking cessation. Findings from the International Tobacco Control (ITC) Europe Surveys. *Health Educ Res* **2014**, *29*, 72-82, doi:10.1093/her/cyt073.
[26] Sircar, N.R.; Bialous, S.A. Assessing the links between human rights and global tobacco control through statements made on global fora. *BMC Public Health* **2021**, *21*, 439, doi:10.1186/s12889-021-10451-2.
[27] Dresler, C.; Henry, K.; Loftus, J.; Lando, H. Assessment of short reports using a human rights-based approach to tobacco control to the Commitee on Economics, Cultural and Social Rights. *Tob Control* **2018**, *27*, 385-389, doi:10.1136/tobaccocontrol-2016-053517.
[28] Gorini, G. [Individual, community, regulatory, and systemic approaches to tobacco control interventions]. *Epidemiol Prev* **2011**, *35*, 33-49.
[29] Jacobson, P.D.; Banerjee, A. Social movements and human rights rhetoric in tobacco control. *Tob Control* **2005**, *14 Suppl 2*, ii45-49, doi:10.1136/tc.2004.008029.
[30] Dresler, C.; Lando, H.; Schneider, N.; Sehgal, H. Human rights-based approach to tobacco control. *Tob Control* **2012**, *21*, 208-211, doi:10.1136/tobaccocontrol-2011-050206.
[31] Sebrié, E.M.; Sandoya, E.; Hyland, A.; Bianco, E.; Glantz, S.A.; Cummings, K.M. Hospital admissions for acute myocardial infarction before and after implementation of a comprehensive smoke-free policy in Uruguay. *Tob Control* **2013**, *22*, e16-20, doi:10.1136/tobaccocontrol-2011-050134.
[32] Boderie, N.W.; Sheikh, A.; Lo, E.; Sheikh, A.; Burdorf, A.; van Lenthe, F.J.; Mölenberg, F.J.M.; Been, J.V. Public support for smoke-free policies in outdoor areas and (semi-)private places: a systematic review and meta-analysis. *EClinicalMedicine* **2023**, *59*, 101982, doi:10.1016/j.eclinm.2023.101982.
[33] Kuang Hock, L.; Hui Li, L.; Chien Huey, T.; Yuvaneswary, V.; Sayan, P.; Muhd Yusoff, M.F.; Kuang Kuay, L.; Miaw Yn, L.; Kee Chee, C.; Sumarni Mohd, G. Support for smoke-free policy among Malaysian adults: findings from a population-based study. *BMJ Open* **2019**, *9*, e020304, doi:10.1136/bmjopen-2017-020304.
[34] Mullin, M.; Allwright, S.; McGrath, D.; Hayes, C.B. Use of a Living Lab Approach to Implement a Smoke-Free Campus Policy. *Int J Environ Res Public Health* **2023**, *20*, doi:10.3390/ijerph20075354.
[35] Ramachandran, S.; Bentley, S.; Casey, E.; Bentley, J.P. Prevalence of and factors associated with violations of a campus smoke-free policy: a cross-sectional survey of undergraduate students on a university campus in the USA. *BMJ Open* **2020**, *10*, e030504, doi:10.1136/bmjopen-2019-030504.
[36] Bommelé, J.; Troelstra, S.; Walters, B.H.; Willemsen, M. Does support for smoke-free outdoor spaces increase after implementation?: A case study of a Dutch research center's smoke-free campus transition. *Tob Prev Cessat* **2020**, *6*, 67, doi:10.18332/tpc/129647.
[37] Atiba, Y.M.; Olubodun, T.; Odukoya, O.O. Young Peoples' support for a smoke-free campus policy: A case for smoke-free campuses in the statewide smoking law in Lagos State, Nigeria. *Ann Afr Med* **2020**, *19*, 53-59, doi:10.4103/aam.aam_27_19.
[38] Assari, S.; Mohammadi, M.; Pashmchi, M.; F., A. Rationale, design, and participants of the SMOKES study: Study of Measurement Of Knowledge and Examination of Support for tobacco control policies. *Global Journal of Cardiovascular Diseases* **2025**. 4(1), 6005. DOI: 10.31586/gjcd.2025.6005

[39] Bronfenbrenner, U. Ecological models of human development. *International encyclopedia of education* **1994**, *3*, 37-43.
[40] Janz, N.K.; Becker, M.H. The health belief model: A decade later. *Health education quarterly* **1984**, *11*, 1-47.
[41] Bandura, A. Social cognitive theory: An agentic perspective. *Annual review of psychology* **2001**, *52*, 1-26.
[42] Lidón-Moyano, C.; Sampedro-Vida, M.; Matilla-Santander, N.; Martín-Sánchez, J.C.; González-Marrón, A.; Bunch, K.; Martínez-Sánchez, J.M. Attitudes towards tobacco product regulations and their relationship with the tobacco control policies. *Preventive Medicine* **2018**, *111*, 67-72.
[43] Sutfin, E.L.; McCoy, T.P.; Reboussin, B.A.; Wagoner, K.G.; Spangler, J.; Wolfson, M. Prevalence and correlates of waterpipe tobacco smoking by college students in North Carolina. *Drug and alcohol dependence* **2011**, *115*, 131-136.
[44] Alotaibi, S.A.; Durgampudi, P.K. Factors associated with tobacco smoking among Saudi college students: A systematic review. *Tobacco prevention & cessation* **2020**, *6*, 36.
[45] Murphy-Hoefer, R.; Alder, S.; Higbee, C. Perceptions about cigarette smoking and risks among college students. *Nicotine & Tobacco Research* **2004**, *6*, S371-S374.