
ANALYSIS OF KNOWLEDGE AND RISK FACTORS OF ADOLESCENT BEHAVIOR AGAINST NON-COMMUNICABLE DISEASES IN BINTAN REGENCY

By

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ABSTRACT

Non-communicable diseases (NCDs) are diseases that do not pass directly from one individual to another. WHO mentions that non-communicable diseases (NCDs), especially cardiovascular diseases, cancer, diabetes, and chronic respiratory diseases are the causes of death in the world. Meanwhile, NCDs in Indonesia are the highest cause of death and are beginning to threaten adolescence. Prevention of NCDs in adolescents can help reduce the prevalence of NCDs in Indonesia. Because the risk factors that are possessed during adolescence will affect the incidence of NCDs in adulthood to old age. Knowledge or cognition is a domain that has a great influence on a person's actions or behavior. The purpose of this study is to analyze the knowledge and risk factors of adolescent behavior towards non-communicable diseases in the Bintan Regency area. This study uses a descriptive method with a cross sectional approach and data collection is carried out using a questionnaire. The research sample amounted to 219 students who were taken using quota sampling from Junior High School (SMP Negeri 1 Bintan, SMP Negeri 2 Bintan and Madrasah Tsanawiyah Negeri) in Bintan. The data obtained were then analyzed descriptively. The results of the study showed that 44.2% of adolescents in Bintan Regency had a good level of knowledge about NCDs and a small part (10.3%) had less knowledge. Based on the behavioral description, 17.9% are at risk of NCDs, of which 50.9% are women. The results of the bivariate test showed that there was no relationship between knowledge and behavior, where the significance of the p-value was 0.174 ($> \alpha = 0.05$). Knowledge is a predisposing factor for behavior formation, therefore there needs to be an effort to increase knowledge about non-communicable diseases in adolescents in schools

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1. INTRODUCTION

Non-communicable diseases (NCDs) are diseases that do not move directly from one individual to another. WHO states that non-communicable diseases (NCDs), especially cardiovascular diseases, cancer, diabetes and chronic respiratory diseases, are almost 70% of the causes of death in the world. Meanwhile, PTM is the highest cause of death in Indonesia. The results of the 2018 Riskesdas show that the prevalence of non-communicable diseases has increased compared to 2013. The prevalence of cancer has increased from 1.4% (Riskesdas 2013) to 1.8%; stroke prevalence from 7% to 10.9%; and chronic kidney disease rose from 2% to 3.8%. Based on blood sugar examination, diabetes mellitus increased from 6.9% to 8.5%; and the results of blood pressure measurements showed that

hypertension also increased from 25.8% to 34.1%. Thus, the problem of PTM needs to receive attention and treatment as early as possible.

The increase in the incidence of NCDs is related to changes in lifestyle due to modernization, urbanization, globalization and population growth. Lifestyle changes are a risk factor. These developments and shifts have changed the pattern of disease in society, which is now dominated by NCDs. Previously, NCDs were more often found in older people, but currently the prevalence of the disease is increasing among the 10-14 year age group. The NCD trend which is starting to threaten teenagers will then have an impact on human resources and the economy. If the trend of NCDs in children is not controlled, the government's efforts to produce a healthy generation will be difficult to achieve, especially considering that in 2030-2040, Indonesia is expected to face a demographic bonus where the productive age dominates the population. (P2PTM Ministry of Health of the Republic of Indonesia, 2020) Thus, prevention plays an important role in reducing the risk of PTM.

Adolescence is a transition period from childhood to adulthood, characterized by high curiosity, a tendency to be brave and a liking for things that are adventurous. According to the results of the Global School-based Student Health Survey (GSHS) or school-based global health survey in 2015, it is known that teenagers' lifestyles are at risk of non-communicable diseases. The risk factors you have as a teenager will influence the incidence of NCDs in adulthood and into old age. The incidence of NCDs arises from a combination of non-modifiable and modifiable risk factors. Risk factors for an unhealthy lifestyle in teenagers are caused by many factors, one of which is knowledge. Knowledge or cognitive is a domain that greatly influences a person's actions or behavior (Notoatmodjo Soekijo, 2012). Knowledge about PTM is the initial provision for teenagers to prevent and avoid risk factors for PTM, and attention to teenagers is one of the keys to successful health programs.

Research on teenagers is more often carried out in big cities, while the use of gadgets and digital information media has reached villages. Likewise, fast food and high-calorie foods that offer convenience and instant gratification, are also easily accessible in villages. Bintan Regency is one of the districts in the Riau Islands Province, which directly borders Tanjungpinang City or the capital of the Riau Islands Province. Bintan Regency is a tourist area that is visited by many domestic and foreign tourists. This research aims to analyze knowledge and risk factors for adolescent behavior towards non-communicable diseases (NCDs) in the Bintan Regency area.

2. RESEARCH METHODS

This research uses a quantitative descriptive approach to analyze knowledge and behavioral risk factors for non-communicable diseases among adolescents in Bintan Regency. The population of this research is all students registered at state Junior High Schools in East Bintan, namely SMP Negeri 1 Bintan, SMP Negeri 2 Bintan and MTs Negeri Bintan in Bintan Regency in 2024, totaling 1567 students. The sample was 319 students determined using the Slovin formula ($e=5\%$). The inclusion criteria are teenagers aged 12-15 years and still active as students at the school. Sampling was carried out using a quota sampling technique, with details from SMP Negeri 1 Bintan with 151 students, SMP Negeri 2 Bintan: 108 students, MTs Negeri Bintan : 60 students. The instrument used was a questionnaire consisting of questions about respondent characteristics, 15 questions about knowledge about non-communicable diseases, and 18 questions about behavior. Univariate analysis was carried out to describe each of the research variables and bivariate analysis using the chi-square test to analyze the relationship between knowledge about non-communicable diseases (NCDs) and non-communicable disease risk behaviors (NCDs) in adolescents, with a p-value or significance of 5%.

3. RESULTS AND ANALYSIS

The research was carried out at SMP Negeri 1, SMP Negeri 2 and MTs Negeri located in East Bintan Regency, which borders Tanjungpinang City. The questionnaire was given to 319 respondents who were selected as samples from the three schools according to the quota that had been set. An overview of respondents' characteristics by gender, Body Mass Index (BMI), knowledge of NCDs and behaviors at risk of NCDs can be seen in Table 1 below.

Table 1. Distribution of Characteristics of Research Subjects

Respondent Characteristics	Frequency (n)	Percentage (%)
<u>Gender</u>		
Man	177	55,5
Woman	142	44,5
<u>Body Mass Index (BMI)</u>		
Thin	126	39,5
Normal	169	53,0
Fat	24	7,5
<u>Knowledge about NCDs</u>		
Good	141	44,2



Enough	145	45,5
Less	33	10,3
<u>NCDs risk behavior</u>		
Unhealthy/Risky	262	82,1
Healthy/Not at Risk	57	17,9

Based on table 1 above, it can be seen that the characteristics of the study subjects show that 55.5% are male or 11% more than female students, based on nutritional status (BMI) shows that more than half (53%) of students are in the normal category, but there are a small number (7.5%) of students whose nutritional status tends to be obese or overweight. While the level of knowledge about NCDs, there are 44.2% with good categories and only a small part (10.3%) with less knowledge. Meanwhile, based on the description of NCD risk behavior, it shows that the majority (82.1%) behaves healthily and there are 17.9% who behave at risk of NCDs.

Table 2. Distribution of Respondents According to Behavioral Factors at Risk of NCDs

Behavioral Factors	At risk of NCDs			
	Negatif		Positif	
	n	%	n	%
Diet and drinking	207	64,89	112	35,11
Activity patterns/sports	189	59,25	130	40,75
Smokers	267	83,70	52	16,30
Rest/sleep patterns	193	60,50	126	39,50

In table 2 above, it can be seen that in the diet and drinking patterns, it can be seen that 35.11% of students are positive for the risk of NCD (lack of consumption of fruits and vegetables, eating and drinking fast food, and not drinking enough water) and almost half (40.75%) of students on the positive activity/sports pattern factor are at risk of NCD (lack of activity and sports). Meanwhile, in the behavioral factor of smoking, there are 16.30% at risk of NCDs, and in the rest/sleep pattern shows that 39.50% of students are at risk of NCDs (sleeping above 23.00 and less than 8 hours). Adolescent health is a very important thing to pay attention to because during this period adolescents experience significant physical, psychological, and social changes. The Indonesian Ministry of Health emphasizes that adolescent health is greatly influenced by a healthy diet, regular physical activity. Healthy adolescents are characterized by their weight, height, and body mass index that correspond to their age.

Table 3. Distribution of Respondents According to Knowledge Level About NCDs and Behaviors at Risk of NCDs

Knowledge about NCDs	Behaviors at Risk of NCDs				Total		p-value
	Positive		Negative		n	%	
	n	%	n	%			
Good	121	46,18	20	35,09	141	44,20	0,174
Enough	117	44,66	28	49,12	145	45,45	
Less	24	9,16	9	15,79	33	10,34	
Total	262	82,13	57	17,87	319	100	

In table 3 above, it can be seen that the majority (82.2%) of students have behaviors that are not at risk of NCDs, and only 46.18% of them have a good level of knowledge. Meanwhile, of the 17.87% who behaved positively at risk of NCDs, only 15.79% of them lacked knowledge. From the results of the statistical test (Chi-square test), a p-value of 0.174 was obtained which showed that there was no relationship between the level of students' knowledge about NCDs and risky behaviors of NCDs where the p-value was $>\alpha$ (0.05). This is likely because most of the junior high school teenagers in Bintan Regency are still in family care, where eating/drinking and activities are still under family or school control. So that negative/positive behaviors at risk of NCDs in junior high school adolescents in Bintan Regency are not related to knowledge about NCDs. However, knowledge of PTM is an important thing that needs to be improved in junior high school teenagers in Bintan Regency.

4. CONCLUSION

This study shows that the knowledge of junior high school adolescents in Bintan Regency about non-communicable diseases is only 44.2% in the good category, while there are 17.9% of behaviors at risk of NCDs. Meanwhile, the description of behavioral factors showed that almost half (40.75%) of students with positive activity/sports patterns were at risk of NCD (lack of activity or sports), and 39.5% with rest/sleep patterns at risk of

NCDs (sleeping above 11.00 p.m. and less than 8 hours). The results of the statistical test did not show a relationship between adolescents' knowledge about NCDs and behaviors at risk of NCDs. To prevent the risk of NCDs in adolescents in the future, the level of knowledge about NCDs in adolescents in Bintan Regency remains an important aspect that needs to be improved.

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REFERENCES

- [1] Alcianno G. Gani. (2017). The Influence of Social Media on the Development of Adolescents. Journal. universitassuryadarma.ac.id/index.php/jmm/article.
- [2] Arikunto, Suharsimi (2010), *Prosedur Penelitian*, Rineka Cipta, Jakarta
- [3] Dinas Kesehatan Kabupaten Bintan. (2021). *Laporan Kesehatan Kabupaten Bintan*.
- [4] Hamzah, B & Hamzah, S.R. (2021). The Influence of Health Education with Social Media on Non-Communicable Disease Prevention Behavior in Adolescents. Journal. *Gema Wiralodra*, 12(2), 270-290.
- [5] Kemenkes RI. (2012). *Penyakit Tidak Menular*. Journal. Poltekkes-tjk.ac.id.
- [6] Kemenkes RI. (2019). *Buku Pedoman Manajemen Penyakit Tidak Menular*.
- [7] P2PTM Kemenkes RI. (2020). *Penyakit Tidak Menular Kini Ancam Usia Muda*. <https://kemkes.go.id/article>
- [8] WHO. (2020). *Lembar Informasi Global Youth Tobacco Survey (GYTS) 2019*. <https://www.who.int/docs/>
- [9] WHO (2018). *Noncommunicable Diseases Country Profiles 2018*. World Health Organization
- [10] Widyawati (2021). *Non-communicable diseases are now threatening young people*. Indonesian Google Scholar
- [11] Yuningrum Hesti, dkk. (2021). *Faktor Risiko Penyakit Tidak Menular (PTM) Pada Remaja*. Journal. Respati.ad.id.