

The Effect Of Cognitive Behavioral Therapy (CBT) Application On Lifestyle In Hypertension Patients At Royal Prima Marelan Hospital 2022

Abdi Kurniawan Purba¹, Ermi Girsang², Mangatas Silaen^{3*}

¹ Magister Student of Magister Public Health, Faculty of Medicine, Universitas Prima Indonesia

^{2,3,4} Magister Public Health, Faculty of Medicine, Universitas Prima Indonesia

*Corresponding Author:

Email: mangatasjrnl@gmail.com

Abstract

Hypertension is still a health problem in the elderly group. As a result of rapid development and a prosperous standard of living and health services can increase life expectancy, so that the number of elderly people increases every year. This increase in age is often followed by an increase in degenerative diseases and other health problems in this group. Psychological interventions are believed to be able to change a person's behavior towards a better direction in disease control and prevention. This study measures the impact of cognitive behavioral therapy (CBT) interventions on self-care management of hypertensive patients. This type of research is a quasi-experimental design with a pretest-posttest and control group design. The research subjects were divided into two groups, namely the intervention group (35 people) and the control group (35 people). The research was conducted at the Royal Prima Marelan Hospital in 2022. Data were analyzed using the t-dependent test ($\alpha = 0.05$). The results showed that in the intervention group there were differences in self-care management of hypertensive patients before and after being given CBT which included diet ($p < 0.001$; 95% CI -6.663(-4.796)), physical activity ($p < 0.001$; 95% CI -5.344(-4.370)), and attitude ($p < 0.001$; 95% CI -13.086(-10.115)). In the control group, there was no difference in self-care management of hypertensive patients, including diet ($p = 0.083$; 95% CI -0.183-0.012), physical activity ($p = 0.058$; 95% CI -0.291-0.005), and attitude T2DM patients ($p = 0.094$; 95% CI -0.225-0.003). This means that CBT is effective in improving self-care management of Hypertension patients. It is suggested to the Management of Royal Prima Marelan Hospital to implement routine physical activities such as hypertension gymnastics in order to prevent hypertension among young people.

Keywords: Cognitive Behavioral Therapy, Self care management, and Hypertension.

I. INTRODUCTION

Hypertension is a global health problem that is closely related to metabolic and cardiovascular diseases. Various epidemiological studies have shown a tendency to increase the incidence and prevalence of hypertension in various parts of the world. WHO predicts a significant increase in the number of people with hypertension in the coming years (Mendrofa T, 2018). Basic Health Research (2018) estimates that the prevalence of hypertension in Indonesia is around 3.4% of 265 million people, consisting of 133.17 million men and 131.88 million women. In Southeast Asia, Indonesia ranks second with a prevalence of 8.4 million people and is projected to increase by 2.5 times or as many as 21.2 million people each year. The results of the Riskesdas survey (2018), there are 1.4% of people with hypertension in North Sumatra. With the highest prevalence, the incidence was found in Deli Serdang Regency (1.9%), Medan City (1.7%), Langkat Regency (1.8%), Simalungun Regency (1.6%) and Asahan Regency (1.5%). (Ministry of Health RI, 2018). Meanwhile, in Medan City, the number of people with hypertension ranks 3rd after CHD with the highest prevalence in each region in North Sumatra. Based on data sourced from the Medan City Health Office in 2018, out of 39 Puskesmas in Medan City, 39,769 people with hypertension were undergoing treatment (Medan City Health Office, 2018). The increase in the prevalence of hypertension is due to self-failure to carry out self-care behaviors in daily life such as poor self-management and self-control, lack of regularity, and lack of self-discipline to prevent hypertension. Hypertension sufferers feel unable to carry out self-care behaviors because there is saturation with the routine they do during the healing process, causing hypertension sufferers to be disobedient with their diet and physical activity patterns.

Not only that, another failure in the healing process is due to hypertension sufferers saying they are hopeless and feeling stressed with their illness, sometimes even do not want to eat for fear of complications that will occur after eating the food eaten by him. From a social perspective, there are some hypertensive sufferers who say they have reduced the activity of gathering with their friends because they have already experienced their illness. Therefore, self-care behavior is needed which will lead to changes or balance themselves both biologically, psychologically, socially and spiritually for sufferers. Cognitive Behavior

Therapy which is an effective measure in preventing hypertension (Hewitt et al., 2017). self-care behavior is needed which will later lead to changes or balance themselves both biologically, psychologically, socially and spiritually for sufferers. Cognitive Behavior Therapy which is an effective measure in preventing hypertension (Hewitt et al., 2017). self-care behavior is needed which will later lead to changes or balance themselves both biologically, psychologically, socially and spiritually for sufferers. Cognitive Behavior Therapy which is an effective measure in preventing hypertension (Hewitt et al., 2017). CBT (Cognitive Behavior Therapy) is a psychiatric therapy that changes individual (cognitive) thought processes and changes individual behavior to become better at carrying out certain actions that are the focus of attention. CBT consists of 8-12 sessions or more, where the patient is guided to learn how to identify and change thoughts that have a negative impact on behavior (Daniels, 2017). In this therapy, the patient meets face to face with the therapist, then the therapist will explore the root of the problems experienced by the patient. After the therapist gets information that becomes an obstacle in the healing process (related to thoughts and behavior), the therapist and patient will work together to change the patient's (cognitive) mindset (Macrodimitris, 2016). Research from Kanapathy (2019), "The effectiveness of cognitive behavioral therapy for depressed patients with hypertension: A systematic review.

Journal of health psychology" explains that giving CBT interventions is very well used as a hypertension healing intervention, where cognitive behavioral therapy is effective in reducing depression. Other results reveal that cognitive behavioral therapy has a positive impact on depressive symptoms. The effects of giving CBT interventions are increasing glycated hemoglobin, increasing self-efficacy and self-concept related to the success of hypertension management. There is a need for controlled studies with larger sample sizes and long-term follow-up. Supported by Turner's research (2016), "*The use of cognitive behavioral therapy in hypertension care: A review and case study*" explained sufferers could be referred to CBT services if they had a diagnosis of anxiety or depression at the time. The integration of CBT into practice has a major impact on people with hypertension, because this disease is a condition that requires specific lifestyle interventions and psychological interventions for optimal health and self-management. Uchendu's research (2017), "Effectiveness of cognitive-behavioural therapy on glycemic control and psychological outcomes in adults a systematic review and metaanalysis of randomized controlled trials" explains that CBT is recommended as the main psychological therapy to effectively challenge dysfunctional thoughts, beliefs and negative behaviors in people with long-term conditions and replace it with more self-help and realistic cognitions. Among people with hypertension, commonly observed comorbid mental health conditions include hypertension-related stress, anxiety and depression resulting in poor glycemic control and reduced quality of life. Hypertension related Distress was found to affect 13.8-44.6% of Hypertension sufferers.

Research from Huang (2016) "Self-management behavior in patients with type 2 hypertension: a cross-sectional survey in western urban China" explain that lifestyle, referring to therapeutic alliances, monitoring of signs and symptoms of disease, maintaining and enhancing health behaviors, and coping with negative effects of illness on patient's physical functioning, emotional feelings, and interpersonal relationships. It is estimated that 50% of patients show a decrease in psychological condition at the time of diagnosis of hypertension. Among people with hypertension, commonly observed comorbid mental health conditions include hypertension-related stress, anxiety and depression resulting in poor glycemic control and reduced quality of life. With the provision of Cognitive Behavior Therapy (CBT) intervention, it will later influence good lifestyle behavior in people with hypertension in the healing process. According to Siti (2016), self-care behavior in people with hypertension consists of a healthy diet, physical activity, controlling blood sugar levels, medication management, foot care and quitting smoking. Hypertension self-care behavior is useful for lowering blood sugar levels (HbA1c), improving dietary habits which are considered as the main steps to reduce the occurrence of nephropathy and retinopathy (microvascular complications) and macrovascular, especially cardiovascular disease (CVD) (ADA, 2013). With the treatment behavior carried out by people with hypertension aims to control the disease which will prevent the development of the disease. The results of research conducted by Karimi (2017) concluded that hypertension self-care behavior can help produce better health conditions.

However, more than 50% of patients with Hypertension has no self-care ability. As for self-care behavior activities that support the healing process of hypertension sufferers such as diet, medication, controlling physical activity with routines and adherence to self-care behaviors will have an impact on preventing complications. The results of an initial survey conducted by researchers at the location where the research will be conducted obtained data on patients who came to Royal Prima Marelana Hospital to control treatment in the last one year, namely 2022, experienced fluctuations, this was also due to the pandemic factor that occurred so many did not dare to go straight to the health service. The number of Hypertension patients in February 2022 was 95 people, in March there were 115 people, in April there were 103 people, in May there were 70 people, in June there were 85 people, in July there were 77 people, in August there were 98 people, in September as many as 65 people, in October there were 117 people, in November there were 123 people, in December there were 102 people, and in January 2022 there were 115 people. Based on this description, the researcher is interested in conducting research on the Effect of Cognitive Behavioral Therapy (CBT) Application on Lifestyle in Hypertension Patients at RSU. Royal Prima Marelana Year 2022.

II. METHODS

This study was designed using quantitative research methods with a quasi-experimental design with a pre-test - post-test with control group approach. Quasi-experimental research is a research method used to find the effect of certain treatments on others under controlled conditions. This design is a research design to determine the effect of a given intervention on the dependent variable. Pre test - post test with control group was used to compare the two groups of research subjects. This study aims to find out how the influence of the application of Cognitive Behavioral Therapy (CBT) on the lifestyle of hypertensive patients at RSU. Royal Prima Marelana. The population in this study were hypertension patients who came to the Internal Medicine Polyclinic to get treatment. The population of hypertension patients who come for treatment as many as 110 people. The number of study samples was 52 hypertension patients who were divided into 2 groups, namely 26 for intervention patients and 26 for control patients.

III. RESULT AND DISCUSSION

The results showed that the respondents who suffered from hypertension varied where in the intervention group the majority of respondents were aged 56-65 years old totaling 19 people (73%), while in the control group it was found that the majority of respondents were aged 56-65 years old totaling 17 people (65.4%). According to Soegondo (2011) explains that age is one of the factors that can affect a person's health. With continued age, every organ in the body will experience decline. In developing countries like Indonesia, the age group at risk of developing hypertension ranges from 46-65 years. According to Febriyanti (2011) suggests that with increasing age there will be changes in a person's physical and psychological (psychological) aspects which can later influence a person's self-care behavior regarding self-management in the process of healing hypertension. In this study, it was found that more than half of the respondents were female in the intervention group with 15 people (57.7%) and in the control group with the same number of male and female sexes as many as 13 people (50%). This is because the proportion of respondents in the study was more women than men. Female respondents visited the health center more frequently to check themselves than male respondents. Hawk (2010) suggested that gender is one of the factors that can influence health behavior, including in regulating diet. Women use health facilities more often than men, and women participate more in health checks. According to Kozier (2009) in general, women pay more attention and care about their health and are more likely to undergo treatment than men.

Furthermore, according to the theory of Smeltzer and Bare (2010), cases of hypertension are more common in men than women. One example, in men is influenced by the hormone testosterone which stimulates lipolysis in adipose tissue. Excess testosterone levels can lead to obesity in the abdomen so that insulin resistance occurs and is a risk factor for hypertension so that insulin is more sensitive to changes in testosterone. Based on the level of education, the majority of respondents had elementary and high school education, in the intervention group there were 7 people (26.9%) and in the control group with elementary education there were 8 people (30.8%). The high number of respondents at this level of education indicates

that the condition of education in Indonesia is not yet good. People with a high level of education will usually have a lot of knowledge about health, with the knowledge in education they get, people will have awareness in maintaining their health, and vice versa with people who have low education tend not to pay too much attention to their health because of minimal and insufficient knowledge. Looking for information (Irawan, 2010). Research conducted by Sutrisno (2011) revealed that education is one of the factors that can influence a person's knowledge, the higher a person's education, the easier it will be to receive information which in the end the more knowledge they have. Conversely, if education is low, it will hinder the development of a person's attitude towards receiving information and values that have just been introduced. This is in line with Azwar's expression (2015) which suggests that the higher a person's education level, the more likely he is to behave positively because the education obtained can lay the foundations for understanding and behavior in a person and become one of the factors to increase motivation in carrying out physical activities.

As a non-pharmacological way of managing hypertension. Research conducted by Yusra (2011) states that the level of education can influence a person's behavior in seeking care and treatment for their illness, as well as choosing and deciding which therapeutic measures to take to address their health problems. The same thing was also expressed by Utomo (2011) in his research which stated that the level of education affects success in treating hypertension. The level of education can affect a person's ability to make changes in health behavior (Notoatmodjo, 2010). Based on the employment status in the intervention group, it was found that the majority worked as farmers, amounting to 17 people (65.3%), while in the control group, the majority of working status were farmers, namely 12 people (46.1%). The results of Arifin's research (2011) show that respondents who do not work are at risk of 1.6 times experiencing complications compared to respondents who work. This is also associated with the activities carried out by clients in everyday life. The duration of suffering from hypertension in the intervention group and the control group was that the majority of respondents were > 3 years, totaling 15 people (57.7%). This shows that the majority of respondents have not suffered from hypertension for too long so that managing the disease quickly and precisely can prevent the risk of further disease complications. Based on the results of Isonah's research (2009) in Suswati (2012) explains that clients who experience hypertension longer can learn hypertension self-care behavior based on experience gained during their illness so that clients understand more about the best things they should do to obtain their health status.

The results of this study describe the lifestyle behaviors experienced by hypertension patients. Lifestyle behavior is measured using a questionnaire diet consisting of 14 questions related to nutrition in hypertensive patients, attitude questionnaire consisting of 14 questions related to how the patient is living as a sufferer of hypertension and drug consumption patterns and physical activity questionnaire consisting of 14 questions related to activity patterns such as sports, daily activities and mild performed by respondents who experienced hypertension. From the statistical results on lifestyle in the intervention group (Mean=15.54; SD=3.50) and in the control group (Mean=17.20; SD=4.35). It can be concluded that there is a difference in the average value of lifestyle ($t = -0.65$, $p = 0.52$) between the intervention group and the control group before being given the Cognitive Behavior Therapy program. According to Beck (2011), states that CBT can change a person's attitudes and behavior by focusing on the thoughts, beliefs and attitudes that we hold (cognitive processes) and how these relate to the way we behave. The results showed that the implementation of CBT had a significant effect on improving the lifestyle of hypertensive patients. The results of this study are also relevant to research conducted by Arch (2013), which shows that CBT is effective in reducing the severity of diagnosis and effectively changing the self-care behavior of hypertensive patients. From the statistical results on the lifestyle of the intervention group was higher after participating in the CBT program (Mean=25.37, SD=2.68) compared to the value before receiving treatment (Mean=15.54, SD=2.68). These results indicated that there was a difference between the mean values of lifestyle in the intervention group before and after treatment ($t = -167.02$; $p = 0.00$). The improvement in lifestyle in the intervention group was higher than the control group because during the patient's visit to the internal medicine polyclinic at RSU Royal Prima Marelan they received structured CBT intervention.

Respondents played an active role in participating in each session during the intervention. Beck (2011), states that CBT can change a person's attitudes and behavior by focusing on the thoughts, beliefs and attitudes that we hold (cognitive processes) and how these relate to the way we behave. This is also supported by Shahni's research (2013), that the cognitive-behavioral model can significantly improve self-care behavior in patients suffering from chronic diseases. The results showed that the implementation of CBT had a significant effect on improving hypertension in patients. The results of this study are also relevant to research conducted by Arch, (2013) which shows that CBT is effective in reducing the severity of diagnosis and effectively changing the self-care behavior of hypertensive patients. The results of the lifestyle analysis in the intervention group were higher (Mean = 27.59; SD = 4.58) compared to the values before receiving treatment (Mean = 11.75; SD = 5.87). From the results it was found that there was a difference between the mean value of self-management in the intervention group and the control group after treatment ($t = 10.27$; $p = 0.00$).

Research conducted by Craciun (2013), shows that the CBT approach is effective for reducing irrational beliefs and stress. The results of this study are also in accordance with the theory of the Health Belief Model (HBM) in Edberg (2010), that someone who has obtained information and skills related to his illness will also have a good perception of his illness and will form and strengthen one's previous self-care behavior, especially in Hypertension patients. Oemarjoedi (2013), states that CBT can be an effective therapy for various problems such as anxiety, chronic pain, depression, sleeping problems, eating problems and other general health problems. Chronic diseases such as hypertension require a patient-centered approach, namely patient empowerment that emphasizes a collaborative approach to facilitate patients orient themselves in changing behavior for the better. This is in accordance with one of the principles of CBT, which is education that aims to teach patients to be their own therapists and emphasizes prevention.

IV. CONCLUSION

Results of analysis using the Independent t-test mean value of lifestyle in the intervention group is higher (Mean = 27.59; SD = 4.58) compared to the value before getting treatment (Mean = 11.75; SD = 5.87). From the results it was found that there was a difference between the mean value of self-management in the intervention group and the control group after treatment ($t = 10.27$; $p = 0.00$).

V. ACKNOWLEDGMENTS

Thank you to the supervisor who has guided to complete this research. And we don't forget to thank the family for the great support to the author.

VI. ETHICAL CONSIDERATIONS

This research has been declared ethically compliant according to the WHO 7 Standards 2011 by the Health Research Ethics Commission (KEPK) University of Prima Indonesia.

REFERENCES

- [1] Alavi, M., Molavi, H., & Molavi, R. (2017). The impact of cognitive behavioral therapy on self-esteem and quality of life of hospitalized amputee elderly patients. *Nursing and Midwifery Studies*, 6(4), 162.
- [2] American Diabetes Association. (2015). Diagnosis and classification of diabetes mellitus. *Diabetes care*, 37 (Supplement 1), S81-S90.
- [3] Beck, JS (2011). Cognitive-behavioral therapy. *Clinical textbook of addictive disorders*, 491, 474-501.
- [4] Daniels, J., & Sheils, E. (2017). A complex interplay: cognitive behavioral therapy for severe health anxiety in Addison's disease to reduce emergency departmental hypertension issues. *Behavioral and cognitive psychotherapy*, 45(4), 419-426.
- [5] Dobson, R., Whittaker, R., Jiang, Y., Shepherd, M., Maddison, R., Carter, K., ... & Murphy, R. (2016). Text message-based diabetes self-management support (SMS4BG): study protocol for a randomized controlled trial. *Trials*, 17(1), 179.
- [6] Dowdle, C., Suh, S., Nowakowski, S., Ong, JC, Siebern, AT, & Manber, R. (2012, January). The Role Of Sleep Effort In Reducing Depressive Symptoms For Individuals Participating In Cognitive-Behavioral Therapy For

- Insomnia (Cbt-I). In *Sleep* (Vol. 35, Pp. A241-A241). One Westbrook Corporate Ctr, Ste 920, Westchester, IL 60154 USA: AMER ACAD SLEEP MEDICINE. Ekoé, JM, Punthakee, Z., Ransom, T., Prebtani, AP, & Goldenberg, R. (2018). *Screening for type 1 and type 2 hypertension Canadian journal of diabetes*, 37, S12-S15.
- [7] Hara, Y., Hisatomi, M., Ito, H., Nakao, M., Tsuboi, K., & Ishihara, Y. (2016). Effects of gender, age, family support, and treatment on perceived stress and coping of patients with type 2 diabetes mellitus. *BioPsychoSocial medicine*, 8(1), 16.
- [8] Hewitt, J., Smeeth, L., Chaturvedi, N., Bulpitt, CJ, & Fletcher, AE (2017). Self management and patient understanding of diabetes in the older person. *Diabetic medicine*, 28(1), 117-122.
- [9] Huang, CY, Lai, HL, Chen, CI, Lu, YC, Li, SC, Wang, LW, & Su, Y. (2016). Effects of motivational enhancement therapy plus cognitive behavior therapy on depressive symptoms and health-related quality of life in adults with type II diabetes mellitus: a randomized controlled trial. *Quality of Life Research*, 25(5), 1275-1283.
- [10] Huang, M., Zhao, R., Li, S., & Jiang, X. (2014). Self-management behavior in patients with type 2 diabetes: a cross-sectional survey in western urban China. *PloS one*, 9(4), e95138.
- [11] Hutchins, CM (2016). *Managing depression in foster care: An enhanced therapeutic approach for adolescents* (Doctoral dissertation, Capella University).
- [12] Indonesia, PE (2015). *Management and prevention of type 2 hypertension in Indonesia*. Pb. Perkeni.
- [13] Inzucchi, SE, Bergenstal, RM, Buse, JB, Diamant, M., Ferrannini, E., Nauck, M., ... & Matthews, DR (2016). Management of hyperglycemia in type 2 diabetes, 2015: a patient-centered approach: update to a position statement of the American Diabetes Association and the European Association for the Study of Hypertension *Diabetes care*, 38(1), 140-149.
- [14] International Diabetes Federation. *IDF Diabetes Atlas 6th Edition 2016: International Diabetes Federation; 2016*.
- [15] Kaku, K. (2017). Pathophysiology of Type 2 Diabetes and Its Treatment Policy, *JMAJ*, Volume 53 (1) : 41–46.
- [16] Karimi, F., Abedini, S., & Mohseni, S. (2017). Self-care behavior of type 2 diabetes mellitus patients in Bandar Abbas in 2015. *Electronic physician*, 9(11), 5863.
- [17] Kanapathy, J., & Bogle, V. (2019). The effectiveness of cognitive behavioral therapy for depressed patients with diabetes: A systematic review. *Journal of health psychology*, 24(1), 137-149.
- [18] Ministry of Health, RI, (2018). Let's Prevent Diabetes Smartly. Accessed from www.depkes.google.id/index.php.