

The Relationship Between Knowledge About Smoking Hazards and Self-Efficacy for Smoking Cessation Among Vocational High School Students

Muhammad Zidan Arrasyid^{1*}, Tantri Puspita², Gin Gin Sugih Permana³

¹ Bachelor of Nursing Science, Karsa Husada Garut Health College, Garut, West Java, Indonesia.

² Nursing Profession, Karsa Husada Garut Health College, Garut, West Java, Indonesia.

³ Nursing Diploma III, Karsa Husada Garut Health College, Garut, West Java, Indonesia.

Abstract: This study aimed to analyze the relationship between knowledge about the dangers of smoking and self-efficacy for smoking cessation among adolescents. A descriptive correlational design with a cross-sectional approach was used, involving 203 smoking students at SMKN 4 Garut, Indonesia. Validated and reliable questionnaires were used to measure knowledge and self-efficacy. Results showed that most respondents had good knowledge (61.1%) and high self-efficacy (66%). Spearman's Rank correlation test revealed a strong positive relationship between knowledge and self-efficacy ($r = 0.737$, $p = 0.001$). The study concludes that higher knowledge about smoking hazards is associated with higher self-efficacy for quitting smoking among vocational high school students.

Keywords: Adolescent, Knowledge, Self-efficacy, Smoking Cessation, Vocational School

Received: 18 December 2025

Revised: 20 December 2025

Accepted: 22 December 2025

Published: 30 December 2025

Corresponding Author: Muhammad Zidan Arrasyid

Author Name*: Muhammad Zidan Arrasyid

Email*: zidanarrasid23@gmail.com

DOI: <https://doi.org/10.63166/s53x4k31>

© 2025 The Authors. This open access article is distributed under a (CC-BY License)



Phone*: +62895357100406

Introduction

Smoking among adolescents remains a critical public health challenge in Indonesia, particularly among vocational high school (SMK) students. Recent data indicate that smoking prevalence among adolescents in Garut Regency, West Java, is among the highest in the province. This trend is exacerbated by social-environmental factors, including peer influence and familial smoking norms, which reinforce smoking behavior during adolescence (Suryana et al., 2022). Understanding the determinants of smoking cessation in this group is essential for designing effective youth-focused tobacco control programs.

Self-efficacy, defined as an individual's belief in their ability to perform a specific behavior, is a key psychological factor influencing smoking cessation success. Among adolescents, higher self-efficacy has been linked to stronger intention and greater persistence in quitting attempts (Ningsih et al., 2023). However, many adolescent smokers experience a gap between intention and sustained cessation, often due to low confidence in overcoming withdrawal symptoms and social triggers.

Knowledge about the health risks of smoking serves as a cognitive foundation that may strengthen cessation-related self-efficacy. Adolescents with accurate and comprehensive knowledge of smoking's

short- and long-term effects are likely to be more motivated and confident in their ability to quit (Hartono et al., 2024). Despite this, access to credible health information remains inconsistent, and misinformation about alternative tobacco products is widespread among youth (Firdaus et al., 2024).

This study examines the relationship between knowledge about smoking hazards and self-efficacy for smoking cessation among students at SMK N 4 Garut. By identifying this relationship, the findings can inform the development of integrated health promotion interventions that address both informational and psychological needs. The study also contributes to nursing science and public health by offering evidence for theory-based, adolescent-centered tobacco control strategies.

Method

A cross-sectional correlational design was used to assess the relationship between knowledge and self-efficacy at a single time point. The study was conducted in May 2025 at SMK N 4 Garut, selected due to its high prevalence of adolescent smokers based on preliminary survey data.

The population consisted of 410 students at SMK N 4 Garut. Using Slovin's formula with a 5% margin of error, a sample of 203 adolescent smokers was selected through random sampling. Inclusion criteria included: male students in grades 10–12, active smokers, regularly attending school, and willing to participate. Random sampling was employed to enhance representativeness and reduce selection bias (Natoatmodjo, 2018). Two structured questionnaires were used:

1. *Knowledge about Smoking Questionnaire*: 10 dichotomous (true/false) items covering tobacco content, health risks, and social consequences.
2. *Smoking Cessation Self-Efficacy Questionnaire*: 10 items using a 4-point Likert scale (Strongly Agree to Strongly Disagree) assessing confidence in overcoming quitting challenges. Both instruments were developed based on literature review and Bandura's self-efficacy theory (Mailani, 2023).

Instruments were tested on 45 non-sample respondents. Construct validity using Pearson Product Moment correlation showed all items were valid ($r\text{-count} > r\text{-table} = 0.294$). Reliability using Cronbach's Alpha yielded 0.860 for knowledge and 0.951 for self-efficacy, indicating excellent internal consistency (Arikunto, 2020).

Data were collected via paper-based and online (Google Form) questionnaires after informed consent was obtained. Univariable analysis described

respondent characteristics using frequency and percentage. Bivariable analysis employed Spearman's Rank correlation (ρ) to examine the relationship between knowledge and self-efficacy, with significance set at $p < 0.05$. Analysis was conducted using SPSS version 23.0 (Sugiyono, 2023).

Result and Discussion

Most respondents were aged 19–20 years (44.3%), followed by 17–18 years (32.1%). The majority (69%) had received anti-smoking information through school or health campaigns. Regarding social environment, 69% had smoking peers, highlighting the role of peer influence (Isa et al., 2017). About 58.6% had attempted to quit smoking, and 65.5% had witnessed smoking-related illness in family or friends. Nearly half (48.8%) reported moderate social support for quitting, while 10.3% reported no support. Emotional or physical discomfort when attempting to quit was reported by 46.3% of respondents.

Most respondents (61.1%) had good knowledge about smoking hazards, while 23.2% had moderate and 15.8% had poor knowledge. This suggests adequate exposure to health information, likely through school-based programs (Sekeronej et al., 2020). In terms of self-efficacy, 66% reported high self-efficacy, 20.2% moderate, and 13.8% low. This indicates that despite previous quit failures, many students retained confidence in their ability to quit (Ningsih et al., 2023).

Spearman's Rank correlation revealed a strong positive relationship between knowledge and self-efficacy ($\rho = 0.737$, $p = 0.001$). Cross-tabulation further illustrated a consistent pattern: respondents with poor knowledge tended to have low self-efficacy (23 of 32), whereas those with good knowledge predominantly had high self-efficacy (115 of 124).

The strong positive correlation aligns with previous studies, such as Mailani (2023), where disease-related knowledge significantly enhanced self-efficacy in chronic illness management. Among adolescent smokers, knowledge provides a cognitive framework that helps reinterpret quitting challenges—such as withdrawal symptoms or relapse—as part of the process rather than personal failure (Ningsih et al., 2023). Thus, knowledge functions not only informatively but also psychologically by fostering resilience.

The high level of knowledge among respondents may be attributed to formal health education in schools, access to mass media, and direct observation of smoking-related harm (Hartono et al., 2024). Experiential learning through witnessing illness in close relations (65.5%) likely deepened emotional understanding, reinforcing health messages (Febrianti et al., 2020).

High self-efficacy despite previous quit attempts can be explained through mastery experience, social modeling, and verbal persuasion. Social support from peers and family served as positive reinforcement, strengthening perceived capability (Saragih, 2022). This is consistent with Haryati et al. (2015), who found social support to be a significant predictor of self-efficacy in adolescent risk behavior.

These findings underscore the need for integrated smoking cessation interventions that combine health education with skill-building and psychological support. School-based programs such as peer counseling, support groups, and cognitive-behavioral strategies could enhance both knowledge and self-efficacy (Chung et al., 2019).

Conclusion

This study confirms a significant positive relationship between knowledge about smoking hazards and self-efficacy for smoking cessation among vocational high school students. Higher knowledge is associated with stronger confidence in quitting ability, emphasizing the role of knowledge as both a cognitive and psychological resource in behavior change. Implications include: Integrating interactive health education with self-efficacy enhancement in school curricula, strengthening peer and counselor support systems within schools. Developing multi-component cessation programs that address both information and psychological readiness.

Acknowledgments

The authors thank the school administration, teachers, and students of SMKN 4 Garut for their participation and support. Gratitude is also extended to the supervisors and reviewers from STIKes Karsa Husada Garut for their guidance in this research.

Author Contributions

Muhammad Zidan Arrasyid: Conceptualization, data collection, analysis, writing - original draft. Tantri Puspita, S.Kep., Ners., M.N.S.: Supervision, methodology, writing - review & editing. Gin Gin Sugih Permana, S.Kep., M.H.Kes.: Supervision, validation, writing - review & editing.

Funding

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

Conflicts of Interest

The authors declare no conflict of interest.

References

1. Chung, O. K., Li, W. H. C., Ho, K. Y., Kwong, A. C. S., Lai, V. W. Y., Wang, M. P., ... & Chan, S. S. C. (2019). A descriptive study of a Smoke-free Teens Programme to promote smoke-free culture in schools and the community in Hong Kong. *BMC Public Health*, 19(1), 1-9.
2. Febrianti, K., Wajidi, F., & Zakir, I. (2020). Hubungan Antara Pengalaman Praktik Kerja Industri Dan Efikasi Diri Dengan Kesiapan Kerja Siswa Kelas XII Smk Negeri 55 Jakarta Tahun 2019. *Journal of Electrical Vocational Education and Technology*, 5(1), 40-47.
3. Firdaus, M., Fikri, A., Alim, J. A., Hainul, Z., Wulandari, P., & Putra, Z. H. (2024). Perilaku Merokok pada Remaja Sekolah di Indonesia. *Jurnal Kesehatan Masyarakat*, 4(2), 270-282.
4. Hartono, T., Salzabilla, T., Wachidah, N., Yuastita Tangnaloi, T., & Yuda, A. (2024). Perilaku dan Pengetahuan Remaja Indonesia tentang Merokok. *Jurnal Farmasi Komunitas*, 11(1), 79-85.
5. Haryati, W., Abdullah, A., & Bakhtiar. (2015). Self Efficacy dan Perilaku Merokok Remaja. *Jurnal Ilmu Keperawatan*, 3(2), 137-145.
6. Isa, L., Lestari, H., & Afa, J. R. (2017). Hubungan Tipe Kepribadian, Peran Orang Tua Dan Saudara, Peran Teman Sebaya, Dan Peran Iklan Rokok Dengan Perilaku Merokok Pada Siswa Smp Negeri 9 Kendari Tahun 2017. *Jurnal Ilmiah Mahasiswa Kesehatan Masyarakat*, 2(1), 1-10.
7. Mailani, F. (2023). Hubungan Pengetahuan Dan Efikasi Diri Pasien Penyakit Ginjal Kronik Yang Menjalani Hemodialisis. *Jurnal Ilmiah Keperawatan IMELDA*, 9(2), 143-149.
8. Natoatmodjo, S. (2018). *Metode Penelitian Kesehatan*. PT Rineka Cipta.
9. Ningsih, S., Aderita, N. I., & Yuliyanti, T. (2023). Relationship Between Attitude And Self-Efficiency With Intention To Quit Smoking In Adolescent Men. *Jurnal Penelitian Keperawatan*, 9(1), 114-121.
10. Saragih, N. M. (2022). Pengaruh Mastery Experience Dan Persuasi Sosial Terhadap Peningkatan Self-Efficacy Pegawai Pada Instansi Badan Perencanaan Pembangunan Daerah Kabupaten Deli Serdang. *Accumulated Journal (Accounting and Management Research Edition)*, 3(2), 132-141.
11. Sekeronej, D. P., Saija, A. F., & Kailola, N. E. (2020). Tingkat Pengetahuan Dan Sikap Tentang Perilaku Merokok Pada Remaja Di Smk Negeri 3 Ambon Tahun 2019. *PAMERI: Pattimura Medical Review*, 2(1), 59-70.
12. Sugiyono. (2023). *Metode Penelitian Kuantitatif, Kualitatif, dan R&D*. Alfabeta./
13. Suryana, E., Hasdikurniati, A. I., Harmayanti, A. A., & Harto, K. (2022). Perkembangan Remaja Awal, Menengah Dan Implikasinya Terhadap Pendidikan. *Jurnal Ilmiah Mandala Education*, 8(3), 1917-1928.