



RESEARCH ARTICLE

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Hypertension Self-Awareness Among Adult Individuals: A Population-Based Cross-Sectional Study

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ABSTRACT

Data shows that half of adults with hypertension are unaware that they have the disease, and only 21% adults with hypertension make efforts to control their blood pressure, including awareness of the disease itself, its symptoms, the need for treatment/medication, and the negative effects of the disease. Self-awareness of hypertension is necessary as an effort to control hypertension in order to avoid complications. This study aims to identify the self-awareness of adults with hypertension in the coastal area of Tarakan City. This study is a quantitative study with a cross-sectional design. The population in this study was all patients diagnosed with hypertension in Tarakan City. The sample size was 287 respondents, obtained using purposive sampling. Frequency descriptive analysis is used to analyze data. Based on the category of self-awareness of hypertension using BASIS, the majority of respondents had good awareness as shown in each category, namely 218 (76%) respondents in the category of awareness related to the disease, 248 (86.4%) respondents in the category of awareness related to symptom attributes, 270 (94.1%) respondents in the awareness category related to the need for treatment/medication, and 170 (59.2%) respondents in the awareness category related to negative impacts, as well as 250 (87%) in the total average self-awareness of hypertension. Therefore, it can be concluded that adults with hypertension in the coastal area of Tarakan City are aware of their hypertension. It is hoped that efforts to control hypertension under the supervision of doctors and other health workers will be maintained by increasing screening coverage and public awareness of hypertension through promotive, preventive, curative, and rehabilitative efforts.

Keywords: Adults; hypertension; self awareness

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INTRODUCTION

Hypertension is a major cause of premature death worldwide. It is estimated that 1.28 billion adults aged 30-79 years worldwide suffer from hypertension, with the majority (two-thirds) living in low- and middle-income countries (1). In 2021, hypertension was the primary cause or a contributing factor in 691,095 deaths in the United States (2).

The World Health Organization (WHO) estimates that the current global prevalence of hypertension is 22% of the total world population (3). Hypertension is estimated to affect 33% of adults aged 30-79 years worldwide. The number of adults with hypertension has doubled from 650 million in 1990 to 1.3 billion in 2019. Approximately 78% of adults with hypertension live in low- and middle-income countries. The largest number of people with hypertension live in the most populous regions, namely the Western Pacific and Southeast Asia (1). The region with the highest prevalence of hypertension is Africa, at 27%, while Southeast Asia ranks third with a prevalence of 25% of the total population (4).

The results of the 2023 Indonesian Health Survey show a national hypertension prevalence rate of 30.8%, while for North Kalimantan, it is 29.8%, ranking 12th nationally. The national prevalence of hypertension has decreased compared to the Rikesdas 2018 results, which reached 34.1% (5,6). Although it has decreased, the figure is still considered high. Based on hypertension patient healthcare data for the year 2024 in North Kalimantan Province, there are an estimated 75,399 hypertension patients aged ≥ 15 years. The city of Tarakan is the region with the highest number of patients (26,426 people), followed by Bulungan (19,264 people) and Nunukan (18,074 people) (7).

Hypertension is the most common risk factor for stroke among Asians, and hypertension-related cardiovascular complications are higher in Asians compared to Westerners. Asia is a diverse region with differences in the prevalence, awareness, treatment, and control of hypertension. The prevalence of hypertension has increased markedly over the past two decades in Southeast Asian countries, and many factors contribute to the current burden of hypertension, including modernization, urbanization, lifestyle changes, and socioeconomic status (8).

WHO estimates that 46% of adults with hypertension are unaware they have the disease, and only about 1 in 5 (21%) make efforts to control their blood pressure (1). It is estimated that only one-third of hypertension cases in Indonesia are diagnosed, with the remainder undiagnosed (9). This is because hypertension sufferers still lack awareness about controlling their blood pressure by regularly monitoring it. A 2018 study showed that the prevalence of hypertension in South Asia was 29.3%. However, only 46% were aware of their hypertension, while 43% were receiving treatment. Furthermore, only 23.9% of those affected were able to control their blood pressure through medication, lifestyle modifications, or both (8). Another study conducted in Indonesia showed that the majority (60.5%) of hypertension sufferers still fell into the "poor self-awareness" category in efforts to prevent

complications (10). Similar research showed that the level of self-awareness of hypertension sufferers in self-care management was mostly in the "sufficient" category, at 79.6% (11).

Hypertension prevention and control aim to prevent and reduce the likelihood of illness, complications, and death. These steps can be grouped into pharmacological and non-pharmacological approaches. Promotional and preventive efforts are part of the non-pharmacological approach. These efforts are needed to increase public awareness and encourage early detection (9). Reducing the prevalence of hypertension by 33% between 2010 and 2030 is also one of the global targets for non-communicable diseases (1).

Tarakan City covers an area of 657.33 km², with 250.80 km² of land and 406.53 km² of ocean (12). Six of Tarakan's twenty sub-districts are coastal areas, including Karang Anyar Beach, Selumit Beach, Lingkas Ujung, East Mamburungan, Amal Beach, and Juata Laut. Several studies conducted in coastal areas indicate a higher incidence of non-communicable diseases (NCDs). Sebuah studi yang dilakukan untuk melihat kondisi kesehatan masyarakat pesisir menunjukkan bahwa penyakit tidak menular yang paling banyak diderita oleh masyarakat adalah hipertensi (13). Based on the screening results from several health examination activities in coastal areas, a concerning trend has been observed, including an increase in systolic and diastolic blood pressure and an increase in cholesterol levels indicating a risk of cardiovascular disease, as well as an increase in blood sugar levels, indicating a risk of diabetes mellitus, with the highest number of cases in the age group of 41-60 years (14,15). One study recommended initiating a program to raise public awareness about the long-term complications of uncontrolled hypertension (16). Hypertension sufferers are expected to increase self-awareness to lower their blood pressure by adopting a healthier lifestyle (11). Increased levels of knowledge, self-awareness, and decreased blood pressure in hypertensive patients have been shown to occur after increased self-awareness of their hypertension (17). Therefore, researchers are interested in conducting research on self-awareness among adults with hypertension in the coastal areas of Tarakan City.

METHOD

This research is a quantitative study with a descriptive approach and a cross-sectional design. Respondents in this study were adults with chronic hypertension who lived in the coastal area of Tarakan Island. Data from the Tarakan City Health Office during 2023 showed that the average number of hypertension patients on Tarakan Island who received health services was 1,020 people with a sample size of 287 people. The method used in selecting the sample is purposive sampling. This study was conducted at six Community Health Centers in Tarakan City: Juata, Karang Rejo, Sebengkok, Gunung Lingkas, Mamburungan, and Pantai Amal. The study period was May–August 2024.

The instruments used to obtain data in this study were a questionnaire containing the respondents' demographic data and the Blood Pressure Awareness Scale and Insight Scale (BASIS) questionnaire developed by the University of Toronto (www.illnessawarenessscales.com). Gerretsen (2018) conducted a validity and reliability test of this instrument and published the results in an article titled

"BASIS: The blood pressure awareness and insight scale". The BASIS instrument showed good concurrent validity ($r(98) = 0.65$, $P < 0.001$) and discriminant validity, internal consistency (Cronbach's $\alpha = 0.75$), and 1-month test-retest reliability ($ICC = 0.77$). BASIS is a comprehensive, easy-to-use instrument specifically designed to measure subjective awareness among people with hypertension. BASIS can be used in research studies and clinical practice to assess the impact of patients' awareness of hypertension on treatment adherence and clinical outcomes (18). Data processing and analysis were conducted using the Jamovi Program. The data were processed using Univariate Analysis, with frequency tests to examine the frequency distributions of each variable as percentages, means, or medians. This research has received ethical clearance No.085/KEPK-FIKES UBT/VIII/2024.

RESULTS

Respondent Characteristics

Table 1. Frequency Distribution of Respondent Characteristics based on Demographic Data

Characteristics	Mean (SD)	IK 95%
Age	51.5 (6.78)	50.7-52.3
	n	%
Gender		
Male	94	32.8
Female	193	67.2
Marital Status		
Single	5	1.7
Married	257	89.5
Divorced	25	8.7
Education Level		
No Schooling	30	10.5
Elementary School	84	29.3
Junior High School	55	19.2
Senior High School	92	32.1
Higher Education / University	26	9.0
Occupation		
Housewife	145	50.5
Private Employee	24	8.4
Retired	4	1.4
Educator (Teacher, Lecturer, etc)	12	4.2
Entrepreneur	36	12.5
Farmer	9	3.1
Fisherman	15	5.2
Labouerer	10	3.5
Others	15	5.2
Income		
< Rp. 500.000	166	57.8
Rp. 500.000-2.000.000	55	19.2
Rp. 2.000.000-4.000.000	44	15.3
>Rp. 4.000.000	22	7.7
Residence		
Rural	40	13.9
Suburban	111	38.7
Urban	136	47.4
Total	287	100

Based on table 1, the results show that the average age of respondents is 51.5 years, the majority are female 195 (67.2%); married status 257 (89.5%); last education is high school/vocational school 92 (32.1%) and elementary school 84 (29.3%); work as housewives 145 (50.5%), entrepreneurs 36 (12.5%), and private employees 24 (8.4%); income < Rp. 500,000/month 166 (57.8%); domiciled in urban areas 136 (47.4%).

Health Status

Table 2. Frequency Distribution of Health Status

Health Status	Mean (SD)	IK 95%
Blood Pressure		
Systolic	153 (21.3)	150-155
Diastolic	90.3 (13.6)	88.7-91.9
	n	%
Body Mass Index (WHO)		
Underweight	10	3.5
Normal	54	18.8
Overweight	50	17.4
Obese	173	60.3
Smoking History		
Yes	49	17.1
No	238	82.9
Alcohol Consumption		
Yes	13	4.5
No	274	95.5
Medication Source		
Hospital/Clinic/Doctor's Practice	215	74.9
Outside healthcare services	5	1.7
Combination of both	67	23.3
Comorbidities		
None	165	57.5
Diabetes Mellitus	60	20.9
Coronary Heart Disease	10	3.5
Stroke	9	3.1
Others	43	15.0
Total	287	100

Based on table 2, the results show that the majority of respondents were obese, 173 (60.3%), had no history of smoking 238 (82.9%), had no history of consuming alcoholic beverages 274 (95.5%), obtained hypertension medication at health services 215 (74.9%), and did not have comorbidities 165 (57.5%), However, it can be seen that the most common comorbidity was Diabetes Mellitus.

Self-Awareness

Table 3 shows that 250 respondents (87%) have good awareness of their blood pressure. Based on the self-awareness category according to BASIS, good awareness is also shown in each category, namely 218 (76%) respondents in the disease awareness category, 248 (86.4%) respondents in the symptom attribute awareness category, 270 (94.1%) respondents in the awareness of the need for care/treatment category, and 170 (59.2%) respondents in the awareness of negative impacts category.

Table 3. Frequency Distribution of Self-Awareness based on BASIS

Awareness Category	n	%
Disease Awareness		
Good	218	76
Poor	69	24
Symptom Attribute Awareness		
Good	248	86.4
Poor	39	13.6
Need for Treatment Awareness		
Good	270	94.1
Poor	17	5.9
Negative Impact Awareness		
Good	170	59.2
Poor	117	40.0
Total Self-Awareness (BASIS)		
Good	250	87.1
Poor	37	12.9
Total	287	100

DISCUSSION

The results of the study showed that the majority (87%) of adults with hypertension had good self-awareness regarding their hypertension. Based on the self-awareness categories according to BASIS, the majority of adults with hypertension had good self-awareness, with percentages of 76% for disease awareness, 86.4% for symptoms awareness, 94.1% for the need for treatment/medication, and 59.2% for the negative impacts of the disease.

This finding aligns with a study showing that the majority of hypertension sufferers have good self-awareness, at 66.0% (19). Another study showed that 58.9% were aware of their hypertension diagnosis, and the majority of those who were aware received medical treatment (20). A relatively high level of awareness was also reported in other studies, showing an awareness level of 54.4% (21), and the majority of hypertensive patients were aware of the standard blood pressure values (22). A qualitative study reported that hypertensive patients stated that higher self-awareness helped them engage in positive health behaviors (e.g., healthier dietary choices) (23).

Good hypertension self-awareness in this study is influenced by several factors, namely demographic characteristics and health status. Based on demographic characteristics, the majority of hypertensive patients are female, work as housewives, have a secondary education level, and live in urban areas. Meanwhile, based on health status, the majority of hypertensive patients are obese, consume medication prescribed by a doctor, and the most common comorbid condition is Diabetes Mellitus. This aligns with several previous studies.

A study reported that there are significant differences between jobs in both blood pressure measurements and hypertension awareness (24). Another study linked fair or poor health status with increased hypertension awareness (21). Higher hypertension awareness was found among the elderly, those with higher education, and those who are overweight (25). A history of hypertension diagnosis,

regular medication use, and unemployment are significant predisposing factors for the level of awareness and understanding of blood pressure among adults (26). Older age, female gender, and a history of diabetes mellitus are positively associated with higher awareness (27).

Although hypertension awareness is generally good, there are still 24% of people with hypertension who have low awareness. A study shows that hypertensive patients have low self-awareness (28). Another study indicates that there is a low level of self-awareness regarding hypertension among adults (25). If the self-awareness of patients leads to low self-awareness regarding the treatment of hypertension, it will affect their adherence to the ongoing treatment and result in the emergence of several disease complications, one of which is stroke (28).

Self-awareness of hypertension is defined as someone being told by a medical professional that they have high blood pressure and reporting having previously been diagnosed with hypertension by a doctor (28,25). Several factors influencing hypertension awareness include age, gender, BMI, behavioral/habitual factors, psychosocial factors, and utilization of health facilities (27,28). Other factors that can influence awareness of hypertension include education level, domicile or place of residence, as well as behavioral and biological factors (25). Efforts to increase self-awareness can be used as one of the beneficial approaches to controlling blood pressure (29).

CONCLUSIONS AND RECOMMENDATIONS

The majority of adults with hypertension are aware of their hypertension, the symptoms it causes, the need for treatment, and the negative impacts of the disease. However, less than half of adults with hypertension remain unaware of their hypertension. Therefore, interventions are needed to increase screening coverage, plans to raise public awareness about hypertension, and enhanced hypertension control efforts under the supervision of physicians and other healthcare professionals through promotive, preventive, curative, and rehabilitative efforts. Self-awareness of hypertension is closely related to various factors. Therefore, further research is needed to analyze factors related to self-awareness

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