

Perceived community support about the implementation of a smoke-free environment regional regulations in the Tegal municipality

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A – Study Design, **B** – Data Collection, **C** – Statistical Analysis, **D** – Data Interpretation, **E** – Manuscript Preparation, **F** – Literature Search, **G** – Funds Collection

Summary Background. A smoke-free environment regional regulation is expected to greatly decrease the negative impact of cigarette smoking in public places; however, community perception of the regulation prior to its implementation remains unclear.

Objectives. This research aims to determine community perception and support for the implementation of a smoke-free environment regional regulation in the Tegal municipality.

Material and methods. A quantitative study with a cross-sectional approach was conducted in seven zones identified as smoke-free environments under Government Act No. 36 of 2009. Perception and support were determined through surveys using an accidental sampling framework. A total of 226 samples were collected to explore community perception of the demands, obstacles and opportunities surrounding the implementation of a smoke-free environment regional regulation in the Tegal municipality.

Results. This study shows that 84.50% of the respondents agreed with (84.50%) and completely (84.96%) supported the implementation of a smoke-free environment regulation in the Tegal municipality. In fact, most of the respondents with an active smoking status (62.50%) also agreed with and supported this regulation. Support for implementation of a smoke-free environment regional regulation was mainly determined by age group. The elderly and adult age group supported the implementation of such a regulation more than the adolescent age group. Furthermore, respondents with fair knowledge, attitude and commitment were 14 times more supportive of the implementation than those with poorer knowledge, attitude and commitment.

Conclusions. This research shows that those with an active smoking status also support this regional regulation, which indicates that active smokers understand the importance of protecting people around them from cigarette smoking.

Key words: public health, tobacco, Indonesia.

Veruswati M, Asyary A, Sucipto E, Sulistiadi W, Ahsan A. Perceived community support about the implementation of a smoke-free environment regional regulations in the Tegal municipality. *Fam Med Prim Care Rev* 2020; 22(3): 222–227, doi: <https://doi.org/10.5114/fmpcr.2020.98250>.

Background

In an effort to control tobacco consumption, Indonesia has implemented regulations in line with the smoke-free environment policy under the Indonesian government's Act No. 36 of 2009, article 115, paragraph 1, in seven environments/zones [1]. These environments consist of health-care facilities, learning and educational places, kids' playgrounds, worship locations, public transport, workplaces and other public zones. In article 2 of this regulation, the government also mandates every local government to identify smoke-free environments in their territories [1]. Smoke-free environments are any zones where smoking, producing, selling, advertising and promoting tobacco products are prohibited [2, 3].

The establishment of Indonesia's smoke-free zones has become the only real effort to protect those who suffer from the negative impact of smoking, especially second-hand smokers [2]. However, only 111 of 518 municipalities have implemented this smoke-free zone regulation [4]. Meanwhile, only 9 of 35 municipalities in the Jawa Tengah province have set smoke-free zones, and Tegal is one of those that have yet to implement the policy [5].

Through mass media and grassroots communities, Tegal citizens have expressed their desire for smoke-free fresh air, especially in public spaces [5]. The Tegal municipality has an immense opportunity to successfully implement the smoke-free zone regulation, as most of its population are sympathisers of Nahdlatul Ulama (NU), an organisation that promotes health discipline activities. Fatayat NU, NU's official organisation for



women, has long been known for spearheading activities that champion health promotion and encourage communities to demand a smoke-free zone policy as a preliminary effort in gaining a thriving territory for mankind [6, 7].

On the other hand, smokers believe that their habit would not have a negative impact on their health. They state that by having a particular kind of cigarette, smoking would be safe for their health and the health of others [8]. Subsequently, overestimation of lifetime smoking appears to alleviate the effects of environmental smoking (peers, best friends and parents) among adolescents [9]. Specifically, strong and consistent perception-level evidence shows that willingness to smoke is associated with a smoke-free environment policy. It increases smoking cessation and decreases cigarette consumption among adult smokers [10].

Objectives

This study demonstrates the need for smoke-free zones in the Tegal municipality, which have not been initiated by any parties yet. This research aims to determine community perception and support for the implementation of a smoke-free environment regulation in the Tegal municipality.

Material and methods

Study design

A quantitative study with a cross-sectional approach was conducted in seven zones identified as smoke-free environments under Government Act No. 36 of 2009.

Setting

Seven areas of smoke-free zones comprised of health care facilities, educational places, playgrounds, worships, mass transportations, workplaces and public places. The Tegal municipality is a rural area located in the Central Java province of Indonesia. The study was initiated in September 2017 and approved in early October 2017. The duration was three months, from mid-October to December 2017.

Participants

The eligibility criteria for this study consist of the following: (a) the participant resides in one of the seven areas of the study's setting, (b) the participant is a registered Tegal municipality citizen, (c) the participant is 18 years of age or older and (d) the participant consents to participate in the study by signing a letter of informed consent. All these criteria were required from each participant.

Variables

This study has two variables: (1) independent variables, which include characteristics (age, gender, education level, occupation and smoking status) and knowledge, attitude and commitment of the respondents, as well as (2) the support of the respondents. The operational definition of the variables takes into account the demographic information of the participants, which may reflect their exact perception (knowledge, attitudes and commitment) of the implementation of a smoke-free environment policy in the Tegal municipality.

Data sources/measurement

The characteristics of the respondents were measured using a demographic-structured questionnaire, while their perceptions were determined using a Likert scale quantitative-structured perception questionnaire.

Bias

As this research was using a cross-sectional, this research's study design has disadvantage of measuring exact outcomes from exposure with a one-shot time measurement of independent and dependent variables, data collection for this study is concerned with the research instrument. A quantitative-structured questionnaire was previously tested using a validity and reliability assessment in other settings. The validity and reliability assessment of the research instrument was determined using Cronbach's alpha. The result showed that the items in the questionnaire are valid and reliable and would obtain appropriate and constant information for the study.

Study size

A total of 226 samples were selected for this study, which represented all of the Tegal municipality's communities as part of a population study. Accidental random sampling with a WHO-Lemeshow sample size obtained 210 samples with 10% added, hindering abnormal data distribution (outlier effects).

Quantitative variables and statistical methods

Multiple logistic regression was performed to analyse the data set and check its normality distribution and interaction and determined whether confounding existed. This research was conducted from October to December 2017 and was granted ethical approval legally by the Health Ethical Committee of Muhammadiyah University of Prof. Dr. Hamka: No. 145/KEK/IV/2017.

Results

Participants, descriptive data and outcome data

Respondents characteristics

A total of 113, or 43.6%, of the samples had graduated from high school, while 7.5% did not have formal education. 72 of them also had worked as entrepreneurs, while 50 were not working or students. The number of respondents with an active smoker status was 92, or 40.7%, while that of the non-smokers was 134, or 59.3% (Table 1).

Characteristics	Amount (n = 226)	Proportion (%)
Age		
adolescent (≤ 9 years old)	17	7.5
adult (20–55 years old)	188	83.2
elderly (≥ 56 years old)	21	9.3
Gender		
male	170	75.2
female	56	24.8
Educational level		
did not graduate elementary school	17	7.5
elementary school	19	8.4
junior high school	39	17.3
senior high school	113	50.0
higher education (diploma and above)	38	16.8
Occupational status		
not working/students	50	22.1
civil servant/police/military	32	14.2
entrepreneur	72	31.9
private sector employee	71	31.4
retired	1	0.4
Smoking status		
yes	92	40.7
no	134	59.3

Knowledge, attitude, commitment and support

Based on the results below, most of the respondents have poor knowledge and attitude toward the smoke-free environment regulation. However, most of them are willing to be fostered as a form of approval and support for the smoke-free environment regulation (Table 2).

Knowledge, attitude, commitment and support	Amount (n = 226)	Percentage (%)
Knowledge about smoke-free environments		
poor	145	64.2
fair	81	35.8
Attitude toward smoke-free environments		
poor	165	73.0
fair	61	27.0
Will attend if there is any socialisation about the implementation of the smoke-free environment regulation		
yes	155	68.6
no	71	31.4
Will allow an officer to visit and implement the smoke-free environment regulation		
yes	158	69.9
no	68	30.1
Will entirely approve of the implementation of the smoke-free environment regulation		
yes	191	84.5
no	35	15.5
Will support if there are any efforts around the neighbourhood about the smoke-free environment regulation		
yes	168	74.3
no	58	25.7
Will entirely support the implementation of the smoke-free environment regulation		
yes	192	85.0
no	34	15.0

Main results

Inferential analysis of the perception of community support

Age was the most dominant characteristic in the status of support for the implementation of the smoke-free environment regulation in the Tegal municipality. The elderly and adults showed higher support (19.5 and 9 times higher, respectively) compared with the young age group. However, the majority (70.6%) of young people tended to support the existence of the policy (Table 3).

Meanwhile, the number of non-smokers in the Tegal municipality who supported the implementation of the smoke-free environment regulation was 10 times greater than that of smokers. However, based on existing proportions, 65.2%, or most smokers in the Tegal municipality, agreed to the enactment of the smoke-free environment regulation. Active smokers' awareness of the importance of protecting the people surrounding them from the dangers caused by cigarette smoking was highly valued based on the results of the study.

In addition, willingness to be fostered at home by officers as a form of commitment had an impact that resulted in support that was eight times higher for the implementation of the smoke-free environment regulation in the Tegal municipality

compared with those who were not committed. Likewise, fair knowledge and attitude, which were 6 and 14 times higher, respectively, indicated greater support for the existence of the regulation compared with those who fared poorly in these variables. This shows that the people of the Tegal municipality are well informed, behaved and committed to fully supporting the implementation of the smoke-free environment regulation in their municipality (Table 3).

Discussions

Key results

This study shows that most smokers are those with aged above 20 years old. As regards employment status, active smokers tend to work as private employees and have high school education. These results indicate that each individual has rights guaranteed by the constitution as regards obtaining education and decent work for their livelihood. Studies on socioeconomic characteristics indicate that an individual's attitude or behaviour is formed by adapting and giving rise to a constellation of behaviours in society [11, 12].

The tendency and distribution of the active status of smokers in public areas in the Tegal municipality reinforces the paradigm that smoking is associated with the socioeconomic capacity of each individual and is not categorised by cultural assimilation. In other words, smoking is not a culture that arises as a norm and a value of the people of the Tegal municipality, but rather as a deviant behaviour of each individual.

Limitations of the study

The research design cannot accommodate the precise perceptions of all stakeholders in the Tegal community. These perceptions are usually reflected by the local government of the Tegal municipality and mass organisations, which are composed of nongovernment and religious organisations, such as Muhammadiyah, NU, Fatayat NU, Muslimat NU and so on. However, this study comprehensively provides segmented community perceptions that were randomly obtained from seven smoke-free environments. This information could serve as a guide in looking for stakeholders' perspectives and providing sufficient information to prepare family doctors who initiate smoking cessation programmes in the community.

Interpretation

This study shows the recessive proportion of active smokers in adolescence (< 19 years); however, even the smallest percentage will always be a focus in controlling the adverse effects of smoking [13–15]. This population, targeted by the tobacco industry, provides a very important bargaining pattern in policies surrounding tobacco control around the world [16, 17], including Indonesia [18, 19]. In fact, restricting the sale of cigarette based on age and open commercial trade in stores is still ineffectively conducted which the sale of cigarette per cigar by the non-formal roadside supplier without age restriction (*ketengan*) is a real day-to-day practice in most parts on Indonesia [20], a country that has not ratified the Framework Convention on Tobacco Control.

This study shows that adult and advanced age, passive smoking status, good knowledge, good attitude and willingness to be fostered in the framework of implementing the smoke-free environment regulation are factors that support the implementation of the regulation in the Tegal municipality. Support for the implementation of a system or regulation will always be influenced by the characteristics, level of knowledge and education of each individual [21, 22]. The characteristics of individuals in this study, such as age and smoking status, are significantly associated with support for the smoke-free environment regulation.

Variables	Entirely supports the implementation of the smoke-free environment regulation		Chi-square (bivariate)			Multiple logistic regression (multivariate)		
	No.	Yes	<i>p</i>	PR _{crude}	CI 95%	<i>p</i>	PR _{adj}	CI 95%
Age								
adolescent (≤ 19 years old)	5 (29.4)	12 (70.6)	0.133	Ref	Ref	0.039	Ref	Ref
adult (20–55 years old)	28 (14.9)	160 (85.1)	0.128	2.381	0.779–7.282	0.016	9.116	1.512–54.967
elderly (≥ 56 years old)	1 (4.8)	20 (95.2)	0.066	8.333	0.867–80.113	0.043	19.476	1.098–345.364
Gender								
male	34 (20.0)	136 (80.0)	0.001	0.800	0.742–0.862	NA	NA	NA
female	0 (0.0)	56 (100.0)						
Educational level								
did not graduate elementary school	0 (0.0)	17 (100.0)	0.629	0.000	0.000-NA	NA	NA	NA
elementary school	4 (21.1)	15 (78.9)	0.998	0.000	0.000-NA			
junior high school	6 (15.4)	33 (84.6)	0.998	0.000	0.000-NA			
senior high school	21 (18.6)	92 (81.4)	0.998	0.000	0.000-NA			
higher education (diploma and above)	3 (7.9)	35 (92.1)	0.998	0.000	0.000-NA			
Occupational status								
not working	5 (10.0)	45 (90.0)	0.365	0.607	0.248–1.486	NA	NA	NA
worker	29 (16.5)	147 (83.5)						
Smoking status								
yes	31 (33.7)	61 (66.3)	0.000	15.051	4.742–47.770	0.002	10.199	2.383–43.648
no	3 (2.2)	131 (97.8)						
Knowledge about smoke-free environments								
poor	32 (22.1)	113 (77.9)	0.000	8.938	2.199–36.334	0.028	6.177	1.211–31.491
fair	2 (2.5)	79 (97.5)						
Attitude toward smoke-free environments								
poor	33 (20.0)	132 (80.0)	0.001	12.200	1.705–87.276	0.018	14.040	1.575–125.195
fair	1 (1.6)	60 (98.4)						
Will attend if there is any socialisation about the implementation of the smoke-free environment regulation								
yes	24 (33.8)	47 (66.2)	0.000	5.329	2.649–10.364	NA	NA	NA
no	10 (6.5)	145 (93.5)						
Will allow an officer to visit and implement the smoke-free environment regulation								
yes	25 (36.8)	43 (63.2)	0.000	6.454	3.183–13.087	0.000	8.090	2.856–22.913
no	9 (5.7)	149 (94.3)						

PR – prevalence ratio; CI – confidence interval; Ref – reference; NA – not available.

Similar to the approval factor for the implementation of the smoke-free environment regulation, an active smoking status is significantly related to not supporting the regulation's implementation. This support will usually be followed by the process of agreeing. Based on the concept of behaviour, an individual activity that will influence the community is based on trigger factors and reinforcement [23]. The behaviour of not supporting the implementation of the smoke-free environment regulation is due to disapproval, which has been explained according to previous findings, where the natural factors described above are the cause of active smokers disagreeing with the regulation.

Likewise, the status of knowledge lacks support for the implementation of the smoke-free environment regulation. This result agrees with previous findings as a factor that determines agreement with the implementation of the policy in the Tegal municipality. The tendency to agree with and support the implementation is determined by the status of community knowledge [14]. Besides the importance of socialisation for this

issue, as discussed above, increasing knowledge about tobacco regulation and control will also determine the health service behaviour taken (health-seeking behaviour), especially for primary health services [24].

Generalisability

The Tegal municipality is a rural area in the Central Java province in Indonesia [5]. This province is the third biggest community in the country, which is enough to represent the most populous community in Indonesia [25]. At the same time, Indonesia is also known as a progressive country that is step-by-step experiencing sustainable economic development, which is related to the tobacco control programme and the community's perception of it [26, 27]. Since this study was conducted in a middle-income country, its findings can be generalised in similar settings in most Asian, South American and Eastern European countries [28, 29], including Poland, which have had

harmonious bilateral collaboration for more than 66 years with Indonesia [30]. Furthermore, Indonesia and Poland have an identical democratic process order [31], cultural richness and country symbolisation [32].

Conclusions

This research is the first study about tobacco control in the Tegal Raya Regency. It shows that all components of a community, including most smokers, completely support the implementation of the smoke-free environment regulation in the

Tegal municipality. Furthermore, a study is needed to explore policymakers' perceptions about the full implementation of the regulation in the Tegal municipality.

Acknowledgments. This study was funded by the Indonesian Tobacco Control Research Network, Bloomberg – John Hopkins School of Public Health, collaborating with the Demographic Institute, University of Indonesia (LD FE-UI). We would like to thank the Tegal municipality local government, the contributors and our field enumerators: Mr. Didik Rianto, Ms. Agustin Putri and Ms. Tesya.

This study was funded by the Indonesian Tobacco Control Research Network, John Hopkins Bloomberg School of Public Health, collaborating with the Demographic Institute, Universitas Indonesia (LD FE-UI). The publication is also supported by the PUTI Q3 2020 Grant, Directorate for Research and Development, Universitas Indonesia (Risbang UI), No. NKB-1932/UN2.RST/HKP.05.00/2020 (Recipient – Dr. Al Asyary). Conflicts of interest: The authors declare no conflicts of interest.

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Received: 19.09.2019

Reviewed: 24.09.2019

Accepted: 26.02.2020

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