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9. HYPERTENSION WITH COVID 19 INFECTION AT THE HOSPITAL OF THE CHRISTIAN UNIVERSITY OF INDONESIA, JAKARTA PERIOD MAY TO OCTOBER 2020

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Background: This study discussed patients with cofid infection 19 who were admitted to Indonesian Christian university hospital with comorbid hypertension. On December 31, 2019, China reported a case of mysterious pneumonia with no known cause. Within 3 days, the number of patients with these cases was 44 patients and continues to increase until now there are thousands of cases. Initially epidemiological data showed 66% of patients were related or exposed to a seafood market or live market in Wuhan, Hubei Province, China. (2019-nCoV) .2 On February 11, 2020, the World Health Organization named the new virus Severe Acute Respiratory Syndrome Coronavirus-2 (SARS-CoV-2) and the name of the disease as Coronavirus Disease 2019 (COVID-19).

Hypertension is one of the most common comorbids in Covid-19 patients. Hypertension is also widely available in Covid-19 patients who experience ARDS. It is currently unclear whether uncontrolled hypertension is a risk factor for contracting Covid-19, but controlling blood pressure is still considered important to reduce the burden of disease. SARS-CoV-2, the virus that causes Covid-19, binds to ACE2 in the lungs to enter cells, resulting in the use of angiotensin converting enzymes (ACE inhibitors) and angiotensin receptor blockers (ARBs), 2 classes of drugs that are frequently used in controlling hypertension, questionable benefit or harm.

Objective: Studying patients with covid 19 and their accompanying comorbids who were treated at the Hospital of the Faculty of Medicine of the Indonesian Christian University, Jakarta.

Method: This type of research is observational research. This study only observed patients. Study design of all treated patients with COVID-19. Research Location: General Hospital of the Christian University of Indonesia, Research Time: May to October 2020.

Result: It showed 50 people entered the inclusion criteria, hypertension with the most covid 19, 26 people (52%), type 2 diabetes mellitus with covid 19, 22 people (44%), CKD on hemodialysis with covid 19, 4 people (8%), CKD Non HD with covid 19, 3 people (6%). There were 2 patients with heart failure with covid 19 (4%), 2 people with hyperthyroidism with covid 19 (4%). Meanwhile, the ages of 61-70 years (40%) have a lot of Covid 19 in the period that date.

Conclusion: Covid 19 patients with comorbid hypertension and type 2 diabetes mellitus were mostly found with ages between 61-70 years.

Keywords: Hypertension, Covid 19, Comorbid.

10. BLOOD PRESSURE ON ADMISSION CHARACTERISTIC OF MULTIVESSEL DISEASE PATIENT IN ST- SEGMENTS ELEVATION MYOCARDIAL INFARCTION UNDERGOING PRIMARY PERCUTANEOUS INTERVENTION

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Background: In ST-segment elevation myocardial infarction (STEMI), several factors have been identified to be related with adverse outcome after PCI, including number of vessels involved, left ventricular function, and low TIMI flow. Blood pressure during admission is associated with risk of cardiovascular event. Component of blood pressure in STEMI patients may be correlated with in-hospital event.

Objective: This study aimed to observe blood pressure characteristic of STEMI patients according to number of infarcted vessels at National Cardiovascular Center Harapan Kita (NCCHK).

Methods: We collected medical record data of STEMI patients undergoing primary PCI in NCCHK from January to December 2020.

Results: This study included 344 patients. Multivessel disease, defined as significant stenosis in $\geq$ 2 major coronary arteries, occurred in 220 patients (64,0%). In the single vessel patients, LAD lesions occurred in 86 patients (69,4%), LCx in 9 patients (7.3%) and RCA in 29 patients (23.4%). Compared to single vessel patients, multivessel disease patients had lower blood pressure, with systolic blood pressure of 125.98 ± 25.77 vs 127.72 ± 23.11 (p = 0.522), diastolic blood pressure (DBP) of 74: 28 – 128 vs 79: 47 – 123 (p = 0.006) and mean arterial pressure of 91.67: 47 – 147 vs 95.17: 58 – 142 (p = 0.052). Chi-Square test showed that DBP < 70 mmHg is associated with multivessel disease, odds ratio of 1.75 with 95% CI of 1.10 to 2.79 (p = 0.018). In the single-vessel patients, there were statistically significant difference of DBP according to the culprit lesions. Patients with LAD lesion tend to have higher DBP (81: 51 – 120 vs 75.5: 47 – 123, p = 0.021) while RCA lesion tend to have lower DBP (74: 47 – 123 vs 81: 51 – 120, p = 0.029)

Conclusion: Lower diastolic blood pressure is associated with multivessel disease in STEMI patients undergoing PCI.

Keyword: Multivessel Disease, STEMI, Blood Pressure

11. PREVALENCE OF HYPERTENSIVE HEART DISEASE COMPARED TO CORONARY ARTERY DISEASE BASED ON ECHOCARDIOGRAPHY FINDINGS IN BANDUNG REGIONAL PUBLIC HOSPITAL FROM SEPTEMBER 2020-DECEMBER 2020

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Background: Hypertension was defined as SBP $\geq$140 mmHg and/or DBP $\geq$90 mmHg. The prevalence according to Indonesia Family Life Survey-5, among males and females were 31.0% and 35.4%. Hypertension could cause cardiac manifestations, including Hypertensive Heart Disease (HHD) and Coronary Artery Disease (CAD). HHD was a heart response to the afterload burden on the left ventricle caused by the progression of arterial pressure and total peripheral resistance, characterized by increased left ventricular mass associated with left ventricular hypertrophy (LVH), which was recommended echocardiography by ESH/ESC 2013 Guideline. This research was conducted to find out the prevalence of HHD compared to CAD based on echocardiography in Bandung Regional Public Hospital.

Methods: This is a descriptive study. We conducted a search of echocardiograph from all inpatients and outpatients that came first time to the cardiology clinic, from September 2020-December 2020. The patients included all gender and age. Data collected included Posterior Wall (PW) thickness, Inter Ventricular Septum (IVS) thickness and Left Ventricle Ejection Fraction (LVEF). LVH was defined if the PW or IVS thickness was greater than 11 mm as measured by M-mode echocardiography. LVH with LVEF >55% was interpreted as HHD.

Results: A total of 205 patients were analyzed. There were 75 (36.58%) diagnosed with HHD, 81 (39.52%) diagnosed with CAD, and 49 (23.90%) diagnosed with others. From 75 patients with HHD, 36 (48%) were males and 39 (52%) were females.

Conclusion: The prevalence of HHD was 36.58%, with 48% males and 52% females. This study matched with the IFLS-5 findings.

12. PUBLIC UNDERSTANDING OF HYPERTENSION AND ITS TREATMENT

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Background: Hypertension is one of the non-communicable diseases that is becoming a global problem. Hypertension is characterized by systolic blood pressure of 140 mmHg and diastolic 90 mmHg (according to JNC VIII). Uncontrolled hypertension affects all organs with various diseases and conditions that cause stroke, ischemic heart disease, heart attack, heart failure, kidney failure, blindness, etc.

According to Basic Health Research (Riskesdas 2018) the prevalence of hypertension for >18 years is 8.4%. According to measurements taken in health care facilities by 34.1%. Prevalence in the city was 34.4%, in the village it was 33.7%, while according to male sex 31.3% and female 36.9%.

Objective: The purpose of the study was to find out the knowledge and awareness of laypeople on hypertension.

Method: This cross-sectional online study is equipped with 11 questions. Respondents were recruited from social media groups.

Results: Four hundred and one respondents (63% female, 37% male), with the most age range 21-40 years (38%), 41-55 years (36%) and 56-65 years old (18.4%). Seventy-two percent of respondents did not have hypertension, while 19% of hypertension and 9% said they did not know. Fifty-three percent of respondents (213 people) knew the size of high blood pressure, 140/90 mmHg. 89% respondents said hypertension should be treated regularly. 77% of respondents responded when diagnosed with hypertension should take medication. The most hypertension complications answered by respondents were stroke (40%), heart attack (26%) and heart failure (16%). Amlodipine is most mentioned by respondents, the second is ACE-inhibitor, there are still mentions of omeprazole and omega-3 as anti-hypertension. Family history and a diet high in salt were risk factors that many respondents chose.

Conclusion: Respondents have a good understanding of hypertension. Need information related to behaviour so that prevalence does not continue to increase.

Keywords: hypertension, anti-hypertensive, adherence, knowledge, awareness

13. GARLIC EFFECT ON REDUCE BLOOD PRESSURE AND CHOLESTEROL IN PATIENTS WITH AND WITHOUT HYPERTENSION: A SYSTEMATIC REVIEW AND META-ANALYSIS OF RANDOMIZED CONTROLLED TRIALS

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Background: Garlic has been linked to improved cardiovascular health. Garlic has been suggested to lower blood pressure, plasma lipids as well as an antiplatelet effect and other cardiovascular markers.

Objective: We aim to assess the latest evidence on the effect of garlic on blood pressure and cholesterol in patients with and without hypertension through systematic review and meta-analysis.

Method: We performed a comprehensive search on topics that assesses garlic outcomes in patients with and without hypertension from inception up until December 2020.

Results: There were a total of 503 patients from 12 controlled trial studies. Pooled systolic blood pressure was lower in garlic group (mean difference -3.62 [-5.43, -1.80], p=<0.000001; I^2: 85%, p<0.0001). Meta-analysis showed that diastolic blood pressure was lower in garlic group (mean difference -1.40 [-2.72, -0.08], p=<0.00001; I^2: 86%, p=0.04) on follow-up. Total cholesterol was also lower in garlic group (mean difference -17.17 [-28.57, -5.78], p<0.00001; I^2: 86%, p=0.003). Level of heart rate was similar in garlic and placebo group.

Conclusion: This meta-analysis suggests that garlic is associated with reducing blood pressure and cholesterol in patients with and without hypertension. Future long-term trials are needed to elucidate the impact of garlic on cardiovascular morbidity and mortality.

Keywords: Garlic, Blood Pressure, Hypertension, Meta-Analysis

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14. REDUCE CARDIOMETABOLIC RISK BY REDUCING SITTING TIME AMONG OVERWEIGHT AND OBESE ADULTS: A META-ANALYSIS

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Background: Hypertension is a worldwide major public health concern associated with increased cardiometabolic risk (CMR) in adults. The rapid growth of technology and busier lifestyles cause society to have a longer period of sitting time which causes Hypertension and worsens other CMR. Objective: We aimed to evaluate whether prolonged standing time may decrease CMR among overweight and obese adults.

Methods: Studies were searched from Pubmed, Cochrane, Science Direct/Clinicalkey up to December 2019. We included studies of any design that evaluate sitting time and standing time to CMR among overweight and obese adults. Effect sizes were expressed as mean difference (MD), 95% Confidence interval (CI), and p-value <0.05.

Results: Five eligible studies including 220 participants (1 RCT, 2 randomized crossover trial, and 2 observational studies) were included in this study. All studies compared standing versus sitting time. We found statistically significant difference in diastolic blood pressure (mmHg) (MD: -2.05; 95% CI -2.60 to -1.50, 5 studies, p<0.00001), total cholesterol (mmol/L) (MD -0.38, 95% CI -0.67, -0.09, 2 studies p=0.01), LDL-cholesterol (mmol/L) (MD -0.38, 95%CI -0.65, -0.12, 2 studies, p=0.005), and fasting glucose (mmol/L) (MD 0.10, 95%CI 0.05, 0.16, 3 studies, p=0.0003). No statistically significant difference in systolic blood pressure (mmHg) (MD -1.67, 95%CI -3.37, 0.02, 5 studies, p=0.05), triglycerides, HDL-cholesterol, weight, BMI, and waist circumference.

Conclusion: Some studies show a statistically significant difference between prolonged standing and sitting time in CMR among overweight and obese adults. Further randomized controlled trials are needed to explore more to this issue.

15. BODY MASS INDEX AND HYPERTENSION IN INDONESIAN HAJJ PILGRIMS

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Background: Indonesia has the largest number of yearly hajj pilgrim around the world. Most of those pilgrims are elderly obese with comorbidity such as hypertension.

Objective: The aim of this study is to determine correlation between body mass index and hypertension among East Java's pilgrims in 2017 to 2019.

Method: This study is observational analytic as in cross sectional analysis from East Java pilgrims data between 2017 to 2019. Data was collected by trained hajj health worker and then analyzed by spearman rank correlation test. Body mass index was classified by World Health Organization (WHO) while hypertension by Joint National Committee (JNC) 8.

Result: There was a total of 105.988 data was collected in which 392 data are invalid due to inappropriate value. Almost half (45.47%) of the pilgrims were normal body mass index yet only 4871 (4.6%) of the pilgrims were underweight. There were 38.403 (36.36%) pilgrims categorized as overweight while 14.301 (13.54%) were obese. However, only 54.120 (1.7%) had normal systolic blood pressure. Further, alarmingly, 31.096 (29,44%) were in pre hypertension stage. There were only 13.757 (13.02%) and 6623 (6.2%) pilgrims categorized having grade one and two hypertension respectively. From the spearmen test analysis result, there was a significant correlation between body mass index and hypertension (p= 0.000, r = 1)

Conclusion: In sum, there was a strong linear significant relationship between body mass index and systolic blood pressure.

Keyword: Body mass index, hypertension, hajj.

16. PHYSICAL ACTIVITY EFFECT ON BLOOD PRESSURE OF HYPERTENSIVE PATIENTS IN KALIDERES, JAKARTA

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Background: Based on the World Health Organization (WHO) data, at least 45% of deaths from heart disease were caused by hypertension (total mortality from ischemic heart disease and 51% from stroke). From 50% of known hypertensive patients, only 25% received treatment and only 12.5% treated properly. Each year, 7 million people in worldwide died because of hypertension. The incidence of hypertension can be influenced by modifiable and non-modifiable risk factors. Lack of physical activity is one of a modifiable risk factor of hypertension. Physical activity or regular exercise is useful for managing body weight and strengthening the heart and blood vessel system. Regular exercise can reduce stiffness of blood vessels and increase the endurance of the heart and lungs so that it can lower blood pressure.

Objective: To determine whether the physical activity can reduces blood pressure of hypertensive patients.