The International Journal of Social Sciences World
TIJOSSW is Available Online at:
https://www.growingscholar.org/journal/index.php/TIJOSSW
Vol. 3 No. 2, December 2021, pages: 219~227
DOI: https://doi.org/10.5281/zenodo.5504636
ISSN 2690-5167
Growingscholar Publisher

Attitude and Lifestyle of Elderly: Its Influences on Hypertension Incidence

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Article history:
Received July 5, 2021, Accepted: September 1, 2021, Displayed Online: September 14, 2021, Published: December 30 2021

Keywords

Hypertension;
Lifestyle;
Attitude;
Elderly;
Health;

Abstract

One factor that can increase someone suffering from hypertension is an unhealthy lifestyle such as irregular eating patterns, not wanting to exercise, stress, et cetera. Besides lifestyle, health behaviour is also determined by a person's attitude. A person becomes more obedient in treating illness because that person has the desire to get better. Dealing with the fact, this study aims at examining the attitudes and lifestyles with the incidence of hypertension in the elderly. Data collection was carried out by interview using a questionnaire. The statistical test used in this study is chi-square. The results showed that there is a relationship between obesity and the incidence of hypertension in the elderly (ρ value = 0.000), and there is no relationship between physical activity (ρ value = 0.15), consumption of fatty foods (ρ value = 0.682), salt consumption (ρ value = 0.981), attitude (ρ value = 0.870) with the incidence of hypertension.

1. Introduction

Hypertension is also called the "silent killer" because its presence is not realized, and regular blood pressure checks are needed (Moore, 2005; Sawicka et al., 2011). Many factors can increase a person's risk of suffering from hypertension, including individual characteristics such as age, gender, genetic factors, and factors that can be replaced or controlled are a healthy lifestyle which includes a diet containing fat and cholesterol, excessive salt intake, smoking habits, drinking alcohol, not wanting to exercise, excess exercise, and stress (Bell et al., 2015 2009). In addition to lifestyle, health behaviour is also determined by a person's attitude (Maharani et al., 2020). The better a person's attitude, the more obedient that person is in treating the disease because that person desires to recover, and conversely, the lower a person's attitude, the person's health level will also increase.

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The current study was conducted in Indonesia. The 2013 Basic Health Research in Indonesia results showed that 25.8% of the population suffered from hypertension and increased to 34.1% in 2018 (Titaley et al., 2019). It increases in the number of older people in Indonesia gives special attention to the elderly experiencing an ageing process. Problems that need special attention for the elderly are related to the ongoing process of getting old, which results in physical, cognitive, emotional, social, and sexual changes (Idris et al., 2017).

2. Material and Method

The type of research used in this study is analytic, where this study aims to find the relationship between variables. The approach used is cross-sectional, where the variables, including effects, are observed simultaneously. The sample in this study amounted to 112 people taken using the Slovin formula. The sampling technique used in this study used stratified random sampling. The test used in this study is the chi-square test with SPSS 20.

Respondents in this study were 57-62 years old (29.12%) and 75-80 years old (10.08%). The distribution of respondents based on gender shows that the number of respondents with male sex is 38 respondents (33.9%) and respondents with female sex are 74 respondents (66.1%). Furthermore, respondents diagnosed with hypertension were 75 respondents (67%), and those who were not diagnosed with hypertension were 37 respondents (33%). Respondents with a positive attitude are 96 respondents (85.7%), and respondents with a negative attitude are 16 respondents (14.3%). From these data, it was found that the respondents who were at risk due to consuming fatty foods were 16 respondents (14.3%), and respondents who were not at risk were 96 respondents (85.7%).

On the other hand, respondents who are at risk due to salt consumption in old age are 12 respondents (10.7%), and respondents who are not at risk are 100 respondents (89.3%). Judging from their physical activity, respondents who are at risk are 28 respondents (25%), and respondents who are not at risk are 84 respondents (75%).

3. Findings and Discussion

3.1 Findings

Based on the tables, the distribution of respondents based on their weight is shown in table 1, while the bivariate analysis result is shown in table 2.

Table 1
Respondents based on their weight

Body Weight	Total	(%)
Obesity	59	52.7
No Obesity	53	47.3
Total	112	100

Table 2
Bivariate Analysis

Attitude	Hypertension				Total		*P-Value*
	yes	%	no	%	n	%	
Positive	64	85.3	32	86.5	96	85.7	
Negative	11	14.7	5	13.5	16	14.3	0.870
Total	75	100	37	100	112	100	

Table 2 above shows that respondents with a positive attitude were diagnosed with hypertension as many as 64 respondents (85.3%) and 32 respondents (86.5%). Respondents with a negative attitude were diagnosed with hypertension as many as 11 respondents (14.7%) and not hypertension as many as five respondents (13.5%). The statistical test results obtained the value of P value= 0.870 (P>0.05) means that there is no relationship between attitude and the incidence of hypertension in the elderly. Meanwhile, the relationship between consumption of fatty foods and the incidence of hypertension in the elderly is shown in table 3 below.

Table 3
Relationship between fatty foods consumption
and hypertension incidence

Consumption of Fatty Foods	Hypertension				Total		P-Value
	yes	%	no	%	n	%	
At-risk	10	13.3	6	16.2	16	14.3	
Not at risk	65	86.7	31	83.8	96	85.7	0.682
Total	75	100	37	100	112	100	

Table 3 above shows that ten respondents (16.2%) with consuming fatty foods were diagnosed with hypertension. Respondents with no habit of consuming fatty foods were diagnosed with hypertension as many as 65 respondents (86.7%) and not hypertension as many as 31 respondents (83.8%). The results of the chi-square statistical test obtained P-value = 0.682 (P>0.05), meaning that there is no relationship between consumption of fatty foods and hypertension in the elderly.

Furthermore, using the analysis of the chi-square statistical test and the similar exposure as shown in table 3 above, it was also found that the relationship between salt consumption and the incidence of hypertension in the elderly was also found. Respondents with salt consumption ≥ 500 mg per day were diagnosed with hypertension as many as eight respondents (10.7%) and four respondents without hypertension (10.8%). Respondents with a habit of consuming salt < 500 mg per day were diagnosed with hypertension. On the other hand, as many as 67 respondents (89.3%) and 33 respondents without hypertension (89.2%). The results of the chi-square statistical test obtained P-value = 0.981 (P> 0.05), meaning that there is no relationship between salt consumption and the incidence of hypertension in the elderly.

On the other hand, respondents with physical activity three times per week for 30 minutes were diagnosed with hypertension as many as 24 respondents (32%) and no hypertension as many as four respondents (10.8%) and respondents with physical activity < 3 times per week within a period of < In 30 minutes, 51 respondents (68%) were diagnosed with hypertension and 33 respondents did not have hypertension (89.2%). The results of the chi-square statistical test obtained P-value =0.15 (P>0.005) means that there is no relationship between physical activity and hypertension in the elderly.

Finally, it was found that 49 respondents (63.3%) were diagnosed with hypertension and 26 respondents (34.7%) were not diagnosed with hypertension and 27 respondents (73%). The results of the chi-square statistical test obtained P-value = 0.000 (P <0.005), meaning that there is a relationship between obesity and the incidence of hypertension in the elderly.

3.2 Discussion

Relationship between Attitude and Hypertension Incidence in the Elderly

Attitude is not yet an action or activity but is a predisposition to the action of behaviour. An attitude to an individual does not necessarily manifest in the form of actual actions. Attitudes cannot be directly seen but can only be interpreted beforehand from closed behaviour (Sakamaki et al., 2005). The 'attitude' in the current study includes the respondent's opinion and assessment of the management of hypertension. It is found that from 112 respondents, the total number of respondents' answers with the most is a positive attitude, namely 85.7%, and the least is a negative attitude, namely 14.3%. In general, the majority of respondents have a positive attitude towards the management of hypertension. The results of statistical tests show that there is no relationship between attitudes and the incidence of hypertension in the elderly, this is because there are 64 respondents who have a positive attitude but are diagnosed with hypertension, meaning that most respondents understand and are aware of the factors that trigger hypertension, but many respondents diagnosed with hypertension. Of the 96 respondents who have a positive attitude, 14 respondents have a habit of consuming risky fatty foods, nine respondents have risky salt consumption habits, 24 respondents have risky physical activity habits, and 50 respondents are in the obese category. This shows that the positive attitude is not directly proportional to the respondent's behaviour, meaning that the respondent is aware of what needs to be done to prevent the recurrence of hypertension in the elderly. However, there are still elderly who have risky behaviours such as consuming fatty foods, salt consumption habits, risky physical activity habits, and being overweight.

The Relationship of Fatty Food Consumption with Hypertension Incidence in the Elderly

Fatty foods such as fatty meats contain lots of protein, vitamins, and minerals. However, fatty meats and offal contain saturated fat and cholesterol. High levels of fat in the blood can cause blockage of blood vessels due to the amount of fat that sticks to the walls of blood vessels. Circumstances like this can spur the heart to pump blood more strongly, triggering an increase in blood pressure (Kang et al., 2004). The results showed no relationship between the consumption of fatty foods and the incidence of hypertension in the elderly. This is because 65 respondents have consumed fatty foods that are not at risk but are diagnosed with hypertension. This means that many respondents have reduced their consumption of fatty foods, but respondents are still diagnosed with hypertension. The results showed that from 96 respondents who had a habit of consuming fatty foods, 25 respondents had risky physical activity.

Fifty-one respondents are obese, and nine respondents who have a habit of consuming salt are at risk. This shows that the consumption of fatty foods influences hypertension, but other factors influence physical activity, obesity, and salt consumption. This shows that the consumption of fatty foods is not a risk factor for hypertension. The results of this study are different from the research of Folsom et al. (1990), which showed that there was a relationship between fat intake and the incidence of hypertension in the elderly. The results of Asnia's statistical tests showed = 0.000 <0.005. Based on the interviews, respondents stated that the consumption of fatty foods is adjusted to economic conditions, where when they have excess money and desire to consume meat, they will buy and consume it. Otherwise, their intensity in terms of consuming meat is around 3-4 once a month. In addition, meat consumption is also influenced by the presence or absence of parties, or formal events in the area, where they will consume meat if there is a party, otherwise they do not consume meat.

Relationship of Salt Consumption with Hypertension Incidence in the Elderly

Salty foods are foods with high sodium content. Sodium is found in table salt in average amounts, and it can help the body maintain a balance of fluids to regulate blood pressure. However, sodium in excess amounts can hold water (resistance); in the circulatory system in question is the resistance of blood vessels. The higher the resistance, the higher the blood pressure. Resistance is related to the size of blood vessels (Fu et al., 2019). The more significant the blood vessels, the smaller the resistance. Each individual only needs about 5 g of salt per day (Schiffrin, 1992).

The results of this study indicate that there is no relationship between salt consumption and the incidence of hypertension, this is because there are 67 respondents who have a habit of consuming salt that is not at risk but are diagnosed with hypertension, meaning that many respondents have reduced salt consumption, but are still diagnosed with hypertension. The results showed that out of 100 respondents who had no risk of salt consumption habits, 51 respondents were obese, 26 respondents had risky physical activity habits, and 13 respondents had a risky habit of consuming fatty foods. This shows that apart from salt consumption, hypertension is also influenced by other factors. This study is in line with research (Leggio et al., 2017); the results showed no relationship between sodium intake and the incidence of hypertension in the elderly, statistical tests showed =0.523>0.005.

Based on the results of interviews, it is known that the habit of consuming salt by the elderly in this study is included in the non-risk category. Namely, respondents consume salt < 5 g per day, most of the elderly measure salt by hand, which is converted to mg, then a pinch = 200 mg. Based on the results of interviews, there are no more than five family members in 1 house, so if it is calculated using the formula for the proportion of salt used by household members from household dishes, each member consumes no more than 500 mg of salt. In general, the respondents already know the need to limit the use of salt consumption. Based on the results of interviews, three respondents had risky salt consumption habits and were diagnosed with hypertension, and a decrease influenced this in body function, where the respondent's sense of taste could not work so that respondents felt that their food was always bland even though the amount of salt used was more than enough. So that respondents tend to add salt to their food to ensure that the food does not taste bland.

The Relationship of Physical Activity with Hypertension Incidence in the Elderly

Physical activity is any body movement produced by skeletal muscles that require energy expenditure. This term covers the full range of all human body movements ranging from competitive sports and physical exercise as a hobby or sports activities carried out in daily life (Caspersen et al., 1985). Physical activity is a complex multidimensional behaviour. Many different types of activities

contribute to overall physical activity, including household chores, for example, raising children, cleaning the house, and so on. Physical exercise is a subcategory of leisure time activities and is defined as physical activity that is planned, structured and aimed at the development and fulfilment of physical health (Weyerer & Kupfer, 1994). Physical activity affects increasing blood pressure. Lack of physical activity triggers weight gain, increasing a person's risk of increasing blood pressure (Church et al., 2003).

The results of this study show no relationship between physical activity and the incidence of hypertension. This is because 51 respondents who have a habit of physical activity are not at risk but are diagnosed with hypertension. The results showed that of the 84 respondents who had no risky physical activity habits, 12 respondents had negative attitudes, 13 respondents had risky fatty food consumption habits, ten respondents had risky salt consumption habits, and 43 respondents were obese. This shows that in addition to physical activity, hypertension is also influenced by other factors.

Based on the interviews with respondents, most of them have a habit of physical activity that is not risky. Namely, physical activity is carried out three times a week in 30 minutes. The average physical activity carried out by the elderly includes moderate or moderate category physical activity. for example, completing household chores, some of the elderly are still active in farming and raising livestock, there are some elderly who work as construction labourers every day. Based on the interviews, ten older adults admitted that they feel bored if they do not do physical activity. In addition, two respondents admitted that they were prohibited from doing housework by their children and grandchildren to maintain health.

Relationship between Obesity and Hypertension in the Elderly

Obesity is a chronic disease characterized by excessive body fat accumulation. Obesity limits vary between experts, but the benchmark is usually used as an overweight 20 per cent or more of the ideal body weight. However, the weight alone is not enough because the frame's height, shape, and size also determine the size of the frame. In Indonesia, it is assessed using the body mass index (BMI), weight in kilograms divided by the square of height in meters (Prentice & Jebb, 2001).

Goran (2000) states that overweight and obesity occur because energy intake is higher than energy expended. High energy intake is caused by food consumption, high energy and fat sources, while lower energy expenditure is due to lack of physical activity and a sedentary lifestyle. There are three causes of obesity: physiological factors that can be hereditary (hereditary) and non-hereditary factors (type of food consumed and level of activity). Physiological factors can cause obesity because unstable emotional conditions can cause an individual's tendency to run away by eating lots of calories and high fat. Accident factors or brain injury can cause obesity in the event of an accident that results in disruption of brain function, especially in the hunger regulation centre, so that patients never feel full even though they have eaten in large quantities (Prentice & Jebb, 2001).

Obesity is caused by an imbalance between calorie consumption and energy needs, where consumption is too excessive compared to energy needs/consumption. Excess energy in the body is stored in the form of fat tissue. Under normal circumstances, fatty tissue is deposited in certain places, including subcutaneous tissue and the intestinal lining tissue. Subcutaneous tissue in the front abdominal wall area is easily seen thickened in a person suffering from hypertension (Lancerotto et al., 2011)

Obesity can cause an increase in cardiac output because the more significant the body mass, the greater the amount of blood circulating so that cardiac output increases. The greater the body mass, the greater the blood volume needed to supply oxygen and food to the body's tissues. This causes the heart to work harder, so blood pressure will increase indirectly (Frattola et al.,1993). Obesity can also

cause hypertension due to hormonal abnormalities. Kowalska et al (2015) states that adipocytes (fat cells) will secrete leptin and adiponectin. Another function is to control body weight and fat accumulation by inhibiting appetite and increasing metabolic rate. However, the high increase in leptin secretion resulting from obesity may result in resistance to this weight loss function, whereas increased leptin results in inflammation and activation of the sympathetic nervous system, decreases renal secretion, and stimulates myocyte hypertrophy. Adiponectin is also a protein produced by adipose tissue but will be reduced in obese patients. Decreased adiponectin is associated with insulin resistance, decreased nitric oxide production (a vasodilator), and activation of the renin-angiotensin-aldosterone system. Both of these will result in changes such as vasoconstriction, salt and water retention, and renal dysfunction. This increases blood pressure in obese patients (Maxwell et al., 1982). In the results of this study, it is known that there is a relationship between obesity and the incidence of hypertension. This shows that obesity is one of the factors that can cause hypertension.

In the research conducted, it can be seen that respondents who are obese and diagnosed with hypertension are 49 respondents (65.3%). Based on the interview results, it is known that two respondents are obese because there are family members who are obese. In this case, heredity also plays a role in determining the number of fat cell elements in a person's body. In addition, it is known that two respondents who were experiencing obesity due to eating more than three times a day mean that respondents eat rice in the morning, afternoon, evening, and night, interspersed with snacks. It can also lead to obesity because overeating with a lack of continuous physical activity can also lead to obesity which leads to hypertension.

On the other hand, the results of this study are also influenced by the study's limitations. The limitations of this study relate to the interview process. Researchers conducted interviews with respondents accompanied by health workers so that respondents might not answer honestly according to the questions given.

4. Conclusion

Based on the research results conducted on the elderly in Indonesia, especially in the Kupang City area, several things are stated as follows.

1. There is no relationship between attitudes and the incidence of hypertension in the elderly (ρ value = 0.870).
2. There is no relationship between the consumption of fatty foods and the incidence of hypertension in the elderly (ρ value = 0.682).
3. There is no relationship between consumption of salty food and the incidence of hypertension in the elderly (ρ value = 0.981).
4. There is no relationship between physical activity and the incidence of hypertension in the elderly (ρ value = 0.015).
5. There is a relationship between obesity and the incidence of hypertension in the elderly (ρ value = 0.000).

However, it is recognized that the study's limitations also influence the results of the research presented. Based on self-reflection, the researcher suspects that the interview results still need to be tested further because the researcher conducted interviews with respondents accompanied by health workers so that respondents might not answer honestly according to the questions given. For this reason, it is hoped that further research will be carried out by paying more attention to the interview factor, as already stated. In addition, other researchers are expected to apply unexplored factors such as health care factors, population factors, and environmental factors or use different research designs such as case-control studies or cohorts.

Acknowledgements

The author expresses Her gratitude and appreciation to the publisher and reviewers who have reviewed and suggested valuable suggestions and have received the paper to be published.

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