

Education and assertive communication training for passive smoking prevention: A community intervention in Sarroanging Hamlet, Jeneponto District

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ABSTRACT

Despite growing awareness of the harms of secondhand smoke, rural communities often lack targeted interventions that empower passive smokers through education and communication training. Previous studies have primarily focused on tobacco control from the smoker's perspective, with limited integration of assertive communication as a preventive tool. This study aimed to assess the effectiveness of educational outreach combined with assertive communication training in increasing knowledge and behavioral skills among residents exposed to secondhand smoke in Sarroanging Hamlet, Jeneponto District. Employing both quantitative and qualitative methods, the intervention included psychoeducation sessions on the dangers of passive smoking and structured assertive communication role plays. Data were collected using pretest and posttest questionnaires alongside observational assessments. Findings revealed a significant increase in knowledge scores from 65.67 to 81.00 post-intervention. Additionally, there was notable improvement in assertive behavior, as participants demonstrated enhanced ability to express objections, reject invitations to tolerate indoor smoking, and issue warnings to active smokers. Role-playing exercises effectively reinforced these behaviors. This community-based approach highlights the value of combining educational and behavioral strategies to reduce secondhand smoke exposure, offering a replicable model for rural public health interventions.

ABSTRAK

Meskipun kesadaran akan bahaya perokok pasif semakin meningkat, masyarakat pedesaan sering kali tidak memiliki intervensi yang ditargetkan untuk memberdayakan perokok pasif melalui pendidikan dan pelatihan komunikasi. Penelitian sebelumnya hanya berfokus pada pengendalian tembakau dari sudut pandang perokok, dengan integrasi komunikasi asertif yang terbatas sebagai alat pencegahan. Penelitian ini bertujuan untuk menilai efektivitas penyuluhan yang dikombinasikan dengan pelatihan komunikasi asertif dalam meningkatkan pengetahuan dan keterampilan perilaku di antara warga yang terpapar asap rokok di Dusun Sarroanging, Kabupaten Jeneponto. Dengan menggunakan metode kuantitatif dan kualitatif, intervensi yang dilakukan meliputi sesi psikoedukasi tentang bahaya perokok pasif dan permainan peran komunikasi asertif terstruktur. Data dikumpulkan dengan menggunakan kuesioner pretest dan posttest serta penilaian observasi. Hasil penelitian menunjukkan adanya peningkatan yang signifikan dalam skor pengetahuan dari 65,67 menjadi 81,00 setelah intervensi. Selain itu, terdapat peningkatan yang signifikan dalam perilaku asertif, karena para peserta menunjukkan peningkatan kemampuan untuk menyatakan keberatan, menolak ajakan untuk mentoleransi merokok di dalam ruangan, dan mengeluarkan peringatan kepada perokok aktif. Latihan bermain peran secara efektif memperkuat perilaku-perilaku ini. Pendekatan berbasis masyarakat ini menyoroti nilai dari penggabungan strategi pendidikan dan perilaku untuk mengurangi paparan asap rokok, yang menawarkan model yang dapat ditiru untuk intervensi kesehatan masyarakat di daerah pedesaan.

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INTRODUCTION

Health is a fundamental aspect of human life, contributing significantly to social and economic productivity (UU RI No. 36 Tahun 2009). Hendrik L. Bloom emphasized that behavior is one of the key determinants of an individual's health status. Among detrimental behaviors, smoking remains a global public health concern, not only affecting active smokers but also those exposed to secondhand smoke, commonly referred to as passive smokers (Ministry of Health, Republic of Indonesia, 2018). Secondhand smoke exposure continues to pose severe health threats, including respiratory diseases and chronic conditions, especially among vulnerable populations such as children and non-smokers. Public education and behavioral change are crucial to reducing the burden of secondhand smoke, yet these strategies remain underutilized in many rural communities.

Global surveys have reinforced the magnitude of this issue. The Global Youth Tobacco Survey (GYTS) reported that 62.9% of adolescents aged 12–16 had been exposed to secondhand smoke, predominantly in public spaces (Ambarwati Floriberta Dewi et al., 2024). The World Health Organization estimates over 6 million annual deaths due to smoking, with substantial exposure occurring in homes, workplaces, and public areas (Roni Darmawansa et al., 2022). In Indonesia, particularly in South Sulawesi, the prevalence of adolescent smoking remains high, and the rate of Acute Respiratory Infection (ARI) among children under five has been correlated with exposure to cigarette smoke. These findings underscore the urgency of implementing targeted interventions combining health education and assertive communication strategies to empower communities, particularly in rural settings, to combat passive smoking exposure.

Despite increased efforts to disseminate information about the dangers of secondhand smoke, rural communities often remain inadequately informed and equipped to address this issue due to limited access to health education and behavioral training. The main challenge lies in the inability of passive smokers to assert their rights in social contexts where smoking is normalized. To address this, a dual intervention comprising psychoeducation and assertive communication training is proposed to raise awareness and empower non-smokers to protect themselves from exposure, thereby fostering healthier and smoke-free living environments (Kaniawati, 2021; Rinanda et al., 2020).

Psychoeducational interventions have been widely used to raise awareness and instigate behavioral changes in public health. According to Kaniawati (2021), educating communities about the harms of secondhand smoke significantly increases knowledge levels and promotes preventive behavior, particularly when education is paired with active engagement methods such as discussions and community dialogues. Furthermore, health education programs tailored to local contexts and delivered in accessible formats have demonstrated higher effectiveness in rural settings where literacy levels and health awareness may be limited.

Assertive communication training is a behavioral intervention aimed at empowering individuals to express their needs and protect their health through effective interpersonal communication. Rinanda et al. (2020) emphasized that this form of training helps individuals develop confidence to reject harmful practices, such as smoking in enclosed spaces, by fostering both verbal and non-verbal assertive skills. When applied in community settings, such training can enhance individuals' ability to issue warnings, express discomfort, and negotiate smoke-free environments, thus contributing to reduced exposure and improved health outcomes.

While numerous public health campaigns have addressed the dangers of active smoking, limited studies have focused on interventions that combine education with behavioral empowerment for passive smokers, especially in rural Indonesian contexts. The majority of efforts remain centered on smoking cessation or general anti-smoking messages, with minimal attention given to equipping non-smokers with the tools to protect themselves through direct communication. This gap is particularly evident in areas such as Sarroanging Hamlet, where traditional norms may inhibit assertive behavior and health education resources are scarce (Ministry of Health, Republic of Indonesia, 2021).

This study seeks to fill that gap by implementing a combined intervention consisting of psychoeducation and assertive communication training specifically targeted at passive smokers in Sarroanging Hamlet. The novelty lies in the integration of knowledge enhancement with behavioral

skill-building in a rural community setting. The objective of the study is to evaluate the impact of this intervention on increasing knowledge about secondhand smoke and improving the assertive communication behaviors of participants, with the ultimate goal of fostering a community-wide movement toward smoke-free living environments.

METHODS

This study employed a mixed-methods approach, integrating both quantitative and qualitative research methodologies to evaluate the effectiveness of an intervention program aimed at increasing knowledge and assertive behavior regarding secondhand smoke exposure. The intervention consisted of psychoeducation on the health risks associated with passive smoking and assertive communication training designed to empower individuals to protect themselves from involuntary exposure to tobacco smoke.

The study was conducted in Sarroanging Hamlet, Bontomanai Village, Rumbia Subdistrict, Jeneponto Regency. The research period included preparation, implementation, and evaluation phases carried out over a defined timeframe. The target population consisted of community members in the intervention area, with a total sample of 30 individuals selected through purposive sampling. Inclusion criteria included individuals aged 15 years and above, residing in the intervention location, and willing to participate in all stages of the study.

Data collection was performed using structured pre-test and post-test questionnaires to assess changes in knowledge and assertive behavior. Observational methods were also employed to record behavioral indicators during the role-play sessions of the assertive communication training. The survey instruments were designed to measure baseline and post-intervention levels of awareness and behavioral capacity related to secondhand smoke prevention (See [Figure 1](#)).

Data analysis focused on descriptive comparisons of pre- and post-test results, presented in tables and narrative form to highlight improvements. Qualitative data from observations were analyzed to contextualize behavioral changes, particularly in communication practices. All research procedures adhered to ethical standards, and informed consent was obtained from each participant prior to their involvement in the study. Confidentiality and voluntariness were assured throughout the process.

Figure 1
Education and Training Process



Table 1
Respondents' Characteristics

Respondents	Frequency	Percentage
Sex	9	30.0
Male		
Female	21	70.0
Age Category		
Early adolescence (12-16 tahun)	1	3.3
Late adolescence (17-25 tahun)	8	26.7
Early adulthood (26-35 tahun)	9	30.0
Late adulthood (36-45 tahun)	4	13.3
Early elderly (46-55 tahun)	5	16.7
Late elderly (56-65 tahun)	3	10.0

RESULTS AND DISCUSSION

Based on the [Table 1](#) illustrates the distribution of respondents by gender shows that out of 30 respondents, 9 (30.0%) were male and 21 (70.0%) were female. This indicates that female participation in this intervention was higher than that of males. Meanwhile, the distribution of respondents by age category shows that out of 30 respondents, 8 (26.7%) were aged 17–25 years, 9 (30.0%) were aged 26–35 years, and 5 (16.7%) were aged 46–55 years.

Based on [Table 2](#) show the dangers of secondhand smoke in Sarroanging Hamlet, Bontomanai Village, Rumbia Subdistrict, the distribution table of respondents' knowledge levels shows that the average knowledge score before the intervention was 65.67, which increased to 81.00 after the intervention. This indicates an improvement in respondents' knowledge following the intervention.

The data were analyzed using the Wilcoxon test, as the data were not normally distributed. The significance value for the pre-test was $p = 0.007$ and for the post-test was $p = 0.001$, indicating that both pre-test and post-test data were not normally distributed, thus requiring non-parametric testing. After applying the Wilcoxon test to compare knowledge before and after the educational intervention, the significance value was found to be $p = 0.000$. Since $p < 0.05$, it can be concluded that there was a statistically significant difference in knowledge before and after the educational intervention on the dangers of secondhand smoke.

Based on the observations conducted, the assertive communication training—focused on refusing and giving warnings to smokers—showed that the respondents were able to communicate assertively when rejecting offers to smoke made by friends or others. They were also capable of practicing assertive communication as a form of reprimand and warning to individuals who smoked inside the house. The intervention was carried out successfully, with respondents showing a high level of cooperation throughout the process. Respondents demonstrated an understanding of the concept of assertive behavior and the types of behaviors they needed to improve during the intervention. They expressed positive expectations about being able to behave assertively in situations that are potentially harmful to them, such as voicing their opinions and refusing others' requests that may cause them harm. Respondents also understood the necessary steps they needed to take to adopt assertive behavior.

Table 2
Distribution of Respondents Based on Knowledge Scores

Knowledge Scores	N	Min	Max	Mean + SD	P-Value
Pretest	30	40	90	65.67 + 16.750	0.000
Posttest	30	50	100	81.00 + 17.489	

Table 3
Distribution of Respondents Based on Knowledge Levels

Knowledge Levels	Pretest		Posttest	
	n	%	n	%
Low	9	30.0	5	16.7
Moderate	21	70.0	25	83.3

During the intervention process, some respondents experienced initial difficulties. They showed hesitation when asked to share their past experiences related to non-assertive behavior toward smokers. In the role-play sessions, respondents were asked to practice various behaviors discussed in the previous sessions, such as refusing and warning smokers or addressing other issues, expressing personal limitations, expressing emotions, accepting criticism, acknowledging individual differences, and being firm in various situations. The use of role-play served as a tool for respondents to communicate and practice the skills taught before applying them in real-life situations.

This intervention was conducted in Sarroanging Hamlet, Bontomanai Village, Rumbia Subdistrict, on October 7, 2024. The aim of the intervention was to assess the respondents' knowledge levels before and after an educational session on the dangers of secondhand smoke and assertive communication strategies for passive smokers. Based on the analysis of knowledge scores related to the dangers of secondhand smoke in Sarroanging Hamlet, the distribution table of respondents' knowledge scores shows that the average knowledge score before the intervention was 65.67, which increased to 81.00 after the intervention. This indicates a clear improvement in respondents' knowledge following the intervention.

The Wilcoxon test was used to analyze the data, as the data were not normally distributed. The test result showed a significance value of $p = 0.000$. Since the p -value is less than 0.05, it can be concluded that there was a statistically significant difference in knowledge before and after the educational session.

Educating the public about the dangers of being a passive smoker is a crucial step in reducing the negative impacts. This health education focused on raising awareness, encouraging behavioral change, and promoting policies to create smoke-free environments. The evaluation was carried out using questionnaires designed to assess and measure respondents' knowledge, attitudes, and actions before and after the intervention (Kaniawati, 2021).

According to various studies, exposure to cigarette smoke among passive smokers can lead to serious health problems, including respiratory disorders, heart disease, and cancer. Therefore, public education on the dangers of secondhand smoke is essential to raise community awareness and support efforts to protect non-smoking individuals. Passive smokers are individuals who do not smoke directly but inhale smoke from the surrounding environment. According to numerous studies, including those published in *The Lancet Public Health* and *Tobacco Control*, cigarette smoke contains over 7,000 chemicals, at least 250 of which are harmful and 70 of which are known carcinogens. Exposure to these chemicals increases the risk of various diseases, including lung cancer, heart disease, and respiratory illnesses (Amira, 2019).

In line with the study conducted by Raras Sutatminingsih (2022), it was found that the results of pre-test and post-test given to high school students at Al Azhar Medan regarding the prevention of smoking behavior showed an improvement in students' understanding after the implementation of psychoeducation. This was reflected in the increase of the average total score from 3.08 (pre-test) to 4.61 (post-test). A comparison of student responses before and after the psychoeducational intervention also revealed a change in their understanding of smoking-related behaviors—from initially simple answers to more complex and comprehensive responses (Sutatminingsih et al., 2022).

Another study by Indra Fajarwati (2018) showed that social support from wives plays an important role in encouraging positive behavior change in their husbands, particularly in smoking behavior. This support is influenced by the wives' interpersonal sensitivity, empathy, and expressiveness. Moreover, women often use the health of their children as a reason to influence their husbands' behavior. This is closely related to their role as the gatekeepers of family health and

caregivers for their children. One effective way for women to provide social support for their partners in changing smoking behavior is through both verbal and non-verbal communication, as a form of emotional social support. Thus, the wife's role in exerting social control—by encouraging her husband to stop smoking near their children and instead smoke away from them—can be strengthened by empowering women to speak up and prohibit smoking around children (Fajarwati et al., 2018).

Based on the analysis of respondents' knowledge levels, the results of the educational intervention on the dangers of secondhand smoke and its prevention showed that 21 respondents (70.0%) had a moderate level of knowledge before the intervention (pre-test), which increased to 25 respondents (83.3%) after the intervention (post-test).

Similarly, Mufida (2022) found an increase in knowledge before and after an educational intervention. The mean pre-test score was 6.52, while the mean post-test score was 9.29, indicating an increase of 2.77 points (Mufida et al., 2022). Astuti (2021) also reported that health education activities provided benefits to the community. Sixty percent of respondents stated that the session was easy to understand, and 76% said that it helped them understand the importance of not smoking inside the house (Astuti et al., 2021).

Assertive training is a behavioral therapy that focuses on improving assertive behavior, enhancing self-confidence, and teaching individuals a more confident and effective communication style. This training emphasizes both parties' needs and intentions in communication exchanges, involving changes in both verbal and non-verbal assertive behaviors. The results of the intervention also showed an increase in assertive behavior. Participants were able to express their opinions and reject invitations to smoke or engage in other harmful activities (Rinanda et al., 2020). The findings confirmed that assertive training is effective in improving assertive behavior among smokers. The increase was evident from the pre-test and post-test results, as well as from respondents' ability to express their opinions, reject offers, and give warnings against smoking indoors or engaging in other actions perceived as harmful in daily life.

CONCLUSION

This study demonstrated that educational outreach combined with assertive communication training significantly enhanced community knowledge and behavioral capacity regarding the dangers of secondhand smoke in Sarroanging Hamlet, Bontomanai Village. The increase in the average knowledge score from 65.67 to 81.00 following the intervention illustrates the effectiveness of psychoeducational efforts in raising awareness. Furthermore, improvements in assertive behavior among participants indicated a positive shift in their ability to refuse exposure to secondhand smoke, communicate discomfort, and promote smoke-free environments. Role-playing exercises proved valuable in facilitating the practical application of assertive communication.

The findings also revealed key insights into the community's health behaviors, including suboptimal handwashing practices, high rates of daily smoking among youth aged 10–20, and a moderate level of physical activity. These indicators point to broader public health challenges that require sustained community engagement and behavior change interventions. The study contributes to the advancement of rural health promotion strategies by integrating cognitive and behavioral components, offering a replicable model for similar contexts. Future research should explore long-term behavioral outcomes and the integration of community health workers to sustain intervention impacts. Limitations of this study include the short duration of post-intervention assessment and the limited sample size, which can be addressed through longitudinal studies and broader community involvement in subsequent initiatives.

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