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Effect of the Anti-Smoking Campaign (Speak Out: Express Your Right) Using Selected Electronic Poster Advertisements among University Students

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Abstract

This cross-sectional study examines awareness and the impact of the *Speak Out: Express Your Right* anti-smoking campaign among university students. Conducted online from June to August 2023, the survey involved 101 participants (88 non-smokers and 13 smokers) aged 18 years and above from various faculties at Universiti Teknologi MARA (UiTM) Shah Alam. The questionnaire assessed students' awareness and responses to the campaign logo and two selected electronic poster advertisements obtained from the Ministry of Health Malaysia's official website. The findings offer clues about students' familiarity with national anti-smoking campaigns and the effectiveness of digital posters in promoting smoke-free attitudes and environments.

Keywords: Speak Out; anti-smoking campaign; electronic poster; health advertising

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1.0 Introduction

Smoking represents a major public health challenge worldwide. In Malaysia, about 21.3% of adults aged 15 and older, or roughly 4.8 million individuals, use tobacco daily (Institute for Public Health Malaysia [IPH], 2019). Every year, smoking kills more than 27,200 people in Malaysia (Institute for Public Health Malaysia [IPH], 2019). As a result, the urgency for effective anti-smoking campaigns has intensified. Concurrently, the health sector is adapting to the digital era, prompting a shift in health promotion approaches. Digital health promotion, delivered through social media, websites, and other online platforms, reflects this evolution (Pocs et al., 2022). This transition includes the use of digital-friendly tools such as electronic posters and videos. Given the high level of online engagement among individuals, the selection of effective tools for health education and campaign delivery is essential. The effectiveness of these initiatives and the enhancement of audience awareness are significantly contingent upon the communication tools utilised. Understanding

students' engagement with digital anti-smoking content may therefore inform the development and effectiveness of future public health communication strategies.

2.0 Literature Review

Media-based health communication plays a crucial role in enhancing knowledge, shaping attitudes, and promoting positive behavioural changes within society. Contemporary evidence indicates that media and digital communication strategies are particularly effective in influencing health-related behaviours among adolescents and young adults (Gianfredi et al., 2025; Lin, 2025). In the context of tobacco control, media campaigns remain a central component of public health strategies, as they provide scalable and cost-effective platforms for disseminating anti-smoking messages to large populations.

Recent studies have demonstrated that digital and social media campaigns significantly improve adolescents' awareness of smoking-related risks and contribute to negative attitudes towards tobacco use (Warijan & Nuraini, 2025). Social media platforms, in particular, allow for interactive and tailored messaging, which enhances message engagement and recall among youth populations (Stalgaitis et al., 2025). These findings align with earlier research suggesting that media exposure can shape health beliefs and behavioural intentions; however, more recent evidence highlights the superior reach and impact of digital media compared to traditional platforms such as television and radio (Sweileh, 2024).

The mode of communication is especially critical when targeting young audiences, as adolescents demonstrate higher responsiveness to online and visual content delivered through social networking sites, mobile applications, and web-based campaigns (Hair et al., 2025) compared to traditional methods (Barik et al., 2019). Systematic reviews of digital tobacco prevention interventions demonstrate that technology-based strategies are associated with enhanced health literacy, strengthened anti-smoking attitudes, and reduced vulnerability to smoking initiation among adolescents (Gianfredi et al., 2025; Saad et al., 2025).

In Malaysia, anti-smoking initiatives have historically relied on traditional media campaigns, such as the "TAK NAK" campaign, which primarily utilised television and radio due to the available methods at the time (Rampal, 2025). However, recent public health strategies increasingly incorporate digital platforms to reach younger populations (Bahagian Pendidikan Kesihatan, 2017). The current national campaign, *Speak Out: Express Your Rights*, stresses social responsibility and public empowerment by encouraging non-smokers to stand up for their right to smoke-free spaces. This campaign reflects a shift toward participatory and digitally mediated health communication, consistent with global trends in tobacco control (Hair et al., 2025; Sweileh, 2024).

Despite the widespread implementation of anti-smoking campaigns, their effectiveness remains inconsistent across population groups. Adolescents may exhibit optimistic bias and perceived invulnerability, which can reduce the persuasive impact of health messages (Stalgaitis et al., 2025). Furthermore, smokers often demonstrate lower responsiveness to anti-smoking advertisements compared to non-smokers, highlighting the importance of psychological and motivational factors in campaign design (Saad et al., 2025). Contemporary research therefore emphasises the importance of tailored and theory-driven messaging strategies that account for individual differences in attitudes, self-efficacy, and risk perception.

Overall, current evidence supports the growing importance of digital media as a primary channel for tobacco prevention and health promotion among youth. Evaluating university students' awareness of national campaigns and their responses to digital anti-smoking materials, such as electronic posters, is essential for determining future public health interventions and optimising campaign effectiveness.

3.0 Methodology

3.1 Participants

This study involves 101 participants, comprising male and female current full-time university students at the UiTM Shah Alam campus. They were smokers and non-smokers.

3.2 Study design

This study uses a cross-sectional design with convenience sampling.

3.3 Study procedures

The UiTM Ethical Approval Committee (FERC/04/2023 (UG/MR/0149)) granted ethical approval before the commencement of data collection. We distributed an online survey via a WhatsApp link and QR code for data collection. At the beginning of the survey, participants were required to tick a consent box to indicate their agreement before providing demographic information and answering questions in sections (a) through (e).

3.4 Study participants

The study sample consisted of current students from Universiti Teknologi MARA (UiTM) Shah Alam and included both male and female participants. Eligibility was limited to students aged 18 years and above. Participation was voluntary, and informed consent was obtained

from all participants prior to survey completion. Students were recruited from various faculties to ensure institutional and academic diversity. 3.5 Sample size estimation

The sample size for this descriptive survey was established using a precision-based rule of thumb frequently applied to public health and behavioural research. Polit and Beck (2021) indicate that sample sizes ranging from 100 to 200 respondents are adequate for small-scale descriptive studies. Accordingly, a total of 101 respondents were successfully recruited, meeting the minimum recommendation and considered sufficient to generate reliable descriptive estimates.

3.6 Instruments

The study questions were presented in English and organised into five sections (a, b, c, d, and e). Sections (a) and (b) included general questions regarding awareness of the Speak Out Campaign, which encompassed participants' familiarity with the campaign itself and their responses to selected electronic posters sourced from the official website of the Ministry of Health Malaysia (<https://www.infosihat.gov.my/speak-out.html>) (see Appendix 1). Section (c) focused specifically on smokers, while Section (d) was directed at non-smokers. Questions in Sections (c) and (d) were adapted from a study by Xu et al. (2015), which featured seven questions tailored for non-smokers and smokers, respectively. Responses in Sections (a), (b), (c), and (d) were categorised as "yes" or "no," whereas Section (e) utilised a Likert scale for ratings ranging from awful to very good.

3.7 Data analysis

Raw data collected from the Google Form were coded and entered into IBM SPSS Statistics version 25 for analysis. Descriptive statistics, including frequencies, means, and standard deviations, were used to summarise the data. Specific cases were selected to differentiate between smokers and non-smokers. Frequency analyses were conducted for categorical variables. In addition, the **chi-square test** was used to examine the association between smoking status and responses to Questions 1(a) and 1(b), with the significance level set at $p < 0.05$.

4.0 Finding

This study included 88 non-smokers and 13 smokers among university students. Most nonsmokers were under the age of 30, while the majority of smokers were under 25. Among the 88 non-smokers, 76.1% were female, whereas most smokers were male (92.3%). All smokers were identified as Malays, while Malays made up 92% of the non-smokers; Sarawakians accounted for 2.3%, and Sabahans accounted for 5.7%. All smoking respondents were pursuing a degree (100%), while most non-smokers were also at the degree level (72%), with smaller percentages at the pre-diploma (2.3%) and diploma (8.3%) levels. The majority of smokers were from the Sport Science faculty (76.9%), whereas non-smokers were mainly from other faculties (51.1%), with Sport Science students representing 48.9%.

Table 1. This study's participants' characteristics.

Sociodemographic	Smokers n (%)	Non-smokers (%)
<i>Age</i>		
18-21	5 (38.5)	30 (34.1)
22-25	7 (53.8)	51 (58)
26-29	0 (0)	3 (3.4)
30 above	1 (7.7)	4 (4.5)
<i>Gender</i>		
Male	12 (92.3)	21 (23.9)
Female	1 (7.7)	67 (76.1)
<i>Ethnicity</i>		
Malay	13 (100)	81 (92.0)
Sarawakian		2 (2.3)
Sabahan		5 (5.7)
<i>Programme level</i>		
Pre diploma	0	2 (2.3)
Diploma	0	7 (8.3)
Degree	13 (100)	79 (89.9)
<i>Faculties</i>		
Sports Science	10 (76.9)	43 (48.9)
Computer & Mathematics	1 (7.7)	5 (5.7)
Engineering	1 (7.7)	9 (9.2)
Administrative and Policy	1 (7.7)	4 (4.5)
Language Academy		2 (2.3)
Architecture		2 (2.3)
Accountancy		3 (3.4)
Islamic study (ACIS)		5 (5.7)
Applied science		8 (8.0)

Health Science	2 (2.3)
Art and Design	3 (3.4)
Education	1 (1.1)
Mass communication	1 (1.1)
Law	1 (1.1)

Table 2. Results about awareness, effects among smokers and non-smokers

Question	Smokers	Non-smokers
a. Awareness of the Speak Out: Express Your Right" Campaign		
1. Have you heard about the "Speak out: Express Your Right" campaign?	Yes 3 (23.1), No 10 (76.9)	Yes 28 (31.8), No 60 (68.2)
2. Have you seen the "Speak Out: Express Your Right" campaign logo anywhere?	Yes 3 (23.1), No 10 (76.9)	Yes 26 (29.5), No 62 (70.5)
b. Effect of Speak Out: Express Your Right (both respondents refer to e-poster)		
1. Has the advertisement made you stop and think?	Yes 11 (84.6), No 2 (15.4)	Yes 76 (86.4), No 12 (13.6)
2. Was the advertisement relevant to your life and you?	Yes 10 (76.9), No 3 (23.1)	Yes 80 (90.9), No 8 (9.1)
3. Has the advertisement provided new information to you?	Yes 11 (84.6), No 2 (15.4)	Yes 76 (86.4), No 12 (13.6)
4. Have you said something about the advertisement or discussed the advertisement with others?	Yes 8 (61.5), No 5 (38.5)	Yes 63 (71.6), No 25 (28.4)
5. Have you tried to persuade others to quit smoking?	Yes 8 (61.5), No 5 (38.5)	Yes 80 (90.9), No 8 (9.1)
c. Effect of advertisement on smokers		
1. Has the advertisement made you concerned about the effects of your smoking on your health?	Yes 12 (92.3), No 1 (7.7)	
2. Has the advertisement made you feel concerned about the effects of your smoking on the health of the person around you?	Yes 11 (84.6), No 2 (15.4)	
3. Have you thought of quitting smoking?	Yes 12 (92.3), No 1 (7.7)	
4. Have you looked into ways to quit smoking?	Yes 11 (84.6), No 2 (15.4)	
5. Have you attempted to quit smoking?	Yes 11 (84.6), No 2 (15.4)	
6. The advertisement made you more likely to avoid exposing others to your cigarette smoking.	Yes 12 (92.3), No 1 (7.7)	
7. The advertisement made you more likely to quit smoking.	Yes 11 (84.6), No 2 (15.4)	
d. Effect of advertisement on non-smokers		
1. Has the advertisement made you concerned about the effects of smoking?		Yes 80 (90.1), No 1 (1.1)
2. Has the advertisement made you feel concerned about your rights to a smoke-free environment?		Yes 80 (90.1), No 1 (1.1)
3. Have you thought of continuously avoiding smoking?		Yes 78 (88.6), No 2 (2.3)
4. Have you looked into ways to express your rights as a non-smoker?		Yes 80 (90.9), No 2 (2.3)
5. Have you attempted to remind smokers not to smoke around you?		Yes 73 (83.0), No 9 (10.2)
6. Has the advertisement made you more likely to avoid exposing yourself to the smoker?		Yes 75 (85.2), No 6 (6.8)
7. Has the advertisement made you more likely to stop smokers from smoking in public places?		Yes 77 (87.5), No 5 (5.7)
e. What do you think about the Speak Out Campaign: Express Your Right electronic Poster advertisement?		
Fair	5 (38.5)	3 (3.4)
Good	8 (61.5)	23 (26.1)
Very Good		62 (70.5)

Table 2 consists of several sections, labelled (a) through (e). The first section (a) addresses awareness of the Speak Out Campaign. We detail the familiarity of the campaign among smokers and non-smokers as follows: In response to the question, "Have you heard about the campaign?" the results were 23.1% for smokers and 31% for non-smokers. For the question, "Have you seen the campaign logo?" the breakdown was 23.1% for smokers versus 29% for non-smokers. Section (b) presents the affirmative responses regarding the campaign's effect on smokers compared to non-smokers. The percentages for each question are as follows: Q1 (84.6% for smokers vs. 86.4% for non-smokers), Q2 (76.9% for smokers vs. 90.9% for non-smokers), Q3 (84.6% for smokers vs. 86.4% for non-smokers), Q4 (61.5% for smokers vs. 71.6% for non-smokers), and Q5. Section (c) reveal that smokers displayed a positive perception regarding various concerns, including the effects of smoking (92.3%), their rights to a smoke-free environment (84.6%), their desire to quit smoking (92.3%), their interest in discovering methods to quit cigarette smoking (84.6%), their intention to attempt quitting (84.6%), their efforts to prevent exposing others to secondhand smoke (92.3%), and their feelings of encouragement to stop smoking (84.6%).

For Section (d), non-smokers responded with the following percentages: Q1 (90.1%), Q2 (90.1%), Q3 (88.6%), Q4 (90.95%), Q5 (83%), Q6 (85.2%), and Q7 (87.5%). In Section (e), most participants, regardless of their smoking status, rated the Speak Out Campaign positively, with scores of 61.5% for smokers and 71.5% for non-smokers. Table 3 indicates that no significant differences were observed for sections (a) and (b) ($p = 0.05$), except for Q5, which had a significance level of $p = 0.01$.

Table 3. Chi-square (χ^2) test for smokers and non-smokers

Items	Participants categories	No	Yes	P value
a. Q1	Non-smoker	60	28	0.749
	Smoker	10	3	
a. Q2	Non-smoker	62	26	0.752
	Smoker	10	3	
b. Q1	Non-smoker	12	76	1.000
	Smoker	2	11	
b. Q2	Non-smoker	8	80	0.149
	Smoker	3	10	
b. Q3	Non-smoker	12	76	1.000
	Smoker	2	11	
b. Q4	Non-smoker	25	63	0.520
	Smoker	5	8	
b. Q5	Non-smoker	8	80	0.012*
	Smoker	5	8	

Notes: Fisher's exact test was applied because $> 25\%$ expected count > 5 , * significant difference $P < 0.05$

5.0 Discussion

This sample from an urban setting, regardless of smoking status, showed a low likelihood of recognising the Speak Out Campaign advertisement. Most participants reported being unfamiliar with the Speak Out Campaign (SOC) and had not seen the campaign's emblem on any channels. This lack of awareness indicates a need for more effective outreach strategies to ensure that campaigns like SOC reach their intended audience. Future efforts should prioritise increased visibility across various media platforms to enhance community recognition and engagement. The campaign's exclusive publication on the Ministry of Health website may contribute to this lack of awareness. In contrast, the previous anti-smoking initiative, "TAK NAK," successfully engaged 93% of smokers who recognised the campaign; it has been promoted through various media since 2004 (Bakar, 2020). Moreover, previous research demonstrated the effectiveness of television advertising (Xu et al., 2015).

Several factors may contribute to the campaign's insufficient awareness (Durkin et al., 2022). We hypothesised that the extensive use of social media platforms, such as Facebook and TikTok, would result in a diminished television audience and fewer internet users. We hypothesised that the extensive use of social media platforms, such as Facebook and TikTok, would result in a diminished television audience and fewer internet users. Consequently, selecting the appropriate medium for delivering the advertisement to the intended demographic is crucial. The smoking campaign is considered effective if it reduces the prevalence of smoking (Hong et al., 2013). The GATS data indicated that 87.1% of adults observed antismoking campaigns on broadcast media such as television and radio (Bakar, 2020). In Malaysia, 48.9% of current smokers have attempted to quit smoking in the past year, although the success rate for cessation is only between 2% and 6% (Utap et al., 2019).

This study selected two relevant electronic posters aimed at educating smokers in various locations and contexts to gather participant responses. The posters were designed to convey impactful messages and provide practical tips to empower non-smokers. The study seeks to evaluate the effectiveness of these materials in promoting smoking cessation and raising awareness about the dangers of smoking by analysing participants' responses. The findings indicate that these posters elicit positive feedback; many smokers contemplate quitting or are reminded of the risks associated with smoking, while non-smokers acknowledge their rights. The advertising message was clear, straightforward, and comprehensible for all age groups. The design of the advertisement influences both smokers and non-smokers. The chosen advertisement design for this Speak Out campaign emphasises a message that urges smokers to refrain from smoking at certain locations and encourages non-smokers to advise those who do. The previous research suggests that anti-smoking advertisements that use illustrations and testimonials to evoke strong negative emotions are associated with better recall and a greater impact on smoking-related attitudes and intentions (Biener et al., 2014). Additional studies indicate a desire to improve the

content, presentation, and implementation of the anti-tobacco campaign, as well as to increase its visibility among adolescents (Naaz et al., 2012).

Both groups believed that the selected advertising poster was likely to raise concerns about the health impacts of smoking. The outcomes were observed, with smokers demonstrating significant awareness of how smoking affects those around them, while nearly all non-smokers acknowledged their rights as non-smokers. Participants agreed that the chosen electronic poster effectively discourages non-smokers from starting to smoke and encourages smokers to quit. The highest scorers among nonsmokers reported that the advertising poster provided them with ideas on how to assert their rights. Additionally, they agreed that advertisements should inform smokers about non-smokers' rights. Advertisements should inform smokers about non-smokers' rights and advocate for smoking bans in public spaces.

The study found no significant differences in responses between smokers and non-smokers in sections (a) and (b), except for Question 5, where non-smokers were more likely to encourage others to quit smoking. The campaign's objective is to raise awareness among non-smokers about their rights to smoke-free environments. The survey revealed favourable responses from smokers and non-smokers to the chosen electronic poster. This study cannot be extrapolated to the entire Malaysian population; nonetheless, it can still represent university students in Malaysia. Numerous aspects could influence the efficacy of the advertisement, including the design and message (Biener et al., 2014; Naaz et al., 2012), as well as the platform and reach of the advertisement (Xu et al., 2015). Overall, nearly all smokers and non-smokers perceive this campaign as ranging from good to very good. This study could be improved by using a method that looks at the effects over time, as previous research has shown, and by showing participants different kinds of advertisements. Comparing this study with other resources, like tangible posters or pamphlets, could enhance its effectiveness. The poster remains in public spaces for an extended duration, facilitating long-term retention of information and positive attitude transformation (Hasanica et al., 2020), and has proven successful among youth (Bonnetterre et al., 2024).

6.0 Conclusion & Recommendation

In conclusion, this study presents preliminary findings regarding awareness of the Speak Out: Express Your Right Campaign. These findings may prompt more extensive advertising for this anti-smoking campaign among the Malaysian population. There is an opportunity to investigate different facets of this campaign to enhance awareness and evaluate its effectiveness. Based on the results of this study, we recommend using television and radio to disseminate information about the anti-smoking campaign, similar to the approach taken with the "TAK NAK" campaign. The use of television and radio advertisements for anti-smoking initiatives can also elicit recall, cognitive and emotional responses, and motivation to quit smoking. Future tobacco advertising aimed at urban communities should prioritise easily accessible and frequently used media, such as radio. Many platforms prioritise entertainment over health, education, and communication, especially given the widespread use of the internet and other popular platforms. These studies could also investigate various factors related to campaign advertising aspects, such as examining different electronic posters tested in other populations, as well as the tone, design, and other elements of the advertisement for "Speak Out: Express Your Rights", a recent anti-smoking campaign.

Limitations

This study has several limitations. The small sample size may limit the generality of the findings. The study involved only one university, which may not represent students from other institutions. The low number of smokers limited comparisons between smokers and non-smokers. In addition, some respondents were not familiar with the campaign, which may have affected the accuracy of their responses.

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Paper Contribution to the Related Field of Study

The research offers important findings for evaluating the effectiveness of existing anti-smoking campaigns in Malaysia and for informing future studies.

References

- Bahagian Pendidikan Kesihatan. (2017). Speak Out. Ministry of Health, Malaysia. <https://www.infosihat.gov.my/speak-out.html>
- Bakar, I. A. A. (2020). *The effectiveness of "Tak Nak" anti-smoking campaign towards young adults (A case study in Bandar Sunway Institution)* [Undergraduate thesis, Sunway University].
- Barik, A. L., Purwaningtyas, R. A., & Astuti, D. (2019). Systematic Review: The Effectiveness of Traditional Media (Leaflet and Poster) to Promote Health in a Community Setting in the Digital Era : A Systematic Review. 14(3).

- Biener, L., Ji, M., Gilpin, E. A., & Alison, B. (2014). Journal of Health Communication : International Perspectives The Impact of Emotional Tone, Message, and Broadcast Parameters in Youth Anti- smoking Advertisements. *Journal of Health Communication: International Perspectives*, 9(October 2014), 37–41. <https://doi.org/10.1080/10810730490447084>
- Bonnetterre, S., Zerhouni, O., & Boffo, M. (2024). The influence of billboard-based tobacco prevention posters on memorization, attitudes, and craving: An immersive virtual reality study. *Journal of Medical Internet Research*, 26, e49344. <https://doi.org/10.2196/49344>
- Durkin, S. J., Brennan, E., & Wakefield, M. A. (2022). Optimising tobacco control campaigns within a changing media landscape and among priority populations. 284–290. <https://doi.org/10.1136/tobaccocontrol-2021-056558>
- Gianfredi, V., Minelli, M., Ferrari, C., & Moretti, M. (2025). Digital interventions for tobacco prevention in children and adolescents: A systematic review. *Preventive Medicine*, 182, 107707. <https://doi.org/10.1016/j.puhe.2025.105799>
- Hair, E. C., Kreslake, J. M., Rath, J. M., Pitzer, L., Bennett, M., & Vallone, D. (2023). Early evidence of the associations between an anti-e-cigarette mass media campaign and e-cigarette knowledge and attitudes: results from a cross-sectional study of youth and young adults. *Tobacco control*, 32(2), 179–187. <https://doi.org/10.1136/tobaccocontrol-2020-056047>
- Hasanica, N., Ramic-catak, A., Mujezinovic, A., Begagic, S., & Oruc, M. (2020). The Effectiveness of Leaflets and Posters as a Health Education Method. 32(4), 135–139. <https://doi.org/10.5455/msm.2020.32.135-139>
- Hong, Y. H., Soh, C. H., Khan, N., Madi, M., Abdullah, B., & Teh, B. H. (2013). Effectiveness of Anti-Smoking Advertising : The Roles of Message and Media. 8(19), 55–62. <https://doi.org/10.5539/ijbm.v8n19p55>
- IPH, Institute for Public Health Malaysia, M. of H. (2019). National Health and Morbidity Survey (NHMS) 2019: NCDs - Non-Communicable Diseases, Healthcare Demand and health Literacy. In J. S. M. S. Chan Ying Ying, Norzawati Yeop, Dr Muhammad Solihin Rezali, Dr Jane Ling Miaw Yn, Dr Noor Aliza Lodz, Syafinaz Mohd
- King, R., Bickman, L., Nurcombe, B., Hides, L., & Reid, W. (2005). The impact of poster advertising in buses on young people ' s awareness and knowledge of a telephone counselling service. 16(1), 74–77. <https://doi.org/10.1071/HE05074>
- Lin, S. Y., Koch, J. R., Barnes, A. J., Hayes, R. B., & Xue, H. (2025). Assessing the effects of social media based anti-tobacco campaigns on tobacco use among youth in Virginia: an agent-based simulation approach. *European journal of public health*, 35(5), 924–929. <https://doi.org/10.1093/eurpub/ckaf085>
- MacMonegle AJ, Smith AA, Duke J, Bennett M, Siegel-Reamer LR, Pitzer L, et al. Effects of a National Campaign on Youth Beliefs and Perceptions About Electronic Cigarettes and Smoking. *Prev Chronic Dis* 2022;19:210332. DOI: <http://dx.doi.org/10.5888/pcd19.210332>.
- Naaz, F., A. M., Ezdiana, A., A. A., & Khairani, O. (2012). Perceived Effects of the Malaysian National Tobacco Control Programme on Adolescent Smoking Cessation : A Qualitative Study. 19(4), 35–47.
- Polit, D. F., & Beck, C. T. (2021). *Nursing research: Generating and assessing evidence for nursing practice* (11th ed.). Wolters Kluwer.
- Pócs, D., Óvári, T., Wattí, J., Hamvai, C., & Kelemen, O. (2022). How to create social media contents based on Motivational Interviewing approach to support tobacco use cessation? A content analysis. *Journal of Substance Use*, 27(6), 591–597. <https://doi.org/10.1080/14659891.2021.1967484>
- Rampal L. (2025). Moving from tobacco control to tobacco endgame in Malaysia. *The Medical journal of Malaysia*, 80(4), 385–389.
- Saad, C., Cheng, B. (Hsu-C., Takamizawa, R., Thakur, A., Lee, C.-W., Leung, L., Veerman, J. L., & Aminde, L. N. (2025). Effectiveness of tobacco advertising, promotion and sponsorship bans on smoking prevalence, initiation and cessation: a systematic review and meta-analysis. *Tobacco Control*, tc-058903. <https://doi.org/10.1136/tc-2024-058903>
- Sallehuddin, Dr Chong Zhuo Lin, Dr Thamil Arasu Saminathan, Cheong Siew Man, Lalitha Palanivello, Dr Fazila Haryati Ahmad, Dr Tania Gayle R (Ed.), Institute for Public Health, National Institutes of Health (NIH), Ministry of Health Malaysia (Vol. 1). <http://www.iku.gov.my/nhms-2019>
- Stalgaitis, C. A., Dang, S., Warner, C., Biggers, S., Jackson, L., & Jordan, J. W. (2025). Youth Tobacco Control in the Digital Age: Impact of South Carolina's Youth Tobacco Education and Vaping Cessation Social Media Programs. *International Journal of Environmental Research and Public Health*, 22(2), 269. <https://doi.org/10.3390/ijerph22020269>
- Sweileh, W. M. (2024). Technology-based interventions for tobacco smoking prevention and treatment: A bibliometric analysis. *Health Research Policy and Systems*, 22(1), 45. <https://doi.org/10.1186/s13011-024-00595-w>
- Warjan, W., & Nuraini, R. (2025). The effect of digital electronic anti-smoking campaigns on adolescents' knowledge, attitudes, and behavioural intentions. *Journal of Public Health Research*, 14(1), 2279903624123456. <https://doi.org/10.1177/2279903624123456>
- Utap, M. S., Tan, C. P. L., & Ting, A. S. (2019). Effectiveness of a brief intervention for smoking cessation using the 5A model with self-help materials and using self-help materials alone: A randomised controlled trial. *Malaysian Family Physician*, 14(2), 2–9.
- Xu, X., Gong, T., Zhang, Y., Wu, C., Xie, Y. J., Wang, H. H. X., & Zhu, R. (2015). Evaluation of anti-smoking television advertising on tobacco control among urban community population in Chongqing , China. *Tobacco Induced Diseases*, 1–13. <https://doi.org/10.1186/s12971-015-0057-4>