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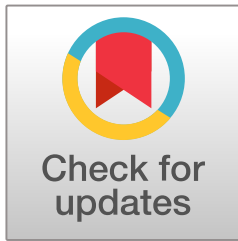
ARTICLE

Implementation of Smoke-Free Area Policy in Preventing Stunting in Malang City

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Abstract: Indonesia has a high prevalence of smoking, which adversely affects public health, particularly children and pregnant women. Exposure to secondhand smoke is a significant risk factor for stunting among toddlers. This study evaluates the implementation of the Smoke-Free Area (SFA) policy in Malang City as a strategy to reduce smoke exposure and prevent stunting. A qualitative descriptive approach using Grindle's policy implementation theory was employed to assess the roles of government, society, and the private sector. The findings indicate that while the SFA policy has been adopted across public and private sectors, enforcement effectiveness and household compliance remain low. Cultural factors, limited resources, and weak coordination pose significant challenges. Nevertheless, the stunting prevalence decreased from 25.7% in 2021 to 17.3% in 2023, suggesting that the policy has had a positive impact. Strengthening resources, education, and law enforcement is essential to enhance the policy's effectiveness in preventing stunting.

Keywords: Implementation; Smoke-Free Area (SFA); Policy; Stunting.

1. Introduction

In 2022, smoking remained a significant public health issue in Indonesia, contributing to various health risks, including non-communicable diseases (NCDs) such as heart disease, cancer, and respiratory illnesses (Utami & Ramadhanintyas, 2024). In Malang, the local government faces growing concerns about the high prevalence of smoking, which impacts public health, especially among vulnerable populations like children and pregnant women. Passive smoking exposure in public spaces, such as parks and busy streets, further exacerbates the problem (Tim Promkes RSST - RSUP dr. Soeradji Tirtonegoro Klaten, 2022).

Local data suggest that smoking habits also contribute to economic hardship for families in Malang, as funds that could be allocated for basic needs such as nutrition and healthcare are often diverted to cigarette expenditure, exacerbating poverty risk (Fikih, 2025). This has implications not only for individual health but also for the community's overall well-being.

Exposure to cigarette smoke is of particular concern for children, as it can lead to adverse outcomes such as stunted growth, including a heightened risk of stunting due to the harmful effects of nicotine and other toxic substances found in cigarettes (Muchlis et al., 2023). In pregnant women, smoking exposure increases the risk of low birth weight and stunting, with significant long-term effects on child health (Choirunnisa et al., 2022). These findings underscore the importance of local policies aimed at reducing smoking-related harms, particularly in public spaces frequented by families and children.

In response, Malang has implemented the Smoke Free Area (SFA) policy, which aims to limit smoking in public spaces and protect the health of residents, particularly children and pregnant women. The policy calls for the reaction of designated smoke-free zones, where smoking is restricted, to safeguard public health and create healthier living environments.

To ensure the success of this policy, the collaboration between the government, local communities, and the private sector is crucial. Socialization, education, and community engagement will play vital roles in raising awareness and ensuring compliance with SFA regulations. Through collective efforts, Malang can better protect its citizens from the adverse effects of smoking and create a cleaner, healthier environment, particularly for its most vulnerable (Muazzinah et al., 2023).

Malang City is one of the big cities in East Java, and it is a destination for people who want to travel, for education, and even for industry. Population growth is uncontrolled, which will affect the quality of life of the community, because population problems often arise, such as poverty, housing, education, health, and employment. It is recorded based on data from BPS-Statistics Malang Municipality (n.d.) that the population of Malang City increases every year to reach 847,182 people in 2023.

The increase in population also has an impact on various social aspects, including the smoking behavior patterns of the community. Smokers in Malang City show an increase, especially among productive adults. The data can be seen in Figure 1.

Based on Figure 1, along with the increasing data on smokers, the distribution of tobacco products becomes faster, which will increase the availability of cigarettes in the local market, making it easier to find smoking behavior. Based on research that highlights the factors that influence smoking behavior in adolescents in Sukun District, Malang City, related to cigarette advertisements that form positive perceptions of cigarettes and encourage smoking behavior among young people,
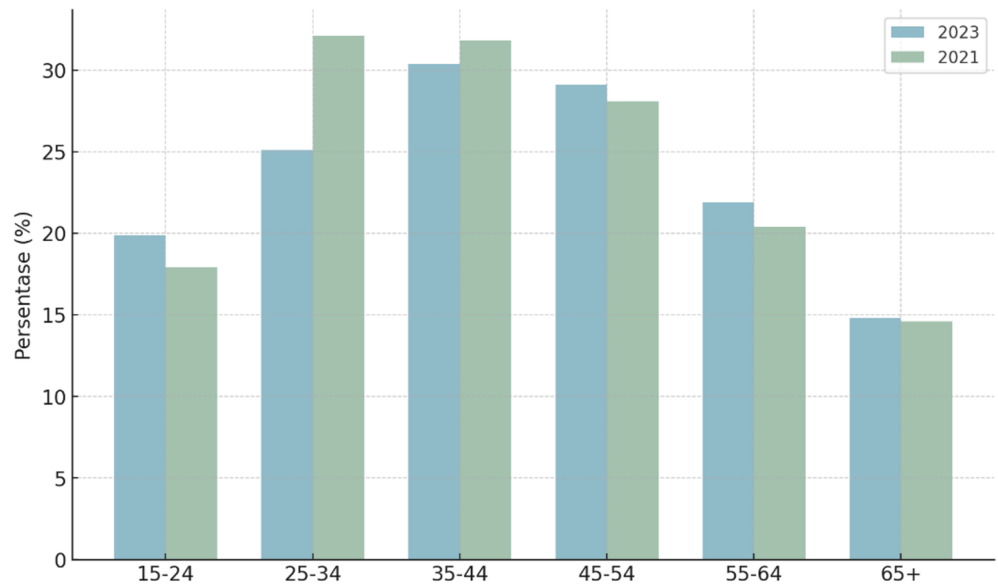
Figure 1. Percentage of Smokers in Malang City by Age Group

Source: *Statistics Indonesia of East Java Province*

around 43.7% are smokers. This figure is higher than the East Java average (Aracely et al., 2024).

The suboptimal implementation of SFA is a challenge in reducing the number of smokers. Easy access to cigarettes, environmental influences, cigarette advertising, and lack of knowledge and positive attitudes towards the dangers of smoking make people vulnerable to the influence of cigarettes in their environment (Muslim et al., 2023). Given that exposure to passive smoking has a negative impact on public health. In 2021, around 25.7% of toddlers experienced stunting. Meanwhile, cases of breast cancer and cervical cancer in 2021 were only recorded at 0.041% (360 cases) and 0.0057% (50 cases) of the total population affected by cancer (Syahputra, 2022).

This comparison shows that cancer has a serious impact, but the number is relatively small in Malang City. Meanwhile, the highest factor causing stunting in toddlers based on the results of the stunting audit in Malang City, showed that exposure to passive smoking was 93.8%, other factors were the habit of defecating carelessly at 36%, not getting exclusive breastfeeding at 28.4%, and a history of maternal pregnancy with chronic energy deficiency during pregnancy 16.9% (Suryo, 2024).

Based on the Malang City Stunting Reduction Acceleration Team (TPPS) for the second semester audit of 2024, in addition to nutritional factors, several factors also influence stunting, such as exposure to cigarette smoke by 39.8%, low hemoglobin in pregnant women by 19.3%, and poor sanitation by 1.5% which trigger stunting. Although based on data from the Indonesian Health Survey (SKI), the prevalence of stunting in Malang City has decreased significantly from 25.7% in 2021 to 17.3% in 2023. The Malang City Government continues to pay more intensive attention to the remaining stunting cases, with efforts to involve various parties and collaborative strategies to reduce the stunting rate. For further handling, there are six sub-districts identified as having stunting cases, namely: Pandanwangi, Bumiayu, Bandungrejosari, Dinoyo, Arjowinangun, and Mulyorejo (Maria, 2024).

To address this issue, the Malang City Government has enacted regional Regulation Number 2 of 2028 concerning SFA, which was further detailed by Malang

Mayor Regulation Number 12 of 2023. This regulation provides more specific and operational guidelines for implementing SFA, including the establishment of designated smoking areas, signage requirements, and the formation of enforcement teams. For instance, in 2023, the Malang City Government established the SFA Enforcement Team through Mayor's Decree Number 188.45/288/35.73112/2023 for the 2023 – 2028 period.

However, despite these regulations, the implementation of SFA in Malang still faces challenges. Some areas, particularly outside healthcare facilities, have not fully enforced SFA optimally. To enhance awareness and compliance, the Malang City Health Office has actively conducted various activities, such as the Coordination Meeting.

Several previous studies have discussed the implementation of the SFA policy facing various challenges, such as in hospitals, government offices, and schools. Research at UNDATA Palu Regional Hospital found that there was a lack of human resources and incentives for the Task Force, even though communication and bureaucracy were quite good (Budiwan et al., 2021). Meanwhile, the Yogyakarta City Health Office showed that obstacles were limited budget and facilities, even though employee compliance was quite high (A'yuni & Nasrullah, 2020). Meanwhile, at SMA Negeri 17 Medan, this policy was less than optimal due to limited socialization, minimal facilities, and weak supervision (Khairatunnisa & Telaumbanua, 2021). The solutions needed are intensive socialization, adequate facilities such as smoking rooms, and strong supervision. Collaboration involving the government, institutions, and the community is very important to create an effective smoke-free environment.

Research related to efforts to prevent stunting prevalence through SFA policies is still very limited. Most previous studies have only focused on the implementation of SFA policies in certain public spaces, such as schools, offices, hospitals, and other public facilities, to suppress respiratory diseases and general health risks, such as asthma, bronchitis, and respiratory tract infections. And research on stunting focuses on nutritional aspects, such as malnutrition, diet, non-exclusive breastfeeding, open defecation, and a history of maternal pregnancy with chronic energy deficiency during pregnancy. For example, a study by Muchlis et al. (2023) found that children from poor families exposed to cigarette smoke had a significantly higher risk of stunting. Similar findings are supported by Cao et al. (2022), who reported that household secondhand smoke (SHS) exposure contributes to stunted growth in school-age children. Furthermore, a systematic review by Rahmiwati et al. (2024) confirmed the correlation between passive smoke exposure and stunting. These findings emphasize the importance of SFA policies not only for respiratory health but also for mitigating long-term child growth disorders like stunting.

The lack of research discussing the relationship between cigarette smoke exposure and stunting incidents highlights an important gap in research. In fact, cigarette smoke exposure and its associated health risks, particularly stunting among children, are a significant public health concern, especially in regions such as Sidrap Regency, Indonesia. In the study conducted by Saenong et al. (2024), the authors examine the detrimental effects of cigarette smoke exposure on the growth and nutritional absorption in children, emphasizing that passive smoking poses similar risks to children as active smoking, contributing to long-term health problems, including stunting. This aligns with findings from Muchlis et al. (2023), who report a correlation between family smoking behavior and stunting, suggesting the pervasive impact of tobacco exposure on young children's growth in low-income environments.

Based on an international study entitled "Is the implementation of smoke-free policies at workplaces associated with living in a smoke-free home?: Findings from a national population-based study in Malaysia", the study analyzed the impact of smoke-free home and workplace policies on smoking behavior in adults in 31 countries, using data from the Global Adult Tobacco Survey (GATS). The results showed that the implementation of smoke-free policies at home and in the workplace significantly reduced the prevalence of smoking among adults. In addition, the policy also contributed to reducing exposure to passive cigarette smoke in the household environment, thereby improving the overall quality of public health (Lim et al., 2019).

The implementation of the SFA policy in the environment and surrounding areas close to toddlers has not been carried out in depth. Research indicates that passive smoking exposure is the leading cause of stunting in Malang, accounting for 93.8% of cases. Despite this, the enforcement of SFA regulations in residential areas, especially those inhabited by low-income families, remains insufficient. This gap in policy implementation contributes to the continued high prevalence of stunting among children in these communities (Marchel et al., 2019). This area requires special attention, considering that exposure to cigarette smoke in households can directly impact family members, especially children and pregnant women who are more vulnerable to its negative impacts. Research in this area will be very useful in providing a deeper understanding of the role of smoke-free policies in maintaining child health and supporting optimal growth, especially in areas with high stunting rates (Nailussa'dah et al., 2024). While Malang City has enacted policies like Regional Regulation Number 2 of 2018 and Mayor Regulation Number 12 of 2023, enforcement remains insufficient, especially in low-income areas, contributing to the continued prevalence of stunting. Grindle's policy implementation theory emphasizes the importance of both the content and the context of a policy's execution, suggesting that the SFA policy's success depends on the collaboration between government, community, and private sectors to effectively reduce exposure to cigarette smoke and mitigate health risks (Grindle, 1980).

The implementation of the SFA policy is an important step in efforts to protect the health of toddlers and prevent stunting. However, the effectiveness of this policy in practice still needs to be studied further. Various factors such as the level of public awareness, law enforcement, and social support can influence the success of the policy implementation. Analyzing the implementation of the SFA policy, this study uses the policy implementation model from Grindle (1980), which emphasizes that the success of policy implementation is determined by both the content of the policy and the context of implementation. This model is particularly relevant because it allows for an in-depth understanding of the interaction between the policy's design (its content) and the environmental, social, and political factors (its context) that influence its execution. Compared to other policy implementation theories, such as those proposed by Van Meter and Van Horn (1975) or Sabatier and Mazmanian (1980), Grindle's framework is more flexible and adaptable to local contexts, which is essential for analyzing complex, multi-stakeholder policies like SFA. Van Meter and Van Horn, for instance, focus heavily on the formal structures of implementation, often overlooking how local political dynamics, community attitudes, and the involvement of non-state actors influence policy success. Grindle's model, on the other hand, takes these aspects into account, making it particularly suitable for the SFA policy in Malang, where the roles of the government, community, and private sector play crucial roles in reducing exposure to cigarette smoke, especially for vulnerable populations such as toddlers and pregnant women. Furthermore,

Grindle's theory allows for the assessment of not just the technical aspects of policy implementation but also the social and political dimensions, providing a more comprehensive framework for understanding the challenges in implementing a smoke-free environment policy. Given that SFA policies often require broad societal support and coordination between various sectors, Grindle's emphasis on both the content and context of policy implementation provides a deeper insight into the factors that determine the policy's effectiveness in preventing stunting and protecting public health.

The results of this study are expected to provide strategic insights into the SFA policy in Malang City, as well as become evaluation materials and recommendations for policymakers in efforts to improve toddler health and prevent the prevalence of stunting in this city. The Implementation of the SFA policy in the environment and surrounding areas close to toddlers has not been thoroughly carried out. Research indicates that passive smoking exposure is the leading cause of stunting in Malang, accounting for 39.8% of cases. Despite this, the enforcement of SFA regulations in residential areas, especially those inhabited by low-income families, remains insufficient. This gap in policy implementation contributes to the continued high prevalence of stunting among children in these communities (Suryo, 2024).

2. Methods

This study uses a descriptive qualitative approach that aims to understand how the Smoke-Free Area (SFA) policy is implemented in Malang City and how this policy contributes to efforts to prevent stunting in toddlers. The study was conducted in Malang City, focusing on several important locations, such as the Health Office, Department of Social Affairs, Women's Empowerment, Child Protection, Population Control and Family Planning of Malang City (P3AP2KB Social Service), and the community environment included in the SFA area. These locations were chosen because they were considered relevant in the context of policy implementation and its impact on public health.

Data collection was conducted through in-depth interviews with a total of 7 informants, consisting of 5 government officials, 1 SFA task force member, and two community representatives. Of these, 75% (6 informants) represent the government or state sector, while 25% (2 informants) represent the non-government sector, including community members. The SFA policy has received support from all government elements in Malang, as well as certain institutions, hotels, and several restaurants. Researchers used snowball sampling technique to capture the most relevant informants. In addition to interviews, data were also collected through direct observation in the field, where researchers observed community compliance with SFA regulations, as well as checking facilities or signs indicating the implementation of smoke-free areas. Documentation of various official documents, such as regional regulations, policy implementation reports, and stunting data, was also carried out to strengthen the analysis. In the data collection process, researchers acted as the main instrument, assisted by interview guidelines, voice recorders, and stationery to record important data in the field. All data obtained were analyzed by following the stages of data condensation, data presentation, drawing and verifying conclusions (Miles et al., 2014). The results of the analysis were used to see patterns of factors that influence the success of policy implementation.

To ensure the validity and reliability of the data, the researcher triangulated sources and methods, re-checked the results of interviews with informants (member checking), and presented an in-depth description so that readers can understand the

context of the research as a whole. The researcher also compiled documentation of the research process systematically so that it can be accounted for and allows this research to be replicated in a similar context. It is hoped that this research will be able to provide a comprehensive picture of the implementation of the Smoke-Free Area policy in Malang City, as well as its implications for public health, especially for pregnant women and children who are vulnerable to exposure to cigarette smoke. It is hoped that this analysis can help researchers, academics, and policy makers develop better strategies and policies.

3. Results and Discussion

The SFA policy implemented in Malang City aims to reduce exposure to cigarette smoke in public spaces and households. This policy has contributed to lowering exposure to cigarette smoke, which negatively affects children's health, particularly during the critical first 1,000 days of life, as it interferes with children's physical and mental development. To assess the effectiveness of the SFA policy. Triangulation was employed, combining multiple sources of data, including rules and regulations, interviews with key stakeholders (such as government officials, health workers, and community representatives), and relevant literature on the impact of tobacco exposure on child health.

The SFA policy in Malang City is regulated by Regional Regulation Number 2 of 2018 and reinforced by Mayoral Regulation Number 12 of 2023. It represents a strategic response by the city government to protect public health from cigarette smoke exposure, especially among vulnerable groups such as pregnant women and children. In its implementation, nearly all education sectors, health facilities, offices, and the private sector have designated SFA areas, supported by supervisory task forces. The placement of no-smoking signs in various public facilities demonstrates the government's commitment to enforcing this regulation.

The Malang City Health Office acts as the primary agency responsible for socializing and monitoring the implementation of the SFA policy. Each Regional Government Organization (OPD) is mandated to implement an internal SFA policy and provide designated smoking areas according to regulations. Hotel facilities, restaurants, and integrated health posts are also encouraged to comply. Although supervision is routinely conducted, enforcement faces challenges, particularly in sanctioning violations. The Satpol PP, appointed as the main enforcement body, has yet to achieve optimal effectiveness, leading to weak enforcement of violations.

Efforts to enhance SFA implementation include the establishment of Smoking Cessation Clinics (UBM) in 16 health centres. These clinics support smokers who wish to quit, though utilization remains low. The government anticipates that educational and preventive approaches will raise public awareness of healthy living. This is considered a vital component of a long-term strategy to reduce stunting prevalence, with cigarette smoke exposure identified as a major contributing factor.

To gain a comprehensive understanding of the SFA policy's effectiveness, it is necessary to conduct a deeper analysis beyond surface-level implementation. Accordingly, this study employs Grindle's policy implementation framework (1980), which highlights both the content and contextual factors influencing policy outcomes.

3.1. Content of Policy

3.1.1. Interest Affected

The parties directly involved in the implementation of the SFA policy are the policy implementers, namely the Health Office, Satpol PP, Social Services, and the SFA task force team at the village and sub-district levels. They have a clear interest in enforcing the rules in order to achieve the policy objectives, namely protecting the community from the dangers of cigarette smoke and indirectly preventing stunting. However, limited resources, lack of effective coordination, and high workloads often hinder them from carrying out their duties optimally. This causes their role to be less effective, and as a result, their interests in implementing the policy are not always optimally realized.

The second group is the community, especially families with toddlers and active smokers, who are the main interests affected in this context. Their interests are diverse and sometimes conflict with the objectives of the policy. For example, heads of families who smoke may feel that their rights are limited by the smoking ban, so that resistance occurs both openly and implicitly by ignoring the rules. The passive attitude and social tolerance towards smoking in the home that are still found in the field indicate that the interest in maintaining the habit is more dominant than the interest in protecting children's health from cigarette smoke. In addition, there are other group interests, such as business owners (restaurants, hotels), who already have their own SFA Decrees.

Conflict and imbalance of interests between implementing actors and the community affected by the interests are one of the main factors that influence the effectiveness of SFA policy implementation. The lack of interest management mechanisms and dialogue between actors makes resistance difficult to overcome, and policy enforcement is not optimal.

Triangulation data were employed in this study to address this. Data was gathered from multiple sources: first, qualitative data obtained from interviews with key stakeholders such as government officials, SFA task force members, and community representatives, which provided insights into the dynamics of interest conflicts and the challenges faced during policy implementation. Second, quantitative data were drawn from surveys conducted with the public, particularly families with toddlers, to assess their awareness and compliance with SFA regulations. Third, document analysis was used to examine the effectiveness of existing regulations, such as the SFA decrees, and their implementation in the field. This triangulation of data helped to ensure a more comprehensive understanding of the factors influencing policy enforcement and provided evidence for recommendations on how to improve coordination and engagement between the government, the community, and private stakeholders in the SFA implementation process.

3.1.2. Type of Benefit

The main benefit of the SFA policy is the protection of the community from exposure to cigarette smoke, which is indirectly expected to prevent stunting in toddlers. However, data from the Malang City Health Office indicates that 56.5% of toddler families still have family members who smoke, which is the main risk factor for stunting (Malang City Health Office, 2023). This shows that the benefits of preventing stunting from SFA have not been optimally realized, because people are still exposed to cigarette smoke in the household environment. In addition, there are no indicators or measures of benefits that explicitly map the contribution of the SFA policy to

reducing stunting rates, so these benefits are less measurable and less specifically communicated to the community.

Triangulation data were employed in this study to provide a more robust analysis. Data was collected from multiple sources: first, quantitative data from official reports, such as the Malang City Health Office, on the prevalence of smoking in households with toddlers and its correlation to stunting risks. Second, qualitative data from interviews with key stakeholders, including government officials, healthcare providers, and parents, were collected to gain insights into the implementation challenges and community perceptions of the SFA policy. Lastly, survey data from families with toddlers will be used to measure their awareness and compliance with the policy, along with their attitudes toward smoking in the household. This triangulation allowed for a more comprehensive understanding of how the SFA policy impacts stunting prevention and the extent of its effectiveness.

3.1.3. Extent of Chance Envisioned

The SFA policy targets changes in smoking behavior, both in public spaces and households with children, as the main target of SFA. However, the results of interviews with officers and the community show that these changes are still limited. The passive attitude of the community and tolerance for SFA violations, such as allowing smoking if there are no small children, indicate that the level of behavioral change is still low.

In fact, exposure to thirdhand smoke (THS) can occur through inhalation, skin contact, or ingestion, especially in children who often play on the floor and put objects in their mouths (Wang & Gu, 2025). Its residue can cause DNA damage, developmental disorders, and increase the risk of cancer. Because THS residues can penetrate and stick firmly to fabric fibers, especially those made from natural materials such as cotton and wool (Berman, 2022). Therefore, a massive and integrated strengthening strategy is needed; this change in effort is difficult to achieve effectively and evenly.

Triangulation data was employed to ensure a more comprehensive understanding of the effectiveness of the SFA policy. Data was collected from multiple sources: first, qualitative data from interviews with key stakeholders, including government officials, health officers, and community members, to explore their perspectives on the policy's implementation and the challenges they face. Second, quantitative data from surveys conducted among households with children to measure the prevalence of smoking behavior and awareness about the dangers of thirdhand smoke. Lastly, secondary data from local health reports and studies, including data on stunting rates and the health impacts of smoking in the community, were used to assess the broader implications of the SFA policy on public health. This triangulation approach helped provide a deeper insight into the gaps in policy enforcement and the need for more effective strategies.

3.1.4. Site of Decision Making

Decision-making is still top-down without involving the direct participation of the community or vulnerable groups, such as families of toddlers who are the targets of intervention. This limited participation has the potential to cause policies to be less responsive to needs and conditions in the field, so that implementation at the community level faces resistance and gaps in understanding.

Triangulation data was employed in this study to address these challenges. First, qualitative data was gathered through interviews with key stakeholders, including

government officials, health officers, and community representatives, to understand their perspectives on the decision-making process and the barriers to effective community involvement. Second, quantitative data were collected through surveys of families with toddlers to assess their awareness of the SFA policy and their level of participation in the policy implementation process. Lastly, secondary data from local health records and policy documents were analyzed to evaluate the broader impact of the policy on public health and to identify any discrepancies between policy goals and actual implementation. This triangulation approach provided a more comprehensive view of the SFA policy's effectiveness and its challenges in community-level implementation.

3.1.5. Program Implementors

The implementation of SFA involves the Health Office, Satpol PP, Social Services, and task force teams at the sub-district and district levels. However, interviews with the key stakeholders, including government officials and task force members, revealed that the capacity of implementers, especially Satpol PP, who are tasked with enforcing the law, is still inadequate. Satpol PP has not been optimal in taking action against SFA violations, often issuing only social warnings to violators without imposing strict sanctions. In addition, the replacement of family support staff and the limited number of supervisors hamper the continuity and effectiveness of implementation.

Triangulation data were employed in this study to address this. First, qualitative data were gathered through in-depth interviews with key informants from various implementing agencies, including the Health Office, Satpol PP, and Social Services, to explore their experiences and challenges in enforcing the SFA policy. Second, quantitative data were collected through surveys of local residents to assess their awareness of the SFA policy, their compliance with the regulations, and their perceptions of the enforcement efforts. Lastly, secondary data from government reports and health statistics were analyzed to evaluate the broader impact of the SFA policy on public health, particularly in relation to reducing smoking-related diseases. This triangulation approach provided a more comprehensive understanding of the barriers to effective implementation and highlighted the need for improved coordination and capacity building among implementers.

3.1.6. Resources

Limited budget and human resources are the main obstacles. The family support team that carries out stunting socialization and assistance often changes, and the budget only comes from limited assistance such as making banners and brochures from the ministry. Formal coordination between institutions is only carried out sporadically, so that structural support and adequate resources are not optimal. Coordination between agencies has been formed but is still normative and less intensive. Satpol PP has difficulty in carrying out its enforcement function, while many people are still less aware and indifferent to the smoking ban. The lack of an integrated and consistent strategy between implementers results in weak supervision and low levels of community compliance.

Triangulation data was employed to address these issues and provide a more comprehensive understanding of the barriers to implementing the SFA policy. Qualitative data were collected through interviews with key stakeholders, including government officials, Satpol PP officers, and community representatives, to explore their experiences with policy enforcement and coordination challenges. Quantitative data were obtained from surveys conducted with local residents to assess their

awareness of the SFA policy, their compliance with the smoking ban, and their perceptions of government enforcement efforts. Additionally, secondary data from government reports, including budget allocation and coordination efforts, were analyzed to assess the structural and financial constraints that hinder policy implementation. This triangulation of data sources allowed for a deeper analysis of the policy's challenges and provided a more accurate picture of the effectiveness of the SFA policy in Malang.

3.2. Context of Implementation

3.2.1. Power, Interests, and Strategies of Actors Involved

The power, interests, and strategies of various actors color the implementation of the SFA policy. The Health Office and Satpol PP have formal authority, but their capacity is limited. Therefore, efforts to increase community compliance in the home environment require a more contextual and participatory strategy. The involvement of PKK mothers, health cadres, and RT/RW has been proven to be helpful in conveying SFA messages directly to families. A family and community-based approach is important because the home is a private space that cannot be intervened in coercively by the state.

Triangulation data was employed in this study to better understand the dynamics of policy implementation. Qualitative data was collected through in-depth interviews with key stakeholders, including government officials from the Health Office and Satpol PP, as well as community leaders like PKK mothers and health cadres, to explore their perceptions of the SFA policy's effectiveness and their role in promoting compliance. Quantitative data from surveys of local families were used to assess their awareness, understanding, and compliance with SFA regulations, specifically in the home environment. Additionally, secondary data from local health reports and program evaluations were analyzed to examine the broader impact of the policy, including compliance rates and the role of community-based interventions. This triangulation approach allowed for a comprehensive analysis of the SFA policy's implementation, highlighting the challenges and opportunities for increasing community participation and compliance.

3.2.2. Institutional and Regime Characteristics

The institutional structure for implementing the SFA policy has been formed through related OPDs and task force teams. However, implementation is marked by weak coordination, officer rotation, and minimal budget. The regulatory framework has been available through Regional and mayoral regulations, but the fragmented bureaucracy and slow response to violations reduce the effectiveness of implementation.

Triangulation data was employed to address these issues and provide a more comprehensive analysis. Qualitative data was gathered through in-depth interviews with key stakeholders, including officials from OPDs, task force members, and other relevant agencies, to understand their perspectives on the challenges faced during implementation and the reasons for weak coordination. Quantitative data from surveys with local government employees and community members were used to assess their awareness of the SFA policy, their perceptions of its effectiveness, and their level of engagement in the enforcement process. Secondary data from government reports and regulatory documents, such as Regional Regulations and Mayoral Regulations, were analyzed to evaluate the legal framework and its alignment with the operational challenges identified. This triangulation approach

helped to provide a deeper understanding of the barriers to effective implementation and the role of institutional coordination in improving policy outcomes.

3.2.3. Compliance and Responsiveness

The level of community compliance with SFA policies, especially in the home environment, is still low. The strong smoking culture among the community, especially heads of families, is a major social barrier. Suburban communities and areas with conservative norms still find it difficult to accept restrictions on smoking at home, even though there are small children. In addition, external budget support is still very limited. The implementer's response to violations tends to be persuasive, not coercive. This shows that policy implementation still relies more on individual awareness than on strict law enforcement.

Triangulation data was employed in this study to better understand the barriers to policy compliance and the challenges in enforcement. Qualitative data was collected through interviews with key stakeholders, including government officials, health workers, and community leaders, to gain insight into the social and cultural factors influencing compliance and the strategies used by implementers. Quantitative data from surveys with local residents, especially families with young children, were gathered to measure their awareness of the SFA policy and their actual smoking behaviors in the home environment. Secondary data from local government reports and policy documents were also analyzed to evaluate the legal framework and resource allocation for enforcement efforts. This triangulation approach provided a more comprehensive understanding of the factors influencing policy compliance and the effectiveness of enforcement mechanisms.

3.3. Stunting Due to Exposure to Cigarette Smoke

Exposure to cigarette smoke has been identified as one of the main determinants of stunting cases in Malang City. Based on official data from the Health Office, 93.8% of stunted toddlers come from families exposed to cigarette smoke. This figure shows a very significant relationship between smoking behavior in households and stunted child growth. Cigarette smoke, both active and passive, contains harmful substances such as nicotine and carbon monoxide, which can inhibit nutrient absorption and cause fetal growth disorders.

Furthermore, the effects of cigarette smoke exposure on pregnant women also contribute greatly to the risk of stunting. Nicotine can damage embryo growth and disrupt the flow of oxygen and nutrients from the mother to the fetus. The impact is not only seen in low birth weight, but also in the delay in physical growth of children in the long term. This has been confirmed in various studies that show a direct correlation between cigarette smoke and impaired child growth.

The SFA program plays a role as a non-nutritional preventive effort in reducing the prevalence of stunting, especially if it is implemented consistently in the home environment, considering the THS residues that stick around the house. The involvement of Dinsos P3AP2KB in providing education to prospective brides and families about the dangers of cigarette smoke is a significant complementary strategy. Programs such as the "Exemplary Father Movement" and "Great Parent School" emphasize the role of fathers in creating a healthy, smoke-free environment at home. This shows that the solution to stunting does not only come from nutritional interventions, but also from changes in the health behavior of the family environment.

Triangulation data were employed in this study to address the gap in policy implementation and provide a comprehensive understanding of the impact of cigarette smoke on stunting prevention. Qualitative data was collected through interviews with government officials, health workers, and community leaders to assess their understanding of the role of SFA in reducing stunting and the challenges they face in implementing it. Quantitative data were gathered through surveys of families with toddlers to measure their exposure to cigarette smoke and the effectiveness of SFA-related programs in promoting behavior change. Lastly, secondary data from health records and official reports, including the Health Office and Dinsos P3AP2KB, were analyzed to evaluate the effectiveness of existing interventions and the correlation between smoking behavior and stunting rates. This triangulation approach allowed for a more holistic view of how the SFA policy contributes to stunting prevention.

4. Conclusion

This study finds that the Smoke-Free Area (SFA) policy in Malang City has made institutional progress through regulatory frameworks and public implementation in various sectors. However, its effectiveness in reducing stunting remains limited due to low compliance at the household level, weak enforcement mechanisms, and fragmented inter-agency coordination.

Using Grindle's policy implementation framework, the research reveals that policy content—such as interest management, clarity of benefits, and resource allocation—remains misaligned with ground realities. Meanwhile, the implementation context—especially social norms and institutional responsiveness—continues to constrain behaviour change, particularly in domestic environments.

Although the stunting rate has declined from 25.7% in 2021 to 17.3% in 2023, attributing this reduction directly to SFA implementation is inconclusive due to the absence of integrated impact measurements and community-level transformation.

To strengthen the impact of the SFA policy in addressing stunting, future efforts should:

- Resive smoke-free regulations to include household-focused restrictions on smoking and incorporate community-based enforcement mechanisms, empowering local leaders and residents to monitor compliance and support awareness campaigns.

- Improve the operational capacity of Satpol PP and other implementing agencies by enhancing their understanding of the SFA policy. This includes training on legal aspects, enforcement procedures, and effective communication skills, ensuring Satpol PP can monitor, educate, and engage with the public diplomatically, rather than relying solely on physical enforcement

- To foster bottom-up engagement, new programs should include community health forums, peer education to spread awareness, and family workshops to promote smoke-free homes. Incentive programs can reward families who comply with the SFA policy, encouraging participation and behavior change

- Encourage behavioral change through targeted education, particularly emphasizing the dangers of THS smoke exposure in children. A smoke-free home campaign should be developed, focusing on educating parents about the risks of THS. This can include workshops, social media campaigns, and incentive programs to encourage families to create smoke-free environments.

- Incorporate structured impact evaluations to measure how SFA contributes to stunting reduction.

A more integrated, participatory, and well-resourced implementation model is essential for the SFA policy to become an effective public health instrument in combating child stunting in Malang City.

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