

Academic community perception of smoke-free zone implementation on campus: situation analysis at UIN Sunan Kalijaga Yogyakarta



Gita Miranda Warsito^{1*}, Siti Fatimah¹, Nia Maharani Raharja¹, Arifah Khusnuryani¹

ABSTRACT

Introduction: The Indonesian government actively regulates the use of tobacco products through the establishment of Smoke-Free Zones (SFZs). A key local example is the Sleman Regent Regulation No. 42/2012, which specifically mandates educational institutions to implement SFZ policies. State Islamic University (UIN) Sunan Kalijaga, situated within the Sleman Regency in Yogyakarta, is thus obligated to adhere to this regulation. Despite regulatory frameworks and institutional commitments, the prevalence of smoking on the UIN Sunan Kalijaga campus remains a significant challenge. To address this, the study was designed to establish a baseline by collecting data on the smoking behavior and attitudes of the university's students and staff regarding the SFZ policy. This study serves as a crucial foundation for developing more effective policy interventions.

Methods: Utilizing a descriptive research approach, data were collected in January 2024 from all staff and all enrolled undergraduate and postgraduate students at UIN Sunan Kalijaga Yogyakarta through a self-administered questionnaire. The collected data were analyzed subsequently using a descriptive approach, with results presented in frequencies (n) and percentages (%).

Results: A total of 1,228 responses, comprising 1,164 students and 64 staff members, including lecturers, were received. There were 13.35% smokers among all respondents (n = 164), with the smoking prevalence between university staff and students was found to be 12.62% vs 0.73%. Despite high overall support for a smoke-free campus and a shared belief in its health benefits, support for an outright ban on smoking is significantly lower among current student smokers, who are more receptive to compromise policies such as the provision of smoking shelters.

Conclusion: The overall results consistently indicate a generally positive level of support among respondents for the implementation of a comprehensive campus-wide smoke-free or tobacco-free policy.

Keywords: SFZ policy; smoke-free zone; tobacco control; university.

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¹Faculty of Science and Technology, State Islamic University of Sunan Kalijaga (UIN Sunan Kalijaga), Yogyakarta, Indonesia.

*Corresponding author:
Gita Miranda Warsito;
Faculty of Science and Technology, State Islamic University of Sunan Kalijaga (UIN Sunan Kalijaga), Yogyakarta 55281, Indonesia;
gita.miranda.warsito@uin-suka.ac.id

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INTRODUCTION

Tobacco smoking-related diseases significantly impact Indonesia's population as one of the world's largest tobacco markets.¹ Indonesia Law No. 17/2023 on Health states that smoking or the production, sale, advertising, and or promotion of tobacco products are prohibited in the smoke-free zone (SFZ).² This law is explained further in Government Regulation No. 109/2012 of Safeguarding Materials Containing Addictive Substances in the Form of Tobacco Products for Health. This regulation clearly states that educational

institutions are also SFZ.³ This includes universities such as State Islamic University (UIN) Sunan Kalijaga, a higher educational institution in Yogyakarta. The Sleman Regency Government realized the mandate of the Laws and Regulations governing the right to clean and healthy air by issuing Sleman Regent Regulation No. 42/2012 of SFZ.⁴ The regulation also states that educational institutions are required to implement SFZ. The implementation of the SFZ policy in the academic institute also aims to safeguard all citizens' rights of clean air and environment as regulated in the Sleman Regent Regulation No.

42/2012 of SFZ.

The designation of SFZ is a national effort to protect its citizens against the risk of health problems due to the environment being polluted by cigarette smoke. As recommended by the Ministry of Health, there are a few evaluation components for SFZ in education facilities, including a decrease or static prevalence of smokers on campus. SFZ implementation in educational institutions targets the leaders or persons in charge or managers of the academic institution, students, educators, and other school elements, including administrative staff or employees.⁵

Indonesian Ministry of Health highlights that to develop and implement the SFZ in educational institutions, the institution's leaders need to do a situation analysis, form a committee or working group to formulate the SFZ policy, create the SFZ policy, and prepare the infrastructure.

The UIN Sunan Kalijaga is located in Sleman Regency, Yogyakarta, Indonesia. The university's student code of conduct explicitly lists "smoking while handling academic matters and participating in academic activities" and "littering cigarette butts" as moderate violations⁶. This indicates a clear institutional stance against smoking on campus. Despite the official regulations, a study⁷ and some observations point to a continued presence of smoking among the academic community. This creates a "paradoxical" situation where a smoke-free policy exists, but smoking behavior has not been entirely eradicated and contrasts with the University's Strategic Plan to establish a Health Faculty, where the Faculty of Science and Technology is set to be the embryo. By following the Indonesian Ministry of Health's Guidelines for SFZ Development, this research is the first step in the development and implementation of SFZ policy at UIN Sunan Kalijaga by reviewing the academic community's perception, including their baseline behavior and attitudes towards the SFZ policy. This study tries to obtain data as a basis for making the policy to develop and implement SFZ policy on campus to construct a health-promoting university at UIN Sunan Kalijaga Yogyakarta.

METHOD

This study employed a descriptive research approach to assess perceptions of SFZ among students, lecturers, and staff of UIN Sunan Kalijaga Yogyakarta. Data were collected using an online questionnaire via Google Forms. The instrument was adapted, from the questionnaire developed by Bartington et al.⁸ in their study on smoking behaviours and attitudes towards campus-wide tobacco control policies at the University of Birmingham. The adaptation was conducted to fit the Indonesian context, specifically the SFZ policy implemented at UIN Sunan Kalijaga. Minor wording

changes were made for cultural and institutional relevance, while retaining the core constructs of the original instrument.

Questionnaire

The questionnaire consisted of two sections. The first section collected demographic information, including age, gender, role, faculty, and smoking status. The second section assessed attitudes and support for SFZ policy through ten dichotomous (yes/no) items. These items measured: (a) support for a campus-wide tobacco control policy, (b) support for tobacco control policy intervention measures, and (c) Perceptions of a campus-wide tobacco control policy. Responses of "Yes" were coded as 1 and "No" as 0, with higher scores reflecting stronger support for SFZ-related measures. Prior to distribution to respondents, the questionnaire underwent validity and reliability testing. Validity was assessed using Pearson's correlation, with all items meeting the significance criterion of $p < 0.05$. Reliability testing yielded a Cronbach's alpha (α) of 0.896, indicating that the questionnaire was both valid and highly reliable.

Sampling Technique and Participants

A total population sampling approach was employed, targeting all academic staff and enrolled undergraduate and postgraduate students at UIN Sunan Kalijaga Yogyakarta. The inclusion criteria for participants were that they must be registered undergraduate or postgraduate students, lecturers, or administrative staff at the university during the data collection period, be willing to participate by completing the online questionnaire, and be able to access the survey through a university email account. Conversely, the exclusion criteria were incomplete questionnaire submissions and non-academic visitors or alumni.

A total of 1,228 respondents met the inclusion criteria, comprising 1,164 students and 64 staff (including lecturers).

Data Collection Procedure

The questionnaire was accessible to UIN Sunan Kalijaga Yogyakarta's academic community using their university account to prevent multiple submissions. The researchers improved the response rate by

notifying the educational community to submit their responses through official and personal connections with peers across all faculties. All of the submitted data during the data collection period in January 2024 were analyzed and statistically processed for research purposes.

Data analysis: The survey results were analyzed using a descriptive approach. The data were presented in the form of frequencies and percentages to describe key demographic characteristics and the distribution of variables related to smoking status. All data processing was carried out using IBM SPSS Statistics software version 22.

Ethics Approval and Consent to Participate

Ethical approval for the study is provided by the Universitas Gadjah Mada Research Ethics Committee No: KE/UGM/001/EC/2024. Confidentiality was assured for all participants, and no identifiable information was collected from respondents.

RESULT

The research retrieved the respondents' demographic data and perceptions of tobacco control policy implementation on campus. A total of 1228 survey responses were received, of whom 1164 participants were students, and 64 participants were university staff (75.00% lecturers & 25.00% academic staff). The overall sample was predominantly female (66.04%), a trend driven by the high number of female students. The students' respondents were overwhelmingly young, with nearly 99% falling into the 17-24 age group, whereas staff members were concentrated in older age brackets, with the most considerable proportions in the 25-34 (67.19%) and 35-44 (23.43%) years age groups. Current smoking prevalence (intermittent or daily smokers) was 13.354% among all the respondents ($N = 164$), with the smoking prevalence between university staff and students was found to be 12.62% vs 0.73%. Table 1 summarizes the respondents' demographic data.

77.78% of the current smokers of student and staff respondents expressed concern about secondhand smoke (SHS) exposure, whereas almost all the non-

Table 1. Demographic characteristics of survey participants (students and university staff)

Demographic Characteristics	Students <i>n</i> = 1164 (%)	Staff <i>n</i> = 64 (%)	Total <i>n</i> = 1228
Age			
17-24 years	1150 (98.79)	0 (0.00)	1150 (93.65)
25-34 years	14 (1.20)	43 (67.19)	57 (4.64)
35-44 years	0	15 (23.43)	15 (1.2)
45-54 years	0	4 (6.25)	4 (0.33)
≥ 55 years	0	2 (3.13)	2 (0.16)
Gender			
Male	377 (32.39)	40 (62.50)	417 (33.96)
Female	787 (67.61)	24 (37.50)	811 (66.04)
Students' year grade (students only)			
1 st year	305 (26.20)	-	-
2 nd year	343 (29.46)	-	-
3 rd year	381 (32.73)	-	-
4 th year	135 (11.60)	-	-
University role (staff only)			
Lecturer	-	48 (75.00)	-
Staff	-	16 (25.00)	-
Faculty			
Science and Technology	123 (10.57)	8 (12.50)	131 (10.66)
Education	257 (22.08)	14 (21.88)	271 (22.07)
Social and Humanities	121 (10.40)	8 (12.50)	129 (10.50)
Sharia and Law	211 (18.13)	4 (6.25)	215 (17.51)
Dakwah and Communication	144 (12.37)	5 (7.81)	149 (12.13)
Adab and Cultural Sciences	94 (8.08)	11 (17.19)	105 (8.55)
Islamic Theology	64 (5.50)	8 (12.50)	72 (5.86)
Economy and Business Islam	136 (11.68)	6 (9.38)	142 (11.56)
Postgraduate Program	16 (1.37)	0(0.00)	16 (1.30)
Housing Type			
Home	274 (23.54)	45 (70.31)	319 (25.98)
Boarding room	597 (51.29)	5 (7.81)	602 (49.02)
Rented house	145 (12.46)	13 (20.31)	158 (12.87)
Islamic boarding home	148 (12.71)	1 (1.56)	149 (12.13)
Smoking Status			
Never smoker	946 (81.27)	45 (70.31)	991 (80.70)
Previous smoker	63 (5.41)	10 (15.63)	73 (5.94)
Intermittent smokers	78 (6.70)	4 (6.25)	82 (6.68)
Daily smokers	77 (6.61)	5 (7.81)	82 (6.68)

smokers expressed their concern about SHS. Although around 80% of student respondents and staff supported a smoke-free campus, the support for an outright ban on smoking among current student smokers is notably lower. For instance, only 60.65% support prohibiting smoking on campus, and even fewer (58.71%) support a ban on e-cigarettes. On the other hand, all non-smokers, both staff and students, show extremely high levels of support for all policies in this category, with rates consistently above 90%.

The high level of support for behavioral

change in terms of recommendations to specific actions, such as the provision of smoking-cessation support, smoking shelters on campus, and no-smoking signage around campus, is also shown in both the smokers and non-smokers groups. Current student smokers show the highest level of support (90.32%) for the university providing smoking shelters on campus. Support for the university providing smoking-cessation support is lower among current student smokers (71.61%) compared to their support for smoking shelters. Whereas all staff

smokers (100% of the small sample) agree that the university should provide cessation support, smoking shelters, and no-smoking signs.

Current student smokers show a high level of agreement (86.45%) that a tobacco-free campus will “improve staff and students’ health.” This is the highest level of support they give to any statement in the survey, indicating a strong personal and shared understanding of the health risks. The perception that a tobacco-free campus would “improve the university’s public image” is also well-supported by all

Table 2. Tobacco control policy support and perceptions among students and university staff

	Students		Staff	
	Current Smokers n = 155 (%)	Non-Smokers n = 1009 (%)	Current Smokers n = 9 (%)	Non-Smokers n = 55 (%)
Support for a campus-wide tobacco control policy				
There should be no secondhand smoking exposure for faculty, staff, or students on campus	116 (74.84)	983 (97.42)	7 (77.78)	54 (98.18)
We should aim to eradicate tobacco use from the university.	114 (73.55)	991 (98.22)	7 (77.78)	53 (96.36)
Staff and students should be prohibited from smoking on campus	94 (60.65)	963 (95.44)	5 (55.56)	52 (94.54)
Staff and students should be prohibited from smoking e-cigarettes on campus	91 (58.71)	920 (91.18)	5 (55.56)	53 (96.36)
Tobacco sales should be prohibited on campus	95 (61.29)	912 (90.39)	6 (66.67)	50 (90.90)
Support for tobacco control policy intervention measures				
The university should provide smoking-cessation support	111 (71.61)	964 (95.54)	9 (100.00)	49 (89.09)
The university should provide smoking shelters on campus	140 (90.32)	915 (90.68)	9 (100.00)	46 (83.63)
No-smoking signs should be clearly placed around campus	128 (82.59)	978 (96.93)	9 (100.00)	54 (98.18)
Perceptions of a campus-wide tobacco control policy				
A tobacco-free campus would improve the University's public image	110 (70.97)	966 (95.74)	7 (77.78)	53 (96.36)
A tobacco-free campus will improve staff and students' health	134 (86.45)	1000 (99.11)	8 (88.89)	54 (98.18)

groups, although current student smokers show slightly less enthusiasm for this idea (70.97%) compared to the health benefits. Table 2 depicts the support and perception of the respondents for the tobacco control policy on campus.

DISCUSSION

The global economic cost of death and illness is mainly attributed to tobacco use, which is estimated at 8,000,000 deaths per year, with approximately 80% of these fatalities occurring in low and middle-income countries.⁹ After China and India, Indonesia has the third-highest number of smokers globally.¹⁰ Indonesia has the highest percentage of adult smokers in ASEAN countries, around 28.9% of the total population.¹¹ In 2018, 47.4% of men and 1.2% of women above ten years in Indonesia were smoking, while the average number of cigarettes smoked daily was about 12.8 nationally and 10.88 in Yogyakarta.¹² In 2021, smoking ranked the fourth-highest per capita expenditure in Indonesia.¹³

The social and economic cost of

tobacco consumption in Indonesia keeps increasing. Losing costs caused by smoking every year are estimated to reach USD 200 million.¹⁴ In Indonesia, the total consumption cost in 2005, including direct costs at the household level and indirect costs resulting from loss of productivity caused by early deaths, sickness, and disabilities, was estimated to be USD 18.5 billion.¹⁴

Smoking behavior is one of the risk factors that contribute to the control of non-communicable diseases. One of the efforts to protect the public from exposure to cigarette smoke is through the development of SFZ by encouraging the formation of regional regulations and policies and their implementation. This indicator is expected to promote the creation of healthy Indonesian people who are free from cigarette smoke exposure and are productive.¹³

The result shows that the prevalence of current tobacco smoking among the respondents was 13.35%, less than half of Indonesia's smoker prevalence during 2021, 33.5%.¹⁵ This low prevalence was potentially due to the female majority

of the respondents, which should also be taken into consideration, as most of the smokers in Indonesia are males. Among adult smokers in Indonesia, males significantly outnumber females, with 60.8 million male smokers compared to 3.7 million female smokers.¹⁶ The majority of UIN Sunan Kalijaga Yogyakarta's academic community members are Muslim. Although there is no argument in the Islamic scriptures, the Quran or Hadith, that directly speaks to the legal issue of tobacco smoking, many scholars have prohibited smoking due to its potential severe harm to either the active smokers or the passive smokers' health, while some have justified it as a part of exercising human right.¹⁰ The proportion of active smokers shows that not all academics realize its potential severe harm.

Support for a campus-wide tobacco control policy

Approximately 80% of student and staff respondents expressed support for a smoke-free campus. However, support for a comprehensive ban was significantly lower among current student smokers.

Specifically, only 60.65% were in favor of prohibiting smoking on campus, and a slightly smaller percentage (58.71%) supported a ban on e-cigarettes. Conversely, non-smokers from both the student and staff populations demonstrated a consistently high level of support, with agreement rates exceeding 90% for all policies in this category. This finding is relatively higher than the previous study at Curtin University, where 65.7% of respondents supported a smoke-free campus policy option that is currently successful in implementing the policy.^{17,18} It shows a potentially successful attempt to implement the SFZ policy at UIN Sunan Kalijaga.

The current smokers of student and staff respondents expressed concern about SHS exposure in a similar proportion (76.1% and 77.8%), whereas almost all the non-smokers expressed their concern about SHS. This finding is similar to a cross-sectional survey at Curtin University, Western Australia, where 84.1% of respondents were concerned about the harms of SHS exposure.¹⁷ SHS endangers the human rights of passive smokers. Exercising one's human rights should not affect others' rights. Anyone who unjustly murders another endangers everyone's rights because, as the Quran declares, it is the same as killing everyone.¹⁹ A significant number of studies report the negative impact of smoking on health, even potentially leading to the death of active smokers.⁹ Smoking is a significant threat to individual and community health, also dramatically impacting the passive smokers who involuntarily inhale the smoke produced by active smokers. Passive smoking is considerably linked to an increased risk of various diseases or health issues, including childhood disorders and malignancies.²⁰ Islamic teaching forbids any form of self-destruction; as mentioned in the Quran, Allah forbids humans to either harm or kill themselves.

Most respondents expressed an aspiration to make the university free of tobacco smoking. Around 75% of smokers in the student or staff group showed this aspiration. It was approximately 22% less than the non-smokers group. According to a study, having a smoke-free campus will

shield susceptible youth from developing a tobacco addiction, falling ill, and passing away too soon. More lives will be saved on a completely smoke-free campus than if designated smoking places remain in place.²¹

Approximately 41.9% of the current smokers responded that staff and students should be allowed to smoke on campus, whereas 95.0% of the non-smoker respondents were against it. Smoking status was the most significant factor influencing opposition to a tobacco-free policy.²² Even among educated populations, current smokers were more likely to be against the program than people who had never used tobacco products. Furthermore, laws establishing smoke-free areas are typically supported by non-smokers.²³ A similar trend was also recorded in this study for the ban on cigarettes on campus, where fewer smokers responded against the sales of cigarettes on campus than the non-smoking group.

Around a quarter (24.4%) of the respondents supported e-cigarette use on campus; on the other hand, 59% of student respondents and 55.6% of staff respondents who were current smokers supported the e-cigarette ban on campus. This difference might happen due to diverse public awareness of the health impacts of e-cigarettes, which leads to different perceptions.^{8,24}

Support for tobacco control policy

Different from other criteria, a statement for an on-campus smoking cessation program gained full support from the smokers' staff respondents and 92.3% of the non-smokers group. On the other hand, 29.4% of smokers in the student group were against it. Stop smoking support should be provided on campus. The higher education period is a crucial time to inform young adults about the harmful effects of smoking, offer a welcoming smoke-free environment, and give them access to resources to help them stop.²⁵ Tobacco cessation programs are one of the most economical ways to save healthcare expenses and boost productivity.²⁵⁻²⁷ A key to increasing the success rate of smoking cessation is the creation of a program appropriate for college students.^{8,28} According to a meta-

analysis, the most successful program for university students to stop using tobacco is the Quit and Win contest.^{28,29} Furthermore, it is proposed that in such contexts, carrying out cessation programs in conjunction with tobacco-free policies could not only lower healthcare costs and the prevalence of smoking-related illnesses but also help lay a solid foundation for the eventual development of smoke-free policies.

The majority (91.2%) of the respondents agreed that smoking shelters should be provided on campus. While there is a general consensus on the benefits of a tobacco-free campus and strong support from non-smokers, the implementation of a policy would need to navigate the opinions of current smokers. The findings indicate that policies that offer a compromise, such as providing smoking shelters, may be more favorably received by current smokers than outright bans. This perspective is against the national and regional regulations that prohibit the provision of smoking areas in educational facilities, where no-smoking signs should be clearly placed, and comprehensive tobacco-free policies should be implemented.^{2,4} However, the strong agreement among all groups on the health benefits of such a policy provides a strong foundation for its justification and implementation. Extensive policies prohibiting tobacco use are effective in lowering SHS exposure, smoking initiation, and the social acceptability of tobacco use.^{30,31}

Perceptions of a campus-wide tobacco control policy

Most participants agreed that a smoke-free campus policy would positively impact staff and students' health. It depicts the respondents' awareness of the association between smoking and illness.^{8,32} Raising awareness of relevant health messages and reinforcing the harms of SHS exposure will likely improve acceptance and policy compliance.^{32,33} The World Health Organization Framework Convention on Tobacco Control suggests that national bodies and organizations should protect the population from SHS hazards wherever evidence shows that the risk exists.³⁴ Interventions to promote

compliance should address individual, institutional, and interpersonal factors related to non-compliance through efforts customized to various campus groups based on their knowledge and attitudes toward SFZ regulations.²¹ To implement the tobacco-control policy on campus effectively, the evidence base concerning policy implementation and organisational change processes is highly needed.

This study has several limitations related to the disproportionate distribution of respondents, cross-sectional design, and self-reported data. The staff sample was considerably smaller (N=64, 5.2%) and the overall sample was predominantly female (66.04%). A future study with a specific focus on staff, using a more intensive and targeted recruitment strategy to ensure a larger and more representative sample. Offering incentives or using a census approach for staff could be effective. The study is a single-point-in-time assessment. It captures a snapshot of attitudes and behaviors but does not track how these might change over time, especially after a new policy is implemented. A follow-up survey at intervals after a new policy has been implemented will potentially allow the study to measure changes in smoking behavior, policy support, and perceptions over time, providing a more robust measure of the policy's effectiveness. The data on smoking habits and attitudes relies on self-reporting. This method is susceptible to social desirability bias, where participants may underreport their smoking habits or overstate their support for a policy to align with social norms or institutional expectations. Incorporation with alternative data collection methods, such as the use of biochemical verification (e.g., cotinine testing) to validate self-reported smoking status, might help to reduce the impact of social desirability bias and increase the overall validity and reliability of the data.

CONCLUSION

The research shows that the baseline data for current smokers was 13.35% among all respondents (n = 164), with the smoking prevalence between university staff and students was found to be 12.62% vs 0.73%. The respondents from the academic community at UIN Sunan Kalijaga's

showed positive attitude towards SFZ implementation. It shows a potentially successful attempt to implement the SFZ policy at UIN Sunan Kalijaga.

Further research objecting to the organisation policymakers and research to improve the academic community's current understanding of smoking health impact might potentially influence policy adoption and compliance in the long run.

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CONFLICT OF INTEREST

The authors have no competing interests to disclose.

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AUTHOR CONTRIBUTION

All authors participated in the planning and reviewing of the article draft. Authors GMW and SF developed the research framework and also contributed to collecting and analysing data. Author GMW was responsible for writing the original draft, collecting the students' data, and editing. Author SF was in charge of quantitative data processing. Author NMR contributed to collecting the data, in addition to managing the field assistants and research finance. Author AK directed the research and was in charge of the academic staff and lecturers' data collection.

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