SYSTEMATIC REVIEW

Implementing a Non-Smoking Regional Policy to Prohibit Childrens' Smoking Habits In Palu City, Indonesia: A Systematic Review

Muhammad Ryman Napirah[1], Ridwan Amiruddin[2], Sukri Palutturi[2],Aminuddin Syam[2], Anwar Mallongi[2], Rosmala Nur[1], Hermiyanty Hermiyanty[1], Muhammad Basir[3], Mahfudz Mahfudz[3], Alam Anshary[3]

[1] Faculty of Public Health Tadulako University, 94118, Palu, Indonesia
[2] Faculty of Public Health Hasanuddin University, 90245, Makassar, Indonesia
[3] Faculty of Agriculture Tadulako University, 94118, Palu, Indonesia

ABSTRACT

Introduction: The habit of smoking is common among Indonesian adults, teenagers, and even children. This research, therefore, aims to develop a non-smoking regional policy to protect children in Palu City, Indonesia. **Methods:** Data were systematically obtained from variousonline literature reviews, including reports, journals, and books from the last ten years. The journals were mostly from scholars, while the article was screened according to the research objectives. Research that is included in the systematic discussion not completely abstracted for inclusion in this paper is issued for the inclusion of selected study details in tabular format. **Results:** The result showed that the use of a non-smoking regional policy is effective in preventing children smoking habits. The bureaucratic structure has been adequately implemented, however, there are lots of errors associated with the communication, disposition, and resources used due to differences of opinion among policymakers, lack of human resources, and the poor commitment of stakeholders. All literature was selected and screened from scholars. **Conclusion:** In conclusion, a non-smoking regional policy is effective in preventing children smoking habits.

Keywords: Non-Smoking, Regional Policies, Children, Smoking Habits

Corresponding Author:
Muhammad Ryman Napirah, M.Kes.
Email: muhammadrymannapirah.unhas@gmail.com
Tel: +6282196219942

INTRODUCTION

According to health practitioners, the habit of smoking has become a physical and psychological culture amongst adults, teenagers, and even children in Indonesia. Certain times of the day, teenagers are seen in various places such as bus stops, private/public vehicles, and even in the home environment smoking. It is a common sight and rarely gets people's attention, despite its health implications (1). Smoking in children has lots of adverse health effects because they are still in the process of growth. In addition to having an impact on health, it also affects their future, in community and nation. The smoking habit of children is currently high, with a gradual shift tothose that are 7 (seven) years. It is predicted that by 2020 the younger generation is going to be more associated with various health diseases due to smoking (2). A non-smoking regional policy needs to de develop because when viewed from the impact of this smoking problem is urgent handled. The problem happened related child for smoking is must involve all relevant stakeholders.

However, the data obtained shows that there are several problems associated with the implementation of smoking policies. According to the data collected by the World Health Organization (WHO) in 2015, the prevalence of active smokers in the world is currently at 17.4%, with Indonesia at number one in Asia. Approximately 38.5% of the country's population over the age of 15 are smokers, with 73.3% male and 3.8% female (3).The data obtained from the National Basic Health Research (Riskesdas) in 2018 showed that the prevalence of smokers in the population aged 10-18 continues to increase from 7.2% in 2013, 8.8% in 2016 to 9.15%. The 2018 data explained that the number of smokers above ten years in Central Sulawesi increased daily by 31.2%, and exceeds the National Prevalence by 28.8% (4).

Data from the Palu City Health Office revealed that smokers under the age of 20 have continued to increase in the last three years. In 2015, it increased to 153 children, while in 2016 and 2017, it increased to 315, and 1,073 respectively.Furthermore, data obtained from 13 Talise Health Centers in Palu City had the highest

number 748 smokers under the age of 20, while in Puskesmas Birobuli, the number was 101 children, and in Mamboro it was 49 (5).

The want to carried out the systematic review as reason because single research is not enough to provide input for policy improvement. So that the results of health research can be used for policy input, the synthesis of several research results and packaging of research results is an important methodology that must be mastered by researchers. By synthesizing research results through a systematic review approach, more comprehensive and balanced facts can be presented to policy makers. Because several literatures reveal about previous research on similar topics.

In accordance with the above data, the Indonesian government developed non-smoking regional policy to prohibit children from smoking in Palu city, using a systematic method.

MATERIALS AND METHODS

This research uses a literature review with data generally obtained from approximately 100 online national and international journals and e-books. The articles were filtered, and a total of 13 were used in accordance with the purpose of the study. Generally, the journals are indexed by Google Scholar, Scopus, Elsevier, and Science Direct in accordance with the themes raised and published in the last ten years. A search on Google Scholar, with a focus on systematic reviews was consulted. The first information from each article is then added to add approved or added ingredients. The key word used for the search, the search term included "non-smoking regional policy", "children's smoking habits". The keyword in the text that might cause some literature to be undetectable is "children's smoking". The literature was selected by in this study, researchers conducted data searches through accessible journal portal websites such as Proquest, EBSCOHost, and Science Direct. The inclusion criteria in this study were international journals related to non-smoking regional policy and children's smoking habits. The exclusion criteria in this study is policy to allow smoking. They screened the literature by journal data accessed in this research process are screened based on the following criteria like journals are published in a span of 10 years,. journal type (review articles, research articles), fully accessible journal. Research that is included in the systematic discussion not completely abstracted for inclusion in this paper is issued for the inclusion of selected study details in tabular format. They are assessed based on a feasibility review from the researcher. The standard system review method is applied using PRISMA. The methods using PRISMA flow diagram (Figure 1).

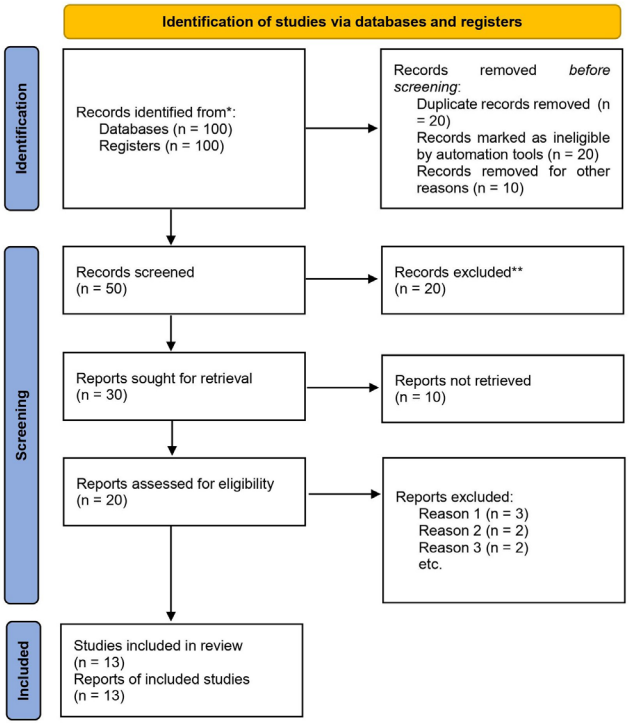

Figure 1: Flow chart for study selection

RESULTS

This study showed that the use of a non-smoking regional policy is very effective in prohibiting children smoking habits. The result showed that the use of a smoke-free regional policy is effective in preventing smoking habits. The bureaucratic structure has been properly implemented, however, there are lots of errors associated with the communication, disposition, and resources used due to differences of opinion among policymakers, lack of human resources and the weak commitment of stakeholders. Results and discussion based on the comprehensive literature findings.

A total of 13 articles were analyzed based on a systematic review according to research objectives (Table I).

DISCUSSION

The non-smoking law is associated with significant benefits for children's health, with various positive effects. This finding provides strong support for its comprehensive implementation throughout the world (6).

During the design and implementation of tobacco control programs, the government needs to prioritize the smoking ban with an increase in prices of products followed by other interventions. Additional studies are required on various factors that influence the

Table 1: Review analysis about non-smoking regional policy and children's smoking habits

Title	Objective	Method	Results
Effect of tobacco control policies on perinatal and child health: a systematic review and meta-analysis (6)	To investigate whether implementation of WHO's recommended tobacco control policies (MPOWER) was of benefit to perinatal and child health.	19 electronic databases, hand-searched references and citations, and consulted experts to identify studies assessing the association between implementation of MPOWER policies and child health.	Smoke-free legislation is associated with substantial benefits to child health.
Overview of systematic reviews on the health-related effects of government tobacco control policies (7)	Synthesize research evidence on the effectiveness of government tobacco control policies promoted by the Framework Convention on Tobacco Control (FCTC), supporting the implementation of this international treaty on the tenth anniversary of it entering into force.	An overview of systematic reviews was prepared through systematic searches of five electronic databases, published up to March 2014.	When designing and implementing tobacco control programs, governments should prioritize smoking bans and price increases of tobacco products followed by other interventions.
A meta-analysis of cigarette smoking prevalence among adolescents in China: 1981–2010 (8)	To estimate smoking prevalence among Chinese adolescents using published data.	Published studies were located electronically from the commonly used databases in Chinese and English, complemented by manual searching.	The high levels of male smoking and the rapid increase in female smoking indicate growing burdens from tobacco-related diseases, underscoring the urgent need to strengthen adolescent tobacco control in China.
Smoking related attitudes, motives, and behaviors of male secondary school students in an urban setting of China (9)	Assessed smoking-related attitudes, motives and behavior as well as other factors associated with smoking among male secondary school students in an urban setting in China.	A cross-sectional survey was conducted in urban areas of Chongqing using a structured questionnaire administered to 1297 male secondary school students.	Male students who have negative attitudes toward smoking, who do not have a father or friends who smoke, and are from affluent backgrounds exhibit low tendency to start smoking at a young age.
Factors associated with smoking initiation among school-aged adolescents (10)	To identify factors associated with smoking initiation in adolescent secondary school students.	A cross-sectional study conducted in 2014 with 864 adolescents at a secondary school in southern Brazil.	Factors associated with smoking initiation, revealing the importance of supporting health education strategies to change this reality.
The economic burden of exposure to secondhand smoke for child and adult never smokers residing in U.S. public housing (11)	Estimated the total excess burden and costs to society due to SHS exposure in U.S. public housing.	Quantified the public health burden for outcomes causally related to SHS exposure for nationally representative never-smoking residents in U.S. public housing.	Implementing smoke-free policies in all U.S. public housing could save lives and decrease SHS-related morbidity and mortality in never-smoking residents, resulting in annual societal savings of $183 million at LOD=0.05 ng/mL and $267 million at LOD=0.015 ng/mL.
Smoke-free policy and child health (12)	Explain about smoke-free policy and child health.	A cross-sectional survey.	For the 70% or more of countries yet to implement smokefree legislation, the greatest priority is to follow Ireland's lead, go smoke-free, and reap the major benefits to public health that will surely follow.
Has childhood smoking reduced following smoke-free public places legislation? A segmented regression analysis of cross-sectional UK school-based surveys (13)	Investigated if trends in smoking uptake amongst adolescents differed before and after the introduction of smoke-free legislation in the United Kingdom.	Prevalence estimates for regular smoking were obtained from representative school-based surveys for the four countries of the United Kingdom.	Smoke-free legislation may help reduce smoking uptake amongst teenagers, with stronger evidence for an association seen in females.
Effect of smoke-free legislation on perinatal and child health: A systematic review and meta-analysis (14)	Investigated the effect of smoke-free legislation on perinatal and child health.	Searched 14 online databases from January, 1975 to May, 2013, with no language restrictions, for published studies, and the WHO International Clinical Trials Registry Platform for unpublished studies.	Smoke-free legislation is associated with substantial reductions in preterm births and hospital attendance for asthma.
The effect of community-level smoke-free ordinances on smoking rates in men based on Community Health Surveys (15)	To evaluate the effects of community-level smoke-free ordinances (SFO) on smoking rates in men using multiyear Community Health Survey (CHS) data.	Data on community-level SFO were collected from a website on Enhanced Local Laws and Regulation Information System.	For effective smoking control, it is necessary to evaluate current policies and develop indices to evaluate the practical implementation of ordinances.

effectiveness and feasibility of policies such as costs, local contexts, political barriers, and implementation strategies (7). The high level of male smokers and the rapid increase in their female counterpartin China shows the increasing burden of tobacco-related diseases (8).

Male students with negative attitudes towards smoking, without a father or friend that smoked, and from wealthy families showed a low tendency to start smoking at a young age. This study provides several implications for tobacco control policies among middle-age male students in city schools (9). Factors related to the initiation of smoking in children shows the importance of health education that supports strategies to change this reality (10).

Furthermore, implementing a smoke-free policy in all US public housing tends to save lives and reduce morbidity and mortality in nonsmokers, thereby leading to an annual social savings of $ 267 million (11). Intervention

goals need to be able to stopthe use of tobacco and nicotine by embracing the use of electronic cigarettes. Although this is not risk-free, it poses a lower threat to adults and children's health than conventional cigarettes. Therefore, for countries that are yet to implement the non-smoking regional laws, they stand to gain a smoke-free Ireland and reap the main benefits for public health (12).

A smoke-free law helps to reduce cigarette use among teenagers, with stronger evidence among women. Further research is needed to analyze data in more countries longitudinally (13). This law is also associated with a substantial reduction in preterm birth and the incidence of asthma in hospitals. Together with health benefits in adults, this study provides strong support for WHO to create a smoke-free environmental recommendation (14). To control smoking effectively, it is necessary to improve current policies and develop indices for approval of practical implementation procedures. As more and more people pass the SFO, long-term observation and evaluation is needed (15).

The non-smoking area is a region that prohibits the production, sales, advertisement, and promotion, of cigarette activities. The establishment of this area is an effort to protect the community against the health risk associated with smoking. In general, the establishment of the Non-Smoking area aims to reduce morbidity and mortality rates, thereby creating a clean, healthy, safe and comfortable environment, with the ability to protect the young generation from abusing the use of Narcotics, Psychotropic, and Addictive Substances (16).

CONCLUSION

In conclusion, the use of non-smoking regional policy is effective in preventing children smoking habits. Recommendations and cooperation with various parties are needed so that the policies made can be maintained and adhered for all.

ACKNOWLEDGEMENTS

We thank to Faculty of Public Health Hasanuddin University, Makassar and Faculty of Public Health Tadulako University, Palu, Indonesia.

REFERENCES

1. Ministry of Health of the Republic of Indonesia. Development Guidelines. RI Ministry of Health. 2011; (No Smoking Area): 52.
2. Sari, M. P.' Smoking Behavior among Primary School Children (Case Study: TalangPito Village, Bermanillir District, Kepahiang District, Bengkulu Province)', Thesis. Faculty of Social Science and Political Science. Bengkulu University. 2014
3. WHO. WHO global report on trends in prevalence of tobacco smoking. 2015; Available from: https://apps.who.int/iris/bitstream/handle/10665/156262/9789241564922_eng.pdf;jsessionid=18318DE7B3C3CE50967CF3B71C8B4B5D?sequence =1.
4. Annisah, Gunawan IK, Budiman. Study of the Establishment and Application of No-Smoking Areas in Samarinda City. 2018; 6 (2): 657–68.
5. DINKES SULTENG. Health Profile of Central Sulawesi Province in 2011. Igarss 2014. 2014: (1): 1-5.
6. Faber T, Kumar A, Mackenbach JP, Millett C, Basu S, Sheikh A, et al. Effect of tobacco control policies on perinatal and child health: a systematic review and meta-analysis. Lancet Public Heal. 2017;2(9):420–37.
7. Hoffman SJ, Tan C. Overview of systematic reviews on the health-related effects of government tobacco control policies. BMC Public Health. 2015;15(1):1–11.
8. Han J, Chen X. A meta-analysis of cigarette smoking prevalence among adolescents in China: 1981–2010. Int J Environ Res Public Health. 2015;12(5):4617–30.
9. Xu X, Chen C, Abdullah AS, Liu L, Sharma M, Li Y, et al. Smoking related attitudes, motives, and behaviors of male secondary school students in an urban setting of China. Springerplus. 2016;5(1):1–9.
10. Teixeira C de C, Guimarres LSP, Echer IC. Factors associated with smoking initiation among school-aged adolescents. Rev GauchEnferm. 2017;38(1):69-077.
11. Mason J, Wheeler W, Brown MJ. The economic burden of exposure to secondhand smoke for child and adult never smokers residing in U.S. public housing. Public Health Rep. 2015;130(3):230–44.
12. Britton J. Smoke-free policy and child health. Lancet Public Heal. 2017;2(9):e392–3.
13. Katikireddi SV, Der G, Roberts C, Haw S. Has childhood smoking reduced following smoke-free public places legislation? A segmented regression analysis of cross- sectional UK school-based surveys. Nicotine Tob Res. 2016;18(7):1670–4.
14. Been J V., Nurmatov UB, Cox B, Nawrot TS, Van Schayck CP, Sheikh A. Effect of smoke-free legislation on perinatal and child health: A systematic review and meta-analysis. Lancet. 2014;383(9928):1549–60.
15. Lee, H. A., Park, H., & Jung-Choi, K. (2014). The effect of community-level smoke-free ordinances on smoking rates in men based on Community Health Surveys. Epidemiol Health, 36: e2014037.
16. Wijaya H. Factors Related to Behavior in Adolescents in RW 06 Kel. TamangapaKec. Manggala Makassar City. Thesis. 2014.