



Implementation of the No Smoking Area Policy in Four Secondary Schools in Surakarta

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Abstract

Background: Schools are designated settings for the No Smoking Area (Kawasan Tanpa Rokok, KTR) policy. **Objective:** To describe implementation processes through communication, resources, disposition, and bureaucratic structure. **Methods:** A descriptive qualitative study included 19 purposively selected informants at SMA N 2 Surakarta, SMK Kristen, SMK N 8 Surakarta, and SMK Marsudirini. Structured interviews with open responses were conducted from April to June 2025. Interactive analysis involved data reduction, presentation, and conclusion verification; source triangulation compared stakeholder perspectives. **Results:** Communication included ceremonies, classroom guidance, and posters, with differing accounts of its continuity. Resources relied on existing personnel; informants reported limited signage and no dedicated budget. Disposition included support and reprimands alongside reports of teachers smoking. Bureaucratic structure used existing counseling and supervisory roles, with reported gaps in dedicated procedures and coordination. Findings describe stakeholder accounts rather than school rankings or measured policy effects. **Conclusion:** Clear recurring communication, explicit resource responsibilities, consistent adult example, and written operational procedures are priorities for strengthening KTR implementation in the participating schools.

Keywords: Communication; Implementation; Qualitative study; School policy; Tobacco.

Introduction

Exposure to tobacco smoke is a public health concern that extends beyond people who smoke. A burden of proof study synthesized evidence on health outcomes associated with secondhand smoke exposure¹. Indonesia's 2019 Global Youth Tobacco Survey documents tobacco use and exposure among school age adolescents². Schools therefore provide an important setting for clear tobacco restrictions and health education, consistent with the World Health Organization (WHO) guide for schools³.

The national legal context includes Law Number 17 of 2023 concerning Health⁴. In

Surakarta, Regional Regulation Number 9 of 2019 establishes the No Smoking Area policy, known as Kawasan Tanpa Rokok (KTR)⁵, with implementation provisions in Mayor Regulation Number 20 of 2020⁶. Translating these requirements into routine school practice requires communication, resources, implementer commitment, and organizational arrangements. These four dimensions correspond to the policy implementation framework of George C. Edwards III⁷. WHO's school policy toolkit similarly emphasizes explicit responsibilities, communication, and implementation planning⁸.

Indonesian school studies identify practical challenges in applying tobacco restrictions. Khairatunnisa and Telaumbanua examined KTR implementation at SMA Negeri 17 Medan⁹. Naufal and Umaroh's survey of 68 educational institutions in Surakarta reported gaps in dedicated implementation teams and other organizational arrangements¹⁰. The present study adds qualitative accounts from four secondary schools to explain how implementers and students describe daily communication, supervision, and responses to violations.

Relevant publications also distinguish knowledge and attitudes from practical behavior. Putri and Umaroh reviewed relationships of knowledge, attitudes, and behavior with campus tobacco restrictions¹¹. A qualitative study in Palu described adolescent responses to cigarette package warnings¹², while research at SMK Negeri 3 Palu examined perceptions of cigarette billboard advertising and smoking behavior¹³. These different settings support examining communication together with social example and organizational practice, without assuming that information alone establishes compliance.

This study aimed to describe how the KTR policy was implemented at SMA N 2 Surakarta, SMK Kristen, SMK N 8 Surakarta, and SMK Marsudirini. The research question was how communication, resources, disposition, and bureaucratic structure were experienced by people directly involved in the policy. The study was guided by Edward III's policy implementation framework to systematically examine the four dimensions influencing policy implementation in school settings. The contribution is a contextual account of implementation practices and reported challenges, with recommendations tied to the interview evidence.

Materials and Methods

Study Design

A descriptive qualitative design examined KTR implementation in four senior high or vocational schools in Surakarta. The settings were SMA N 2 Surakarta, SMK Kristen, SMK N 8 Surakarta, and SMK Marsudirini. The Edwards III framework guided the stated research question and organization of findings⁷. The methodological description addresses the reporting domains of COREQ and the Standards for Reporting Qualitative Research^{14,15}.

Sample

Purposive sampling selected 19 informants with direct involvement in KTR implementation. Eligibility included school leaders or deputies and teachers or staff with at least one year of employment and understanding of the policy; active students aged at least 15 years; and security or canteen personnel with at least six months of employment and direct interaction with students. People unwilling to participate or without a direct connection to implementation were excluded.

The participant list contained four students, five teachers, three vice principals, four canteen personnel, and three security officers. Participants with secondary teaching responsibilities were counted once under their primary recorded role. The recorded ages ranged from 16 to 62 years; the four students were aged 16 or 17 years. Recruitment focused on complementary stakeholder perspectives, not statistical representativeness.

Data Collection Technique

Structured interviews were conducted from April to June 2025. The interview guide kept discussion aligned with KTR implementation while allowing participants to express their experiences and views in open responses. The guide addressed the four implementation

domains and allowed participants to describe practices in their own words.

The study involved four secondary schools in Surakarta: SMA N 2 Surakarta, SMK Kristen, SMK N 8 Surakarta, and SMK Marsudirini. Purposive sampling selected 19 informants based on their direct involvement in implementing the No Smoking Area policy and the eligibility criteria specified for each stakeholder group. Participants included students, teachers, vice principals, canteen personnel, and security officers. Structured interviews were conducted from April to June 2025 using an interview guide addressing communication, resources, disposition, and bureaucratic structure. The guide maintained a consistent focus while allowing participants to describe their experiences and perspectives in their own words. Before interviewing, participants received an explanation of the study purpose and provided verbal agreement. Interview material was analyzed through data reduction, data presentation, and conclusion verification, with source triangulation used to examine consistency and contrasting perspectives across stakeholder roles.

Data Analysis Technique

The reported interactive analysis comprised data reduction, data presentation, and conclusion drawing with verification, consistent with the analytical stages described by Miles, Huberman, and Saldaña¹⁶. Material relevant to KTR implementation was selected, organized in narrative accounts and matrices, and assessed for consistency. Findings and supporting quotations are presented in the sequence communication, resources, disposition, and bureaucratic structure. Matrix presentation makes the link between each interpretation and its supporting excerpt explicit, consistent with transparent framework analysis¹⁷.

Source triangulation compared accounts from students, teachers, vice principals, canteen personnel, and security officers to examine consistency and differences in reported policy implementation. Analysis followed the stages of data reduction, data presentation, and conclusion verification. Material relevant to the research objectives was selected, and the reported findings were organized under the four Edwards III domains: communication, resources, disposition, and bureaucratic structure. Narrative descriptions and a thematic matrix linked interpretations to supporting interview excerpts. Contrasting accounts were retained to represent different implementation experiences and inform interpretation. The triangulation described here concerns stakeholder perspectives obtained through interviews.

The sample comprised 19 purposively selected informants representing students, teachers, vice principals, canteen personnel, and security officers. Selection prioritized direct involvement in policy implementation and complementary stakeholder perspectives. Information power provides a basis for interpreting sample adequacy in relation to the focused research aim, participant specificity, interview dialogue, and analytical strategy¹⁸. Code saturation concerns the identification of categories, whereas meaning saturation concerns the depth of understanding within those categories¹⁹. Establishing saturation also requires an explicit stopping criterion supported by the analytical record²⁰. The reported sample therefore provides contextual coverage of stakeholder experiences within the four participating schools.

Ethical Consideration

The study reports ethics approval reference 2.251/X/HREC/2025. Participants received an explanation of the research purpose and gave verbal agreement before interview; identities

were to be kept confidential and data used solely for research. The committee's name and approval date must be reproduced from the approval letter, together with confirmation that approval covered the reported collection period and verbal consent procedure.

Four student participants were aged 16 or 17 years. Before the interviews, participants received an explanation of the research purpose and provided verbal agreement to participate. The study reports ethics approval reference 2.251/X/HREC/2025. Ethical guidance distinguishes adolescent assent from parental or guardian permission and any waiver specifically approved by the ethics committee²¹.

Publication reporting was structured to reduce indirect identification of participants. Table 1 presents aggregated stakeholder roles without linking individual participants to exact ages, schools, or detailed job descriptions. Quotations are labeled Q1 to Q8 solely as excerpt identifiers and are not linked to participant codes or individual schools. School names identify the overall research setting, while combinations of personal characteristics are omitted from the published quotations and tables. These measures preserve the contextual value of the findings while limiting disclosure of identifying information.

Result

Table 1 summarizes the 19 informants by primary role. The corrected composition includes five teachers and three vice principals. Ages ranged from 16 to 62 years. This approach to data presentation was adopted to ensure participant confidentiality while maintaining the transparency and credibility of the qualitative findings. Aggregation retains the diversity of perspectives without publishing the combinations of participant code, exact age, school, and job title that could identify individual students or staff.

Table 1. Informants by primary recorded role

Role	Number	Percentage (%)
Students	4	21.1
Teachers	5	26.3
Vice principals	3	15.8
Canteen personnel	4	21.1
Security officers	3	15.8
Total	19	100.0

Each informant is counted once. Secondary teaching functions do not create additional participants. Percentages use N = 19; component percentages may sum to 100.1 because of rounding.

The analytical domains describe implementation processes rather than quantitative exposure variables. Table 2 links each domain to selected quotations and the contrast or practical issue identified in the accounts. The matrix represents evidence from the combined interview material; it does not assign unsupported findings to individual schools or estimate how frequently a theme occurred in the four institutions.

Communication

Participants described verbal communication during ceremonies and homeroom guidance as well as visual communication through posters and signs. The following account illustrates the use of both verbal and visual channels.

Q1: "It is usually conveyed during ceremonies, homeroom coaching, and through posters at school."

Accounts differed in the perceived continuity of communication. The following excerpt described communication concentrated at the beginning rather than a regular schedule:

Q2: "If socialization is not frequent, at least only at the beginning."

These accounts identify existing channels and a concern about repetition. They do not constitute a measured change in knowledge or a count of schools with an established communication schedule.

Resources

Implementation drew on existing school personnel, including teachers, counseling staff, leaders, and security or canteen personnel. Informants described no dedicated KTR budget and limited prohibition signs. These statements concern reported resource arrangements; no independent budget or facilities audit was reported.

Q3: "There is no special budget for KTR, because this is just a smoking ban."

Q4: "Prohibition signs may exist, but they are still lacking."

Disposition

The accounts included support for the policy, willingness to reprimand violations, and the importance attributed to adult example. However, an excerpt also reported teachers smoking. This specific account concerns teachers.

Q5: "If someone violates, they will be immediately reprimanded and can be acted upon."

Q6: "To be honest with me, sometimes there are still some teachers in high school who still smoke..."

Support and reported inconsistency are retained together. They describe attitudes and practices reported by participants; they do not establish the proportion of staff or students complying with the policy.

Bureaucratic structure.

Existing counseling, leadership, and teacher supervision roles provided a route for reporting and handling violations. Informants also described the absence of dedicated operational procedures or an implementation team. These accounts distinguish an existing functional route from a formally documented KTR arrangement.

Q7: "There are already rules, but there is no special SOP for KTR."

Q8: "If there is a violation, it is usually handled by the BK, the teacher also supervises."

BK refers to *bimbingan dan konseling*, the school guidance and counseling function; SOP means standard operating procedure. Reliance on existing roles is a reported organizational practice, not evidence that dedicated procedures or monitoring records exist in each school.

Table 2. Thematic evidence matrix in the Edwards III sequence

Domain	Implementation account	Supporting excerpts	Contrast or issue
Communication	Ceremonies, homeroom guidance, and posters	Q1, Q2	Channels are present; continuity is questioned in one excerpt.
Resources	Existing personnel support implementation	Q3, Q4	Dedicated funding and signage are reported as limited.
Disposition	Support and reprimands accompany implementation	Q5, Q6	A report of teachers smoking contrasts with expected adult example.
Bureaucratic structure	Counseling and teacher supervision handle violations	Q7, Q8	Functional referral is described alongside a gap in dedicated SOPs.

Q labels identify published excerpts only and do not encode school or participant characteristics.

The qualitative design did not test statistical hypotheses or estimate relationships between measured variables. The accounts suggest connections between communication routines, available resources, implementer example, and responsibilities for enforcement.

Such connections are analytical interpretations within the Edwards III framework, not demonstrated causal effects. School specific similarities, differences, or rankings are not assigned without a verified link between the underlying interviews and each institution.

Figure 1 summarizes the four analytical domains in their reporting sequence. Each box pairs a reported practice with an implementation priority drawn from that

account. The diagram is an analytical summary of Table 2; it contains no causal arrows, effect sizes, or numerical school comparisons.



Figure 1. Analytical summary of reported KTR implementation practices and corresponding priorities. The four domains follow the sequence used in Table 2.

The combined accounts describe communication through school activities and posters, reliance on existing personnel, support accompanied by inconsistent adult example, and referrals through existing organizational roles. Selected excerpts identify concerns about communication continuity, dedicated resources, and written procedures. These findings inform practical implementation priorities while preserving the distinction between participant accounts and independently measured compliance or health outcomes.

Discussion

The four domains help explain how a formally established tobacco restriction is translated into daily school practice. Existing messages, personnel, and referral routes are reported strengths. Contrasting accounts identify where routines and expectations require clearer coordination. This interpretation concerns implementation processes; the study did not measure a reduction in smoking prevalence, exposure, or disease. HTJ literature provides broader health context: a review of electronic smoking and gastric disease reported mixed findings²², an employee study examined smoking in relation to renal function²³, and a hospital study examined maternal tobacco

smoke exposure in relation to low birth weight²⁴. Those populations and outcomes were not investigated in the present schools.

Comparison with Previous Studies. In the communication domain, posters and verbal reminders represent accessible routes for conveying rules. WHO's school guide and implementation toolkit recommend coherent communication and clear operational responsibilities^{3,8}. Research on package warnings in Palu¹² and cigarette advertising at a vocational school¹³ demonstrates why communication must be considered within the broader social environment. These studies do not provide a measured effect for the present school communication activities. Here, the contrast between reported channels and limited continuity supports an explicit schedule for repeated messages rather than a claim that existing messages increased awareness.

For resources, the interviews suggest that existing staff provide an available implementation base while dedicated funding and signage remain concerns. A qualitative evaluation at a madrasah in Jambi also reported resource and organizational challenges²⁵. Such parallels support attention to responsibilities for purchasing and maintaining signs and allocating staff time. A dedicated funding mechanism should be proposed with a clear

operational purpose; the current study does not establish a budget amount or audit expenditure.

For disposition, participants' support and reported reprimands coexist with an account of teachers smoking. This contrast highlights consistency between institutional expectations and adult example. The campus review by Putri and Umaroh¹¹ provides an adjacent educational context for examining knowledge, attitudes, and behavior together. It does not establish that supportive attitudes guarantee compliance. The present interpretation therefore recommends consistent implementation for staff and students while treating actual behavioral change as a question for future assessment.

For bureaucratic structure, informal referrals to counseling staff and teacher supervision show that existing units participate in implementation. Written procedures could make reporting, responsible roles, proportional responses, and follow up more explicit. Naufal and Umaroh's Surakarta survey¹⁰ and the Jambi evaluation²⁵ provide contextual support for examining organizational arrangements. A study of school tobacco restrictions in Seoul examined associations with attitudes and exposure among children and stakeholders²⁶; its different setting and observational design do not provide a causal policy effect for these Surakarta schools.

Implications of the Findings. Schools can use the reported practices as a starting point for a recurring communication schedule, visible signs, designated coordination responsibilities, and a written response pathway. Counseling and educational responses should be described clearly alongside expectations for adult conduct. Implementation monitoring could record communication activities, signage maintenance, and documented handling of violations. These are proposed operational actions rather than interventions tested by this study.

Study Limitations. The inquiry covers four participating institutions and relies on reported experiences. Findings have contextual relevance and are not statistical estimates for all Surakarta schools. The published material does not establish the number of institutions supporting each theme, and no ranking is inferred. The evidence also does not measure changes in smoking, awareness, or compliance. Clear quotation links and retention of contrasting accounts strengthen transparency while maintaining participant protection. Reporting of fieldwork procedures and ethics details must be completed from the study records before submission.

Recommendations for Future Research. Further work can combine clearly documented qualitative interviews with direct assessment of signage, written procedures, and routine implementation records. Repeated assessments could examine whether communication and coordination practices change over time. Any evaluation of behavioral or exposure outcomes should prespecify measures and a suitable design. A confidential comparison matrix can retain institutional context for analysis while public reporting protects students and staff.

Conclusion

KTR implementation in the four participating schools was described through communication, resources, disposition, and bureaucratic structure. Interview accounts identified established communication channels and organizational roles alongside concerns about continuity, dedicated resources, adult example, and written procedures. Priorities are recurring communication, clear responsibility for resources, consistent implementation by adults, and an explicit operational pathway. These recommendations follow the reported implementation processes and do not represent measured policy effectiveness.

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References

1. Flor LS, Anderson JA, Ahmad N, et al. Health effects associated with exposure to secondhand smoke: a Burden of Proof study. *Nat Med.* 2024;30(1):149–167. doi:10.1038/s41591-023-02743-4
2. World Health Organization. Global Youth Tobacco Survey 2019: Indonesia Extended Fact Sheet. Accessed October 1, 2026. <https://cdn.who.int/media/docs/default-source/searo/tobacco/global-youth-tobacco-survey/gyts-indonesia-extended-factsheet.pdf>
3. World Health Organization. Freedom from Nicotine and Tobacco: Guide for Schools. World Health Organization; 2023. <https://www.who.int/publications/i/item/9789240080553>
4. Republic of Indonesia. Undang Undang Nomor 17 Tahun 2023 tentang Kesehatan. 2023. Accessed October 1, 2026. <https://peraturan.bpk.go.id/Details/258028/uu-no-17-tahun-2023>
5. Government of Surakarta City. Peraturan Daerah Kota Surakarta Nomor 9 Tahun 2019 tentang Kawasan Tanpa Rokok. 2019. Accessed October 1, 2026. <https://peraturan.bpk.go.id/Details/177784/perda-kota-surakarta-no-9-tahun-2019>
6. Mayor of Surakarta. Peraturan Wali Kota Surakarta Nomor 20 Tahun 2020 tentang Petunjuk Pelaksanaan Peraturan Daerah Kota Surakarta Nomor 9 Tahun 2019 tentang Kawasan Tanpa Rokok. 2020. Accessed October 1, 2026. <https://peraturan.bpk.go.id/Details/195567/perwali-kota-surakarta-no-20-tahun-2020>
7. Edwards GC III. Implementing Public Policy. Congressional Quarterly Press; 1980.
8. World Health Organization Regional Office for Europe. Nicotine and Tobacco Free Schools: Policy Development and Implementation Toolkit. World Health Organization; 2023. <https://www.who.int/europe/publications/i/item/WHO-EURO-2023-8077-47845-70659>
9. Khairatunnisa, Telaumbanua IP. Implementasi kebijakan kawasan tanpa rokok (KTR) di SMA Negeri 17 Medan. *JUMANTIK (Jurnal Ilmiah Penelitian Kesehatan).* 2021;6(3):247–255. doi:10.30829/jumantik.v6i3.8918
10. Naufal MTR, Umaroh AK. Implementasi kebijakan kawasan tanpa rokok. *J Kesehat Glob.* 2025;8(2):78–89. doi:10.33085/jkg.v8i2.6350
11. Putri HA, Umaroh AK. The relationship between knowledge, attitude, and behavior factors with the implementation of smoke free areas in the campus environment: literature review. *Healthy Tadulako J.* 2025;11(3):495–503. doi:10.22487/htj.v11i3.1751
12. Inar, Herman, Rahman A. Perilaku remaja terkait pesan bahaya pada pembungkus rokok di SMP Negeri 5 Palu. *Healthy Tadulako J.* 2019;5(2):35–41. doi:10.22487/htj.v5i2.118
13. Kurniawan H, Arifuddin A, Masrida. Dampak media iklan (billboard rokok) terhadap perilaku merokok siswa di SMK Negeri 3 Palu. *Healthy Tadulako J.* 2017;3(1):71–84. doi:10.22487/htj.v3i1.42

14. Tong A, Sainsbury P, Craig J. Consolidated criteria for reporting qualitative research (COREQ): a 32 item checklist for interviews and focus groups. *Int J Qual Health Care*. 2007;19(6):349–357. doi:10.1093/intqhc/mzm042
15. O'Brien BC, Harris IB, Beckman TJ, Reed DA, Cook DA. Standards for reporting qualitative research: a synthesis of recommendations. *Acad Med*. 2014;89(9):1245–1251. doi:10.1097/ACM.0000000000000388
16. Miles MB, Huberman AM, Saldaña J. *Qualitative Data Analysis: A Methods Sourcebook*. 3rd ed. SAGE Publications; 2014.
17. Gale NK, Heath G, Cameron E, Rashid S, Redwood S. Using the framework method for the analysis of qualitative data in multidisciplinary health research. *BMC Med Res Methodol*. 2013;13:117. doi:10.1186/1471-2288-13-117
18. Malterud K, Siersma VD, Guassora AD. Sample size in qualitative interview studies: guided by information power. *Qual Health Res*. 2016;26(13):1753–1760. doi:10.1177/1049732315617444
19. Hennink MM, Kaiser BN, Marconi VC. Code saturation versus meaning saturation: how many interviews are enough? *Qual Health Res*. 2017;27(4):591–608. doi:10.1177/1049732316665344
20. Saunders B, Sim J, Kingstone T, et al. Saturation in qualitative research: exploring its conceptualization and operationalization. *Qual Quant*. 2018;52(4):1893–1907. doi:10.1007/s11135-017-0574-8
21. Council for International Organizations of Medical Sciences. *International Ethical Guidelines for Health Related Research Involving Humans*. 4th ed. CIOMS; 2016. doi:10.56759/rgxl7405
22. Nurhamidah S, Sophia P, Astuti APK. Pengaruh merokok elektrik terhadap penyakit lambung: literature review. *Healthy Tadulako J*. 2024;10(3):483–492. doi:10.22487/htj.v10i3.1379
23. Syamsi N, Tanra AAM, Rasjid HSM. Hubungan antara merokok dengan gambaran fungsi ginjal pada karyawan PT.X. *Healthy Tadulako J*. 2021;7(3):147–152. doi:10.22487/htj.v7i3.181
24. Nur AF. Risiko paparan asap rokok, ketuban pecah dini dan plasenta ringan terhadap BBLR di RSUD Anutapura Palu. *Healthy Tadulako J*. 2018;4(3):73–78. doi:10.22487/htj.v4i3.83
25. Salsabila F, Wardiah R, Mekarisce AA, Guspianto, Sari RE. Evaluasi penerapan kebijakan kawasan tanpa rokok pada tatanan sekolah di Madrasah Aliyah Laboratorium Kota Jambi tahun 2024. *J Kesehat Tambusai*. 2025;6(2):7630–7645. doi:10.31004/jkt.v6i2.43908
26. Kim J, Choo J, Noh S, Park AH, Choi J. Smoke free school zone policy and its association with attitudes toward smoking and secondhand smoke exposure among school aged children and key stakeholders. *Risk Manag Healthc Policy*. 2025;18:2911–2920. doi:10.2147/RMHP.S533225

Conflict of Interest Statement

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