

5. THE ADDITION OF SEHAT, AN ADAPTATION OF DASH DIET, IN ONGOING REGIMENT OF CAPTOPRIL IN A HYPERTENSION PATIENT AT PRIMARY HEALTHCARE SETTING: AN EXPERIMENTAL STUDY

PA Setiabudi, FR Ramadhani, I Kautsarani, HS Syabani. *Faculty of Medicine, Universitas Brawijaya, Malang, Indonesia*

Background: Hypertension still becomes a menacing worldwide problem. Ninety percent of people over 55 years will develop hypertension. DASH (Dietary Approaches to Stop Hypertension) diet proven to have substantial blood pressure (BP)-lowering action. Captopril is one of the first-line hypertension treatments in Indonesia since it was accessible and affordable. We conducted SEHAT (*Seleksi Gaya Hidup Anti Hipertensi*), a more adapted hypertension intervention program based on the DASH diet.

Objective: Here we are going to report the results of adding SEHAT in an ongoing regiment of captopril in a hypertension patient in a primary healthcare setting.

Method: We conducted SEHAT counseling in the monthly "PROLANIS" in Sutojayan Primary Health Care. 14 patients with essential hypertension divided into 2 groups: 7 patients accustomed to SEHAT and received 3x25 mg Captopril, while 7 others with only captopril consumption as a control group. We measured the difference value of systolic, diastolic, and Mean Arterial Pressure (MAP) pre and post 4-weeks intervention. Statistical analysis was done using an independent t-test.

Result: Based on mmHg measurement, there were a greater reduction of systolic blood pressure (-11,43 vs 1,71; $p=0,259$), diastolic blood pressure (-4,29 vs -2,57; $p = 0,833$), and MAP (-1,14 vs -6,86; $p = 0,517$) between SEHAT and control group respectively.

Conclusion: SEHAT has the potency to become a promising antihypertension program in primary health care. As there was no significant result, further studies need to be carried out with a greater sample to strengthen its efficacy.

Keywords: SEHAT, DASH, Captopril, Hypertension.

6. COMPARISON OF PATIENT EDUCATION USING NATIVE LANGUAGE AND BAHASA TO TREATMENT COMPLIANCE FOR HYPERTENSIVE PATIENTS IN NORTH TIWORO DISTRICT

Alvin Johan¹, Audrey Natalia². ¹Tondasi Health Care Center, Muna Barat Regency, Southeast Sulawesi, ²Baruppu Health Care Center, North Toraja Regency, South Sulawesi

Background: Hypertension treatment compliance at the primary care level in Indonesia was around 58%. The language barrier was known to be a potential factor of hypertension treatment non-compliance.

Objective: To determine whether educating about hypertension to the patients in their native language will improve treatment compliance than educating in Bahasa.

Method: This was a prospective cohort study. The research was conducted in Tondasi Health Care Center from March 2019 until April 2020. Inclusion criteria were patients with newly diagnosed hypertension and can communicate in Bahasa. The patient was excluded if he/she was reported dead during this study's follow-up period. Good treatment compliance is defined by a follow-up visit to the health care center on the follow-up date that was previously agreed upon with the patients. The data was analyzed using the test of two proportions with a chi-square test of homogeneity on SPSS 24 software.

Result: We included a total number of 80 hypertensive patients in this study. Education regarding hypertension emphasizing the importance of routine control was given verbally in the patient's native language by a translator to 40 patients. The same education material was given verbally in the Bahasa to the other 40 patients. No patient was excluded from this study. In the native language education group, 22 patients (55%) had a good treatment compliance compared to 12 patients (30%) in the Bahasa education group, a statistically significant difference in the proportion of 0.25, $p=0.024$.

Conclusion: Educating patients in their native language results in better hypertension treatment compliance.

7. THE EFFECT OF SLEEP DURATION ON SYSTOLIC BLOOD PRESSURE AND NITRIC OXIDE CONCENTRATION IN HYPERTENSIVE PATIENTS

Ermin Rachmawati¹, Riskiyah², Mukhamad Nur Kholis³. ¹Physiology Department Faculty of Medicine and Health Sciences UIN Maulana Malik Ibrahim Malang Indonesia, ²Public Health Department Faculty of Medicine and Health Sciences UIN Maulana Malik Ibrahim Malang Indonesia, ³Medical Students Faculty of Medicine and Health Sciences UIN Maulana Malik Ibrahim Malang Indonesia

Background: Poor blood pressure control of hypertensive patients is caused partially by bad lifestyle management, which increases the risk of a cardiovascular event by stimulating the defective endothelial function.

Objective: This study aimed to investigate the effect of night sleep duration on systolic blood pressure and nitric oxide concentration in hypertensive patients.

Methods: 60 hypertensive patients age >40 years based on the medical record participated in this study. The sleep duration and sleep quality were performed using the Pittsburgh Sleep Quality Index Questionnaire. The 40 participants thus selected randomly for the nitric oxide concentration assay using Nitric Oxide Salivary Elisa Kit ab65238.

Results: 53 participants experienced night sleep duration ≤ 6 hours, and 44 (73.7%) participants had poor sleep quality. Night sleep duration was associated significantly with hypertensive patients' systolic blood pressure ($p = 0,000 < 0,05$; Odds ratio=0.008).

Conclusion: A 1 % increase in night sleep duration can reduce systolic pressure by 0.11 % in hypertensive patients. There was no correlation between night sleep duration on nitric oxide concentration ($p > 0.05$). These findings provide evidence that night sleep duration is associated strongly with the increased systolic blood pressure but not directly caused by the alteration of endothelial function.

8. ASSOCIATION OF NOCTURNAL BLOOD PRESSURE DIPPING PATTERN WITH CARDIOVASCULAR EVENTS AND ALL-CAUSE MORTALITY IN PATIENTS WITH HYPERTENSION: A SYSTEMATIC REVIEW AND META-ANALYSIS

Herick Alvenus Willim¹, Harie Cipta². ¹General Practitioner, Dr. Agoesdjarm Regional Public Hospital, Ketapang Regency, West Kalimantan, Indonesia, ²Department of Cardiology and Vascular Medicine, Dr. Agoesdjarm Regional Public Hospital, Ketapang Regency, West Kalimantan, Indonesia

Background: Hypertension remains a main contributor to morbidity and mortality worldwide. Studies have found that ambulatory blood pressure (BP) monitoring is superior to clinic BP in predicting prognosis in patients with hypertension. Assessment of nocturnal BP dipping pattern during ambulatory BP monitoring can provide additional prognostic significance and guide treatment decisions.

Objective: To conduct a systematic review and meta-analysis of the association of nocturnal BP dipping pattern with cardiovascular events and all-cause mortality in patients with hypertension.

Methods: Relevant literature was identified using PubMed, ProQuest, Cochrane Library, Embase, and Google Scholar. Subjects were categorized as dippers or non-dippers according to systolic dipping pattern by ambulatory BP monitoring. Dippers was defined as decreased in systolic BP from day to night of $\geq 10\%$. Non-dippers was defined as decreased in systolic BP from day to night of $< 10\%$. The outcomes were cardiovascular events and all-cause mortality. Meta analysis was performed using Review Manager 5.3 software.

Results: Eight cohort studies involving a total of 5260 hypertensive patients were included, of which 6 studies reported data on cardiovascular events and 4 studies reported data on all-cause mortality. On pooled analysis, hypertensive patients classified as non-dippers had significant increased risk of cardiovascular events compared with dippers (risk ratio [RR] 1.82; 95% confidence interval [CI] 1.55 - 2.14; $p < 0.00001$; $I^2 = 50\%$). Similarly, non-dippers had significant increased risk of all-cause mortality compared with dippers (RR 2.49; 95% CI 1.82 - 3.41; $p < 0.00001$; $I^2 = 10\%$).

Conclusion: In patients with hypertension, the non-dipper pattern was significantly associated with increased risk of cardiovascular events and all-cause mortality.

Keywords: Hypertension, dippers, non-dippers, cardiovascular events, mortality

References:

- Bastos JM, Bertoquini S, Polonia J. Prognostic value of subdivisions of nighttime blood pressure fall in hypertensives followed up for 8.2 years. Does nondipping classification need to be redefined? *J Clin Hypertens*. 2010;12(7):508-15.
- Kabutoya T, Hoshide S, Ishikawa J, Eguchi K, Shimada K, Kario K. The effect of pulse rate and blood pressure dipping status on the risk of stroke and cardiovascular disease in Japanese hypertensive patients. *Am J Hypertens*. 2010;23(7):749-55.
- Kario K, Pickering TG, Matsuo T, Hoshide S, Schwartz JE, Shimada K. Stroke prognosis and abnormal nocturnal blood pressure falls in older hypertensives. *Hypertension*. 2001;38(4):852-7.
- Pierdomenico SD, Pierdomenico AM, Coccina F, Lapenna D, Porreca E. Prognostic value of nondipping and morning surge in elderly treated hypertensive patients with controlled ambulatory blood pressure. *Am J Hypertens*. 2017;30(2):159-65.