The Impact Of The Number Of Cigarettes And The Duration Of Smoking On The Bmi Of Students Of The Faculty Of Agriculture, Methodist University Of Indonesia In 2024

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ABSTRACT

Background: Smoke is a major global health problem, causing more than 8 million deaths every 7 million years as a consequence of the use of tobacco directly and 1.3 million consequence exposure to cigarette smoke. In Indonesia, the prevalence of smokers aged 10-18 years increased from 7.2% (2013) to 9.1% (2018), making it the third country with the number of smokers the most. Global Youth Tobacco Survey data (2019) shows that 40.6% of students aged 13-15 years Once use tobacco, with 19.2% at the moment smoking. Body Mass Index (BMI) is used To evaluate relative weight to height. Based on Riskesdas 2018, in Indonesia 9.3% are underweight, 55.3% are typical, 13.6% are overweight, and 25.8% are obese.

Research purposes: To determine the impact of the number of cigarettes, duration of smoking, and BMI of students of the Faculty of Agriculture, Indonesian Methodist University, Medan based on the Brinkman index on students of the Faculty of Agriculture, University of Indonesia in 2024.

Research methods: This is a study of observational analytics with a design study using a cross-sectional study.

Research results: This study was primarily found in students consuming several cigarettes with <9 cigarettes/day, as many as 37 respondents (46.3%), then the duration of smoking was found in 51 respondents (63.7%) with a duration of smoking <10 years and Body Mass Index

was found 28 respondents (35%) with a body mass index <18.5. There is a relationship between the number of cigarettes and Body Mass Index with a value of p = 0.045 (p0.05) and a relationship between the duration of smoking smoke and Index Mass Body with a p-value of 0.001 (p0.05). The factor with a more significant influence is the number of cigarette consumption with p-value = 0.013 and OR = 2.4.

Conclusion: There is a meaningful relationship between the number of cigarettes and the index mass body with a p-value = 0.045, and there is a long relationship between smoking and Body Mass Index with a p-value of 0.001

Keywords : Amount Cigarettes , Smoking Duration , BMI Abstract

INTRODUCTION

Smoking has become a challenge in the world of health. There are so many humans. Smoking is one of the health public most considerable ever facing the world, with a death rate of more than 8 million people every year around the world. More than 7 million deaths are caused by the use of tobacco in a direct way directly, while around 1.3 million others are caused by exposure to people who are not smokers. The government has implemented various rules To reduce the habit of cigarettes; even the World Health Organization (WHO) has set a day for cigarettes worldwide on May 31.

Percentage of smokers active in Indonesia at the moment This Keep going experience increase. Basic Health Research (Riskesdas) reported that the prevalence of smoking in children aged 10–18 years increased from 7.2% (2013) to 9.1% (2018). This places Indonesia third among active smokers, the largest in the world after China and India.

The latest data from The 2019 Global Youth Tobacco Survey (GYTS) showed that 40.6% of students in Indonesia (aged 13-15 years), 2 out of 3 children boys, and almost 1 in 5 children women already Once use product tobacco 19.2% of students moment This smoking and in between amount said, 60.6% even No prevented when buying cigarette Because age them, and two- thirds from they can buy cigarette retail.

Body weight is a required size For A measurement of physical growth. 2 Body Mass Index (BMI) is the result that has been used since the mid-19th century to identify adults and adolescents who have abnormally appropriate weight with height.

Nutritional status is measured using the Body Mass Index (BMI), with BMI known as weight stated as usual, thin, or obese. 4 Based on the results of the 2018 Riskesdas, the weight categories in Indonesia are thin (9.3%), standard (55.3%) fat (13.6%) obesity (25.8%), while in North Sumatra, the results recorded were thin (6.2%) standard (53.4%) fat (14.8%) obesity (21.8%).

Based on Anita's Research, the Relationship between the Behavior of smoking and the Body Mass Index of Teenage Boys 10-15 Years, where smokers will be overweight than not smokers. Univariate results show that a significant (54.3%) of teenagers behave smoking, and (56.8%) have poor Body Mass Index. (24.72%) This is Because substances contained in cigarettes can lower lust and be addictive for someone who has their behavior smoking. Smokers have higher energy expenditure than non-smokers, which is 10%. This is because the existence of a decline in the consumption of energy and enhancement results in the expenditure of energy, which can show the occurrence of malnutrition.

In Devi's research, nothing was found. Impact degrees smoke against IMT Because index mass body individual Still can influenced by other factors that differ for each smoker like activity physical, consumption of fruits and vegetables as well and alcohol intake.

Meanwhile, in the research by Chiolero, Faeh, Paccaud, and Cornuz Degree's, smokers assumed a correlation with body weight, namely the more Lots amount cigarettes smoked, the lower the smoker's weight, Where smoking a cigarette cause an increased expenditure of energy after 30 minutes of sucking cigarettes. Smoking four stem cigarettes containing 0.8 mg of nicotine can increase expenditure energy Rest by

RESEARCH MATERIALS AND METHODS

Study This uses a sectional approach. Namely, the study will take measurements one at a time. In research, This variable to be studied is the impact amount of cigarettes and duration, 3.3% in 3 hours. In regular smokers whose metabolism is assessed, smoking 24 cigarettes in a day can increase the amount of expenditure energy by 2230-2445 kcal per day. 9

Based on the background above, the researcher wants to examine the effect of the number of cigarettes and the duration of smoking on BMI in students of the Faculty of Agriculture, Methodist University of Indonesia. This is done because there has been no research on the number of cigarettes and the duration of smoking on BMI in students of the Faculty of Agriculture, Methodist University of Indonesia in Medan and North Sumatra.

Smoke on students' BMI Faculty Agriculture, Indonesian Methodist University. The instrument researchers used is The Brinkman index questionnaire, which has been tested for validity and reliability by previous researchers, namely Artyaningrum (2015). The results of the validity test obtained that r results (0.731) > r table (0.361) so that this instrument is declared valid. The results of the reliability test obtained that r alpha (0.729) > 0.6 (constant) so that the instrument is declared reliable. The data was processed through several stages: editing, coding, entry, and analysis using SPSS software. Data analysis was done through bivariate analysis using the Kolmogorov-Smirnov statistical test to determine the relationship between independent and dependent variables.

RESEARCH RESULTS AND DISCUSSION

Table 1. Distribution Frequency Based on Amount Consumption Cigarette

Jumlah Konsumsi Rokok	Frekuensi	Presentase %
< 9 batang / hari	37	46.3
10 – 19 batang / hari	24	30
> 20 batang / hari	19	23.7
Total	**80**	**100**

Table 1. Shows that there were 37 respondents (46.3 %) with an amount consumption cigarettes < 9 cigarettes/day, as many as 24 respondents (30%) with an amount of 10 – 19 cigarettes/day, and as many as 19 respondents (23.7%) with amount consumption cigarettes > 20 cigarettes/day. So, most students in Agriculture of Indonesian Methodist University consume less < than 9 cigarette

Table 2. Distribution Frequency Based on Duration Smoking ..

Durasi merokok	Frekuensi	Persentase %
< 10 Tahun	51	63.7
> 10 Tahun	29	36.3
Total	**80**	**100**

Table 2. Shows that there were 51 respondents (63.7 %) with a duration of smoking < 10 years and as many as 29 respondents (36.3%) with a duration of smoking > 10 years. So, the majority of students in the Faculty of Agriculture of Indonesian Methodist University have a duration of smoking < 10 years.

Table 3. Distribution Frequency Based on Body Mass Index

Indeks Massa Tubuh	Frekuensi	%
< 18.5	28	35
18.5 – 22.5	25	31.2
23 – 24.9	27	33.8
Total	**80**	**100**

Table 3 shows that there were 28 respondents (35 %) with an index mass body < 18.5, as many as 25 respondents (31.2%) with an index mass body 18.5 – 22.9, and as many as 27 respondents (33.8%) with an index mass body 23 – 24.9. So, most students in the Faculty of Agriculture at Indonesian Methodist University have a Body Mass Index <18.5.

Table 4. Relationship Amount Consumption Cigarette With Body Mass Index

Jumlah Konsumsi Rokok	Indeks Massa Tubuh						Total		*P value*
	< 18.5		18.5 – 22.9		23 – 24.5				
	F	%	F	%	F	%	F	%	
< 9 batang/hari	17	21.3	7	8.7	13	16.3	**37**	**46.3**	
10-19 batang/hari	10	12.5	8	10	6	7.5	**24**	**30**	**0.024**
> 20 batang/hari	1	1.2	10	12.5	8	10	**19**	**23.7**	
Total	**28**	**35**	**25**	**31.2**	**27**	**33.8**	**80**	**100**	

Table 4. Shows that of 28 respondents (35 %) with index mass body < 18.5, obtained 17 respondents (21.3%) among them with consumption cigarettes < 9 cigarettes/day, 10 respondents (12.5%) with consumption cigarettes 10 – 19 cigarettes/day, and 1 respondent (1.2%) others with consumption cigarettes > 20 cigarettes/day. In 25 respondents (31.2 %

) with index mass body 18.5 – 22.9, obtained 7 respondents (8.7%) of whom with consumption cigarettes < 9 cigarettes/day, 8 respondents (10%) with consumption cigarettes 10 – 19 cigarettes/day, and 10 respondents (12.5%) others with consumption cigarettes > 20 cigarettes/day. While 27 respondents (33.8 %) had an index mass body of 23 – 24.9, obtained 13 respondents (16.3%) with consumption cigarettes < 9 cigarettes/day, 6 respondents (7.5%) with consumption cigarettes 10 – 19 cigarettes/day, as well as 8 other respondents (10%) with consumption cigarettes > 20 cigarettes/day. Statistical test results in chi-square No fulfill conditions then used alternative test Kolmogorov Smirnov obtained that p-value = 0.024, meaning that there is a connection between Amount Consumption Cigarette with Body Mass Index in students Faculty Agriculture, Indonesian Methodist University.

Table 5. Relationship between smoking duration With Body Mass Index

Lama Merokok	Indeks Massa Tubuh						Total		*P value*
	< 18.5		18.5 – 22.9		23 – 24.5				
	F	%	F	%	F	%	F	%	
< 10 tahun	26	32.5	13	16.2	12	15	**51**	**63.7**	
> 10 tahun	2	2.5	12	15	15	18.8	**29**	**36.3**	**0.002**
Total	**28**	**35**	**25**	**31.2**	**27**	**33.8**	**80**	**100**	

Table 5. shows that from 28 respondents (35 %) with index mass body < 18.5, 26 respondents (32.5%) with a smoking duration < 10 years, and 2 other respondents (2.5%) with a duration of Smoking> 10 years. Of 25 respondents (31.2 %) with index mass body 18.5 – 22.9, 13 respondents (16.2%) had a duration of Smoking < 10 years and 12 other respondents (15 %) had a duration of Smoking> 10 years. While 27 respondents (33.8 %) had an index mass body of 23 – 24.9, 12 respondents (15%) had a duration of Smoking < 10 years and 15 respondents (18.8%) had a duration of Smoking> 10 years. Statistical test results in chi-square No fulfill condition,

So, the alternative test Kolmogorov Smirnov was used, and an ap value = 0.002 was obtained, meaning that Smoking Length has a relationship with Body Mass Index in students of the faculty of agriculture of the faculty of agriculture at Indonesian Methodist University.

Table 6. Factors That Influence To Body Mass Index Student Faculty Agriculture, Indonesian Methodist University

Variabel	B	Nilai *p*	*95% C.I for EXP(B)*	
			Lower	*Upper*
Jumlah Rokok	2.855	0.013	1.807	2.433
Lama Merokok	1.855	0.001	1.388	1.723

Table 6. Shows that a very influential variable in the index mass body student Faculty Agriculture of Indonesia Methodist University is the amount consumption of cigarettes with p-value = 0.013 and OR = 2.855, which means that the amount consumption of cigarettes somebody can influence the index mass body by 2.8 times while the duration of smoking somebody found p value = 0.001 and OR = 1.8, which means influential only by 1.8 times against index mass body student Faculty Agriculture, Indonesian Methodist University.

CONCLUSION

Based on distribution frequency based on the amount consumption of cigarettes obtained, as

many as 37 respondents (46.3%) with amount cigarettes < 9 cigarettes/day, 24 respondents (30%) with amount cigarettes 10 – 19 cigarettes/day, and 19 respondents (23.7%) with amount cigarettes > 20 cigarettes/day in students Faculty Agriculture, Indonesian Methodist University.

Based on distribution frequency based on the duration of smoking obtained, as many as 51 respondents (63.7 %) with a smoking duration < 10 years, 29 respondents (36.3%) with a smoking duration > 10 years student Faculty Agriculture, Indonesian Methodist University.

Based on distribution frequency based on index mass body obtained as many as 28 respondents (35 %) with index mass body < 18.5, 25 respondents (31.2%) with

index mass body 18.5 – 22.9, and 27 respondents (33.8%) with index mass body 23 – 24.9 in students Faculty Agriculture, Indonesian Methodist University.

Based on the analysis, the connection amount consumption of cigarettes with index mass body shows that from 28 respondents with index mass body < 18.5, as many as 17 respondents (21.3%) with amount consumption cigarettes < 9 cigarettes/day, and 25 respondents with index mass body 18.5 – 22.4 obtained as many as 10 respondents (12.5%) with amount consumption cigarettes > 20 cigarettes/day, as well from 27 respondents with index mass body 23 – 24.9 obtained as many as 13 respondents (16.3%) with amount consumption cigarettes < 9 cigarettes/day. Statistical test results Kolmogorov Smirnov obtained < 0.05, meaning there is a significant relationship between the amount of cigarettes consumed and the index mass body of Faculty of Agriculture, Indonesian Methodist University students.

Based on the analysis, the long relationship between smoking and index mass body shows that from 28 respondents with an index mass body < 18.5, as many as 26 respondents (32.5 %) with smoking duration < 10 years, and 25 respondents with index mass body 18.5 – 22.4 obtained as many as 13 respondents (16.2%) with a history of smoking < 10 years, as well from 27 respondents with index mass body 23 – 24.9 obtained as many as 15 respondents (18.8%) with a smoking period of > 10 years. The results of the statistical test Kolmogorov Smirnov obtained < 0.05, which means there is a significant relationship between smoking duration and index mass body student Faculty Agriculture, Indonesian Methodist University.

Based on the analysis of the results obtained, the most influential factor in determining the index mass body of smokers is the number of cigarettes consumed, with an OR = 2.8. This means that the amount consumed can influence the index mass body of students—Faculty

Agriculture of Indonesian Methodist University by 2.8 times.

SUGGESTION

From the results of the research conducted, the researcher put forward Some suggestions:

1. It is expected to become a material evaluation for institutions so that they can improve health programs, specifically those regarding smoking.
2. For researchers, it is hoped that other variables can be examined that can become factors/effects of side smoke.
3. For students and faculty, it is also hoped that the Agriculture Department of the Indonesian Methodist University will be able to guard their health and understand the risks that only one can obtain from smoking.

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