JOURNAL LA MEDIHEALTICO

VOL. 04, ISSUE 01 (029-041), 2023
DOI: 10.37899/journallamedihealtico.v4i1.789

Factors Influencing the Prevention of Hypertension in the Working Area of Martubung Health Center, Medan Labuhan District

Wagini[1], Ismail Efendy[1], Endang Maryanti[1]

[1]Master of Public Health Study Program, Faculty of Public Health, Medan Helvetia Institute of Health, Indonesia

**Corresponding Author: Wagini*

Article Info

Article history:
Received 10 April 2023
Received in revised form 8 May 2023
Accepted 28 May 2023

Keywords:
Knowledge
Attitude
Culture
Diet
Physical Activity
Role of Health Officers
Prevention of Hypertension

Abstract

The objective of the study was to identify the factors that influence the prevention of hypertension in the Martubung Public Health Center's service area in the Labuhan District of Medan.The research design employed a quantitative method that was implemented through an analytical survey employing the Cross Sectional Study methodology. The cohort of this research consisted of hypertensive patients who visited as many as 712 patients. With the technique of Accidental Sampling, 88 respondents comprised the sample. The analysis of data employed univariate, bivariate, and multivariate methods.Knowledge p = 0.000, attitude p = 0.000, culture p = 0.008, diet p = 0.000, physical activity p = 0.000, and the role of health workers p = 0.001 were found to have an effect on hypertension prevention at the Martubung Public Health Center in the Medan Labuhan District. While knowledge is the most influential factor, p = 0.001 with 95% CI = 5.663-201,428 and Exp(B) = 104,118.This study concludes that knowledge, attitude, culture, diet, physical activity, and the function of health employees influence the prevention of hypertension at the Martubung Public Health Center in the Labuhan District of Medan. It is recommended that the Martbung Health Center optimize the counseling and dissemination of health information related to health promotion, general and special protection, and regular health checks in accordance with the program currently being implemented by the government, so that the community can actively participate in realizing healthy behavior, including the management of noncommunicable diseases.

Introduction

Hypertension is a leading contributor to mortality rates on both a national and global scale. Hypertension is associated with various complications such as coronary heart disease, stroke, kidney failure, and diabetes mellitus. The prevalence of hypertension in Indonesia has led to significant mortality and morbidity rates, resulting in the implementation of widespread management interventions across various healthcare settings. Untreated or unmanaged persistent high blood pressure poses a significant risk for the development of degenerative ailments such as retinopathy, thickening of the myocardial wall, renal impairment, coronary heart disease, ruptured blood vessels, cerebrovascular accident, and even fatality (Elsanti, 2009). As per the report published by the World Health Organization (WHO) in 2020, a significant proportion of the global population, approximately 1.13 billion individuals, experience hypertension, with the majority of cases being concentrated in nations categorized as low- and middle-income. The incidence of hypertension has been observed to be on the rise annually, resulting in an estimated 9.4 million fatalities due to hypertension and its associated complications, including Indonesia. According to recent statistics, approximately 972 million

adults worldwide, which accounts for 26% of the global population, are afflicted with hypertension (World Health Organization, 2020).

As per the findings of the Basic Health Research (Riskesdas), the incidence of hypertension among individuals aged 18 years or older in Indonesia was recorded at 34.1% in the year 2020. According to recent data, South Kalimantan exhibits the highest incidence of hypertension, with a prevalence rate of 44.13%. This is followed by West Java, which has a prevalence rate of 39.60%. In contrast, Papua demonstrates the lowest prevalence rate of hypertension, which stands at 22.22%. The incidence of hypertension is frequently observed in females, with a prevalence rate of 36.9%, and in males, with a prevalence rate of 31.3% (Riset Kesehatan Dasar, 2020). The available data reveals that the incidence of hypertension in North Sumatra exhibited an upward trend over the years. Specifically, the number of cases reported in 2019 amounted to 283,390, which increased to 645,104 in 2020, and further escalated to 867,024 in 2021. According to available data, the incidence of hypertension in Medan City exhibited an increase from 79,192 cases in 2019 to 97,636 cases in 2020. In 2021, the number of cases further rose to 99,865 cases.

Hypertension is a leading contributor to mortality rates on both a national and global scale. Hypertension may give rise to various complications such as coronary heart disease, stroke, and kidney failure. The co-occurrence of hypertension and hypercholesterolemia may elevate the risk by a factor of 9, and this risk may further increase to 16 times in individuals with hypertension who also smoke (Indriyani, 2017). Hypertension is influenced by various factors, including hereditary factors. Individuals with a family history of hypertension are more likely to develop hypertension. The personal characteristics of age, gender, and race are of interest. The process of aging is positively correlated with an elevation in blood pressure levels. On average, males tend to exhibit higher blood pressure levels compared to females. According to statistical data in the United States, the prevalence of hypertension among African Americans is nearly twice as high as that among white individuals. c). One of the topics that can be discussed is the habits of life, which encompasses various aspects of an individual's daily routine. The ingestion of excessive amounts of sodium chloride. According to statistical evidence, ethnic groups and individuals with low salt intake exhibit a lower incidence of hypertension. Research in the medical field has demonstrated that restricting the intake of sodium, coupled with the use of diuretic medications to increase urine output, can effectively reduce blood pressure levels. The condition of being excessively overweight, commonly referred to as obesity, or the act of consuming an excessive amount of food, known as overeating, has been a topic of concern in various fields of study.

The Martubung Health Center encompasses a total area of 83.02 square kilometers, which is divided into six sub-districts. The population residing in this area amounts to 18,614 individuals, and the healthcare facilities available include one Puskesmas, 12 Poskeskel, and five Supporting Health Centers (Pustu). The Medan Labuhan sub-district is equipped with a single primary health center and 17 auxiliary health facilities, namely pustu and poskeskel, allocated within each respective sub-district. According to the annual report of the Martubung Hypertension Health Center, non-communicable diseases were assessed and it was found that hypertension was the most prevalent in 2020, with a total of 682 cases. In 2021, the number of cases increased to 712 (Hustrianah, 2021). The study conducted interviews with nurses at the Martubung Health Center, revealing that a significant number of hypertensive patients failed to seek regular treatment or consult with a physician, despite having been diagnosed with hypertension only after their blood pressure had reached a critical level. Frequently, individuals report experiencing symptoms such as headaches, dizziness, and a sensation of weightiness in the cervical region. However, a significant proportion of these individuals refrain from seeking medical attention, potentially due to apprehension regarding the diagnosis of their condition.

Methods

The study employed a quantitative research design, utilizing an analytical survey methodology with a cross-sectional approach. The objective of this study was to investigate the impact of various factors on the prevention of hypertension within the working environment of the Martubung Health Center, located in the Medan Labuhan District. The present investigation focused on individuals with hypertension who sought medical attention at the Working Area of the Martubung Health Center, located in the Medan Labuhan District. Specifically, the sample consisted of 712 patients who received treatment. The study utilized the Slovin formula to determine the appropriate sample size, resulting in a total of 88 respondents. The sampling technique employed was accidental sampling, whereby participants were selected by chance at the research site in order to achieve the desired sample size.

Results and Discussion

Characteristics of Respondents

Based on the results of the research on the identity of the respondents including age, gender, education and occupation, it can be seen in the following table:

Table1. Age Distribution of Respondents in the Work Area of the Martubung Health Center, Medan Labuhan District

No	Age	Frequency (f)	Percentage (%)
1	29-34 Years	35	39,8
2	35-40 Years	25	28,4
3	41-45 Years	17	19,3
4	46-50 Years	5	5,7
5	> 50 Years	6	6,8
	Total	**88**	**100,0**

Table 1 presents the distribution of respondents based on their age. Out of the 88 participants, the majority of respondents were aged between 29-34 years (39.8%), followed by those aged 35-40 years (28.4%), 41-45 years (19.3%), 46-50 years (5.7%), and those above 50 years (6.8%).

Table 2. Gender Distribution of Respondents in the Working Area of Martubung Health Center, Medan Labuhan District

No	Gender	f	%
1	Man	22	25,0
2	Woman	66	75,0
	Total	**88**	**100,0**

Based on table 2. It shows that of the 88 respondents studied, respondents with male sex as many as 22 people (25.0%), female gender as many as 66 people (75.0%).

Table 3. Distribution of Respondents' Education in the Working Area of the Martubung Health Center, Medan Labuhan District

No	Education	f	%
1	Did not finish elementary school	2	2,3
2	elementary school	8	9,1
3	Junior School	5	5,7
4	High School	66	75,0
5	College	7	8,0
	Total	**88**	**100,0**

ISSN 2721-1215 (Print), ISSN 2721-1231 (Online)

Table 3 presents the educational attainment of the 88 respondents who participated in the study. The results indicate that 2 respondents (2.3%) did not complete elementary school, while 8 respondents (9.1%) had an elementary school education. Additionally, 5 respondents (5.7%) had a junior high school education, 66 respondents (75.0%) had a high school education, and 7 respondents (8.0%) had a college education.

Table 4. Distribution of Respondents' Jobs in the Working Area of the Martubung Health Center, Medan Labuhan District

No	Work	f	%
1	Farmer	18	20,5
2	Self employed	14	15,9
3	Civil servants	6	6,8
4	IRT	50	56,8
	Total	**88**	**100,0**

Table 4 presents the findings of the study, which involved 88 participants. The results indicate that 20.5% of the respondents were employed by organizations with a workforce of 18 individuals, while 15.9% were self-employed and had 14 employees. Additionally, 6.8% of the participants were civil servants, and the remaining 56.8% were housewives.

Univariate Analysis

After research was conducted on factors that affect the prevention of hypertension in the Working Area of the Martubung Health Center, Medan Labuhan District, the following results were obtained:

Table 5. Distribution of Respondents' Knowledge in the Working Area of Martubung Health Center, Medan Labuhan District

No	Knowledge	f	%
1	Not Good	71	80,7
2	Good	17	19,3
	Total	**88**	**100,0**

Based on table 5. showed that of the 88 respondents studied, respondents with poor knowledge as many as 71 people (80.7%) and respondents with good knowledge as many as 17 people (19.3%).

Table 6. Distribution of Respondents' Attitudes in the Working Area of the Martubung Health Center, Medan Labuhan District

No	Attitude	f	%
1	Negative	50	56,8
2	Positive	38	43,2
	Total	**88**	**100,0**

Based on table 6. It shows that of the 88 respondents studied, respondents with negative attitudes as many as 50 people (56.8%) and positive attitudes as many as 38 people (43.2%).

Table 7. Cultural Distribution of Respondents in the Working Area of the Martubung Health Center, Medan Labuhan District

No	Culture	f	%
1	Not Good	55	62,5
2	Good	33	37,5
	Total	**88**	**100,0**

ISSN 2721-1215 (Print), ISSN 2721-1231 (Online)

Based on table 7. showed that of the 88 respondents studied, respondents with bad culture as many as 55 people (62.5%) and good culture as many as 33 people (37.5%).

Table 8. Distribution of Respondents ' Diets in the Working Area of Martubung Health Center, Medan Labuhan District

No	Diet	f	%
1	Disorganized	67	76,1
2	Orderly	21	23,9
	Total	**88**	**100,0**

Based on table 8. showed that of the 88 respondents studied, respondents with irregular eating patterns as many as 67 people (76.1%) and regular eating patterns as many as 21 people (23.9%).

Table 9. Distribution of Physical Activities of Respondents in the Working Area of the Martubung Health Center, Medan Labuhan District

No	Physical Activity	f	%
1	Disorganized	56	63,6
2	Orderly	32	36,4
	Total	**88**	**100,0**

According to Table 0.9. The study reveals that out of the 88 participants examined, 56 individuals (63.6%) reported irregular physical activity, while 32 individuals (36.4%) reported regular physical activity.

Table 10. Distribution of the Role of Respondent Health Workers in the Working Area of the Martubung Health Center, Medan Labuhan District

No	The Role of Health Workers	f	%
1	Not Good	64	72,7
2	Good	24	27,3
	Total	**88**	**100,0**

Table 10 serves as the basis for the following analysis. The findings indicate that out of the 88 participants analyzed, those who held the position of health workers exhibited a lower level of proficiency, with 64 individuals (72.7%) performing less effectively, while 24 individuals (27.3%) demonstrated a good level of proficiency.

Table 11. Distribution of Respondents' Hypertension Prevention in the Working Area of Martubung Health Center, Medan Labuhan District

No	Hypertension Prevention	f	%
1	Not Good	58	65,9
2	Good	30	34,1
	Total	**88**	**100,0**

Based on table 11. showed that of the 88 respondents studied, respondents with poor hypertension prevention as many as 58 people (65.9%) and good hypertension prevention as many as 30 people (34.1%).

Bivariate Analysis

Following the completion of univariate analysis, the researchers proceeded to conduct bivariate analysis utilizing the Chi-Square test to examine the relationship between the independent and dependent variables. The statistical calculation p value was set at a significance level of 0.05. The results of the analysis are presented below.

Knowledge Relationship to Hypertension Prevention in the Working Area of Martubung Health Center, Medan Labuhan District

Cross-tabulation of knowledge on hypertension prevention can be seen in the table below:

Table 12. Knowledge Relationship to Hypertension Prevention in the Working Area of Martubung Health Center, Medan Labuhan District

Knowledge	Hypertension Prevention				Total		*P value*
	Not Good		Good				
	f	%	f	%	f	%	
Less	56	63,6	15	17,8	72	80,7	
Good	2	2,3	14	16,3	16	19,3	**0,000**
Total	**58**	**65,9**	**30**	**34,1**	**88**	**100,0**	

The findings of the Chi-Square analysis indicate that there exists a correlation between knowledge and the prevention of hypertension, with a significance level of $\alpha = 0.05$. The study's results reveal that the p-value is less than α ($0.000 < 0.05$), thereby suggesting that the relationship between knowledge and hypertension prevention is statistically significant. The findings of this analysis satisfy the stipulations of the relationship hypothesis, thereby indicating that knowledge is significantly associated with the prevention of hypertension.

The Relationship of Attitudes Towards Hypertension Prevention in the Working Area of the Martubung Health Center, Medan Labuhan District

Cross-tabulation of knowledge on hypertension prevention can be seen in the table below:

Table 13. The Relationship of Attitudes Towards Hypertension Prevention in the Working Area of the Martubung Health Center, Medan Labuhan District

Attitude	Hypertension Prevention				Total		*P value*
	Not Good		Good				
	f	%	f	%	f	%	
Negative	42	47,7	8	9,1	50	56,8	**0,000**
Positive	16	18,2	22	25,0	38	43,2	
Total	**58**	**65,9**	**30**	**34,1**	**88**	**100,0**	

Moreover, based on the Chi-Square test outcomes, it can be inferred that there exists a significant association between attitudes towards hypertension prevention, with a probability value of $\alpha = 0.05$. Specifically, the study findings indicate that the p-value is 0.000, which is less than the predetermined α value of 0.05. The analysis findings satisfy the criteria stipulated by the relationship hypothesis requirements, thereby leading to the conclusion that attitudes are significantly related to hypertension prevention.

Cultural Relationship to Hypertension Prevention in the Working Area of Martubung Health Center, Medan Labuhan District

Cross-cultural tabulation of hypertension prevention can be seen in the table below:

Table 14. Cultural Relationship to Hypertension Prevention in the Working Area of Martubung Health Center, Medan Labuhan District

Culture	Hypertension Prevention				Total		*P value*
	Not Good		Good				
	f	%	f	%	f	%	
Not Good	42	47,7	13	14,8	55	62,5	**0,008**
Good	16	18,2	17	19,3	33	37,5	

Total	**58**	**65,9**	**30**	**34,1**	**88**	**100,0**	

Moreover, based on the Chi-Square test outcomes, it has been determined that there exists a correlation between culture and hypertension prevention. The statistical significance level of this relationship was established at α = 0.05. The study findings indicate that the p-value of 0.008 is less than the predetermined α value of 0.05. The present analysis satisfies the criteria stipulated by the relationship hypothesis, thereby leading to the inference that culture bears a noteworthy association with the prevention of hypertension.

The Relationship of Diet to Hypertension Prevention in the Working Area of Martubung Health Center, Medan Labuhan District

Cross-tabulation of diet on the prevention of hypertension can be seen in the table below:

Table 15. The Relationship of Diet to Hypertension Prevention in the Working Area of Martubung Health Center, Medan Labuhan District

Diet	**Hypertension Prevention**				**Total**		***P value***
	Not Good		**Good**				
	f	**%**	**f**	**%**	**f**	**%**	
Disorganized	55	62,5	12	13,6	67	76,1	**0,000**
Orderly	3	3,4	18	20,5	21	23,9	
Total	**58**	**65,9**	**30**	**34,1**	**88**	**100,0**	

Moreover, based on the Chi-Square test outcomes, it can be inferred that there exists a significant association between diet and hypertension prevention, with a statistical significance level of α = 0.05. Specifically, the study findings indicate that the p-value is 0.000, which is less than the predetermined α value of 0.05. The findings of this analysis satisfy the prerequisites of the relationship hypothesis, thereby leading to the inference that diet plays a crucial role in the prevention of hypertension.

The Relationship of Physical Activity to Hypertension Prevention in the Working Area of Martubung Health Center, Medan Labuhan District

Cross-tabulation of physical activity against the prevention of hypertension can be seen in the table below:

Table 16. The Relationship of Physical Activity to Hypertension Prevention in the Working Area of Martubung Health Center, Medan Labuhan District

Physical Activity	**Hypertension Prevention**				**Total**		***P value***
	Not Good		**Good**				
	f	**%**	**f**	**%**	**f**	**%**	
Disorganized	45	51,1	11	12,5	56	63,6	**0,000**
Orderly	13	14,8	19	21,6	32	36,4	
Total	**58**	**65,9**	**30**	**34,1**	**88**	**100,0**	

Moreover, based on the Chi-Square test outcomes, it can be inferred that there exists a correlation between physical activity and hypertension prevention. This inference is supported by the probability value of α = 0.05. Specifically, the study results indicate that the p-value is 0.000, which is less than the α value of 0.05. The findings of this analysis satisfy the stipulations of the relationship hypothesis, thereby leading to the inference that physical activity is significantly associated with the prevention of hypertension.

The Relationship of the Role of Health Workers to Hypertension Prevention in the Working Area of the Martubung Health Center, Medan Labuhan District

Cross-tabulations of the role of health workers in the prevention of hypertension can be seen in the table below:

Table 17. The Relationship of the Role of Health Workers to Hypertension Prevention in the Working Area of the Martubung Health Center, Medan Labuhan District

The Role of Health Workers	Hypertension Prevention				Total		*P value*
	Not Good		Good				
	f	%	f	%	f	%	
Not Good	49	55,7	15	17,1	64	72,7	**0,001**
Good	9	10,2	14	17,0	23	27,3	
Total	**58**	**65,9**	**30**	**34,1**	**88**	**100,0**	

Moreover, based on the Chi-Square test outcomes, it has been determined that there exists a correlation between the involvement of healthcare professionals in hypertension prevention. The statistical significance of this relationship has been established with a probability value of $\alpha = 0.05$. Specifically, the study findings indicate that the p-value is less than α ($0.001 < 0.05$). The findings of this analysis fail to satisfy the criteria stipulated by the relationship hypothesis requirements. Therefore, it can be inferred that there exists a significant correlation between the role of health workers and the prevention of hypertension.

Multivariate Analysis

The results of the multivariate analysis test with logistic regression test are in accordance with the following table:

Stage 1 (*Enter Method*)

Table 18. Results of Logistic Regression Test Analysis Factors Affecting Hypertension Prevention in the Working Area of Martubung Health Center, Medan Labuhan District

No	Variable	B	S.E.	Wald	Df	Sing	Exp(B)	95%CI
1	Knowledge	3.113	1.205	6.671	1	.003	22.488	4.158-120.730
2	Attitude	2.672	.920	8.437	1	.010	14.463	1.710-19.130
3	Culture	3.004	1.140	6.950	1	.008	20.169	1.008-10.255
4	Diet	3.575	1.184	9.118	1	.004	35.691	1.167-53.699
5	Physical Activity	.603	.990	.371	1	.543	1.827	1.787-3.375
6	The Role of Health Workers	1.385	1.110	1.557	1	.212	3.994	1.210-15.776

According to the findings presented in Table 18. During the initial phase of the logistic regression analysis, it was determined that among all the variables, three variables had a significant impact on the prevention of hypertension in the Working Area of the Martubung Health Center, Medan Labuan District. These variables include knowledge ($p = 0.003$, 95% CI = 4.158-120.730), attitude ($p = 0.010$, 95% CI = 1.710-19.130), culture ($p = 0.008$, 95% CI = 1.008-10.255), and diet ($p = 0.004$, 95% CI = 1.167-53.699). Subsequently, the screening process will proceed to the second stage in the following manner.

Stage 2 (*Backward Stepwise Method (Conditional*)

Table 19. Results of Logistic Regression Test Analysis Factors Affecting Hypertension Prevention in the Working Area of Martubung Health Center, Medan Labuhan District

No	Variable	B	S.E.	Wald	Df	Sing	Exp(B)	95%CI
1	Knowledge	4.646	1.486	9.779	1	.001	104.118	5.663-1914.428
2	Diet	3.591	1.032	12.113	1	.002	36.258	4.800-273.879

According to the findings presented in Table 19. Based on the findings presented, it can be concluded that the primary determinants impacting the prevention of hypertension are the knowledge variables ($p = 0.001 < 0.05$ and 95% CI = 5.663-1914.428 with Exp (B) 104.118). These results suggest that knowledge plays a significant role in preventing hypertension within the Working Area of the Martubung Health Center, Medan Labuan District.

The results of the study also found that even though the respondent's knowledge was in the sufficient category, the respondent still experienced hypertension. One of the reasons is that respondents still have difficulty eliminating smoking habits. The habit of smoking is difficult to get rid of and it was recognized by the respondents themselves. Although respondents already have sufficient knowledge about the dangers of smoking to health and its relationship with hypertension. In addition, the indiscipline of respondents is also the cause of hypertension, one of which is indiscipline in maintaining a diet such as still consuming foods high in sodium even though respondents already know what foods should be avoided and prohibited for consumption by people with hypertension. Daeli (2017) states that if the respondent's knowledge of hypertension is good, then the efforts made by the respondent to prevent hypertension will also be better.

Based on the assumptions of researchers, it can be concluded that most of the respondents have good knowledge. A person's knowledge of hypertension is important, by knowing information about hypertension, people will understand how to prevent recurrence of hypertension. Increased knowledge in the community also needs to be supported by related parties to convey information related to diseases, through information media in the form of leaflets, posters and can be done with counseling.

The Effect of Attitudes on Prevention of Hypertension in the Work Area of the Martubung Health Center, Medan Labuhan District

From the results of the study, many respondents had a positive attitude but still experienced hypertension. One of the reasons is that respondents already know that consuming salty and instant food can cause hypertension, but respondents sometimes violate it because they are bored with the food. In addition, some respondents felt lazy to exercise and also still thought that if they left the sport it would not affect their blood pressure and would not cause a recurrence of their hypertension. Wahyudi (2019) states that attitude is a response to hypertension having beliefs, emotional tendencies to act as a response to prevention which focuses on controlling diet, controlling blood pressure regularly and exercising.

An attitude in an individual is not necessarily manifested in a real action. attitude cannot be seen immediately, but can only be interpreted in advance from closed behavior. Thus attitude is one of the factors that greatly influences individual health values and can determine the right way of controlling hypertension sufferers. The results of this study can be seen that if the respondent has a positive attitude then the efforts to control hypertension carried out are also good or good enough in accordance with Lawrence Green's theory which states that health behavior will be influenced by several factors, one of which is attitude (Sunaryo, 2014).

Based on the assumptions of the researchers, it was concluded that most of the respondents had a good attitude. Attitude is an action or activity, but it is a predisposition to the action of a behavior. An attitude in an individual is not necessarily manifested in a real action.

The Influence of Culture on Prevention of Hypertension in the Work Area of the Martubung Health Center, Medan Labuhan District

The cultural background of the family is the family's habit of adding salt to every dish that is served, this shows that the family still has difficulty reducing the habit of using salt in each dish because they feel that the food becomes less delicious on the tongue without adding salt.

The cause of health problems according to the modern health view of illness is a physiological disorder or impaired function of the body or organs caused by several things such as bacteria, viruses, fungi and so on or abnormal growth of body cells which are called pathological. Meanwhile, according to the cultural perspective that the occurrence of a disease is related to changes in relations with society, with nature and with the environment so that it has an impact on the human body.

According to Green in Notoatmodjo, age is one of the individual characteristics that can facilitate or underlie the occurrence of certain behaviors. Through the passage of an increasingly mature age, a person will adapt his life behavior to his environment besides being natural, also developing instinctive behavior (Harapan, 2016). Meanwhile, according to Hurlock, adulthood begins at the age of 18 years. At this time a person experiences changes in determining new lifestyles, new responsibilities and new commitments (Hurlock, 2013).

The Effect of Diet on Prevention of Hypertension in the Work Area of the Martubung Health Center, Medan Labuhan District

Based on the variable The eating patterns of the samples in the Work Area of the Martubung Health Center, Medan Labuhan District, were dominated by unhealthy eating patterns. It was obtained from the results of the questionnaire that the sample consumed foods high in sodium, namely salted fish and anchovies (1-2x/week). Because these foodstuffs are cheap and easy to find or reach. Samples also frequently consume high-fat foods such as fried foods and fatty meats (1-2x/week). And also often consume foods that are high in carbohydrates, namely biscuits and crackers (1-2x/week) because these foods can be used as snacks during breaks while working in the fields.

Humans are often irregular in their daily diet, the bad consequences of this habit can interfere with health. The most effective way to get rid of better habits. One of the most influential on the onset of disease is diet. Dietary adjustments can prevent or keep the pain from getting worse. Consuming excess salt causes thirst and encourages us to drink. This increases the volume of blood in the body, so the heart has to pump harder so that blood pressure rises. This increase results in the kidneys having to filter out more salt and water. Because input must equal output in the vascular system, the heart must pump more forcefully under higher pressure (Fitrina, 2014). While fatty foods can cause blood vessels to become thick or become abnormally hard deposits on the walls of the arteries so that the blood vessels get the heaviest hit, if the blood pressure is continuously high and does not change so that the blood vessels become narrow and the blood flow becomes not smooth and can cause atherosclerotic disease (Thristyaningsih et al., 2011).

According to the researchers' assumption, that for people with hypertension in the Work Area of the Medan Labuhan Health Center who experience hypertension are mostly caused by food patterns that have no rules or are not in accordance with intake, for this reason the elderly must pay more attention and regulate a nutritious diet for their health. Apart from that, until now there are still many people who eat fried food as a snack even as a main menu side dish, consumption of foods that contain fat which will lead to obesity in respondents, consumption

of salty foods in cooking, this is because the food will taste bland or not tasty if a little salt. Eating side dishes that are fried in the remaining oil which has been fried many times thinking that the oil is still suitable for use, drinking caffeinated drinks such as coffee and tea.

The Effect of Physical Activity on the Prevention of Hypertension in the Working Area of the Martubung Health Center, Medan Labuhan District

The results of this study stated that the majority of elderly respondents had irregular physical activities. This is because at the time of taking the research sample, the majority of respondents were housewives who were active in physical activities such as walking in the morning, following the six routines every week, and gardening. People who are not physically active tend to have a higher heart rate so that their heart muscles have to work harder with each contraction. The harder the heart muscle has to pump, the greater the pressure imposed on the arteries so that increased peripheral resistance causes blood pressure to be high. Lack of physical activity can also increase the risk of being overweight which will cause the risk of hypertension to increase. Physical activity can reduce blood pressure through the mechanism of decreasing peripheral resistance. Decreased peripheral resistance occurs due to changes in sympathetic nervous system activity and vascular response after physical activity. First, neurohumorally, a decrease in blood pressure occurs due to a decrease in the activity of the sympathetic nervous system in peripheral blood vessels. Second, vascular response has an important role in reducing blood pressure after physical activity. Physical activity can change the response of a vasoconstrictor to a vasodilator (reducing vasoconstriction in blood vessels) and will increase the production of nitric oxide (NO) (Sari, 2017).

Regular physical activity can lower blood pressure. Physical activity is carried out with the aim of burning glucose into adenosine triphosphate (ATP) which will be converted into energy needed by the body's cells. Physical activity will stimulate the pineal gland to secrete serotonin and melatonin. From the hypothalamus, stimulation will be forwarded to the pituitary for the formation of beta endorphins and enkephalins. Beta endophine and enkephalin have a relaxing and happy effect so that they can reduce anxiety and stress (Suwandi et al., 2016). This decrease will stimulate a decrease in sympathetic nerve activity and increase parasympathetic nerve activity which causes vasodilation of the cross-section of blood vessels so that there will be a decrease in blood pressure both systolic and diastolic (Suwandi et al., 2016).

It can be concluded that leading a healthy life, a good diet and regular exercise can help fight stress and various factors that cause anxiety. The tendency to suffer from headaches decreases and maintains an unhealthy life rhythm for the elderly.

The Influence of the Role of Health Workers on Prevention of Hypertension in the Work Area of the Martubung Health Center, Medan Labuhan District

The efforts of health workers are efforts made to convince others to take action to prevent disease. One of the efforts made is through outreach activities to the community related to health problems experienced by the surrounding community. So that with counseling by health workers it is hoped that it can make people behave well for the sake of their health, in this case, eating behavior in preventing hypertension (Bisma, 2017). Health workers should explain that nutritional intake that does not meet balanced nutrition can be a factor in the occurrence of hypertension. Daily food consumption must contain nutrients in types and portions that are in accordance with the nutritional needs of adolescents. Counseling by health workers should also refer to the Guidelines for Balanced Nutrition sourced from the Ministry of Health of the Republic of Indonesia in 2014 and can be carried out through the Posyandu for Youth (Kementrian Kesehatan, 2014).

In the precede-process theory, Lawrence Green states that support from health workers is one of the reinforcing factors that can cause a person to behave. This is in line with L. Green's

theory, the support of health workers tends to influence a person's behavior, especially for respondents who basically require environmental support to have a meaningful influence on hypertension prevention measures (Harapan, 2016).

Multivariate Analysis of Factors that are More Dominant in Prevention of Hypertension in the Work Area of the Martubung Health Center, Medan Labuhan District. This research was conducted multivariate analysis using test logistic regression, namely to determine the effect of factors (knowledge, attitudes, culture, diet, physical activity and the role of health workers) on the prevention of hypertension in the Work Area of the Martubung Health Center, Medan Labuhan District where it was found that the most dominant factor influencing hypertension prevention was knowledge $p = 0.001 < 0.05$ with 95% CI = 5.663-1914.428. The lower the knowledge, the more severe the prevention of hypertension.

According to Notoadmodjo (2012) knowledge is influenced by education, sources of information and experience. Knowledge of the majority of respondents is influenced by factors of information sources and the majority of respondents' education level is high school, namely 42.9%. Several respondents obtained information about hypertension apart from counseling, information from family or friends and electronic media. As we know, advertising, especially advertisements on television media, is a very powerful medium for influencing the concept of people's thinking and gives a very diverse influence, both economic, psychological and socio-cultural influences and penetrates various fields of human life starting from the individual, family to society (Harapan, 2016).

Conclusion

The health of a person or community is influenced by 2 main factors, namely behavioral factors (behavior causes) and factors outside the behavior (non-behavior causes). Knowledge or cognitive domain is a very important domain in shaping one's actions. the knowledge variable has a positive effect on the prevention of hypertension or if the respondent has poor knowledge, thus the prevention of hypertension is also not good.

Suggestion

It is expected that people who have poor knowledge can take part in educational or health promotion activities carried out by the puskesmas to understand in depth about preventing hypertension for people who have good knowledge must maintain and disseminate their knowledge to their closest people and neighbors.

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