Volume 5, Number 2, Oktober 2024

Journal of Vocational Nursing
https://e-journal.unair.ac.id/JoViN

LEVEL OF DIETARY COMPLIANCE AMONG HYPERTENSION PATIENTS AT IBNU SINA GRESIK REGIONAL GENERAL HOSPITAL

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Original Research

A B S T R A C T

Introduction: *Hypertension is a prevalent chronic disease among adults worldwide, including in Indonesia. A busy lifestyle and tight routine are some of the reasons why someone does not adhere to hypertension therapy or ignores a healthy lifestyle, such as consuming junk food that is high in fat and sugar, having an irregular activity pattern, and having irregular activity patterns. This study aimed to describe the dietary compliance of hypertensive patients.* ***Methods****: The research was conducted using a descriptive design, with the population comprising hypertensive patients, and a sample of 45 respondents selected through accidental sampling. The variable studied was the level of dietary compliance. The inclusion criteria were patients registered at the heart polyclinic and willing to be studied, while the exclusion criteria were suffering from mental disorders or severe complications such as stage 5 chronic kidney failure. The instrument used was the Dietary Approaches to Stop Hypertension (DASH) diet compliance questionnaire administered in June 2023.* ***Results****: The results indicated that 42.2% of respondents were compliant, 42.2% were moderately compliant, and 15.6% were non-compliant. The conclusion was that nearly half of the respondents adhered to the hypertension diet.* ***Conclusions****: It is hoped that nurses can provide Communication, Information, and Education (IEC) to hypertensive patients through comprehensive counseling on hypertension management, emphasizing the importance of adhering to a hypertension diet, antihypertensive therapy, and other healthy lifestyle modifications such as physical activity and smoking cessation, and involving families in improving compliance with the DASH diet.*

A R T I C L E I N F O

Received July 22, 2024
Accepted September 26, 2024
Online Oktober 30, 2024

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Keywords:
Diet Compliance, Hypertension

INTRODUCTION

Hypertension, or high blood pressure, is a significant health issue impacting millions globally (WHO, 2022). It is a key risk factor for various cardiovascular conditions, including stroke, heart attack, kidney failure, and peripheral vascular diseases (Ostchega et al., 2020). The WHO developed and supported numerous treatment protocols for hypertension, based on expert consensus (Zanchetti, 2015). Despite the availability of effective treatments, managing hypertension continues to be a challenge. Many patients fail to achieve recommended blood pressure levels even when undergoing treatment (Silva-Santos et al., 2021). Research indicates that only a minority of hypertensive patients attain optimal blood pressure control, a critical factor in preventing cardiovascular diseases and other related complications (Zhou et al., 2019). Guidelines for hypertensive patients focus on enhancing early detection, effective management, and control of hypertension, aiming to reduce morbidity and mortality associated with the condition. These guidelines include blood pressure monitoring, lifestyle modifications such as dietary changes, pharmacological interventions, and providing education and counseling (WHO, 2022).

According to the WHO, approximately 1.13 billion people globally suffer from hypertension, with many experiencing poor blood pressure control. It is estimated that only about 20% of individuals with hypertension achieve normal blood pressure levels with adequate treatment. Similarly, in ASEAN countries, data from Thailand indicate that around 40% of treated hypertensive patients still do not have well-controlled blood pressure (Thawornchaisit et al., 2019). In Malaysia, only 37% of treated hypertensive patients manage to control their blood pressure (National Institutes of Health, 2019). In the Philippines, about 30% of patients receiving hypertension treatment have unstable or uncontrolled blood pressure (Sison et al., 2020). In Indonesia, the prevalence of hypertension stands at 34.1%, yet only 8.8% of those aware of their condition have their blood pressure under control. In East Java, the prevalence of hypertension among adults is 30.3% (National Institutes of Health, 2019). Despite receiving treatment, only about 25% of hypertensive patients in this region maintain well-controlled blood pressure (Riskesdas, 2018)

High blood pressure (hypertension) is significantly influenced by lifestyle factors, particularly diet. Lifestyle shapes an individual's behaviors and habits, which can impact health both positively and negatively. The food consumed plays a crucial role in maintaining blood pressure stability, either directly or indirectly. Nutrients such as fats and sodium are strongly linked to the development of hypertension. Consuming foods high

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in fat can elevate cholesterol levels, particularly Low-Density Lipoprotein (LDL) cholesterol. Accumulated LDL can lead to plaque formation and atherosclerosis, which results in blood vessel stiffness and complications in various body organs (Warijan et al., 2021).

There are two primary approaches to maintaining blood pressure stability within normal limits for hypertensive patients. First, lifestyle modification interventions through dietary compliance and exercise. Second, using a pharmacological intervention (Fauziah, 2020). Adhering to a specific diet can prevent or delay the onset of hypertension and reduce cardiovascular risk (Anisa & Bahri, 2017)Dietary compliance is a lifelong commitment for hypertensive patients, with internal desires and temptations often posing significant barriers (Silfiana, 2016). Proper dietary adherence can help lower and maintain blood pressure at normal levels. Additionally, the diet aims to reduce other risk factors such as excess body weight, high cholesterol, and elevated uric acid levels in the blood. It is highly recommended for hypertension patients to adjust their food intake to avoid and limit foods that can increase blood cholesterol and blood pressure (Hayani et al., 2021). This study aims to assess the level of dietary compliance among hypertensive patients at Ibnu Sina Gresik Regional Hospital.

MATERIALS AND METHODS

This study used a quantitative descriptive research design, which was conducted from June to July 2023 at the Heart Clinic of Ibnu Sina Hospital, Gresik. The population in this study were hypertensive patients treated at the Heart Polyclinic of Ibnu Sina Hospital, Gresik, with a sample size of 45 respondents selected using the accidental sampling technique. The main variable s11 tudied was the dietary compliance of hypertensive patients. The instrument used was the Dietary Approaches to Stop Hypertension (DASH) dietary compliance questionnaire adapted from (Setianingsih, 2017) which contained 10 questions about DASH diet compliance. The answer choices given were "Always" (score 4), "Often" (score 3), "Sometimes" (score 2), and "Never" (score 1). Grouping was done based on the score: less than 55% indicated low compliance, 56-75% indicated moderate compliance and more than 75% indicated high compliance. The validity test showed that all questions had a correlation coefficient of Pearson value greater than 0.41 and a p-value of less than 0.05. In contrast, the reliability test using Cronbach's Alpha produced a score of 0.854 which exceeded the r table value. This study has obtained ethical permission from the Health Research Ethics Committee (KEPK) of Ibnu Sina Gresik Hospital with the number 071/044/437.76/2023. Each respondent was asked for consent on the informant consent sheet. The collected data were analyzed using descriptive statistical analysis methods on each variable, data presented in table form, and concluded in narrative form.

RESULTS

Table 1. Characteristics Respondent in the Cardiac Polyclinic Based on Age, Type Sex, Education, and Work at Ibnu Sina Gresik Regional Hospital in 2023 (n=45)

Age (years)	Frequency (F)	Percentage (%)
45-65	18	40.0
65-75	27	60.0
Type Sex	**Frequency (F)**	**Percentage (%)**
Male	19	42.2
Female	26	57.8
Education	**Frequency (F)**	**Percentage (%)**
Elementary School	24	53.3
Junior High School	5	11.1
Senior High School	16	35.6
Employment	**Frequency (F)**	**Percentage (%)**
Work	20	44.4
No Employed	25	55.6
Total	**45**	**100**

Table 1 indicates that the majority of respondents were aged between 65-75 years (60%). Most of the respondents who completed the questionnaire were female (57.8%), and a significant portion had an elementary school education (53.3%). Additionally, the most of respondents were not employed (55.6%).

Table 2. Characteristics Respondent Based on Dietary Compliance for Hypertension Patients at the Cardiac Polyclinic of Ibnu Sina Hospital Gresik, 2023 (n=45)

Dietary Compliance	Frequency (F)	Percentage (%)
No Compliant	7	15.6
Fairly Compliant	19	42.2
Compliant	19	42.2
Total	**45**	**100**

Table 2 shows that almost all respondents adhere to the hypertension diet, namely (42.2 %) and a small portion do not adhere to the hypertension diet, namely (15.6 %)

DISCUSSION

The study results revealed that most hypertensive patients at Ibnu Sina Gresik Regional General Hospital were compliant with their dietary regimen, and a small proportion were non-compliant. Most compliant patients were aged between 65-75 years, predominantly female, primarily had an elementary school education, and were mostly no work or housewives.

In this study, compliant respondents aged 65-75 years were those who adhered to a routine schedule for blood pressure monitoring and medical therapy and had long suffered from hypertension. This finding aligns with other studies that state that the elderly tend to be more careful and accept their health conditions due to previous experience and familiarity with the disease (Asyrofi & Setianingsih, 2017). However, this is different from previous studies that found that most hypertensive patients were aged between 45-65 years (Khuzaima & Sunardi, 2021). This difference may be because middle-aged patients generally exhibit better compliance than older patients, as their organ and sensory functions are still adept at responding effectively (Sartik et al., 2017). Other studies have shown that blood pressure tends to increase with age, starting to rise after age 45 due to thickening of the artery walls caused by the buildup of collagen in the muscle layer, causing the blood vessels to become narrow and stiff. (Novian, 2013). Consequently, older individuals, with their accumulated experience and knowledge, tend to make wiser health-related decisions, positively impacting their health conditions next time.

Most compliant hypertensive patients are female. Women, who are more likely to be non-working, often have more time to visit healthcare facilities for blood pressure checks, while men are typically busier with work and have less time for such activities. This finding is contradictory to research that reports that the majority of hypertension sufferers are men. Male sufferers are more easily recognized because of work-related stressors that cause them to smoke, consume alcohol, and have unhealthy eating habits (Khuzaima & Sunardi, 2021). These factors contribute to high blood pressure as men tend to have more physically demanding activities, resulting in fatigue and unhealthy lifestyle patterns that can lead to hypertension (Andria, 2013).

However, this contradicts other research which indicates that gender does not influence a person's diet compliance. Adherence to a diet is determined by an individual's attitude and behavior in following guidelines. Behavior is also shaped by the belief that the behavior will lead to desirable or undesirable outcomes. This is driven by the individual's desire and awareness of whether they are compliant with their diet. Therefore, those with a strong desire and awareness to maintain their health, as demonstrated in this study, are willing to visit healthcare facilities and adhere to the recommended diet to prevent their hypertension from worsening (Pebrisiana et al., 2022)

Furthermore, most compliant hypertensive patients are either unemployed or housewives. These individuals typically spend more time at home and are not burdened by work-related stress, providing them with more opportunities to visit healthcare facilities for blood pressure checks. This finding aligns with research indicating that a majority of hypertension patients are either unemployed or housewives, as they spend most of their time at home. In contrast, those who are employed often have a structured schedule and significant workloads, leaving them with less time. Consequently, working individuals tend to opt for fast, convenient food and drinks, which are generally high in fat, calories, sugar, and sodium (Na), unlike the more carefully prepared and measured home-cooked meals (Kusumastuty et al., 2016). However, this contrasts with other research suggesting that the majority of diet-compliant patients are workers (Novian, 2014). Employment, including the type and duration of work, can influence stress levels, which in turn affect blood pressure, particularly in hypertensive patients (Sari & Mutmainna, 2024). Thus, hypertensive patients in this study who are unemployed or housewives are more compliant with a proper diet due to having more time and better control over their food and drink intake to prevent hypertension recurrence.

Most of the hypertensive patients at the Cardiac Polyclinic who complied with the study had an elementary school education. The researchers found that more patients had an elementary school education compared to other education levels. This aligns with research indicating that education level does not affect compliance with a hypertension diet. In this study, the respondents' education levels did not influence their diet compliance (Manangkot & Suindrayasa, 2020). Other research has shown that respondents regularly check their health at healthcare services and have a good understanding of the hypertension diet to prevent recurrence and complications. However, another study found that one-third of participants adhered to recommended lifestyle modifications. Independent factors such as educational level, knowledge, self-efficacy, social support, and patient-physician interaction

were statistically significant predictors of adherence to lifestyle modification practices (Geremew et al., 2023).

Subsequent research results indicated that nearly all hypertensive patients in the heart clinic were compliant, with only a small number being non-compliant. This compliance is influenced by the knowledge and attitudes of the hypertension sufferers themselves. Insufficient knowledge often stems from a lack of information provided by healthcare workers, families, and the environment. Negative attitudes, such as boredom and unfamiliarity with the hypertension diet, are often due to ingrained cultural habits that are difficult to change (Ernawati et al., 2020). Therefore, this study found that an individual's knowledge, attitude, and strong desire significantly impact whether hypertension sufferers adhere to a hypertension diet.

CONCLUSIONS

It is recommended that nurses provide communication, information, and education (CIE) to hypertensive patients through comprehensive counseling on hypertension management, especially reducing the consumption of high-sodium foods. Furthermore, hypertensive patients are expected to adhere to a hypertension diet, which includes low fat, low sodium, regular consumption of fruits and vegetables, compliance with antihypertensive therapy, and other healthy lifestyle modifications such as physical activity, quitting smoking, and managing psychological stress in daily life. Additionally, it is important to involve healthcare professionals and family members to ensure patient adherence to the DASH diet.

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