



## Analysis of the Implementation of Non-Smoking Area Policy in Madiun Middle Schools and High Schools

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<p><b>Track Record Article</b></p> <p>Accepted: 12 April 2023 Revised: 2 May 2023 Published: 26 June 2023</p> <p><b>How to cite :</b> Firayanti, Z., Widaningsih, Y., Kurniawan, L. B., Sanusi, H., Zainuddin, A. A., &amp; Esa, T. (2023). Analysis Of The Relationship Between HBA1C and Serum Galectin-3 Levels in Subjects With Type 2 Of Diabetes Mellitus. Contagion : Scientific Periodical of Public Health and Coastal Health, 5(2), 493–502.</p>	<p style="text-align: center;"><b>Abstract</b></p> <p><i>Indonesia became the second largest cigarette market in the world. Based on the 2018 Riskesdas data, the prevalence of smokers aged over 15 years was 33.8 percent Based on Madiun Regency Regional Regulation Number 10 of 2020 Concerning Non-Smoking Areas. The aim of this research is to find out about smoking-free area policies in junior high schools and high schools in Madiun City. The implementation of this research was carried out in January-February 2023 in the Madiun City Middle School and High School environment with the research subjects being 35 school principals or persons in charge of smoking-free areas in Middle and High Schools in Madiun City. The sampling procedure was proportional random sampling. collection of research data with primary data collected using a questionnaire Implementation of policies according to van horn and van meter theory. Data analysis in this study is multivariate analysis with multiple regression tests..The results showed that there was influence from the social, economic and political environment (p value 0.012), there was an influence on the implementor's position (p value 0.016), and there was no influence on the character of the executing agent (p value 0.837) in the Madiun City Middle School and High School environment. There is a need for support from the Education Office and the school itself, such as providing visual media as facilities and infrastructure that support the implementation of smoking-free areas and continuously socialize the dangers of smoking at every school meeting and ceremonial activities or morning assembly. This will play a role in making a policy easier to remember in the school community.</i></p> <p><b>Keyword: Implementation, No-Smoking Areas, Policy, Schools, Smoking</b></p>
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### INTRODUCTION

The tobacco epidemic is one of the world's greatest public health threats. In 2021, WHO stated that the tobacco epidemic killed around 8 million people each year. More than 7 million deaths are caused by smoking behavior, while 1.2 million deaths are caused by exposure to secondhand smoke which is caused by cardiovascular disease and respiratory problems (Sari et al., 2021). More than 16 million people in America are living with a disease caused by smoking. For every person who dies from smoking, at least 30 people live with serious smoking-related illnesses (Isra et al., 2018).

Exposure to secondhand smoke contributes to approximately 41,000 deaths among non-smokers adults and 400 deaths in infants each year (NCFP, 2020). Cigarette smoke causes stroke, lung cancer, and coronary heart disease in adults. Children exposed to secondhand smoke are at increased risk of sudden infant death syndrome, acute respiratory infections,

middle ear disease, more severe asthma, respiratory symptoms and slowed lung growth (Ardiana, 2021).

Indonesia became the second largest cigarette market in the world in 2018, Indonesia reached 316,1 billion sticks in 2018. The sales volume of cigarettes in Indonesia increased 32.8% compared to 2017 of 238 billion sticks (Widowati, 2019). Smokers at a young age have a very worrying condition because the younger the age of a person smoking, the smoking behavior will become a habit that will persist so that it will have an impact on increasing risks to health in the future. Data from the Global Youth Tobacco Survey revealed that the majority of students aged 13 to 15 years in 2014 were 18.3% in 2019, increasing to 19.2%. The number of male student smokers in 2014 was 33.9%, in 2019 it increased to 38.3%. Whereas the number of female student smokers in 2014 was 2.5%, in 2019 it decreased to 2.4%. 6 out of 10 students aged 13-15 years are exposed to secondhand smoke at home. Meanwhile, 7 out of 10 students aged 13-15 years are exposed to cigarette smoke in public places. And 1 in 2 students aged 13-15 see people smoking at school (WHO, 2020).

Based on the 2018 Riskesdas data, the prevalence of smokers aged over 15 years was 33.8 percent, namely 62.9 percent for men and 4.8 percent for women. Meanwhile, in the previous data, namely the 2013 Riskesdas, the highest percentage of active smokers occurred in productive age, namely 33.4 percent of 30-34 years and 32.2 percent of 35-39 years of age (Kemenkes RI, 2018).

East Java Province is one of the provinces in the top 5 smokers aged >15 years. The number of smokers aged >15 years in East Java province in 2020 will reach 27.5%, while in 2021 there will be an increase to 28.5%. So that in 2020-2021 there will be an increasing trend of smokers occurring in the population aged >15 years (BPS Jawa Timur, 2021). The percentage of residents in Madiun City aged 15-24 years who smoke daily is 20.6%, aged 24-34 years is 36.5% and aged 45-54 years is 28.7%. Meanwhile, the average per capita expenditure in a month for the population of Madiun City in consuming cigarettes was 39,886 in 2017 and there was an increase to 48,328 in 2018 (BPS Jawa Timur, 2018). Based on the Regulation of the Minister of Education and Home Affairs of the Republic of Indonesia Number 64 of 2015 concerning Non-Smoking Areas in School Environments, a non-smoking area is a room or area that is declared prohibited for smoking activities or activities for producing, selling, and/or promoting cigarettes. The non-smoking area aims to create a clean, healthy and smoke-free school environment (Permendikbud, 2015).

The density of cigarette sellers in educational facilities has a significant relationship with smoking behavior among educators, with a distance of 100 m that is close to cigarette sellers

in the school environment indicating that teenagers have the opportunity to smoke. (Adisasmito et al., 2020). The large number of cigarette sellers around the education sector such as in school facilities makes it easier for teenagers to buy cigarettes, found an average density of 1.1 cigarette sellers within 100 m close to schools and the number of cigarette sellers displaying cigarette advertisements in shops they (Dewi et al., 2020).

Based on Madiun Regency Regional Regulation Number 10 of 2020 Concerning Non-Smoking Areas in Article 3 paragraph 1 that the Places and/or areas designated as of a smoke-free area include: health service facilities; place of teaching and learning process; a place for children to gather and play; places of worship, public transportation; workplace; and public places. The implementation of the Smoking Areas and the imposition of action sanctions have officially started since it was officially promulgated. Based on the high percentage of smoking at the age of 15-24 years and the existence of regional regulations governing smoking-free areas in Madiun City, one of which is smoking-free areas in schools, this study aims to determine the factors that influence the implementation of smoking-free area policies in junior high schools and SMA in Madiun City.

## **METHODS**

This type of research is a quantitative analytic research with a cross sectional research design. Sampling was carried out by means of a total sample. The aim of this research is to find out about smoking-free area policies in junior high schools and high schools in Madiun City. The implementation of this research was carried out in January-February 2023 in the Madiun City Middle School and High School environment with the research subjects being 35 school principals or persons in charge of smoking-free areas in Middle and High Schools in Madiun City.

The sampling procedure was proportional random sampling, so that 35 samples were obtained. Data collection procedures are taken from primary data. The measuring tool used in the form of a questionnaire to assess the implementation of smoking-free area policies is a questionnaire. Implementation of policies according to van horn and van meter theory.

Data analysis in this study is multivariate analysis with multiple regression tests used to find the most dominant risk factors for the implementation of smoking-free area policies in schools (Hardani et al., 2020). Data analysis was performed using software IBM Statistical Product and Services Solution (SPSS) 21. The research has received an ethical certificate from the Ethics Commission of the Faculty of Public Health, Diponegoro University with an ethical approval letter number 392/EA/KEPK-FKM/2022.

## RESULTS

**Table 1. Frequency Distribution of Non-Smoking Area Policy in Middle Schools and High Schools in Madiun City**

Variable	Category			
	Yes		No	
	f	%	f	%
<b>Executing agent character</b>				
There is a briefing on the implementation of the smoke-free area from the Madiun city government	35	100	0	0
Has socialization been carried out by the health/education office regarding smoking-free areas	35	100	0	0
1	32	91,4		
>1	3	8,6		
There is regular monitoring and evaluation carried out in the implementation of smoking-free areas	34	97,1	1	2,9
Internal deliberation	28	80	7	20
Monthly regular meeting	14	40	21	60
Committee meeting	2	5,7	33	94,3
1	27	80		
>1	7	20		
<b>Social, economic and political environment</b>				
Parents of students support the implementation of a smoking-free area	35	100	0	0
Forbid children to smoke				
Providing assistance related to funds or infrastructure (banners, brochures, posters and smoking ban)	3	8,6	32	91,4
Supporting the existence of sanctions for violating of a smoke-free area rules in schools	35	100	0	0
The school once worked with a tobacco company	1	2,9	34	97,1
Sponsorship of school activities/internships	1	2,9	34	97,1
Scholarship	0	0	35	100
Support for school infrastructure	0	0	35	100
There is support from the school committee in implementing smoke-free areas	35	100	0	0
Agree to the rules of no-smoking areas in schools	35	100	0	0
Providing infrastructure assistance	16	45,7	19	54,3
Support by not smoking in the school environment	26	74,3	9	25,4
<b>Implementor's Disposition</b>				
Implementation of smoke-free areas is important	35	100	0	0
Creating a clean space and environment	6	17,1		
Providing protection to the public from the adverse effects of smoking, both directly and indirectly	26	74,3		
Creating public awareness for healthy living	3	8,6		
Do you give an appeal not to smoke in school	35	100		
Give an appeal for smoking ban at every morning assembly/ceremony	22	62,9	13	37,1
Give a warning to teachers who smoke at school	34	97,1	1	2,9
Reprimands to agencies that advertise or promote tobacco products in the school environment	29	82,9	6	17,1
Have you ever socialized of a smoke-free area to the school community?	25	71,4	10	28,6
When still smoking in the school environment	35	100	0	0
Not listening to your rebuke	31	89,6	4	11,4
Fight when you get a warning	22	62,9	13	37,1

This research involved 35 junior and senior high school principals in Madiun City. The frequency distribution information used in this study is the questions for each variable. An overview of the frequency distribution is presented in Table 1. Table 1 shows that on the variable characteristics of implementing agents all junior and senior high schools in Madiun City have received direction and outreach about smoke-free areas from the regional

government or the Health Service. Schools that have implemented of a smoke-free area socialization or direction of 91.4%. However, only 8.6% of schools carry out socialization more than once a year.

The social, economic and political environment variables are mentioned that all parents of students support the implementation of smoking-free areas by prohibiting children from smoking by 97.1%, all parents of students support sanctions and 8.6% of student parents provide support in the form of assistance related to funds or infrastructure. There was 1 school (2.9%) that had worked with a cigarette company. This cooperation is in the form of sponsoring school activities/internships, in addition to the support of parents, support is also provided by the school committee in the form of agreeing to the existence of a smoking-free area, supporting by not smoking in the school environment 74.3% and 45.7% of school committees providing support in the form of infrastructure.

In the implementor disposition variable, it was found that all implementers or persons in charge of smoking-free areas stated that smoking-free areas were important because provide protection to the public from the adverse effects of smoking, both directly and indirectly (74.3%). Headmaster have given warnings about smoking bans through morning apples by 62.9%, given warnings to teachers who smoke at school by 97.1% and given warnings to bodies that advertise or promote tobacco products in the school environment by 82.9%. The results of the study showed that 71.4% of school principals or persons in charge at schools had provided socialization about smoking-free areas. In all junior and senior high schools, 89.6% of schools stated that expulsion was carried out when they did not listen to a reprimand, but only 62.9% of schools stated that they ordered everyone who did not heed the warning to leave school when they resisted when they were given a reprimand.

This study used multiple regression tests to find the most dominant risk factors for school adherence to implementing smoking-free areas in junior and senior high schools in Madiun City.

**Table 2. Factors Influencing the Implementation of Smoking-free area Policies in Junior and Senior High Schools in Madiun City**

Dependent Variable	r	P-Value	95,0% Confidence Interval for B	
			Lower Bound	Upper Bound
Executing agent character	0.020	0.873	-.402	.470
Social, economic and political environment	0.357	0.012	.104	.770
Implementor's Disposition	0,286	0,016	.050	.448

The results of the analysis show that the variables related to school compliance with smoking-free areas are the social, economic and political environment with a p value of 0,012

and the position of the implementer with a p value of 0.016. The strength of the relationship can be seen from the standard coefficient value, namely the Odds Ratio value of 0.357 for the socio-economic and political environment, 0.286 for the implementor's disposition. The results of the multiple regression test obtained OR <1 and 95% CI did not reach a value of 1, so the variables of the social, economic, political and implementor dispositions were the most dominant risk factors in this study.

## DISCUSSION

The focus of attention on implementing agencies includes formal organizations and informal organizations that will be involved in implementing policies. This is important because the performance of policy implementation will be greatly influenced by the exact characteristics that match those of the implementing agents. This is related to the policy context that will be implemented in several policies which require strict and disciplined policy implementers (Waluyo, 2007).

School as a strategic place in shaping the behavior of students not to smoke. One of the creation of environmental conditions that allow students not to smoke is by implementing the school environment as a smoke-free area (Suhartini et al., 2019). According to the Guidelines for the Development of Smoke-free Areas of the Ministry of Health of the Republic of Indonesia, that schools should fulfill several things in order to be able to implement smoking-free areas effectively, namely forming committees or working groups for drafting policies for smoking-free areas in schools, in the committee or working group a non-smoking area supervisor will be formed. cigarettes which directly oversees the implementation of the Smoking Free Area in schools. Based on the monitoring activities for the smoke-free area, monitoring and evaluation of the implementation of the smoke-free area can be carried out (Kementrian Kesehatan RI, 2011).

In accordance with the theory of policy implementation that important resources in policy implementation include a sufficient number of staff with adequate expertise, adequate and relevant information regarding policy implementation instructions, authorities who ensure that the policy is implemented in accordance with what is the target and purpose of policies, as well as supporting facilities, including facilities/infrastructure, and activities to provide public services. Schools must have guidelines containing information on how to implement smoking-free areas (Khairatunnisa et al., 2021). Violations of smoking-free areas must be followed up with the use of appropriate approvals for handling smoking-free areas, for students as well as for educators and guardians of students who smoke in the school environment, implementation

of regulations for increasing smoking-free areas, in particular using authorization according to relevant guidelines for smoking-free areas (Syatriani et al., 2022).

In implementing the smoking-free area policy in Junior and Senior High Schools Madiun City, there has been support from the social, economic and political environment. This support is in the form of parents of students supporting the implementation of smoking-free areas by prohibiting children from smoking and several parents providing infrastructure assistance. In addition to the support of parents and students, the school committee also provided support in the form of agreeing to the existence of a smoking-free area and supporting no smoking in the school environment.

Economic, social and political conditions, including the environment that can support the successful implementation of smoking-free area policies. This is in line with Yossie Ria's research (2017) concerning "Analysis of CSR Implementation and Its Impact on the Socio-Economic Life of the Community" stating that there is a good relationship with the two scholarship recipients from CSR and provides good family insight. In other words, the environmental conditions in question are the extent to which the external environment contributes to the success of public policies or programs that have been set (Ria, 2019).

The characteristics of the implementor will greatly influence policy implementation. This is related to the attitude of the implementer who personally supports or does not have a smoking-free regional policy. The implementers referred to in the regional regulations for smoke-free areas here are the ranks of the junior and senior high school learning community in Madiun City, starting from the highest, namely the principal, vice principal of student affairs and teachers. The tasks carried out are mandated by the rules made by the Legislature together with the Executive, so it can be said that this is not the will of the implementer. So that people who are included in the ranks of implementers must be people who personally or from within each of them have dedication, loyalty and responsibility for the implemented policies (Siregar, 2022).

Research result Nasyyah et al., (2022) disposition of policy implementers with the support of the principal and his staff coupled with school regulations and rules of conduct that are made, such as giving warnings to students who violate the rules, the will and desire of the implementers is with the aim of being free from cigarette smoke and being able to reduce smoking number of smokers at school, then adopt a healthy lifestyle. But there are still those who violate the rules by imposing sanctions of reprimand and calling parents, there are still people who smoke in the school environment, even though the teacher council has worked as much as possible. There is support from the school leadership and staff with the existence of

rules of conduct that are made, giving warnings for those who violate them, supporting students by obeying the rules and reprimanding if someone violates them. If there is another violation, it should be followed up (Yanthi et al., 2021).

The school principal has responsibility for the implementation of the smoking-free area policy in collaboration with all levels of the academic community making various efforts to socialize the contents of the smoking-free area policy to all employees, students and the surrounding community who as the target group, installing socialization media in the form of stickers prohibiting smoking and signs for smoking-free areas, to repressive measures in the form of imposing sanctions (Winarno, 2008).

The social environment, economic resources or capital are needed to support the success of the policy. Large capital will provide good support in the success of the policy. The social environment, is something related to society. The community in question is the community around the learning community including parents of students. In addition, an educated community will also provide support for the successful implementation of the policy. Political Environment, Politics can be interpreted as something that is closely related to issues of power, decision-making, public policy and the allocation or distribution in the implementation of policies related to the implementation of smoke-free areas.

## CONCLUSIONS

There are factors that influence school adherence to implementing smoke-free areas, namely the social, economic and political environment and there is an influence on the implementor's position. So that the social, economic, political and dispositional environmental variables of the implementor have a significant partial effect on school compliance implementing smoking-free areas in Madiun City.

Quality policies will not succeed when implementing policies in an environment that is not conducive to efforts to achieve these policy objectives. Therefore, to support the creation of good smoking areas in Madiun middle and high schools, it is necessary to have support from the education office as well as the schools themselves, such as providing media visual as facilities and infrastructure that support the implementation of smoking-free areas and continuously socialize the dangers of smoking at every school meeting and ceremonial activities or morning assembly. This will play a role in making a policy easier to remember in the school community.

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