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OBJECTIVES: to analyze the pharmacoutilization in patients suffering from non-valvular atrial fibrillation (NVAF), to estimate prevalence and incidence of oral anticoagulants users (VKA and NOACs) or antiplatelet users. **METHODS:** a retrospective cohort of patients with at least one hospitalization referring to a primary or secondary NVAF diagnosis was extracted from administrative databases of five Italian Local Health Units (Bergamo, Piacenza, Roma, Bussolengo and Palermo) during the period from 1 January 2009 to 31 December 2014. Patients with a heart valve surgery (DRG 104-105) or patients with a hospitalization referring to a primary or secondary diagnosis of mitral and/or aortic valves disease (ICD9 code 394, 395, 396) were excluded from the analysis. All patients receiving at least one prescription of study medication (VKA, NOACs or antiplatelet) during 2014 were followed up for a 12 months period in order to evaluate pharmacoutilization and treatment persistence. **RESULTS:** Preliminary data regarding Bergamo and Piacenza showed that the cohort was composed of 16098 patients with NVAF and, among them, 11,727 patients (72.9%) were being treated with VKA, NOACs or antiplatelets in 2014. 1809 patients were found to be incident users. Most prescribed treatments were warfarin and acetylsalicylic acid that together cover over the 75% of prevalent patients (50.5% and 28.8% of users, respectively) and over the 60% of incident patients (41.3% and 22.5% of users, respectively). At 12 months, higher persistence was found in incident users treated with apixaban (58.1%), rivaroxaban (49.6%) and dabigatran (46.8%) in comparison with warfarin (15.7%) and acetylsalicylic acid (24.3%). Significant differences were found among NOACs versus VKA and antiplatelets (pvalue < 0.0001). **CONCLUSIONS:** Warfarin and acetylsalicylic acid were the most prescribed treatments, but they showed a lower persistence in comparison with NOACs, especially Apixaban.

PCV115

ASSESSMENT OF MEDICATION ADHERENCE AND THE ASSOCIATED COST OF CALENDAR BLISTER PACK AMONG HYPERTENSIVE PATIENTS IN MALAYSIA

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BACKGROUND: Poor medication adherence leads to inadequate treatment outcomes, progression of diseases, poor quality of life, as well as high healthcare cost. **OBJECTIVES:** To assess the efficacy of a calendar blister pack (CBP) intervention to improve medication adherence, and to evaluate the cost associated with the said intervention. **METHODS:** A parallel randomized controlled trial was conducted with 73 hypertensive patients (intervention group = 35, control group = 38) at Kulim Hospital, Malaysia. The intervention group received the medication packed in CBP and control group received normal blister pack medication. Patients were scheduled to refill their prescription every 28 days for 7 months. Assessments were conducted at baseline, 3 and 6 months post-baseline, which included measures on medication adherence through self-reported measure, blood pressure and health care utilization. Data from the pharmacy was taken to calculate the medication possession ratio. Both descriptive and inferential statistic were used for data analysis with P<0.05 taken as significant. **RESULTS:** Intervention group demonstrated an overall improvement of medication possession ratio, Morisky medication adherence scale and percentage of refill on time (p<0.05). There was a significant reduction of 11 mmHg in systolic blood pressure (p < 0.01) but there was not effect on diastolic blood pressure (p>0.05) in intervention group. From the health care perspective, the average annual treatment cost per patient in the intervention group was RM 2178.66 (-USD 526.95) (95% C.I. 1786.39 -2570.94), compared to RM 2693.09 (-USD 651.37) (95% C.I. 1903.23 - 3482.95) in the control group. **CONCLUSIONS:** This study provide evidence that CBP has a positive impact towards medication adherence and systolic blood pressure. The study also demonstrated that CBP is also capable of considerable cost savings.

PCV116

THE FACTORS RELATED WITH PATIENT EXPERIENCE OF MEDICATION: A MULTILEVEL ANALYSIS

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OBJECTIVES: With advent of the patient-centric healthcare paradigm, it is important to consider patients' health experience when making treatment decisions. This study aimed to describe patients' medication experience among patients with hypertension and to examine whether the patients' medication experience depends on individual drugs and patient characteristics. **METHODS:** Data were from a cross-sectional survey of members of six senior centers in a metropolitan statistical area of a south eastern state of the US. The seniors taking at least one hypertensive medication were included in this study (N=216). Patient medication experience was measured in terms of overall experience, effectiveness, side effects, ease of use, cost of medication, food interactions using a 5-point Likert scale. Patient characteristics were socio-demographics, MMAS (Morisky Medication Adherence Scale), BMQ (Beliefs about medicines questionnaire), and CCI (Charlson Comorbidity Index). Drug characteristics were active ingredients. Multilevel analysis was conducted to control for the nested structure of the medication experience. **RESULTS:** Overall, patients were satisfied with their blood pressure medications (mean=4.28, sd=1.29). They were less satisfied with safety (mean=3.15, sd=1.83) than with effectiveness (mean=4.22, sd=1.28). The percent of variance in each patient medication experience explained by the patient level factors ranged between 73.21% and 90.56% of ICC (Intraclass Correlation Coefficients). Patients' overall experience was significantly associated with medication belief (p=0.009), adherence (p=0.002), and education (p=0.007). Patients with better medication adherence had significantly better experience in effect (p=0.039), ease of use (p=0.046), and cost of medication (p=0.024). However, they did not have better experience in medication safety and food interaction. **CONCLUSIONS:** Patient medication experience differed depending on drugs and patient characteristics. The existence of varying medication experience signifies a critical need for tailored medication counseling for a well-controlled hypertension.

PCV117

NON-ADHERENCE TO ANTIHYPERTENSIVE DRUGS: A SYSTEMATIC REVIEW AND META-ANALYSIS

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OBJECTIVES: Hypertension drives the global burden of cardiovascular disease and its prevalence is estimated to increase by 30% by the year 2025. Non-adherence to chronic medication regimens is common, approximately 43 to 65.5% of patients who fail to adhere to prescribed regimens are hypertensive patients. Non-adherence to medications is a potential contributing factor to the occurrence of concomitant diseases. This systematic review applied a meta-analytic procedure to investigate the medication non-adherence in adult hypertensive patients. **METHODS:** Original research studies, conducted on adult hypertensive patients, using the 8-item Morisky medication adherence scale (MMAS-8) to assess the medication adherence between January 2009 and March 2016 were included. Comprehensive search strategies of four databases and MeSH keywords were used to locate eligible literature. Study characteristics, participant demographics, and medication adherence outcomes were recorded. Effect sizes for outcomes were calculated as standardized mean differences using random effect model to estimate overall mean effects. **RESULTS:** A total of 28 studies from 15 countries were identified, in total comprising of 13,688 hypertensive patients, were reviewed. Of 25 studies included in the meta-analysis involving 12,603 subjects, a significant number (45.2%) of the hypertensive patients and one-third (31.2%) of the hypertensive patients with co-morbidities were non-adherent to medications. However, a higher proportion (83.7%) of medication non-adherence was noticed in uncontrolled blood pressure (BP) patients. Although a higher percentage (54%) of non-adherence to antihypertensive medications was noticed in females (p<0.001), the risk of non-adherence was 1.3 times higher in males, with a relative risk of 0.883. Overall, nearly two-thirds (62.5%) of the medication non-adherence was noticed in Africans and Asian (43.5%). **CONCLUSIONS:** Non-adherence to antihypertensive medications was noticed in 45% of the subjects studied and a higher proportion of uncontrolled BP (83.7%) were non-adherent to medication. Intervention models aiming to improve adherence should be emphasized.

PCV118

HEALTH STATE UTILITIES IN CHRONIC HEART FAILURE IN THE UK: A SYSTEMATIC REVIEW

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OBJECTIVES: Heart failure (HF) is a common condition in the UK, with prevalence estimates of up to 0.9 million people. Each year, HF leads to approximately 152,000 hospitalisations, which is only one factor impacting patients' quality of life (QoL), together with reduced functional capacity, exercise performance and psychological status. Our objective was to quantify the impact of chronic heart failure (CHF) on patients' QoL, compared with the general (age-matched) population. **METHODS:** A systematic review (SR) was conducted to identify health state utility value (HSUV) evidence for patients with CHF. Electronic databases (MEDLINE, EMBASE, the Cochrane library and Econlit) were interrogated on 11th May 2015. Electronic searches were supplemented by hand-searching of health technology assessment websites, conference proceedings and reference lists of included studies. Included studies had to be in adults with CHF, in an Organisation for Economic Co-operation and Development (OECD) country, and report a QoL outcome. **RESULTS:** After removal of duplicates and two rounds of screening, 47 records (40 full papers, five abstracts and two posters) were included. Nineteen were considered key records, as their methodology was consistent with the NICE reference case. Mean EQ-5D values varied between HF sub-populations (e.g., New York Heart Association [NYHA] class is a key factor influencing EQ-5D) from 0.28–0.86, with 12 of 19 studies reporting mean EQ-5D values between 0.6 and 0.7. In contrast, EQ-5D utilities for the general and age-matched general population are 0.86 and 0.78, respectively. The 27 identified studies which did not meet the NICE reference case, confirm and support these results. **CONCLUSIONS:** Compared with the age-matched general population, patients with CHF experience reduced QoL. QoL decreases with symptom severity, ranging from little to no reduction for NYHA I patients to a substantial reduction in QoL for NYHA IV patients, compared with the age-matched general population.

PCV119

EQ-5D STUDIES IN DISEASES OF THE CIRCULATORY SYSTEM IN EIGHT CENTRAL AND EASTERN EUROPEAN COUNTRIES

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OBJECTIVES: To systematically review studies with the use of the EQ-5D within circulatory system diseases, performed in Central and Eastern European (CEE) countries. **METHODS:** We performed a systematic literature search using PubMed, EMBASE, Web of Science, CINAHL, PsycINFO, The Cochrane Library and the EuroQoL Group database up to July 1, 2015. Local journals were also handsearched. Full-text articles reporting original research with EQ-5D instruments from Austria, Bulgaria, Czech Republic, Hungary, Poland, Romania, Slovakia and Slovenia were included. Studies on diseases of the circulatory system were selected and analysed. **RESULTS:** From the 143 identified references on EQ-5D in CEE countries, 30 papers on 9429 patients dealt with conditions of the circulatory system. Most of studies were performed in Poland (18) or Czech Republic (7). Described conditions included: ischaemic heart disease (number of studies N=14; number of

participants n=6541), arrhythmias (N=4; n=897), peripheral arterial occlusive disease (N=4; n=235), stroke (N=3; n=580), hypertension (N=2; n=654), aortic stenosis (N=2; n=85) and vein surgery (N=1; n=437). Majority of studies were prospective cohort (13) or cross-sectional (12) in nature and were performed as an on-site survey (29). Five level EQ-5D (EQ-5D-5L) was used in three studies, and EQ-5D-Y in none. EQ-5D utility scores were reported in 12 (40%) papers and they were based on UK, Polish, European or Slovenian tariff (4, 4, 3, 1 studies, respectively). **CONCLUSIONS:** The area of circulatory system diseases is the largest field of activity in EQ-5D studies in Central and Eastern Europe. Our results provide a basis to develop a regional EQ-5D database and a research agenda for cardiovascular centres both at the national and regional level.

PCV120

UTILITY MEASURES AND QUALITY-ADJUSTED LIFE YEARS IN PATIENTS WITH SYMPTOMATIC MULTIVESSEL CORONARY ARTERY DISEASE ASSIGNED TO SURGERY, ANGIOPLASTY OR MEDICAL TREATMENT – MASS II TRIAL

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OBJECTIVES: Currently, there is scarce data from clinical trials estimating and comparing utilities and quality-adjusted life years (QALYs) measurements after three usual therapeutic strategies for multivessel coronary artery disease (CAD). This study describes and compares utility and QALYs measures for CAD patients assigned to medical treatment (MT), percutaneous coronary intervention (PCI) and coronary artery bypass graft (CABG). **METHODS:** Utility and QALYs were obtained from 579 patients from MASS II study, a randomized prospective study. To obtain utilities, the items of the 36-Item Short-Form (SF-36) were converted into a six-dimensional health state classification system, the SF-6D. The interviews were administered at baseline and at six, 12, 24, 36, 48 and 60 months of follow-up. **RESULTS:** The median cumulative utility scores along the five years were 0.8090 (95% CI, 0.8035-0.8090) for patients assigned to PCI, 0.7710 (95% CI, 0.7620-0.7840) to MT and 0.7830 (95% CI, 0.7710-0.7970) to CABG, which were significantly different among all groups ($p < 0.05$, Dunn test). The median cumulative QALYs along the five years was 4.015 (95% CI, 3.9150-4.1050) for PCI, 3.8320 (95% CI, 3.7555-3.9110) to MT and 3.9840 (95% CI, 3.8815-4.0575) to CABG. Additionally, the median QALYs gained between PCI vs. MT was 0.183, CABG vs. MT was 0.152 and PCI vs. CABG was 0.031. Diabetes and functional class subgroups did not influence the results. **CONCLUSIONS:** Considering the preference-based measures as a support for decision-making process, PCI showed to be the treatment with higher cumulative quality of life among multivessel CAD patients compared to CABG and MT. The results presented constitute valuable data for further cost-utility studies. **STUDY ASSOCIATION** This abstract is part of the doctoral thesis of Sara Michelly G Brandao by Programa de Pós-Graduação em Cardiologia da Faculdade de Medicina da Universidade de São Paulo.

PCV121

CAREGIVER BURDEN AND QUALITY OF LIFE OF INFORMAL CAREGIVERS OF STROKE PATIENTS: A PROSPECTIVE STUDY

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OBJECTIVES: Modern therapeutics and healthcare improvements prolong stroke patients' survival, however, the degree of disability remains high. It requires them having caregivers, especially in the first year after the onset. Longitudinal assessment of quality of life (QoL) and caregiver burden (CGB) and factors associated with these are limited among caregivers of stroke patients. The research aims to define the changes in QoL and CGB in first year of caregiving among the caregivers of stroke patients and to identify factors associated with it. **METHODS:** Prospective, multi-centered observational study was conducted in the nine public hospitals in Mongolia. We used the WHOQOL-BREF questionnaire for assessing QoL and the Montgomery Caregiver Burden Scale for assessing CGB, and repeated after 1 year. Stroke patient characteristics were included for analysis. Generalized estimating equations were conducted to determine the factors associated with QoL. Multinomial logistic regression were conducted to analyze CGB change. **RESULTS:** QoL in the psychological health ($p = 0.003$) and social relationship ($p < 0.001$) domains improved after 1-year of caregiving; however, physical health declined ($p = 0.47$), but this decline was not significant. The factors associated with low QoL were poor physical health ($\beta = -9.11$, $p = 0.013$) and financial difficulties ($\beta = -9.73$, $p = 0.008$). None of the variables from stroke patients' were significantly associated to caregivers' QoL. Caregiver burden had increased in demand burden ($p = 0.034$), while objective ($p = 0.568$) and stress burden ($p = 0.016$) had decreased. Factors associated with these changes in CGB were caregiver's marital status, relationship to the patient, financial difficulties, and patient's gender and dependency. **CONCLUSIONS:** This study provides information on factors predicting QoL and CGB change in first year of caregiving, which suggests social or financial support would be helpful for improving QoL and decreasing CGB among the caregivers who take care of post-stroke patients.

PCV122

COMPARING CORONARY ARTERY DISEASE TREATMENT OUTCOMES – AN EXAMPLE BASED ON HEALTH-RELATED QUALITY OF LIFE MEASUREMENTS

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OBJECTIVES: To be able to allocate treatments according to need (worst off first) and compare effectiveness of treatments of different illnesses and service providers, the health status of patients must be measured commensurably. We demonstrate how such an approach enables the comparison of effectiveness of coronary artery bypass grafting provided by three Finnish hospitals. **METHODS:** Health-related quality of life (HRQoL) was measured between 1999 and 2003 with the 15D instrument before and six months after treatment in Kuopio University Hospital (KUH, n=393),

Vaasa Central Hospital (VCH, n=281), and Helsinki University Hospital (HUH, n=86), respectively. The minimum clinically important change or difference in the 15D score representing overall HRQoL on a 0-1 scale is 0.015. Differences between and within hospitals were tested by independent and paired samples t-tests and linear regression with some background variables standardized. **RESULTS:** At baseline, mean 15D score was in KUH (0.752) statistically significantly ($p < 0.001$) and clinically importantly lower than in VCH (0.831) or HUH (0.830). The mean six-month score was 0.858 in KUH, compared to 0.860 and 0.875 in VCH and HUH, respectively. With gender, age and baseline 15D score standardized, the mean six-month scores were 0.846, 0.879 and 0.877 in KUH, VCH and HUH, respectively and the differences between KUH and both other hospitals became statistically significant ($p < 0.001$) and clinically important. A clinically important HRQoL improvement was experienced by 85.8, 59.1 and 64.0% and a clinically important deterioration by 6.8, 25.3 and 22.1% in KUH, VCH and HUH, respectively. **CONCLUSIONS:** Treatment indication and effectiveness in terms of HRQoL, i.e., 15D score change and percentage of patients experiencing a clinically important improvement or deterioration, varied between hospitals. HRQoL measurements can be used to compare effectiveness of treatment between hospitals but for fair comparisons standardization of relevant baseline demographic and clinical parameters of patients is needed.

PCV123

CHARACTERISTICS AND QUALITY OF LIFE IN PERIPHERAL ARTERIAL DISEASE (PAD) PATIENTS IN KOREA: RESULTS FROM PAD OUTCOMES RESEARCH

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OBJECTIVES: PAD significantly impairs patient quality of life (QoL) upon disease progression. PAD Outcomes Research (OR) investigated disease burden including resource consumptions and QoL in patients with PAD in Korea. Here we report characteristics and QoL of Korean PAD patients. **METHODS:** PAD OR was a prospective, observational, multi-center (23 tertiary-hospitals) study from June 2013 to August 2014. Among patients receiving PAD treatment in the participating hospitals, those who satisfied the following inclusion criteria were recruited; age ≥ 20 years, and ankle-brachial index (ABI) ≤ 0.9 , lower extremity artery stenosis $\geq 50\%$ on CT angiography, or peak systolic velocity ratio (PSVR) ≥ 2.0 on duplex sonography. Clinical characteristics were collected through medical chart review. QoL was assessed via EuroQoL-five-dimensions (EQ-5D). **RESULTS:** A total of 1,260 patients (mean age 69.8 years, male 77.0%) were enrolled in the study. Disease duration from the diagnosis was 15.9 \pm 8.4 days. ABIs (n=722) were Left; 0.84 \pm 0.23 and Right; 0.85 \pm 0.24. Proportion of patients (n=1249) at each Fontaine stage was; 43.0% Stage I (asymptomatic), 44.0% Stage IIa (mild claudication), 10.2% Stage IIb (moderate-severe claudication), 1.8% Stage III (ischemic rest pain), and 1.0% Stage IV (ulceration or gangrene). Prevalent comorbidities among patients (n=1260) were; hypertension (75.0%), diabetes (51.7%), percutaneous coronary intervention (42.9%), hyperlipidemia (42.0%), angina-pectoris (34.0%), myocardial infarction (16.4%), stroke (13.9%), and heart failure (10.3%). Of total, 94.1% were taking pharmacological interventions for PAD. Of them, Aspirin (76.2%) was the most used anti-platelet agent, followed by clopidogrel (53.3%), cilostazol (33.6%). Hypertension, hyperlipidemia and diabetes which are major risk factors, were treated via medication in over 95% of the patients. The mean baseline EQ-5D score was 0.64 \pm 0.24. By dimensions, patients who answered some/severe problems in each domain of mobility, pain/discomfort, usual activity, anxiety/depression, self-care were 68.0%, 65.3%, 45.7%, 35.6%, and 25.7%, respectively. **CONCLUSIONS:** High prevalence of comorbidities among Korean PAD patients were observed. Moreover, QoLs of patients were significantly impaired by the disease. The EQ-5D score (0.64) in this study is considerably low compared to the scores of other chronic diseases reported in previous studies which were 0.69 for myocardial infarction and 0.72 for renal failure.

PCV124

WILLINGNESS TO PAY FOR A QUALITY-ADJUSTED LIFE YEAR OF OUTPATIENTS WITH CARDIOVASCULAR DISEASES

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OBJECTIVES: A valid cost-effectiveness threshold was required for every country to conduct cost-effectiveness analysis. Among several measurements for cost-effectiveness threshold, willingness to pay (WTP) per a quality-adjusted life year (QALY) has been used widely. This study aim to determine the value of WTP per QALY as well as possible influencing factors. **METHODS:** Cross-sectional study using face-to-face interview technique. The EuroQuality of life – 5 Dimensions – 5 Level (EQ-5D-5L) has been used to estimate the patients' QoL. The value of WTP per QALY was gained through bidding game technique in one scenario of improving patient's current state to perfect health by hypothetical treatment. The randomized sample based on inclusion and exclusion criteria has been chosen from January to March 2016. **RESULTS:** Study sample included 252 outpatients at Heart Institute in Ho Chi Minh City with average age at 52.46 \pm 0.65, the gender ratio between male and female at 1:1.02, most patients from urban area (54.8%), average monthly household income at 15.8 \pm 0.99 million VND. Three out of four patients visited Heart Institute for the first time, most of them (93.7%) had not had medical intervention in the past and health utility of patients derived from EQ-5D-5L questionnaire with index-based Thailand value set at 0.7474 \pm 0.0097. The value of WTP per QALY was 50.1255 \pm 3.3585 million VND/QALY and ranged from 0.33 to 144.4 million VND/QALY. The influencing factors included gender, living area, household income and health utility. **CONCLUSIONS:** The value of WTP/QALY explicated from this study is approximate with GDP per capital in Vietnam as recommended by WHO-CHOICE for Southeast Asian countries. This result can be used as an indicator of financial