THE IMPACT OF HEALTH PROMOTION VIA INSTAGRAM ON KNOWLEDGE AND ATTITUDE TOWARD SMOKE-RESTRICTED AREA OF STUDENTS OF PUBLIC HEALTH FACULTY OF STIKES WIJAYA HUSADA BOGOR

Beny M P Simanjutak*, Rosalina, Tety Novianty, Rachmy Setyasari

Wijaya Husada Health Institute
Jl. Letjend Ibrahim Adjie, No. 180, Sindang Barang, Bogor, West Java, Indonesia
*corresponding author: wijayahusada@gmail.com

ABSTRACT

Smoke-Restricted Arearefers to a room or an area where it's prohibited to do the act of smoking, or produce, sell, advertise, and/or promote tobacco/cigarette products. Since 2009, Bogor City has established a Regional Regulation (Peraturan Daerah) Number 12, Year2009, About Smoke-Restricted Area and it changed to Regional Regulation Number 10, Year 2018. Knowledge and attitude of the Bogor City citizens toward the Smoke-Free Area regulation are needed to contribute to the success of the regulation. Knowledge of this regulation can be spread by various ways, one of them is bya process of education or by health promotion using Instagram. This research has a purpose to find out the impact of health promotion via Instagram on knowledge and attitude toward Smoke-Restricted Area of students of Public Health Faculty of STIKes Wijaya Husada of Bogor City Year 2019.

The research method used is quantity method. The research design is Quasi Experimental with the approach of non-equivalen control group. This research was conducted in Faculty of Public Health of STIKes Wijaya Husada Bogor from August the Thirteen to September the One, 2019, with 32 respondents, using systematic sampling.

The result before and after health promotion using wilcoxon test is 0.0 and 0,001,. The mann-whitney testwith significance level of 0.05 shows p value for knowledge is 0.008 and for attitude is 0.030. Because means p value < 0.05, therefore there is an impact of health promotion via Instagram on knowledge and attitude toward Smoke-Restricted Area of students of Public Health Faculty of STIKes Wijaya Husada of Bogor City.

The result shows that health promotion via Instagram impacts knowledge and attitude toward Smoke-Restricted Area of students of Public Health Faculty of STIKes Wijaya Husada of Bogor CityYear 2019.

Keywords   : Smoke-Free Area, Health Promotion, Instagram.

INTRODUCTION

The number of smokers around the world is increasing, from data *World Health Organization* (WHO)in 2013, nearly two-thirds of smokers worldwide live in 10 countries, namely in China, India, Indonesia, Russia, United States, Japan, Brazil, Bangladesh, Germany and Turkey. An estimated 900 million or 84% of the world's smokers live in developing countries. Based on a survey of deaths due

to smoking in 2020, there are 8.4 million deaths in the world population every year, and in 2030 it will reach 10 million people. This will increase if it is not handled immediately.[1][2]

Indonesia is in the 3rd position with the largest number of smokers in the world after China and India and remains the 5th largest cigarette consumer after China, the United States, Russia and Japan in 2007. More than 40.3 million Indonesian children aged 0- 14 years died with smokers and was exposed to secondhand smoke in the environment. Based on the 2018 Basic Health Research (Riskesdas) data, the prevalence of tobacco consumption among the population 15 years and over has decreased from 2016, although from 2007, 2010 and 2013 it tended to increase from 34.2% in 2007, in 2010 to 34 , 3%, and increased by 36.3% in 2013. In 2016 it decreased to 32.8% but the prevalence of tobacco consumption increased in 2018 to 33.8%. 62.9% men and 4.8% women still consume tobacco in 2018.[4][The]

number of smokers every day and sometimes in West Java in 2018 reached 32%. West Java Province has the highest rank of daily smokers and sometimes at the age of 10 years and over. It is not denied that the existence of this data shows that the number of smokers in West Java is very large.[3]

In this case the government seeks to formulate various regulations and policies that can be implemented in overcoming the harmful effects of smoking, including through Health Law No. 36/2009. Based on these various policies, one of the policies that must be implemented by all regions in Indonesia is to establish a No Smoking Area (KTR) which can be started from health, education and other public places institutions. This is in accordance with Health Law no. 36/2009 article 115 paragraph 2 which states that "Local governments are required to establish smoking-free areas in their regions".[5]

Non-smoking area (KTR) is a room or area that is declared prohibited from smoking or producing, selling, advertising and / or promoting tobacco products. Meanwhile, a special smoking area is a room designated specifically for smoking activities that is inside the KTR. The aim of implementing KTR in general is to reduce the number of morbidity and mortality due to smoking, whereas in particular, the application of KTR can help to create a clean, healthy, safe and comfortable environment; provide protection for non-smokers; reduce smoking rates; prevent newbie smokers and protect the younger generation from the abuse of Narcotics, Psychotropics and Addictive Substances (Drugs).[3]

Since 2009 the City of Bogor has enacted Regional Regulation Number 12 of 2009 concerning Non-Smoking Areas and has undergone changes to the City Regulation of Bogor Number 10 of 2018 and Regulation of the Mayor of Bogor Number 7 of 2010 concerning Guidelines for Implementing Regional Regulations on Non-Smoking Areas. According to Perda No. 12/2009 concerning KTR Article 7 paragraph (2), Smoking Free Areas as referred to in paragraph (1) include public places, workplaces, places of worship, places to play and / or gather for children,

public transport vehicles, and the environment. a place for the teaching and learning process, health facilities and sports facilities.[6]

Application of No Smoking Areas (KTR) which has existed since 2009 is echoed and implemented in 8 (eight) areas in Bogor City. However, based on the Health profile of the City of Bogor in 2017, the compliance of the 8 No Smoking Areas with the Bogor City Regional Regulations shows that 64.2% of the people of Bogor City comply with the prohibition of smoking in Smoking Free Areas, but as many as 35.8% of the people of Bogor City do not comply with the prohibition. . The data concludes that one third of Bogor City residents do not comply with the rules of the No Smoking Area.[7]

Smoking behavior in adolescents generally increases according to their developmental stage and often results in them experiencing nicotine dependence. Knowledge and attitudes towards the dangers of smoking and the existence of this No Smoking Area regulation need to be known because it will affect the success of the policy. Knowledge can be obtained in various ways, including the learning process of information obtained by a person, direct experience or from other people's experiences and the process of education or health promotion education through Instagram. By knowing how much knowledge that person has about the dangers of smoking and smoking-free areas, then this will affect a person's attitude towards the No Smoking Area Policy (KTR).[8]

The internet is one of the information media that is widely used by teenagers today. The results of a survey conducted by the Indonesian Internet Service Providers Association (APJII) in 2016 found that 132.7 million or around 51.8% of Indonesia's population used internet services. 75.5% of internet users are aged 10-24 years. The type of content accessed by the most internet users was social media, amounting to 97.4%. The large number of adolescents who use social media should be able to be used by the government or health workers to disseminate information related to health and health policies.[9]

Instagram is a photo and video sharing application that allows users to take photos, apply digital filters and share them on various social networking services including Instagram itself. *Instagram* is one of the most popular social media today. Based on APJII's statistical data in 2016, *Instagram* is the second most visited social media content after *Facebook*, with 19.9 million visits or 15%.[9]

In a preliminary study conducted by researchers on August 1, 2019, out of 10 people, 3 people did not know about KTR (No Smoking Areas) and 7 other people knew about the existence of KTR and got information about KTR through posters or stickers they found, but only 1 person who understands about Smoking Free Areas, and 7 out of 10 people said that there is a need for socialization about KTR because many people do not know about the existence of KTR. The results of a preliminary study conducted by the author on August 1, 2019 on 10 students of the Wijaya Husada Bogor Public Health STIKes, found that 9 out of 10 students have and use social media *Instagram.* The results of subsequent

preliminary studies showed that 6 out of 10 students stated that they were rarely exposed to information about Smoking Free Areas. Researchers also carried out preliminary studies into public places such as city parks, modern markets, traditional markets, health facilities, and schools. In this observation, the researchers found employees or visitors who still violated the rules for the existence of the KTR. This is related to several studies from experts who state that the implementation of smoking-free areas has not been effective, because it has not been accompanied by intense socialization.[10]

The purpose of this study was to determine the effect of Health Promotion through Instagram on knowledge and attitudes of Non-Smoking Areas among Public Health students of STIKes Wijaya Husada, Bogor City.

RESEARCH METHOD

This research uses quantitative research methods. The design of this research is using *Quasy Experimental* with *the non-equivalent control group approach.* The population in this study was 60 people and the total sample used in this study were 32 active students of Public Health STIKes Wijaya Husada Bogor using the formula *Federer* which was then divided into 16 experimental groups who were given health promotion interventions through Instagram regarding No Smoking Areas and 16 people in the control group using technique *systematic sampling.* This research took place from 28 August to 1 September 2019.[15]

The variables of this study consisted of health promotion through Instagram as an independent variable (free) and changes in knowledge and attitudes towards Smoking Free Areas as the dependent variable (dependent). Data processing and data analysis using a computer program SPSS *for windows* series 17.The analysis consists of univariate analysis and bivariate analysis, where the bivariate analysis uses the normality test, the homogeneity test uses the *Levene* test and hypothesis testing on changes in knowledge and attitudes using the Test *Wilcoxon* and to see differences the effect of health promotion using the test *Mann-Whitney.*

RESEARCH RESULTS

Table 1 : Results of the *Wilcoxon Pretest-Posttest Test for* Knowledge of Non-Smoking Areas in the Experiment Group of STIKes Wijaya Husada Bogor Public Health Students.

	Pretest - Posttest
Z	-3.873[a]
Asymp. Sig. (2-Tailed)	.000

Based on table 1, the *output* of hypothesis testing using the Test *Wilcoxon* shows that the *asymp. sig (2-tailed) value* is 0,000. So it can be concluded that

there is an influence on the results of the *pretest* and *posttest* on students' knowledge after a health promotion intervention is carried out in the No Smoking Area through Instagram.

Table 2: Results of the *Wilcoxon Pretest-Posttest* Knowledge of Non-Smoking Areas in the Control Group of STIKes Wijaya Husada Bogor Public Health Students.

	Pretest - Posttest
Z	-.831[a]
Asymp. Sig. (2-tailed)	.406

Based on table 2, the results *of* the hypothesis test using theTest *Wilcoxon* show that the asymp.sig (2-tailed) value is 0.406. So it can be concluded that there is no effect on the results of the *pretest* and *posttest* on student knowledge if no smoking area health promotion intervention is given through Instagram.

Table 3: Results of the *Wilcoxon Pretest-Posttest Test for the* Attitude of a No-Smoking Area in the Experiment Group of STIKes Wijaya Husada Bogor Public Health Students .

	Pretest-Posttest
Z	-3.690[a]
Asymp. Sig. (2-tailed)	.001

Based on table 3, the results *of* the hypothesis test using the Wilcoxon test show that the asymp.sig (2-tailed) value is 0.001. So it can be concluded that there is an influence on the results of the *pretest* and *posttest* student attitudes after being given health promotion interventions in the No Smoking Area via Instagram.

Table 4: Test Results for the *Wilcoxon Pretest-Posttest* Attitude of a Smoking Area in the Control Group of Public Health Students at STIKes Wijaya Husada Bogor .

	Pretest - Posttest
Z	-1.293[a]
Asymp. Sig. (2-tailed).	196

Based on table 4, the results *of* the hypothesis test using the Wilcoxon test show that thevalue *asymp. sig (2-tailed)* is 0.196. So it can be concluded that there is no influence on the results of the *pretest* and *posttest* on the respondent's attitude after not being given a health promotion intervention for the No Smoking

Area through Instagram Thetest was used to compare the significant differences between the intervention group and the control group *Mann-Whitney.*

Table 5: test results *Mann-Whitney* for Data *Posttest* Knowledge of No Smoking Areas on Experiment Group and Control Group of STIKes Wijaya Husada Bogor Public Health Students .

	Results *Posttest*
Mann-Whitney U	72,500
Wilcoxon W	208,500
Z-	2,670
Asymp. Sig. (2-tailed)	.008
*Exact Sig. [2 * (1-tailed Sig.)]*	.035[a]

Based on table 5, the results *of* the hypothesis test usingtest -*Whitney* the Mannshow that the asymp.sig (2-tailed) value is 0.008. So it can be concluded that there is a difference in knowledge of the No Smoking Area between the experimental group and the control group.

Table 6: Results of the Test *Mann-Whitney* for Data *Posttest on the* Attitude of No Smoking Areas on Experiment Group and Control Group of STIKes Wijaya Husada Bogor Public Health Students .

	Results *Posttest*
Mann-Whitney U	78,500
Wilcoxon W	214,500
Z	-2,165
Asymp. Sig. (2-tailed)	.030
*Exact Sig. [2 * (1-tailed Sig.)]*	.061[a]

Based on table 6, the results *of* the hypothesis test usingtest -*Whitney* theshow that the *Mannasymp.sig (2-tailed) value* is 0.030. So it can be concluded that there are differences in the attitude of the No Smoking Area between the experimental group and the control group.

DISCUSSION

a. Results of Knowledge Level on Non-Smoking Areas Before and After Health Promotion through Instagram for Public Health Students of STIKes Wijaya Husada Bogor .

The results of the study were from thedata *pretest* and *posttest* in the experimental group who were given health promotion in the No Smoking Area through Instagram. Because both of these data are non-parametric, the researchers used the Wilcoxon test for decision making. The results show the p value <0.005, namely 0.000, so there is an influence on the results of the *pretest* and *posttest* on the respondent's knowledge after a health promotion intervention for the No Smoking Area through Instagram.

The results of this study are comparable to research conducted by Hiyatul Rahmi, 2018 which examined the "Effect of Health Promotion through Instagram on Knowledge and" Awareness "Attitudes in Students of the Faculty of Public Health, Andalas University" with the results of his research obtained a *p-value* of 0.001 (p <0.05) which meaning that there are differences in BSE knowledge of FKM Unand students before and after being given health promotion through social media *Instagram*.

The provision of health promotion using a tool or media can affect a person's level of knowledge. The media used in health promotion must be adjusted to the goals of health promotion, so that it can attract attention and be effective in increasing knowledge of health promotion targets. The health promotion media chosen must be effective and efficient media. Social media is a medium that can be used as a health promotion medium. Disseminating information through social media is easier, cheaper and can reach a wider target audience, so that social media is one of the most effective and efficient media in health promotion. Health promotion through social media can be done repeatedly. This can lead to the promotion goals being able to better understand the material.[12]

This is in line with the theory which states that the learning media used in learning activities can affect the effectiveness of learning. The development of science and technology (IPTEK), especially in the field of education, can be used as a learning tool or media so that it becomes more extensive and interactive, such as computers and the internet. The high number of internet media users, especially social media in Indonesia, can be used as a learning medium, one of which is by providing health promotion regarding Smoking Free Areas.[11]

According to the researcher's analysis, knowledge of Smoking Free Areas is very important for respondents to know. Based on the theory and research results, it can be concluded that the use ofsocial media *Instagram* can increase student knowledge. This happens becausesocial media *Instagram* is one of the most widely used social media by students. Therefore, the use ofsocial media

Instagram as a health promotion media needs to be developed again in accordance with existing technological developments.

b. Results of the Attitude Level of a Non-Smoking Area Before and After Health Promotion through Instagram for Public Health Students of STIKes Wijaya Husada Bogor .

The results of the study were from thedata *pretest* and *posttest* in the experimental group who were given health promotion in the No Smoking Area through Instagram. Because both of these data are non-parametric, the researchers used the Wilcoxon test for decision making. The results show the value of asymp.sig <0.05, namely 0.001, so there is an influence on the results of the *pretest* and *posttest* on the respondent's attitude after the health promotion intervention in the No Smoking Area through Instagram

The results of this study are comparable to research conducted by Hiyatul Rahmi, 2018 which examined the "Effect of Health Promotion through Instagram on Knowledge and" Awareness "Attitudes in Students of the Faculty of Public Health, Andalas University" with the results of his research obtained a *p-value* of 0.001 (p <0.05) which this means that there are differences in BSE attitudes among FKM Unand students before and after being given health promotion through social media *Instagram*.

Attitude is the reaction or response of someone who is still closed to a stimulus or object. Attitude is the readiness of the willingness to act, in other words, the attitude is not yet an action but is a predisposition to closed behavior or reactions.[13] [14]

The tendency of a person to respond either positively or negatively to a certain object through persuasion or role models from someone or from his social group. Changes in attitude are basically influenced by the factors of knowledge and belief / belief obtained from sensing results, one of which is obtained through education or the learning process. In order for an increase in attitude towards a positive direction, an increase in knowledge and understanding of objects must first be carried out knowledge (cognitive aspects) is one of the important domains that shape attitudes.[11]

According to the researcher's analysis, from the theory and research results it can be concluded that the use of social media *Instagram* can improve student attitudes. This happens because the use of social media which can increase knowledge will also affect a person's attitude. Therefore, the use ofsocial media *Instagram* as a health promotion media needs to be developed again in accordance with existing technological developments.

c. Analysis of the Effect of Health Promotion through Instagram on Public Health Students of STIKes Wijaya Husada Bogor.

The researcher made a comparison between the control group and the experimental group from the results of thedata study *posttest*, the data was not normally distributed and had data that was not homogeneous. It was concluded that the data was non-parametric, then tested using thetest *Man-Whitney* to determine the average of the two groups. experimental and control groups that have been carried out *posttest*. In theresults of the *posttest* two groups there was a difference in student knowledge, because the *p value was* 0.008 <0.05 and the student's attitude was *p value* 0.030 <0.05. This situation is very helpful to see the influence after giving health promotion through Instagram.

The results of this study are comparable to the research conducted by Ahmad Jumanto regarding "The Effect of Providing Visual Education Media Through the Line on the Smoking Behavior of PSIK-UMY Students" with the results of his research that the effect of the educational media was proven by the Friedman Test on the treatment group given the intervention which also showed p = 0.005 with the highest mean behavior on the behavior measurement during the *pre-test* (9.89), which means that social media has an influence on health promotion.

Health promotion is actually a renewal of health education. Based on previous experience, it can be concluded that health education has not "enabled" (practices or actions) people to behave in a healthy manner, but only can they "know" (knowledge) and "enter" (attitudes). This happens because indeed having sufficient knowledge and attitude alone will not automatically turn into practice or action.[11]

The existence of media applications is very important in health promotion, because social media can directly interact with the community. The benefits of social media, namely Instagram in health promotion in today's era, are one of which makes it easier to receive information by targets, makes it easier to convey information, stimulates educational goals to pass information on to others and achieve more goals. The health promotion that is given can be done repeatedly, one of which is regarding the No Smoking Area which can increase students' knowledge and attitudes so that it can increase student compliance and disseminate information on the No Smoking Area policy.[11]

Based on the pin analysis of the research results, it can be concluded that between the theory and the results of the study, there is a difference in the effect of health promotion through Instagram on the knowledge and attitudes of the No Smoking Area among the Public Health students of STIKes Wijaya Husada Bogor. Evidenced by *p*-value <0.05 then Ho is rejected and Ha is accepted.

Based on the explanation above, it can be concluded that the results of this study are the influence of health promotion through Instagram on the knowledge and attitudes of the No Smoking Area among Public Health students of STIKes Wijaya Husada Bogor.

CONCLUSION

1. The level of knowledge before and after health promotion in the No Smoking Area through Instagram for Public Health students of STIKes Wijaya Husada Bogor, it is known that the significance value of the Wilcoxon test is 0,000, because the p value <0.05, the results of the *pretest* and *posttest* have an effect on health promotion through Instagram on the level of knowledge. No Smoking Area for Public Health students of STIKes Wijaya Husada Bogor.

2. The level of attitudes before and after health promotion in the No Smoking Area through Instagram for Public Health students of STIKes Wijaya Husada Bogor, it is known that the significance value of the Wilcoxon test is 0.001, because the p value is <0.05, the results of the *pretest* and *posttest* have an effect on health promotion through Instagram on the level of attitudes. No Smoking Area for Public Health students of STIKes Wijaya Husada Bogor.

3. Analysis of the influence of health promotion through Instagram on knowledge and attitudes of Smoking Free Areas in Public Health students of STIKes Wijaya Husada Bogor. Health promotion through Instagram is said to be influential because it can be seen through thetest *Mann-Whitney* with a *p value of* knowledge of 0.008 and an attitude of 0.030 <α = 0.05, so Ho is rejected and Ha is accepted, so that there is a difference in the effect of health promotion through Instagram on knowledge and attitudes of the region. No Smoking for Public Health students of STIKes Wijaya Husada Bogor.

SUGGESTION

1. For researchers

    It is hoped that this research can be useful for researchers and can be used as basic research for further research and for future researchers it is hoped that they can continue and modify this research by using more creative methods and adding research variables that are not yet in this study.

2. For Educational Institutions

    It is hoped that it will be useful for the institution as literature material for further research, as a source of information about Smoking Free Areas, and as student material development and as a scientific reference regarding health promotion.

3. For Instagram users

    It is hoped that Instagram users will consider and take advantage ofpromotional media *online* to increase the knowledge and attitudes of students or social media users in the health sector.

REFERENCES

1. World Health Organization. *WHO Report on the Global Tobacco Epidemic 2013. Enforcing bans on tobacco advertising, promotion, and sponsorships the fourth in a series of WHO reports.* 2013.2

2. World Health Organization. *WHO Report on the Global Tobacco Epidemic 2015. Raising taxes on tobacco is the fifth in a series of WHO reports that tracks the status of the tobacco epidemic and the impact of interventions implemented to stop it.* 2015.

3. Asizah. N. 2015.*Individual Factors Associated with the Smoking Actions of Students at Hasanuddin University.* Accessible via http://repository.unhas.ac.id/bitstream/handle/123456789/14640/SKRIPSI.com. Retrieved July 29, 2019, 13:38:02.

4. Indonesian Health Research. 2018. www.depkes.go.id. Retrieved on July 28, 2019, 20:32:18.

5. Azkha, N. 2013. *Study of the Effectiveness of the Implementation of City Regulation Policies on No-Smoking Areas (Ktr) in Efforts to Reduce Active Smokers in West Sumatra in 2013*. https://jurnal.ugm.ac.id. Retrieved 29 July 2019, 17:07:04.

6. Bogor City Regional Regulation Number 12 of 2009. www.data.kotabogor.go.id. Retrieved July 28, 2019, 12:34:23.

7. Bogor City Health Profile. 2017. www.depkes.go.id. Retrieved July 28, 2019, 14:05:25.

8. Sumahandriyani, P. 2015. *Knowledge, Attitude and Community Support Against No Smoking Area (KTR) Policy in 7 Regulated Areas in Batam City.* https://www.unud.ac.id/in/tugas-akhir1220015038.html. Retrieved 31 July 2019, 16:34:21

9. Indonesia APJII. 2016. Indonesian Internet User Penetration and Behavior. https://apjii.or.id. Retrieved August 1, 2019, 17:21:18.

10. Imam Maulana and Tri Krianto. 2012. *The Influence of Health Promotion Urgency of Non-Smoking Area (Ktr) on Smoking Behavior of Visitors and Canteen Guardians at Muhammadiyah University Yogyakarta.* https://www.google.com/url?sa=t&source=web&rct=j&url=http://lib.ui.ac.id/naskahringkas/2015-08/. Retrieved 2 August 2019, 22:45:18.

11. Kolid A. 2014. Health Promotion. Jakarta: Rajawali Pres. https://lib.ui.ac.id. Retrieved August 1, 2019, 21:13:14

12. Notoadmodjo S. 2012. Health Promotion and Health Behavior. Jakarta: Rineka Cipta.

13. Notoatmodjo, S., 2010. *Health Research Methodology*, Jakarta: Rineka Cipta.

14. Sulistiawan, A., 2010. The *Relationship between Adolescent Knowledge about the Effects of Cigarettes on Health and Smoking Attitudes in Sltp N 2 GrogolSukohajo*. www.eprints.ums.ac.id. Retrieved July 31, 2019, 20:04:49.

15. A Muri Yusuf. 2016. Quantitative Research Methods, Qualitative and Combined Research, Jakarta: Prenadamedia Group.