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INTRODUCTION

A poor environment, low socio-economic status, an unhealthy lifestyle, diet, habits, and the surrounding environment can lead to a decline in an individual's health (1). Hypertension presents itself as a chronic ailment necessitating self-care management (2). The patient's capacity to recognize and address symptoms, treatment, and self-care is essential. Many patients still lack

Relationship Between Self-Efficacy and Hypertension Complication Prevention Behavior

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ABSTRACT

Introduction: Hypertension is a non-communicable disease problem. The cause of hypertension due to lifestyle. So it is necessary to prevent hypertension, one of which is self efficacy against one's own abilities. The purpose of this study was to analyze the relationship between self efficacy and the behavior of preventing hypertension complications based on health promotion model. **Method:** The research design is cross-sectional design, with population was 122. Using non-probability sampling technique with purposive sampling type, the sample size was 93 hypertensive patients. The dependent variable is self efficacy, and the independent variable is the dbehavior of preventing hypertension complications. Instrument for self-efficacy and prevention of hypertension complications using a questionnaire. The analysis using the Spearman Rank test **Result:** Most hypertensive patients had high self efficacy (94,9%) and had positive behavior in preventing it, while 34 respondents with low self efficacy (82,4%) had negative behavior in its prevention. The statistical test indicated that there is a relationship between self efficacy and prevention of hypertension complications ($p < 0.000$). **Conclusion:** High self efficacy makes self confidence in self care, on the other hand, low self efficacy will not be able to carry out self care. It is hoped that regular education from health facilities can increase knowledge in order to create high self efficacy for patients.

Keyword: Self efficacy, Prevention behavior, Hypertension, Disease complication

confidence in managing hypertension, which can lead to complications. Confidence in hypertensive patients is connected to their ability to effectively self-manage their condition (3,4). Hypertension complications may arise when the patient lacks confidence in following a proper diet, fails to take medication regularly, rarely attends check-ups due to lack of accompaniment, does not

engage in sufficient exercise, and has a preference for salty and fatty foods.

In December 2021, researchers interviewed 10 hypertensive patients with complications at specialist polyclinics to assess their self-efficacy. The findings revealed that 50% of the patients with hypertension complications either lacked understanding of their condition or did not fully acknowledge its impact. The individuals seemed resigned to their health circumstances and the associated complications, showing a passive approach to managing their condition. In an initial observation of 10 clients, researchers examined self-efficacy in preventing hypertension complications based on the Health Promotion Model theory. The data indicated that 5 patients had an understanding of hypertension complications; however, they did not adhere to the recommended prevention program, resulting in their classification as pre-hypertensive or hypertensive level I. Meanwhile, 5 patients did not comprehend the preventive measures for hypertension complications and did not adhere to the prevention program. According to World Health Organization (WHO) data, approximately 22% of adults aged 18 and over had high blood pressure in 2014. This condition is a leading cause of 40% of deaths from heart disease and 51% of deaths from stroke. Hypertension is a global issue prevalent among Indonesia's people, affecting 57.6% of the population (5).

The 2018 Riskesdas (6) report found that the prevalence of high blood pressure in the population was 34.11%. Notably, the prevalence was higher in women (36.85%) than in men (31.34%). Urban areas also showed a slightly higher prevalence (34.43%) than rural areas (33.72%). Furthermore, the prevalence of high blood pressure increased with age (6). In 2019, the Outpatient Clinic of the Heart Polyclinic at Dr. Oepomo Hospital documented 620 cases of hypertension among its patients. This figure rose to 1085 cases in 2020. Moreover, the count of outpatient visits to specialist polyclinics encompassing internal medicine and heart

disease stood at 4253 cases in 2019 and decreased to 3589 cases in 2020 for clients with complications. From January to October 2021, there were 495 cases of hypertension recorded during client visits. In October 2021, researchers conducted patient interviews at specialist polyclinics and identified 10 hypertensive patients with complications related to self-efficacy. It was observed that 50% of patients with complications did not understand the condition, and some elderly patients resigned to their condition related to healing and hypertension complications. Researchers examined self-efficacy in preventing hypertension complications using the Health Promotion Model theory. The findings revealed that 5 patients understood the complications but did not implement the recommended prevention program, leading to pre-hypertension and hypertension level I classification. Meanwhile, 5 patients did not understand the preventive behavior and did not implement the recommended program to prevent complications of hypertension.

Various factors influence the prevention of hypertension complications, including Cultural Influence: Culture affects self-efficacy through values and beliefs, impacting the self-regulatory process and serving as a source of self-efficacy assessment. Gender Differences: Research indicates that women generally have higher efficacy in managing their roles, particularly career women and those with multiple responsibilities, than men. Nature of the Task: The complexity of tasks individuals face affects their assessment of their abilities (7). Complications arising from hypertension are a significant contributing factor to the high non-infectious disease-related mortality in Indonesia. It's crucial to promote self-efficacy to prevent the array of hypertension complications and minimize resulting target organ damage. Additionally, unhealthy lifestyles and behaviors significantly contribute to the high mortality rate associated with hypertension and its potential complications (8). Researchers are interested in studying the link between self-efficacy and preventing hypertension.

METHOD

This research design employs correlation as the primary method with a cross-sectional approach. The study targeted a population comprising all outpatients diagnosed with hypertension between January and March 2022, totaling 122 individuals. A non-probability sampling technique, namely purposive sampling, was used to select a sample size of 93 respondents. The data collection process involved administering questionnaires to eligible outpatients daily until the predetermined number of completed questionnaires was attained, based on the study's inclusion and exclusion criteria.

A 10-item questionnaire was employed to measure self-efficacy, utilizing a Likert scale with options ranging from strongly agree (5) to strongly disagree (1), where a higher score indicates higher self-efficacy. The resulting scores were then used to categorize the participants' self-efficacy levels as either high

(30-50) or low (10-29). Similarly, the questionnaire used to assess the behavioral variable related to preventing hypertension complications consisted of 10 questions with Likert scale responses, where a higher score indicates more positive behavior. The scores from this questionnaire were used to categorize participants' behaviors as either positive (30-50) or negative (10-29).

The data analysis involved using the SPSS statistical test, specifically the Spearman Rank test, with a significance level of $\alpha = 0.05$. This study has been granted ethical approval from the Research Ethics Committee of the Chakra Brahmanda Lentera Institute (Approval No. 023/022/VI/EC/KEP/Lem.Candle/2022). Before participating, respondents were given an explanation of the research procedure and an informed consent sheet to review and sign before completing the questionnaire.

Table 1 Respondent Data (gender, age, education, occupation, blood pressure) (n=93)

Category	Frequency (f)	Percentage (%)
Gender		
Male	18	19,4
Female	75	80,6
Age		
17-25 years	5	5,4
26-35 years	63	67,7
36-45 years	25	26,9
Educational level		
Basic (Elementary/Junior High School)	2	2,2
Secondary (Senior High School)	52	55,9
Higher (University/College)	39	41,9
Job		
Private	4	4,3
Self-employed	21	22,6
PNS/TNI/POLRI	59	63,4
Retirement/not working	9	9,7
Blood Pressure		
Normal <120 dan <80	48	51,6
Abnormal 80-120	45	48,4

RESULT

The data presented in Table 1 illustrates that 80.6% of the participants are female. Additionally, 67.7% of the individuals belong to the 26-35 age category, signifying a predominant age group within the sample. Furthermore, 55.9% of the participants have completed their education at the secondary level. Regarding occupation, a significant proportion, precisely 63.4%, are employed as civil servants, TNI, or POLRI. Moreover, 51.6% of the individuals exhibit regular blood pressure readings. Additionally, the data highlights that 63.4% of the participants have a high self-efficacy category, indicating a strong belief in their ability to manage their health effectively. It is also noteworthy that

66.7% of the participants showcase positive hypertension prevention behavior, reflecting a proactive approach to maintaining their well-being.

Based on the Spearman rank test (Table 2), the SPSS 23 for Windows program yielded a significance level of $p = 0.000$, lower than the predetermined α level of 0.05. The correlation coefficient was 0.789 (78.9%), showing a robust relationship between self-efficacy and hypertension complication prevention behavior based on the health promotion model theory at the Specialist Polyclinic of Dr. Oepomo Hospital in Surabaya. Consequently, the null hypothesis (H_0) is rejected.

Table 2 Relationship between Self-Efficacy and Hypertension Prevention Behavior (n=93)

Variabel	Frequency (f)	Percentage (%)
Self Efficacy		
High	59	63,4
Poor	34	36,6
Hypertension prevention behavior		
Positive	62	66,7
Negative	31	33,3

$p\text{-value} = 0,000; r=0,789$

DISCUSSION

This study revealed a positive correlation between self-efficacy and hypertension prevention behavior. It suggests that individuals with greater self-efficacy are more likely to exhibit positive attitudes toward engaging in behaviors aimed at preventing hypertension. Furthermore, those with high self-efficacy tend to demonstrate better compliance with hypertension therapy (9), which effectively assists in managing blood pressure and preventing its elevation (10). Uncontrolled hypertension is likely to increase in individuals who have social relationships, such as family, but do not openly communicate about health problems or the diseases they experience (11). Individuals with strong social relationships who are willing to speak about their illness openly are more likely to have controlled hypertension. Based on this study's findings, it can be

inferred that effective communication is crucial in providing social support to hypertension patients as they engage in self-care management.

A study conducted at the Specialist Polyclinic of Dr. Oepomo Hospital in Surabaya revealed that most hypertension patients exhibit high self-efficacy. The findings indicated that these patients maintain their health through regular exercise, abstaining from smoking, and avoiding alcoholic beverages. Furthermore, the research findings suggested that high self-efficacy is correlated with the age of the patients, with those aged 20-35 falling into the productive age category and demonstrating positive thinking patterns in managing self-care. This productive age group also plays a significant role in motivating patients to prevent hypertension complications proactively. The health promotion model used to avoid hypertension

encompasses self-recognition, self-evaluation, and self-improvement from a nursing perspective, specifically focusing on patient motivation and understanding self-recognition received from healthcare professionals. Self-evaluation is exemplified through implementing self-efficacy, including adherence to dietary and exercise regimens.

Self-efficacy is confidence in one's ability to successfully accomplish tasks and achieve desired results (12). When individuals encounter a challenging situation, they may experience emotions and thoughts that lead them to believe they are either capable or incapable of overcoming the difficulty. This perception can significantly influence how they approach and respond to the situation (13). Self-efficacy refers to an individual's belief in their capacity to accomplish tasks. According to a recent study, high self-efficacy is linked to healthier dietary behaviors, such as weight management, low-salt, low-fat diet, and regular consumption of fruits and vegetables. These habits can help prevent obesity, a significant risk factor for hypertension.

A previous study (14) highlighted that integration, support, and social control (motivation) are significant determinants in driving behavioral change. Family members can play a pivotal role by actively participating in the preparation of nutritious meals and discouraging the consumption of cigarettes and alcohol. Furthermore, a robust social network and supportive environment can catalyze enhancing motivation levels and offer essential insights into lifestyle adjustments for individuals diagnosed with hypertension (15).

The Health Promotion Model suggests that individuals between 26 and 35 display the most effective self-management behaviors. This age group is generally more receptive to self-management practices, particularly when it comes to being motivated to make positive changes. Based on prior research (14), integration, support, and social control are crucial factors in facilitating behavioral change. Family members can contribute by preparing healthy meals and discouraging the use of cigarettes and alcohol. Having

access to social networks and support can be incredibly beneficial for individuals with hypertension. It can help boost motivation and provide valuable information on lifestyle adjustments to manage the condition. In this age range, individuals tend to exhibit more mature thinking and behavior, particularly in preventing hypertension. Gender data also plays a significant role in hypertension prevention behavior, especially when viewed through the lens of the health promotion model. According to the gender data from respondents, the majority (80.6%) are female. It's observed that women demonstrate better self-management behavior compared to men. This result can be attributed to women being more diligent and patient in maintaining their health and preventing diseases. This observation is consistent with previous research (16), which suggests that women show better compliance with treatment and maintain stronger relationships with healthcare providers than men.

Self-efficacy is crucial in guiding individuals to make choices, exert efforts to progress and persevere in maintaining tasks related to their health. According to the health promotion model theory, the self-efficacy of hypertensive patients at the specialist polyclinic of Dr. Oepomo Hospital in Surabaya is effectively implemented. The study's data reveals that men generally exhibit lower health self-efficacy, while women show higher levels of self-efficacy. Additionally, the study indicates that men have lower compliance with recommended diet patterns compared to women, who demonstrate higher compliance.

Based on the bivariate analysis and other studies, it was established that self-efficacy is correlated with self-care management. As a result, it is recommended that interventions be implemented to boost self-efficacy in hypertensive patients who adhere to the Health Promotion Model (HPM). To enhance self-efficacy, attention should be given to factors that could potentially influence it, including education level and family income (17), age and gender (18) (19). Bandura's self-efficacy theory provides a valuable framework for nursing interventions supporting chronic illness

patients. By bolstering self-efficacy levels, healthcare providers can empower patients to enhance their self-care activities and adopt healthier behaviors. This approach can lead to improved overall well-being and better management of chronic conditions (20).

The health promotion model delineates how patients engage with their physical and social environment across different dimensions, encompassing the theory of hope, social cognitive theory, and a nursing perspective. In preventing hypertension, this model emphasizes self-awareness, self-evaluation, and self-improvement, particularly in patient motivation and comprehension of self-efficacy fostered by healthcare professionals. The study delves into the practical application of the health promotion model, cognitive theory, and social-cognitive perspective in hypertension prevention. The findings from the questionnaire and patient behavior assessments reveal that individuals who are proactive in blood pressure monitoring, prioritize adequate rest despite demanding schedules, and regularly engage in recreational activities demonstrate noteworthy advancements in preventing hypertension. However, it's essential to consider that the questionnaire, administered only once, may only partially capture the intricacies of daily behaviors.

CONCLUSION

In the context of outpatient clinics, it has been observed that patients with hypertension often display a high degree of self-efficacy, indicating their belief in their ability to manage their condition effectively. Their positive behavior toward preventing hypertension reflects their belief in their capabilities. Furthermore, there is evidence of a notable connection between the level of self-efficacy and the adoption of effective hypertension prevention measures among these patients. This correlation suggests that a robust sense of self-efficacy may play a pivotal role in enhancing the success of hypertension management and prevention efforts within the outpatient clinic setting.

Conflicts of interest

There is no conflict of interest in this

research

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