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000

UTILITY OF SEMI-AUTOMATED CLINIC AND 24 HOUR AMBULATORY BLOOD PRESSURE MEASUREMENTS TO EVALUATE FIXED-DOSE COMBINATION THERAPY: THE RAMIPRIL-HYDROCHLOROTHIAZIDE HYPERTENSION TRIAL

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Angiotensin-converting enzyme (ACE) inhibitors combined with higher doses (i.e., 25 mg daily) of hydrochlorothiazide (HCTZ), have been recognized as an effective form of antihypertensive therapy to achieve more rigorous blood pressure (BP) control. Clinical trials evaluating new antihypertensive therapies have recently been plagued by observer bias that negatively impacts the reliability of clinic BP readings. To evaluate a novel ramipril formulation that combines 20 mg of ramipril with HCTZ 25 mg, we carried out a randomized, double-blind, controlled trial with 3 monotherapy dose schedules (ramipril 20 mg QD, ramipril 10 mg BID, and HCTZ 25 mg QD) as comparators in 341 patients with Stage 2 hypertension. The clinic BP was assessed using a semiautomatic digital device and 24-hour BP was measured using ambulatory BP recordings at baseline and after 8 weeks of therapy. At baseline, the demographics and baseline BP values were similar in the 4 treatment groups (mean age=51–53 years, 51–58% male, 64–70% non-black, mean clinic BP=155–158/103–104 mmHg). Ramipril-HCTZ induced greater reductions in both clinic and ambulatory BP than HCTZ alone and ramipril 20 mg QD (Table). Reductions from baseline were typically greater for the clinic BP derived from device measurements compared to daytime BPs derived from ambulatory BP measurements. In conclusion, these data support the continued use of ambulatory BP monitoring even when automated BP devices are used for the assessment of clinical BP in trials that attempt to differentiate BP responses among active comparator groups.

001

PREVALENCE OF MICROALBUMINURIA AND ITS ASSOCIATION WITH PULSE PRESSURE IN A MULTI-ETHNIC POPULATION IN AMSTERDAM, THE NETHERLANDS – THE SUNSET STUDY

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Objectives. We aimed to assess ethnic differences in microalbuminuria and its association with pulse pressure (PP) in a multi-ethnic population in Amsterdam, the Netherlands.

Methods. Microalbuminuria was measured using the albumin-creatinine ratio in a random sample of 1394 adults aged 35–60 years.

Results. The overall prevalence of microalbuminuria was 4.3%. Hindustani-Surinamese (6.7%) and African-Surinamese (4.2%) had a higher prevalence of microalbuminuria than White-Dutch people (2.9%). The difference persisted in the Hindustani-Surinamese after potential confounding factors had been adjusted for in a multiple logistic regression model. The odds ratios and 95% confidence intervals were 2.34 [1.0–5.23] for Hindustani-Surinamese and 1.69 [0.74–3.81] for African-Surinamese. In ethnic specific models, PP was independently related to microalbuminuria only in African-Surinamese.

Conclusion. The higher prevalence of microalbuminuria in African-Surinamese and Hindustani-Surinamese people may contribute to the higher cardiovascular disease and renal disease reported among these populations in the Netherlands. The excess rate in Hindustani-Surinamese suggests an important area for further research. PP was independently related to microalbuminuria in African-Surinamese, which indicates that it may be important to the causal pathways leading to cardiovascular mortality and renal disease. Longitudinal studies are needed to examine the role of high PP with microalbuminuria on renal failure among African descent populations.

003
CARDIOVASCULAR DISEASES AND INFECTIONS IN SUB-SAHARAN AFRICA: THE UTILITY OF C-REACTIVE PROTEIN

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Sub-Saharan Africa (SSA) is characterized by an altered population age profile, a recent urbanization and by maternal and fetal malnutrition as main causes of increasing cardiovascular diseases (CVD) in this part of the world. Inflammation resulting from infections is known to play a significant role in the development of cardiovascular diseases (CVD) via proinflammatory cytokines such as interleukine-6 (IL-6), tumor necrosis factor alpha (TNF- α) and adhesion molecules intracellular adhesion molecule-1 (ICAM-1) and vascular-cell adhesion molecule-1 (VCAM-1). However little is still known about CVD and plasmodium falciparum, chlamydia trachomatis, toxoplasma gondii and human immunodeficiency virus (HIV) which are known to infect humans from pregnancy to adulthood particularly in SSA where both infections and CVD coexisted. C-reactive protein (CRP), a mediator of disease, has been identified as a marker of inflammation. Recent evidence showed common polymorphism at the CRP gene locus and subjects homozygous for the common haplotype demonstrated highest levels of CRP than those having the rare allele at either site.

This review is to analyze the importance of infections from pregnancy to adulthood in SSA where CVD is increasing along with the presence of infections in CVD patients during treatment. Increased CRP, urea and creatinine levels are also reported in agreement with recent study on Australian Aborigines exhibiting markedly elevated CRP levels than in another population in the same country, probably due to repeated exposure to infections associated with high rates of renal failure together with increased cardiovascular morbidity and mortality.

004
INITIAL THERAPY WITH IRBESARTAN/HYDROCHLOROTHIAZIDE IN BLACK PATIENTS WITH SEVERE HYPERTENSION

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Objective. To evaluate the antihypertensive efficacy and safety of irbesartan/hydrochlorothiazide (HCTZ) fixed-dose combination as initial therapy in a subgroup of Black patients with severe hypertension.

Methods. This was a multicenter, randomized, double-blind, active-controlled, 7-week trial, with forced-titration after Week 1. Patients aged ≥ 18 years with seated diastolic blood pressure [SeDBP] ≥ 110 mmHg were randomized 2:1 and received initial combination treatment with irbesartan/HCTZ 150/12.5 mg titrated to 300/25 mg or irbesartan 150 mg with force-titration to 300 mg. The primary endpoint was the percentage of patients achieving SeDBP control (< 90 mmHg) at Week 5. The percentage of patients with BP $\geq 180/110$ mmHg and safety were also assessed.

Results. Overall, 468 patients received irbesartan/HCTZ (Black patients, $n=67$ [14.3%]) and 229 patients received irbesartan (Black patients, $n=34$ [14.8%]). At Week 5, SeDBP control was achieved by 40.3% of Black patients treated with irbesartan/HCTZ and 14.7% of those treated with irbesartan. The percentage of Black patients with BP $\geq 180/110$ mmHg was lower with irbesartan/HCTZ than with irbesartan at Week 1 (25.4% vs 43.8%) and Week 5 (10.2% vs 34.5%). Mean (\pm SD) changes in seated systolic BP/SeDBP from baseline to Week 5 were greater with irbesartan/HCTZ ($-26.8 \pm 14.7 / -22.0 \pm 9.1$ mmHg) than with irbesartan ($-13.7 \pm 14.4 / -12.9 \pm 12.6$ mmHg). Both treatments were well tolerated and had similar adverse event profiles. Treatment-related adverse events occurred in 17.9% and 23.5% of Black patients treated with irbesartan/HCTZ and irbesartan, respectively. The most common event in both groups was headache.

Conclusions. Irbesartan/HCTZ was effective and safe in severely hypertensive Black patients as initial combination therapy.

005

SIMILAR PLASMA RENIN ACTIVITY BETWEEN AFRICANS AND AFRICAN AMERICANS: AN ETHNIC ORIGIN LINKD MAVOUNGOU^{1,2}; MD Bouity-Voubou¹; P Hamet²¹Centre de Recherche sur les Pathologies Hormonales de Libreville, Libreville, Gabon; ²Chaire de Recherche du Canada en Génomique Prédictive, Centre Hospitalier de l'Université de Montréal, Montréal, Québec, Canada

Introduction. African Americans, including normotensive, diabetic and hypertensive patients, demonstrated low or suppressed renin activity. DHEA is the major ligand of peroxime proliferators' activators receptors (PPARS); its PPARS gene variation is known to influence age of onset and progression of type 2 diabetes.

Purpose. To present data of normotensive and hypertensive patients from Central Africa (Gabon), on plasma renin activity, blood pressure and some related steroid hormones including DHEAS, DHEA and cortisol (F).

Methodology. Plasma renin activity (PRA), DHEAS, DHEA, cortisol (F) and blood pressure were measured in 55 hypertensive patients (group A) and in 25 normotensive control subjects (group B), age 35 to 55 years using RIA and Tycosphyngomanometer, respectively. Body mass index (BMI) was also recorded.

Results. Plasma renin activity (ng/ml/h) was low or suppressed in the two groups as observed in Nigerian (West Africa) and in South African studies. However group A showed the lowest plasma renin activity ($P < .01$); DHEAS (ng/dl), was higher in group A than in group B ($P < .01$); tendency to have high levels of DHEA was found in group A; F levels which remained low in both groups compared to known age-matched Caucasians levels. BMI was higher in group A than in group B ($P < .01$).

Conclusion. The low or suppressed plasma renin activity found in Gabon, is similar to values found in West Africans as well as in South Africans. Rates for African Americans indicated that plasma renin activity profile is ethnicity dependent. DHEA and DHEAS remained markers of cardiovascular diseases.

006

BATTERY AND NEGLIGENCE IN CLINICAL RESEARCH: TRAUMATIC AND DISASTROUS IMPLICATIONS FOR THE HEALTH OF AFRICAN PEOPLE

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Clinical trials, the cornerstone of modern medical practice, provide the foundation for evidence-based medicine. Historically, people of African descent in the United States have been largely excluded from clinical trials, constituting a form of negligence which contributes to health and healthcare disparities. In many instances, when Black people have been included in clinical trials, they have unwillingly or unwittingly become guinea pigs at the hands of unethical researchers. As a result, many have experienced damage to their emotional and physical health. This situation is tantamount to battery on the part of government and industry.

The evidence for increased minority participation in clinical trials is convincing, yet we have not been able to systematically adapt this philosophy across the sciences. Why is that? The reasons for non-inclusion are also relevant: increased cost of delaying clinical trials due to difficulty in recruiting minorities in the United States, current acceptance of insufficient participation, and an alternative to achieve this participation in non-US countries. However, these reasons for non-inclusion focus on short-term outcomes and not on long-term advantages. Ultimately, more diverse populations in clinical trials will result in improved economic, social and health benefits, not only for people of African descent and other minority groups, but also for the entire US society.

As we move forward in addressing the necessity of increased participation of people of African descent in research and clinical trials, more coordinated efforts across the pharmaceutical industry, governmental agencies, educational institutions, non-governmental organizations, and community members must occur. These strategies must be systematic and include policy as well as details for implementation and evaluation, a funding plan to accomplish stated goals, and reasonable timelines in which to accomplish these goals.

Systematic planning for recruitment in clinical trials of people of African descent should acknowledge the history of mistrust borne by this group and attempt to establish clear guidelines that address this history. These guidelines can build upon existing competencies in general research protocols with human subjects, highlighting issues such as disclosure during informed consent and safeguards against the potential exploitation of research subjects of African descent.

007

COMPLEMENTARY AND ALTERNATIVE MEDICINE (CAM) USE AND PREVALENCE OF CHRONIC DISEASE STATES AMONG AFRICAN AMERICANS

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Objectives. To compare the prevalence of chronic disease states among CAM users and nonusers.

Methods. Using the 2002 National Health Interview Survey, the data included 4,256 African American (AA) adults representing 23,828,268 AA adults nationwide. Respondents were asked questions concerning 17 CAM modalities grouped into four broad categories: 1) alternative medical systems (eg, acupuncture); 2) biologically-based therapies (eg, herbals); 3) manipulative/body-based methods (eg, chiropractic care); and 4) mind-body therapies (eg, biofeedback). Our study focused on CAM use in the past 12 months and modalities that were most prevalent (ie, herbals, prayer and relaxation). We used chi-squared tests based on weighted survey data to examine differences between CAM users and non-users.

Results. A total of 67.6 percent used CAM in the past 12 months. Prayer was the most common CAM used by over 60 percent followed by herbals (14.2%) and relaxation (13.6%). Among users of overall CAM and prayer, prevalence of chronic diseases was significantly ($P<.0001$) higher (range 1.4–2.9 times) than non-users. For users of relaxation, prevalence of chronic diseases was significantly ($P<.01$) higher for all disease states with the exception of diabetes, hypertension and high cholesterol. Prevalence of chronic diseases varied among herbal users but was significantly ($P<.05$) lower for diabetes and hypertension.

Conclusions. Overall, use of CAM therapies was prevalent among AAs with chronic illness. However, use of relaxation and herbals was less common among AAs who have cardiovascular disease states.

008

HOSPITALIZED HEAD INJURY DUE TO ASSAULT AMONG INDIGENOUS AND NON-INDIGENOUS AUSTRALIANS, 1998–1999 TO 2004–2005

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Objectives. To identify risk indicators for hospitalized head injury due to assault among 0–70+-year-old Indigenous and non-Indigenous Australians.

Methodology. Information about head injury due to assault that resulted in hospitalization was obtained from Australia's National Hospital Morbidity Database from 1998–1999 to 2004–2005. Poisson regression modelling was used to examine rates in relation to age, sex, Indigenous status, location and injury type.

Results. The overall rate was 78.42 per 100,000 (95% CI 77.95–78.89). The most common head injuries due to assault among Indigenous women were open wounds of the head (25.1%), while superficial head injuries were the most common injuries sustained among non-Indigenous women and the overall population (25.7% and 20.3%, respectively). After adjusting for other covariates, rates of head injury due to assault were 5.06 (95% CI 4.98–5.15) times higher among Indigenous than non-Indigenous persons. Indigenous females had 1.05 (95% CI 1.02–1.08) times the rate of their male counterparts, while non-Indigenous females had 0.19 (95% CI 0.19–0.19) times the non-Indigenous male rate. Rural/remote-dwelling Indigenous women had 6.91 (95% CI 6.60–7.41) times the head injury due to assault rate of their metropolitan-dwelling counterparts, while rural/remote-dwelling non-Indigenous women had 3.95 (95% CI 3.81–4.10) times the rate of their metropolitan-dwelling counterparts.

Conclusions. Indigenous persons, and in particular, Indigenous women, were disproportionately represented among those sustaining head injuries due to assault. Given the costs of treating such trauma, the ability to reduce risk of head injury by this cause is of critical public health importance.

009

TYPES OF STROKE AMONG TENNESSEANS: AN EXAMINATION BY RACE, SEX, AND AGE

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Objective. In 2002, stroke caused 7% of all Tennessee deaths. We examined variations in type of stroke by race, sex, and age and analyzed risk factors predictive of stroke by race.

Methods. Data on adults (20+ years) were analyzed by race, age, sex (n=550,987) from 2002 inpatient files of Tennessee Hospital Discharge Data System (HDDS) for ischemic [IS] (ICD-9 codes 433, 434, 436, and 438) and hemorrhagic [HS] (codes 430, 431, 432) strokes. Rates were directly age-adjusted to the 2000 US Standard Population.

Results. Of 550,987 patients, 20,067 (3.64%) had a stroke (347 per 100,00). Rate for both IS and HS were two-fold higher among African American [AA] (both males and females) compared to Whites. Persons aged 20–64 and 65+ had similar rates of IS and HS. A significantly higher overall (20+ years) proportion of AA compared with White stroke patients had hypertension (83% vs 72%) and diabetes (37% vs 28%), two risk factors associated with atherothrombotic stroke. Conversely, atrial fibrillation (AF), and myocardial infarction (MI) and hyperlipidemia, risk factors associated with cardioembolic stroke, were significantly higher in Whites.

Conclusions. AA men and women in Tennessee suffer from higher stroke rates (IS and HS, likely of the atherothrombotic type). Overall a differential pattern of risk factors was found in AA and Whites. The higher rates of hypertension among AA likely contribute to their higher rate of both IS and HS.

010

RISK OF CARDIOVASCULAR ACCIDENT AMONG RURAL DWELLERS IN BENIN CITY, NIGERIAFE ORONSAYE¹; EE Egbagbe²¹Medical Microbiology Department, College of Medical Sciences, University of Benin, Benin City, Nigeria ²Department of Medicine, University of Benin Teaching Hospital, Benin City, Nigeria

Objectives. Sudden death through cardiovascular accident is now a common occurrence in developing countries; this is largely due to the fact many people in these countries are ignorant of the risk factors. The purpose of this study was to screen apparently healthy adults for possible cardiovascular accident (CVA) risks.

Methods. 250 apparently healthy adults comprising 120 males and 130 females were randomly enlisted into the study. Blood pressure was monitored thrice daily with the use of hand cuff mercury sphygmomanometer for a period of six months.

Results. 10% of the subjects showed high risks of cardiovascular accidents as revealed by blood pressures that were between 150/110 to 220/110. They were appropriately referred to a physician for adequate management. One of the cases that refused referral later had a CVA.

Conclusion. Early screening of apparently healthy subjects can prevent CVA.

012

LEPTIN AND WAIST CIRCUMFERENCE ARE ASSOCIATED WITH SYSTOLIC BLOOD PRESSURE IN AMERICAN INDIAN AND AFRICAN AMERICAN WOMEN OF CHILD-BEARING AGE

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To determine if ethnic differences exist in blood leptin concentrations, insulin resistance and waist circumference between American Indian (AI) and African American (AA) women of child-bearing age and to examine the relationship of these variables with cardiovascular risk factors in this cohort, a prospective epidemiologic study of 81 women (48 AI, 33 AA) of child-bearing age from rural communities in Oklahoma from May 2001 to September 2002 were recruited by convenience sampling. Fasting blood leptin concentration, insulin resistance (HOMA IR), and waist circumference were measured. SAS GLM procedure was utilized to determine ethnic differences in these parameters and Pearson correlation analysis of these variables with age, systolic blood pressure, waist circumference and total cholesterol were performed.

Ninety percent of the women were overweight or obese with a mean BMI of 32 ± 7 . Fifty-eight percent of the AI and 61% of the AA women were obese. Leptin concentrations were significantly higher for AA women when compared to AI women. No significant differences in waist circumference and insulin resistance were observed between these groups. There was a positive correlation between leptin concentrations and systolic blood pressure (SBP, $P < .05$) and waist circumference with SBP ($P < .05$).

The AA women had greater leptin concentrations than the AI women but blood pressure did not differ between the groups. Blood leptin concentration and waist circumference were correlated with SBP. Insulin resistance did not directly correlate with cardiovascular risk factors. However, HOMA IR correlated with waist circumference and waist circumference correlated with SBP.

013

HEALTH INSURANCE STATUS AND REPORTED ACCESS TO NEEDED HEALTH CARE: BASELINE FINDINGS FROM THE JACKSON HEART STUDY (JHS)

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Objective. To examine the determinants of health insurance status and access to needed health care in African Americans.

Methods. The JHS is a prospective study of 5,302 African American adults aged 18 to 84, residing in the Jackson, Mississippi (MS) area. Self-reported health insurance status and health care access (defined as perceived difficulty obtaining needed health care) was collected by trained interviewers. Cochran-Mantel-Haenszel Test was used to determine associations and logistic regression was used to examine the sociodemographic and health status variables associated with health insurance status and access to needed health care ($P \leq .05$).

Results. The majority (65%) had private health insurance coverage, 22% had public coverage, and 13% were uninsured. The majority (88%) did not find it difficult to obtain health care. The percentage reporting difficulty was twice as high for the uninsured (29%) compared the publicly insured (14%) and three times higher than privately insured (7%). After adjusting for other determinants, publicly insured (OR=1.5, 95% CI 1.1–2.1) and uninsured participants (OR 2.9, 95% CI 2.2–3.8) had higher odds of reporting difficulty compared to privately insured participants.

Conclusions. African Americans face significant health care access and health insurance barriers. The JHS provides an excellent opportunity for further investigation of health insurance and health care access in African Americans.

014

RISK FOR METABOLIC SYNDROME IN AFRICAN AMERICAN WOMEN

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Objectives/Purpose. Metabolic syndrome in women comprises a clustering of three or more of the following cardiovascular risk factors: waist circumference >88 cm, serum triglyceride level ≥150 mg/dL, high-density lipoprotein cholesterol level <50 mg/dL, blood pressure (BP) ≥140/≥90 mm Hg and serum glucose ≥110 mg/dL. Little is known regarding the clustering of cardiovascular risk factors for metabolic syndrome among African American women (AAW). AAW are reported to have a disproportionate prevalence of the factors of metabolic syndrome when compared to other ethnicities. The purpose of this study is to assess metabolic syndrome risk in AAW.

Methods. A secondary data analysis of the Coronary Heart Disease in Premenopausal African American Women's study was performed. The sample consisted of 295 military and non-military AAW aged 18–45. Key variables in the study included: blood pressure, waist circumference, triglycerides, fasting blood glucose, high density lipoproteins, smoking, and physical activity. Data analysis includes Spearman's rho correlations, chi square, and regression analysis. Data will be categorized according to the nature of the risk factors present and assessed for the frequency and clustering of metabolic risk factors in this sample.

Results. Significant relationships will be determined for the cardiovascular risk factors that constitute metabolic syndrome in this sample of AAW.

Conclusions. The explication of risk factors for metabolic syndrome is needed in order to manage metabolic syndrome and improve cardiovascular health among premenopausal AAW. These findings give further indications for the screening and developing of interventions that focus on these risk factors of metabolic syndrome.

015

PERSISTENCE AND COMPLIANCE ASSOCIATED WITH THERAPEUTIC CHANGES FROM FIXED DOSE COMBINATION BENAZEPRIL HCL AND AMLODIPINE BESYLATE TO FREE-AGENT INGREDIENT PRESCRIPTIONS IN HYPERTENSION

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Objective. To evaluate medication persistence and compliance of patients with hypertension switched from fixed-dose combination benazepril and amlodipine (FDC-Ben/Aml) to angiotensin-converting enzyme inhibitors (ACEI) and calcium channel blockers (CCB) as separate prescriptions (free-agent ingredient [FAI-ACE+CCB]).

Methods. A retrospective cohort study was conducted of administrative claims data (Medstat MarketScan[®]) for commercially and Medicare-insured patients. Continuously eligible patients from 1/2003 to 12/2005 with ≥24 months prescription coverage, diagnosed with hypertension, who received ≥3 months of FDC-Ben/Aml and had a therapeutic change to FAI-ACE+CCB, with ≥2 refills for each FAI thereafter were identified. Propensity-matched FDC-Ben/Aml controls were identified based on age, gender, payer-type, comorbidities and treatment time on FDC-Ben/Aml. Compliance (medication possession ratio([MPR]), persistency, medication refills, and days with therapy were analyzed.

Results. Included were 2,662 patients; mean age=63.1±13.4 years; 50% male, and mean time before switch=8.19±5.79 months. Patients switched to FAI-ACE+CCB had significantly lower MPRs, lower persistence, fewer number of refills and less mean days of therapy compared with FDC-Ben/Aml at 12 months (P<.0001).

	Commercially Insured		Medicare	
	FAI-ACE+CCB	FDC-Ben/Aml	FAI-ACE+CCB	FDC-Ben/Aml
N	728	728	603	603
Mean 12-month MPR (SD)	55.96 (31.00)	76.70 (24.14)	51.52 (33.94)	81.01 (23.03)

Conclusions. Patients changed from FDC-Ben/Aml to FAI-ACE+CCB antihypertensive medications were associated with significantly lower compliance and persistence at 12 months. Further research is needed to better understand the clinical implications of these therapy changes.

016

RELIABILITY AND VALIDITY OF THE PERCEIVED STRESS SCALE IN A SAMPLE OF AFRICAN AMERICAN WOMEN AT RISK FOR HYPERTENSION

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Objectives. Stress is a risk factor for hypertension (HTN); however, few self-report measures designed to assess perceived stress have been validated in African American women (AAW). The purpose of this study was to assess the reliability and validity of the 10-item Perceived Stress Scale (PSS) in a sample of AAW at risk for HTN. Hypothesis one states that Cronbach's alpha for the 10-item PSS and subscales will be 0.70 or greater. Hypothesis two states that factor analysis will yield two factors.

Measure. The PSS is a 10-item self-report measure designed to assess perceived stress within the past month. Items are scored on a 4-point Likert Scale, scores range from 0 to 40, and higher scores indicate higher perceived stress.

Methods. A community sample of 167 AAW aged 18 to 45 with undiagnosed HTN, no current depression, non-menopausal and not currently pregnant were recruited to participate in this descriptive study. Chronbach's alpha's evaluated internal consistency reliability and factor analysis evaluated construct validity.

Results. Mean age=31.3 (7.0), SES (Hollingshead)=34.7 (17.2), SBP=114.0 (12.0), DBP=87.0 (9.0), and PSS=15.45 (6.8). Cronbach's alphas ranged from 0.79 to 0.85. Factor analysis yielded two factors.

Conclusions. The PSS is a reliable and valid measure of perceived stress in AAW at risk for HTN. Further studies in a more diverse population of African Americans at risk for HTN and with HTN are needed in order to further assess the reliability and validity of this measure.

017

SELF-REPORTED CORRELATES OF UNCONTROLLED HYPERTENSION IN AFRICAN AMERICANS

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Objective. Our goal is to describe the demographic and environmental factors associated with uncontrolled hypertension in inner-city African Americans.

Method. The sample included 3980 volunteers (54.6% females) between the age of 18 and 55 years living in the inner city of Milwaukee. Brief medical, family and social history questionnaires were administered. Standardized blood pressure, fasting blood, and anthropometric measurements were obtained.

Results. 51.7% of participants had hypertension (55.3% female). A total of 75.5% of hypertensives were aware of the diagnosis, 56.0% were receiving treatment, and among those on medication, 39.5% had controlled blood pressure (<140/90). Only 21.7% of all hypertensives (27.7% of hypertensive females and 14.4% of hypertensive males) had controlled hypertension.

Hypertensives had higher body mass index (BMI) than normotensives (30.7 ± 0.16 vs $28.2 \text{ kg/m}^2 \pm 0.15$ $P < .0001$). Hypertensives were older, had larger waist circumference, higher serum cholesterol, higher percentage of body fat, and higher fasting blood glucose, than normotensives ($P < .0001$). Hypertensives reported a greater weight change as adults than normotensives ($P < .0001$). Family history of cardiovascular disease was associated with hypertension (85.4% vs 73.0%, $P < .0001$).

Compared to participants with controlled hypertension, those with uncontrolled hypertension were: younger ($P < .0001$); less likely to report restricting dietary salt (12.7% vs 27.8% $P < .0001$); more likely to smoke (63.1% vs 52.7%, $P = .01$); more likely to drink alcohol (60.9% vs 39.1% $P < 0.0001$). Participants with uncontrolled hypertension had lower BMI ($P < .0001$), smaller waist circumference ($P = .003$), lower % body fat ($P < .0001$), and lower fasting blood glucose ($P = .02$). Physical activity, education, and employment were not associated with hypertension control.

Conclusion. In these inner-city African American volunteers, hypertension control rates were low. Among hypertensives, the highest prevalence of uncontrolled hypertension was observed in young males. Strategies to encourage the adoption of healthy lifestyles in this high risk population are needed to decrease cardiovascular disease risk.

018

DEPRESSION, HEALTH BELIEFS, AND LOCUS OF CONTROL: RELATIONSHIPS TO GLYCEMIC AND LIPID CONTROL IN HISPANICS AND AFRICAN AMERICANS WITH DIABETES

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Both Hispanics and African Americans are at greater risk of suffering from type 2 diabetes and its complications than their Caucasian counterparts. Depression has been found to be 2 to 3 times higher in patients with diabetes when compared to patients without diabetes. Additionally, it has been found that there is an increased number of diabetes complications and poor glycemic control in patients with both diabetes and depression. This is a critical concern for the underserved minority population that continues to battle with an epidemic of undiagnosed, untreated mental disorders, due in part to the stigma associated with these enigmatic disorders. This study evaluated the relationship between the glycemic control in minority patients, their health beliefs, and mental health state, in hopes of relieving ethnic disparities. This cross-sectional study recruited 100 subjects from a randomized list of patients with diabetes in the King/Drew Medical Center. The subjects responded to Beck's Depression Inventory, Health Belief Scale, and Multidimensional Health Locus of Control forms B and C, which are used to diagnose depression, explain and predict a patient's preventive health behaviors, and to measure the degree to which a patient believes his/her health is controlled by internal or external factors. Patients' HbA1c, fasting blood glucose, and fasting lipid panel from the last six months were extracted and recorded in addition to their demographics. We analyzed the data using the Statistical Analysis System (SAS).

019

EPLERENONE DOWNREGULATES VASOCONSTRICTOR AND VASCULOPATHIC GENES IN SALT-INDUCED HYPERTENSION

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The search for genetic differences that can be used to identify cardiovascular disorders and better understand the mechanisms that mediate the progression of hypertension are currently being intensively investigated. We have previously shown that eplerenone attenuates sustained elevated systolic blood pressure in Dahl salt sensitive (SS) rats. To explore the potential mechanisms underlying this effect, microarray analysis was performed on whole kidneys and hearts from Dahl SS rats that had been exposed to high salt (HS; 8% NaCl) diet for three weeks and then switched to normal salt (NS; 0.3% NaCl) diet with or without treatment with enalapril (angiotensin II converting enzyme inhibitor; 30 mg/kg/day), tempol (superoxide dismutase mimetic; 1 mM/day), eplerenone (aldosterone receptor antagonist; 100 mg/kg/day) and their combination. Comparisons of rats exposed to normal salt vs. those exposed to normal salt + treatment were performed with significant analysis of microarrays to identify genes with a change of more than 1.5-fold. Eplerenone was the most effective drug in reducing systolic blood pressure (by 80 mmHg). Treatment with eplerenone produced a significant reduction in arginine vasopressin, endothelin, insulin-like growth factor II and matrix metalloproteinase mRNA levels. Transforming growth factor beta, fibroblast growth factor and heat shock protein 70 mRNA levels were up regulated (2–6-fold) following treatment with eplerenone alone or in combination with enalapril. The significant reduction in blood pressure in response to eplerenone may be due to the reduction in the vasoconstrictor compounds. These findings may be useful in identifying the beneficial effect of eplerenone in chronic heart failure, hypertension and stroke.

020

ACCESS TO THE PREVENTIVE BENEFITS OF INFORMAL DIABETES EDUCATION AND THE HEALTH AND HEALTHCARE OUTCOMES AMONG LOW INCOME MINORITIES: THE BALTIMORE CARDIOVASCULAR PARTNERSHIP STUDY

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Objective. To determine whether access to informal diabetes education provides marginal benefits to health and healthcare outcomes among low income minorities.

Methods. Supplementary research to a four-arm randomized controlled trial assessing the marginal benefit of informal diabetes education on the health and healthcare outcomes. Using a structured questionnaire and medical records, the main outcomes of healthcare access and healthcare utilization will be examined. The survey instrument will contain items that are asked once in the life of the study, items that are asked repeatedly in each round, and items that are asked and updated in later rounds. Questions asked only once include basic sociodemographics characteristics. Core questions relating to access and health care utilization will be asked repeatedly. A composite score will be created based on participants lacking any of the core healthcare access and utilization indicators.

Results. We expect to find that informal diabetes education will result in an increase perception of needed services, decreased time to receive medical care, facilitated patient-provider communication, decreased frequency of emergency room visits, stimulate efficient utilization of healthcare services and enhance effective self-management of diabetes.

Conclusion. Significant knowledge gaps still remain on how healthcare access, healthcare costs, the structure of the healthcare system, socioeconomic factors, cultural characteristics and delivery of healthcare services affect treatment outcomes among minorities. However, providing informal diabetes education can lead to significant individual value and societal payoff by forming a link to the healthcare system.

021

INNOVATING A NUTRITION INFORMATICS COURSE FOR VASCULAR HEALTH IN CLINICAL SETTINGS

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Even though poor diet is a well-established risk factor for cardiovascular diseases, disproportionately represented among African Americans, eating habits are very difficult to change. Applied Nutrition Informatics is a graduate level course designed to prepare students to effectively use state-of-the art computer technologies to enhance health by improving the public's eating habits. Students learn to: a) access and manipulate the National Health and Nutrition Examination Survey data to identify nutrients of greatest public health concern within population subgroups; b) effectively use statistical databases such as SPSS to analyze factors that contribute to selected nutritional problems; c) apply behavioral change theoretical frameworks to guide intervention planning; and d) practice the use of communication technologies to tailor, monitor, reinforce, evaluate and extend intervention components.

Course outcomes each term are formative projects that apply informatics concepts and tools to promote improvement of diet-related factors associated with elevated disease risk in highly vulnerable population groups. Spring 2007 projects focused on key dietary factors that influence vascular health in African American adults. A cluster of five posters illustrating interventions applicable to clinical practice are presented. Methodological aspects of informatics planning, intervention, and evaluation common to all five posters are diagrammatically outlined in this background poster, which is constructively applied in individual posters to illustrate informatics innovations to lower selected diet-related risk factors associated with vascular disease; namely: dyslipidemia (Poster 1); type 2 diabetes (Poster 2); hypertension (Poster 3); low calcium intake (Poster 4); and low fiber intake (Poster 5).

022

THE GARDEN GAME: GROWING HEALTHY BLOOD VESSELS AT ANY AGE

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Dyslipidemia, obesity, and hypertension, prevalent among African Americans, are associated with the development of atherosclerosis. Baseline data have been obtained from a population of low-income hypertensive African Americans patients ($n=82$) attending a neighborhood health center (NHC). Serum values were above the recommended range for total cholesterol (> 200 mg/dL) and LDL-cholesterol (>130 mg/dL) in 70% and 65.5% of the group, respectively; and 66% were obese (body mass index ≥ 30). Serum lipid values were comparable to those of a matched comparison group extracted from National Health and Nutrition Examination Survey (NHANES) data. However, obesity was significantly more prevalent among the study group than among their NHANES cohorts.

This poster will present an on-line interactive board game to teach and promote vegetable gardening and build healthy cooking skills. The theoretical framework of the program will follow the diffusion of innovation, a process for spreading a program throughout the community. Hypertensive patients with dyslipidemia will be identified and recruited using NHC electronic medical records. The distribution channel for the Garden Game curriculum will include clinic-level kiosks and on-line computer access. Knowledge gained will be channeled toward community gardening and cooking programs. Community-level diffusion of the innovation will be achieved through partnerships with churches, health facilities, flea markets, schools, and recreational centers. Clinical outcomes in the primary target group will be tracked using NHC medical records. Behavioral outcomes (increased gardening, participation in community events) will be assessed through on-line partnership surveys and by tracking computer use of the Garden Game.

023

CALCIUM: IT'S NOT JUST A 'BONE' THING, IT'S ALSO A 'VEIN' THING

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Analysis of the latest NHANES data (2003–2004) reveals that 76% of African American adolescent girls are not meeting the recommended dietary allowance (RDA) for calcium and that 30% are overweight. This has significant implications because of escalating rates of hypertension among African American adolescents. However, efforts to increase calcium intake for chronic disease prevention have generally centered on bone health. Yet, this mineral is also integrally involved in the maintenance of normal blood pressure and could also support weight loss efforts. The proposed intervention utilizing nutrition informatics technologies focuses on the importance of improving calcium intake for vascular health in at-risk African American girls. Interactive websites, handheld calorie counters, electronic blood pressure monitors, and webcams will be used for assessment, monitoring, and online counseling sessions. Expected outcomes include increased knowledge, sustained weight loss, and increased calcium intake to prevent the development of hypertension. Outreach will be done via email, and developmental research and pre-testing will be done using virtual focus groups. The social cognitive theory will be used as a construct for the intervention, which, apart from the initial enrollment (dietary, blood pressure, weight), will be implemented entirely online. Operational plans for partnerships, resources, and projected costs are also included.

024

BEYOND THE DIGITAL DIVIDE: IS IT FEASIBLE TO USE COMPUTER-BASED INTERNET PROGRAMMING WITH AFRICAN AMERICAN DIABETICS?

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Type 2 diabetes is an independent risk factor for the development of cardiovascular disease and disproportionately affects Blacks and other ethnic minorities. Medical management and self management are key in reducing the risk of vascular disease. Computer-assisted interventions have the potential to extend the reach of care. The digital divide is often cited as a limitation in reaching minorities.

The purpose of this systematic review was to determine the rate of participation, attrition and outcomes for Blacks in computer-assisted disease management interventions for type 2 diabetes as compared to traditional interventions. Articles selected for inclusion provided demographic data, attrition rate, hemoglobin A1c, blood pressure and serum cholesterol levels.

PubMed and CINAHL databases were searched for peer-reviewed, English language journal articles from 2001–2007 using the descriptors African American, diabetes and cardiovascular. Results ranged from 235 in PubMed to 2,674 in CINAHL. Adding the descriptor, computer, resulted in 13 general articles and 2 articles specific to African Americans. The results were merged into EndNote 9 and duplicates removed. Outcome measures were compared to traditional diabetes interventions.

Analysis of mean data for hemoglobin A1C, blood pressure and total cholesterol showed no statistically significant difference in computer-assisted interventions as compared to traditional interventions. African American participants in several computer-assisted studies accessed computers from work, public libraries, neighbors, churches and in physician offices. Therefore, it is feasible to conduct computer-based interventions for African Americans if participation is not limited to those with computer access at home.

025

APPLYING NUTRITION INFORMATICS TO INCREASE DIETARY FIBER INTAKE OF LOW-INCOME AFRICAN AMERICAN ADULTS

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The objective of this project is to increase the fiber intake of low-income African Americans by applying nutrition informatics. Many researchers have shown that adequate fiber intake can significantly reduce the risk of cardiovascular disease by decreasing serum cholesterol, lowering blood pressure and preventing obesity. Results of an analysis of NHANES data (2003–2004) showed that low-income African American adults consume only 11 grams of fiber per day, which is just 40% of the recommended intake. Our specific aim is to design an online intervention, called the ‘Whole Grain Community,’ to help African Americans increase their intake of whole grains, good sources of dietary fiber. This intervention is based on the constructs of social cognitive theory, which include concepts such as expectation, behavioral capability and environment. Various interactive communication tools will be incorporated into the intervention program in order to teach the participants the health benefits of consuming whole grains. A primary focus will be on building skills to: a) identify whole grain products in supermarkets; b) improve cooking skills; and c) promote lower-cost whole grain products. Distribution of the intervention will be targeted toward families in low-income African American communities through a systems-building approach. The intervention strategy will integrate preliminary face-to-face training followed by web-based independent home-study and periodic monitoring by a nutritionist. Pre-/post-tests will be used to measure the expected increase of both their whole grain consumption and fiber intake.

026

REDUCING HYPERTENSION IN AFRICAN AMERICANS: THE HALVES AND THE HALF NOTS

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High sodium intake and obesity, which are prevalent among African Americans, increase risk for the development of hypertension. The efficacy of interventions designed to lower rates of hypertension in this target group will be enhanced by a combined effort to reduce both of these risk factors. The proposed intervention targeting obese ($BMI \geq 30$) African Americans ($n=50$) aged 35–55 years without hypertension, is designed to deliver a culturally specific message: 1) cut high sodium, energy-dense foods in half (the ‘halves’); and 2) consume liberal amounts of food of low energy density, such as fruits and vegetables (the ‘half nots’). A six-week intervention under-girded in constructs that follow the health belief model will consist of online nutrition counseling, cooking demonstrations, and nutrition classes. Additionally, participants will be instructed to use MyPyramid Tracker, an Pre- and post-surveys will be implemented in order to assess changes in weight-related behaviors and factors that influence sodium intake. The primary outcome measure will be reduced sodium intake and improvement in BMI, which will be assessed by comparing baseline and program-end measurements.

027

DIETARY INTAKE, PHYSICAL ACTIVITY AND BODY MASS INDEX AMONG AFRICAN AMERICAN YOUTH

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Poor diet and a lack of physical activity are contributing to the overweight and obesity crisis in the United States. This study assessed the relationship between dietary intake, diet quality, and body mass index (BMI) and physical activity frequency and their relationship to the indices of childhood overweight. Over a two-year period, fourth, fifth and sixth graders in a rural Macon County, Alabama were given: Three Day Diet Records, Kid’s Food Questionnaire (Block Dietary Data Systems, Berkeley, California), and a Self-Administered Physical Activity Checklist (SAPAC). Of the 400 students, ages 9–13, approximately 60 percent returned parental consent forms. Parents also completed Kid’s Food Questionnaires. Children’s heights and weights were taken by trained professionals to determine BMI.

The results of the study revealed that a third of all children assessed were at risk of becoming overweight. Thirty percent of the female participants, twice the national average, were overweight; twenty percent of the males were overweight. Reported fruit and vegetable consumption among females was higher than males. Males also reported that they engaged in physical activity two hours or more, most days of the week, while females seldom engaged in physical activity. Overweight or obese participants reportedly consumed fewer calories than those who were not overweight.

The results of this study indicate that food consumption patterns, BMI and physical activity do vary by sex and age, which have implications for further research.

028

STROKE RATES BY HYPERTENSION STATUS FOR WHITE AND BLACK MEN AND WOMEN

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African Americans have an excess burden of hypertension and stroke risks compared to Caucasians. The disparities correspond to higher relative risks and higher population attributable risks for Black men and women. The Black Pooling Project ($N=26,083$) includes 4 cohorts: Charleston Heart Study, Evans County Heart Study, NHANES I and NHANES II follow-ups and include White males ($n=9586$), White females ($n=12085$) Black males ($n=1829$) and Black females ($n=2610$) with long term follow-up. Survival curves were calculated by hypertension category at baseline (normal ($n=4910$), prehypertension ($n=13718$), Stage 1 hypertension ($n=5008$) and Stage 2 hypertension ($n=2447$) and stratified by race-sex group. Survival varied by blood pressure category with Stage 2 hypertension exhibiting the poorest survival. African American men and women also had an early onset of hypertension with significantly higher blood pressures at all ages. Stroke rates and relative risks were also higher for each blood pressure category. However, the differences in long-term survival for the different blood pressure categories were not significant for early years of the study. Further, the time to detect variation by survival by blood pressure category varied by race-sex group with African American men and women with lower survival rates for each of the blood pressure categories. These results support the need for aggressive blood pressure control to reduce long-term outcomes, particularly for African Americans. These results identify high blood pressure as a major factor for the racial disparities of stroke and emphasize the need for early detection and treatment before stage 2 hypertension is achieved.

029

PREVALENCE OF POST-TRAUMATIC STRESS DISORDER (PTSD), DEPRESSION AND ANXIETY SYMPTOMS BY ETHNICITY AND SEX AMONG RECIPIENTS OF AUTOMATIC IMPLANTED CARDIAC DEFIBRILLATORS (AICD)

C BHUVANESWAR

Objectives. To test the hypotheses that there is a higher prevalence of PTSD among ethnic minority patients (out of total of 1186 patients seen in the Cardiac Arrhythmia Clinic) than Caucasian patients who have experienced a discharge of their automatic implanted cardiac defibrillator (AICD) devices. This would be consistent with non-White race as a risk factor for both trauma exposure and subsequent development of PTSD according to the 1996 DSM field studies done when PTSD was added to the Diagnostic and Statistical Manual.

Higher rates of PTSD may also reflect barriers to access of care by minority patients that will be commented on in the conclusions section.

Differences in background medication regimen (with special attention to type and dose of beta blocking medication) will also be compared for ethnic minority and Caucasian patients.

Potential confounders in determining rates of PTSD attributable to discharge by the AICD during ventricular arrhythmias will be discussed. These include past trauma history, history of cardiac arrest, history of sudden cardiac death, other medical and psychiatric morbidity, and time to medical attention following a discharge of the AICD for confirmation of whether this was a spurious or appropriate discharge by the device.

Methods. Chart review of 1186 patients at Massachusetts General Hospital seen between January 2006 and August 2006 in the Cardiac Arrhythmia Clinic.

Results. Pending.

Conclusions. Pending.

030

PREDICTORS OF COMPLIANCE ON COMBINATION ANTIHYPERTENSIVE THERAPYFT SHAYA^{1,2}; D Du¹; F Frech-Tamas³; H Lau³¹Department of Pharmaceutical Health Services Research, University of Maryland School of Pharmacy, Baltimore, Maryland;²Department of Epidemiology and Preventive Medicine, University of Maryland School of Medicine, Baltimore, Maryland;³Novartis Pharmaceutical Corporation, East Hanover, New Jersey

Objective. To identify predictors of compliance with antihypertensive fixed-dose combinations in a Medicaid population.

Methods. Retrospective medical and pharmacy claims data for Maryland Medicaid patients receiving ACEI/HCTZ or ACEI/CCB as fixed-dose combinations or separate agents during the period of 1/1/2002–12/31/2004 were analyzed. Inclusion: continuously enrolled patients, 18 years and older, and at least one year of follow up. Exclusion: use of fixed-dose combination antihypertensives between 1/1/2002 and 6/30/2002 (to identify incident cohort). Compliance was defined as Medication Possession Ratio (MPR) $\geq 80\%$. Multivariate logistic regression was used to predict compliance as a function of age, sex, race, comorbidities (Charlson Comorbidity Index: CCI), and use of either fixed-dose combination or separate agents.

Results. Total of 568 patients, 63.73% females, 68.83% African Americans, median age of 52 years, 35.56% on fixed-dose combinations, 72.89% started on ACEI/HCTZ, and 24.82% complied with therapy. Patients younger than 40 years (OR=0.38, $P=.01$, 95% CI 0.18–0.81) and African American (OR=0.45, $P=.0004$, 95% CI 0.29–0.70) were less likely to be compliant than patients older than 60 years, and Caucasian, respectively. Patients with a CCI of 1 (OR=2.11, $P=.05$, 95% CI 1.01–4.40) and those on fixed-dose combinations (OR=1.60, $P=.02$, 95% CI 1.06–2.40) were more likely to be compliant than those with higher CCIs and on separate agents, respectively.

Conclusion. Age, race, comorbidities and simplified antihypertensive regimens were significant predictors of compliance. Higher compliance rates may enhance cardiovascular disease management outcomes.

031

DETERMINANTS OF UNCONTROLLED BLOOD PRESSURE IN AN AFRICAN AMERICAN HYPERTENSIVE POPULATIONJC Sobolski¹; J Jackson²; OE LUNACSEK²; KS Wong³; F Frech-Tamas³¹Advocate Health Care, Chicago, Illinois; ²Xcenda, Palm Harbor, Florida; ³Novartis Pharmaceuticals Corporation, East Hanover, New Jersey

Objectives. The purpose of this study was to determine if predictors of uncontrolled blood pressure (BP) among African American (AA) hypertensive patients have changed since our previous study presented at ISHIB 5 years ago.

Methods. Data from 2003–2006 were collected on 4,000 randomly selected patients from 8 physician organizations. A total of 674 AA patients were available for this analysis. Predictors of uncontrolled BP (JNC-7 guidelines) were identified using logistic regression. Variables included age, sex, diabetes, hyperlipidemia, inactivity, tobacco, myocardial infarction, angina, prior CABG, heart failure (HF), stroke, kidney disease, peripheral artery disease, retinopathy, and antihypertensive therapy.

Results. 70% were female, mean age was 63.9 years, 35% were diagnosed with diabetes, and 58% ($n=390$) had uncontrolled BP. After controlling for demographics, comorbidities, and antihypertensive treatment, diabetic patients were four times as likely to have uncontrolled BP as patients without diabetes (OR=3.905; 95% CI 2.652, 5.750). Patients with HF were more likely to have controlled BP (OR=0.483; 95% CI 0.273, 0.857). The study presented in 2002 with data from 1998–2001 included patients with similar demographic and clinical characteristics. In that study, diabetic patients were three times more likely to have uncontrolled BP; HF patients were more likely to have controlled BP.

Conclusions. Despite the JNC-7 recommendations for tighter BP control, opportunities to improve the care of the AA population still exist. As in our previous study, AAs with hypertension and diabetes continue to be at increased risk for uncontrolled BP and require more attention to prevent long-term complications and decrease mortality.

032

ASSOCIATION OF LOW VITAMIN D LEVELS WITH METABOLIC SYNDROME

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Objective. Cardiovascular (CV) disease is a significant cause of mortality and morbidity in the adult US population. Low serum levels of vitamin D have been associated with several CV disease risk factors including obesity, hypertension and diabetes. CV disease risk factors have a tendency to occur in clusters that have been described as Metabolic Syndrome (MetS). The relationship of serum vitamin D level and MetS is unclear.

Method. Using data from the third National Health and Nutrition Examination Survey, we examined the association between serum 25(OH) D levels and the components of MetS among US adults.

Results. There were 6,819 males and 7,531 females in the analysis sample. The mean level of serum 25(OH)D was 74.68 nmol/l in the analysis sample and significantly lower among the racial/ethnic minorities, females and the elderly (>60years). The odds ratios for increased waist circumference (2.19, $P<.0001$), elevated fasting blood sugar (2.03, $P<.0001$), low level of high density lipoprotein (1.74, $P<.0001$), high level of serum triglyceride (1.45, $P<.0001$) and increased blood pressure (1.23, $P<.0018$) were significantly higher in first than fourth quartile of serum 25(OH) D levels. Participants with MetS exhibited lower serum levels of 25(OH) D.

Conclusion. We conclude that low serum levels of 25(OH) D are associated with metabolic syndrome. Prospective studies are warranted to establish the role of serum 25(OH) D in CV disease prevention.

033

ASSOCIATION OF TRUST WITH MEDICATION ADHERENCE AND HYPERTENSION AMONG AFRICAN AMERICANS: THE ALABAMA COLLABORATION FOR CARDIOVASCULAR EQUALITY PROJECT

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Objective. The objective of this study was to examine the relationship of trust in the healthcare system and providers with medication adherence and blood pressure (BP) among African Americans (AA) from a large safety-net, urban hospital in the Deep South.

Method. AA ≥ 19 years with essential hypertension (HTN) were enrolled in the study. Certified study personnel used computer-assisted protocols to conduct in-person interviews and abstract medical charts. BP recordings from the last three visits were abstracted from medical charts. Medication adherence was determined by the Morisky scale; patients were considered adherent if they reported not missing medication. Scores from the individual items of the trust scales were added to produce a global score. Upper (high trust) tertile was compared with lower (low trust) tertile.

Results. The study included 437 AA; 31% male; 86% ≥ 45 years of age; 74% reported annual household income of $< \$16,000$. Patients reported 68% low trust in doctors in general and 48% low trust in the healthcare system. Patients with higher vs lower trust scores were more likely to report medication adherence (44%, 35%, $P=.22$). Also, patients with lower vs higher trust scores had higher systolic BP (SBP) (150 mm Hg, 148 mm Hg, $P=0.48$) and higher diastolic BP (DBP) (83 mm Hg, 82 mm Hg, $P=.37$).

Conclusion. Trust in providers is associated with higher medication adherence and lower SBP and DBP in AA. Interventions to increase trust in providers may improve adherence to medication and consequently BP control in AA patients with HTN and other cardiovascular diseases.

034

RELATIONSHIP BETWEEN SELF-PERCEIVED RACIAL DISCRIMINATION AND HYPERTENSION AMONG AFRICAN AMERICANS WITH HIGH BLOOD PRESSURE: THE ALABAMA COLLABORATION FOR CARDIOVASCULAR EQUALITY PROJECTS AHMED¹; M Salas²; J Allison²; E Jacobs³; Y Kim²; M Sussman¹; F Saulawa¹; S Hullett¹¹Cooper Green Hospital, Birmingham, Alabama; ²University of Alabama at Birmingham, Birmingham, Alabama; ³John H. Stroger, Jr Hospital of Cook County & Rush University Medical Center, Chicago, Illinois

Objective. The objective of this study was to determine the relationship of self-perceived discrimination with blood pressure (BP) among African Americans (AA) with hypertension (HTN) in a large safety-net, inner-city medical center in the Deep South.

Method. A cross-sectional study was designed to measure self-perceived discrimination using the validated Jacobs discrimination questionnaire and the CARDIA discrimination scale. AA patients older than 19 years with diagnosis of HTN were invited to participate, and those who signed informed consent were enrolled. Certified study personnel used computer assisted protocols to conduct face-to-face interviews and abstract medical records. BP recordings for the last three visits were extracted from medical charts.

Results. The study included 437 AAs; 69% female; 86% ≥ 45 years of age; and 75% reported an annual household income of $< \$16,000$. Of all participants, 24% stated they perceived discrimination when getting medical care because of their race or color. Patients who reported perceived racial discrimination in medical care had higher mean diastolic BP (81.5 mm Hg, 82.5 mm Hg, $P = .59$) and systolic BP (148.8 mm Hg, 150.0 mm Hg, $P = .49$) compared to those who reported no perceived racial discrimination.

Conclusion. Perceived racial discrimination in health care is associated with higher BP in AAs. More studies are needed to explain the role of racial discrimination as a causal factor for increased BP. Interventions addressing perceived racial discrimination may enhance engagement with the medical system and medication adherence, thereby improving BP control.

035

SIMILAR BLOOD PRESSURE REDUCTIONS IN BLACK AND NON-BLACK HYPERTENSIVE PATIENTS WITH THE NOVEL, VASODILATORY AND CARDIOSELECTIVE BETA-BLOCKER, NEBIVOLOLCV RAM¹; KC Ferdinand²; E Saunders³¹University of Texas Southwestern Medical Center, Texas Blood Pressure Institute, Dallas, Texas; ²Division of Cardiology and the Clinical Research Center, Morehouse School of Medicine, Atlanta, Georgia; ³University of Maryland School of Medicine, Baltimore, Maryland

Compared with Whites, hypertensive Black patients often have lower cardiac output, increased peripheral vascular resistance and poor responses to beta-blocker monotherapy. The antihypertensive efficacy of once-daily nebivolol monotherapy (1.25, 2.5, 5, 10, 20 and 40 mg), a novel, highly cardioselective, beta-1-blocker with nitric oxide-mediated vasodilatory properties, was compared in Black versus non-Black patients in a pooled analysis from three, similarly designed, randomized, double-blind, placebo-controlled, 12-week studies in mild-to-moderate hypertensive patients (sitting diastolic blood pressure [SiDBP] ≥ 95 to ≤ 109 mmHg).

A total of 537 Black and 1479 non-Black patients were evaluated. For Black vs non-Black patients, respectively: mean age=48 vs 55 years; females=51.9 vs 43.5%; diabetics=11.8 vs 6.6%; body mass index ≥ 30 kg/m²=49.0 vs 41.6%. Placebo-subtracted least squares mean changes from baseline to study end in trough SiDBP were similar between Blacks (range: -3.3 to -5.9 mm Hg) and non-Blacks (range: -2.4 to -6.4 mm Hg). Similar trends were seen in trough sitting systolic BP (range: -1.3 to -8.5 mm Hg for Blacks; -1.8 to -8.9 mm Hg for non-Blacks). Compared with non-Black patients, Black patients experienced numerically smaller but statistically significant decreases in heart rate ($P < .001$). The proportion of responders to treatment (SiDBP ≤ 90 or ≥ 10 mm Hg reduction) did not differ significantly between Black and non-Black patients ($P = .195$). Adverse event rates were comparable to placebo and similar in Black vs non-Black patients.

These results suggest that nebivolol monotherapy provides a viable antihypertensive therapeutic option irrespective of race, and hypertensive patients may benefit from nebivolol's distinct mechanism of vasodilation.

036

ETHNIC DIFFERENCES IN PREVALENCE OF METABOLIC SYNDROME COMORBIDITIES AMONG HYPERTENSIVE PATIENTS IN A MEDICAID POPULATION

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Objective. To examine ethnic differences in the prevalence of concomitant diabetes or hyperlipidemia in a Medicaid hypertensive population. *Methods.* The study utilized Maryland Medicaid Claims and Encounters Database, which contains claims information from Medicaid Managed Care.

Organizations. Inpatient and outpatient claims were analyzed for hypertension patients aged 18–64. The ICD-9 codes were 401 to 405 for hypertension, 250 for diabetes, and 272.0 to 272.4 for hyperlipidemia. Chi-square tests and multivariate logistic regression models were used to detect the differences between Blacks and Whites.

Results. Out of a total of 62,133 Medicaid beneficiaries with hypertension between 1/1/2001 and 6/30/2006, 33% were male, average age was 43, 62% were Blacks, and 31% were Whites. Among the hypertensive patients, the crude prevalence rates were 12% for hypertension and diabetes, 23% for hypertension and hyperlipidemia, 23% for concomitant hypertension, diabetes, and hyperlipidemia. A higher percentage of Blacks had hypertension and diabetes than did Whites (13.6% vs 9.7%), however, a lower percentage of Blacks had hypertension and hyperlipidemia than did Whites (19.3% vs 28.3%), and a lower percentage of Blacks had hypertension, diabetes and hyperlipidemia than did Whites (20.7% vs 28.1%). The differences were statistically significant (all $P < .001$ for the chi-square tests). Results from multivariate logistic regression indicated that black hypertension patients were less likely to have concomitant disease of diabetes and hyperlipidemia (OR=0.69, 95% CI: 0.66–0.71) than were White hypertension patients, controlling for age groups, sex, and comorbidities.

Conclusions. Ethnic differences should be considered in designing programs that monitor and manage metabolic syndrome.

037

ETHNIC DIFFERENCES IN PREVALENCE OF METABOLIC SYNDROME COMORBIDITIES AMONG DIABETES PATIENTS IN A MEDICAID POPULATION

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Objective. To examine ethnic differences in prevalence of concomitant comorbidities in a Medicaid diabetes population.

Methods. The study utilized Maryland Medicaid Claims and Encounters Database, which contains claims information from Medicaid Managed Care Organizations. Inpatient and outpatient claims were analyzed for all diabetes patients aged 18–64. The ICD-9 codes were 401–405 for hypertension, 250 for diabetes, and 272.0–272.4 for hyperlipidemia. Chi-square tests and multivariate logistic regression models were used to detect the differences between blacks and whites.

Results. Out of a total of 30,512 Medicaid beneficiaries with diabetes mellitus between 1/1/2001 and 6/30/2006, 32% were male, average age was 44, 58% were Blacks, and 35% were Whites. Among the diabetes patients, the crude prevalence rates were 25% for diabetes and hypertension, 8% for diabetes and hyperlipidemia, 47% for concomitant diabetes, hypertension, and hyperlipidemia. A higher percentage of Blacks had hypertension and diabetes than did Whites (29.9% vs 17.9%), however, a lower percentage of Blacks had diabetes and hyperlipidemia than did Whites (5.7% vs 10.5%), and a lower percentage of Blacks had hypertension, diabetes and hyperlipidemia than did Whites (45.6% vs 51.6%). The differences were statistically significant (all $P < .001$ for the chi-square tests). Results from multivariate logistic regression indicated that Black diabetes patients were less likely to have concomitant disease of hypertension and hyperlipidemia (OR=0.79, 95% CI: 0.75–0.83) than were White diabetes patients, controlling for age groups, sex, and comorbidities.

Conclusions. Ethnic differences should be considered in designing programs that monitor and manage metabolic syndrome.

038

THE IMPACT OF PATIENT AND PHYSICIAN EDUCATION ON HbA1C VALUE REDUCTION IN PATIENTS WITH DIABETES

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Study Purpose. The purpose of this study is to assess the impact of patient and physician education on Hemoglobin A1c (HbA1C) control in diabetes patients.

Methods. The study was composed of 319 diabetes patients, a subset of those enrolled in the Baltimore Partnership Programs to Reduce CVD Disparities project. Patients and their physicians were randomly assigned to either intervention or control group, in a factorial 2×2 design. Intervention patients attended quarterly counseling sessions, and intervention physicians received bi-monthly educational sessions. Multiple regression models were used to assess the effects of patient and physician intervention on HbA1C change, defined as percent change of HbA1C from baseline. The model was adjusted for sociodemographic variables.

Results. The majority of study subjects were African American (91%), females (66%), and the average age was 66 years. Mean baseline HbA1C was 9.11 and mean HbA1C at follow-up was 8.06. The mean HbA1C reduction was 1.05. As compared to the control patients of control physicians, the percent HbA1C reduction was larger in intervention patients of intervention physicians ($P = .08$). Females, non-smokers, and patients of physicians receiving education had a larger reduction in HbA1C levels.

Conclusions. In this patient sample, trend in HbA1C control was seen among intervention patients. These results may help guide future patient interventions supporting diabetes disease management programs.

039

PREDICTORS OF ISOLATED SYSTOLIC HYPERTENSION IN INNER CITY MINORITY PATIENTS

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Study Purpose. To study the prevalence and identify predictors of isolated systolic hypertension (ISH) in a group of inner-city hypertensive patients, predominantly African American.

Methods. The study cohort is composed of 412 hypertension patients, enrolled in the Baltimore Partnership Programs to Reduce CVD Disparities. We defined isolated systolic hypertension as systolic blood pressure (SBP) ≥ 150 mm Hg while diastolic blood pressure (DBP) lower than 90 mm Hg. Potential predictors included in the logistic regression model are family history of cardiovascular diseases (yes vs no), self-perceived good health (yes vs no), senile (age 65+ or not) and being African American (yes or no).

Results. 42 out of the 412 hypertensive patients had isolated hypertension at baseline. Being senile is the only significant predictor of ISH ($P < .001$).

Conclusions. In this patient sample, the prevalence of ISH is approximately 10%. Patients who are older than 65 years of age are more likely to have ISH.

040

THE IMPACT OF PATIENT EDUCATION AND PHYSICIAN EDUCATION ON BLOOD PRESSURE CONTROL

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Study Purpose. To assess the impact of patient education and physician education on blood pressure control in hypertension patients.

Methods. The study is composed of 167 hypertension patients, part of the patient body who are enrolled in the Baltimore Partnership Programs to Reduce CVD Disparities project. The study design is a 2×2 factorial trial: patients and their physicians were randomly assigned to either intervention or control group, where the intervention group receives patient/physician education and control group do not. Blood pressures were measured at baseline and after one year, when the intervention of the first period was conducted. We used multiple regressions to assess the effects of interventions on blood pressure change, with outcome variable being absolute blood pressure reduction. The models are adjusted for sociodemographic variables.

Results. The majority of study subjects are made of patients who are Black (87.4%), female (67.1%), and under 65 years of age (73.0%). Mean pre- and post-blood pressures are 146/87 mm Hg and 136/81 mm Hg, respectively. When controlling for other variables, SBP reduction is more steep among patients who received intervention ($P=.04$) and those who are under 65 ($P=.02$). Physician education at this point does not appear to promote blood pressure reduction ($P=.43$).

Conclusions. In this patient sample, intervention at the patient level seems to be effective in blood pressure control.

041

THE EFFECT OF REDUCED UNCERTAINTY ON DIABETES SELF-CARE AND PSYCHOSOCIAL ADJUSTMENT IN OLDER AFRICAN AMERICAN WOMEN

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Objectives. Research reports that have explored how older African American women (OAAW) with diabetes view their illness indicate that the most common themes are ambivalence and uncertainty regarding self-care activities. Poor psychosocial adjustment to diabetes may result from the uncertainty (lack of information, complexity of self-care activities, other co-morbid conditions and lack of resources) related to self-care activities. Currently OAAW have disproportionate amount of complications due to compromised self-care. This study evaluated the effect of a telephone intervention to reduce uncertainty (through problem solving strategies, providing information, cognitive reframing, and improved patient provider communication) on diabetes self-care and psychosocial adjustment.

Methods. Sixty-eight OAAW were randomly assigned to an experimental and a control group. Those in the experimental group received a psycho-educational uncertainty management intervention via telephone to reduce self-care related uncertainty for four weeks. Those in the control group received usual care. Measurement occurred for all participants at Time 1 (baseline) and at Time 2 (6 weeks post baseline). Diabetes self-care and psychosocial adjustment were the outcome variables.

Results. The experimental group reported an increased participation in exercise (self-care component) ($P<.001$) and improvement in psychosocial adjustment ($P<.001$).

Conclusion. This study shows that providing a forum for continuous interaction that reduces the ambivalence related to diabetes self-care for OAAW is necessary to improve psychosocial adjustment to diabetes.

042

SALT TASTE PERCEPTION AND RELATIONSHIP WITH BLOOD PRESSURE IN A TYPE 2 DIABETIC AFRICAN POPULATION

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Objective. The prevalence of hypertension is higher among diabetics than the general population. We determined salt taste perception and its relationship with blood pressure in type 2 diabetics.

Methods. Consecutively recruited 115 type 2 diabetics (59 diabetic normotensives and 56 diabetic hypertensives) had perception of salt taste determined using graded solutions of NaCl. Sixty age- and sex-matched normotensive non-diabetics served as controls. Univariate and multivariate stepwise regression analysis were used to determine the relationship between salt taste perception and MAP.

Results. The controls had significantly lower salt taste threshold values for salt taste perception than the diabetics, irrespective of blood pressure status. NaCl taste insensitivity was observed in 26 (46.4%), 24 (40.7%), and 11 (18.3%) diabetic hypertensives, diabetics and controls, respectively ($X^2=11.4$, $df=2$, $P=.003$). Unadjusted univariate regression analysis shows that salt taste threshold to maximum tolerable salt concentration was associated with MAP ($\beta=0.670$, $t=20.1$, $P<.001$). The association remained significant after adjustment for age and sex ($\beta=0.100$, $t=6.23$, $P<.01$), body mass index ($\beta=0.081$, $t=5.6$, $P<.01$), place of domicile ($\beta=0.510$, $t=4.3$, $P<.001$) and family history of hypertension ($\beta=0.101$, $t=5.12$, $P<.001$). On multivariate regression modelling adjusting for the above conventional risk factors of hypertension, the association between salt taste perception and MAP remained significant ($\beta=0.055$, $t=2.36$, $P<.02$).

Conclusions. Our data confirm an association between perception of salt taste and blood pressure in type 2 diabetes. Diminished perception of salt taste may contribute to the development of hypertension in this population.

043

HYPERTENSION AND CARDIOVASCULAR RISK FACTOR SCREENING IN AN UNSELECTED BLACK POPULATION

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Objective. A screening exercise to detect prevalence and level of awareness for hypertension and detect specified cardiovascular risk factors was organized by the authors in an unselected Black adult population in Enugu, Nigeria. *Methods.* The screening comprised documentation of biodata, anthropometric and blood pressure (BP) measurements. *Results.* A total of 731 respondents who consented were screened, 682 were analysed (352 males and 330 females). Mean age of respondents was 37.77 ± 13.61 years, (males [39.47 ± 13.88 years] females [35.95 ± 13.10 years] $P = .001$). The mean BMI of the respondents was 26.05 ± 5.03 kg/m², with females being 27.01 ± 5.76 kg/m² and males 25.12 ± 4.01 kg/m² ($P < .001$). Female respondents had higher prevalence of obesity (31.8%) than the male respondents (13.7%). There was significant difference in the mean systolic BP between males and females (131.12 ± 19.95 and 127.39 ± 21.81) $P = .021$. The diastolic BP and the mean arterial pressure of the males and females were similar being 85.56 ± 14.52 mm Hg and 83.66 ± 14.74 mm Hg ($P = .09$) and 100.75 ± 16.35 mm Hg and 98.32 ± 16.41 mm Hg ($P = .06$) respectively. The prevalence of hypertension was 44.2%, out of which 12.7% were previously diagnosed and 31.5% were not previously known to have hypertension.

Conclusion. The screening exercise demonstrated that 31.5% of the population were unaware that they had elevated BP. There was also high prevalence of obesity (higher in females) and hypertension. Screening exercises are useful in detecting elevated blood pressures and cardiovascular risk factors so that early intervention could be instituted.

044

CULTURAL COMPETENCY, PROVIDER EDUCATION IN HYPERTENSION AND DIABETES MANAGEMENT: THE BALTIMORE CARDIOVASCULAR PARTNERSHIP

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Objective. To augment cultural competency awareness among providers who treat and manage African American patients with hypertension (HTN) and/or diabetes.

Methods. Supplementary research to a four-arm randomized controlled trial study assessing the relative impact of providers and/or patient interventions for controlling HTN and diabetes in Baltimore, Maryland. The research involves an educational approach to address disparate cultural competency levels of providers as it relates to their treatment approaches of HTN and diabetes in African Americans. Included in the approach is a standardized course that consists of different modules developed to address the above objective. Providers participate in in-depth discussions and interactive activities and exercises about patient-centered care and cultural competence.

Expected Results. We expect that as a result of the educational emphasis on cultural competency, providers will be more knowledgeable and aware of cultural competency issues related to the management of their patients and therefore, will tend to want to apply their knowledge to practice. Furthermore, patients who are counseled and closely monitored by the providers will tend to show better adherence to HTN and diabetes treatment regimens.

Conclusion. Cultural competency training is a means of engaging providers to be attuned to the importance of connecting with patients, and engaging them in the clinical process, while being sensitive to their clinical, social, and cultural needs. Building on this cultural competence approach in the treatment of HTN and diabetes in African Americans may bridge the race gap in health care, specifically in cardiovascular disparities.

045

IMPROVED BLOOD PRESSURE CONTROL FOR HEART FAILURE MEMBERS LIVING IN HEALTH DISPARATE AREAS

C COBERLEY; G Puckrein; A Wells; S Coberley; M McGinnis; D Shurney

The objective of this study was to determine the ability of home-monitoring as part of disease management programs to assist members with heart failure by providing support to achieve targets set by HF care guidelines, particularly for blood pressure. A total of 164 members with HF and 227 members with HF and diabetes (DM) were identified as residing in minority zip codes using a proprietary algorithm developed by the National Minority Quality Forum. Minority zip codes were defined as areas where more than half of the population is a minority. Members' blood pressure was monitored over the course of a two-year period. On average, members residing in minority zip codes had higher blood pressure than non-minority members, and co-morbid members had higher blood pressure than members with HF alone. Members residing in minority zip codes with HF and with HF and DM achieved significant reductions in their systolic blood pressure during the course of the program ($P < .0001$). Co-morbid members also achieved significant reductions in diastolic blood pressure ($P < .0001$). Members with HF achieved reduced diastolic blood pressure as well, albeit not statistically significant. More members in minority zip codes achieved appropriate blood pressure control ($< 130/85$ for HF and $< 130/80$ mm Hg for HF and DM) during the programs, a 48% relative improvement ($P = .0001$). Increased adherence to ACE-I/ARB and beta-blocker medications was also achieved by members in minority zip codes ($P \leq .0007$). In conclusion, these disease management programs supported HF members residing in health disparate areas to achieve improved blood pressure control.

046

CARDIOVASCULAR CREATINE KINASE AND HYPERTENSION RISKLM BREWSTER¹; CMD Coronel²; BN Vendel¹; W Sluiter³; JF Clark⁴; GA van Montfrans¹; JJ Weening⁵¹Departments of Internal and Vascular Medicine; ²Department of Pathology, St. Elisabeth Hospital, Curaçao, Netherlands Antilles;³Department of Biochemistry, Mitochondrial Research Unit, Erasmus Medical Center, University of Rotterdam, the Netherlands;⁴Department of Neurology, Vontz Center for Molecular Studies, University of Cincinnati, Cincinnati, Ohio; ⁵Department of Pathology, Academic Medical Center, University of Amsterdam

High cardiovascular creatine kinase (CK) activity may increase hypertension risk. Pressor responses are energy-demanding, and CK rapidly channels ATP to contractile protein ATPases and membrane ion transporters.

We had found in a random population sample that serum CK was associated with blood pressure, without evidence of tissue damage. The association was independent of ethnicity, but Black people had higher mean CK and blood pressure levels. We hypothesized that high CK in cardiovascular and other tissues underlay the high serum CK, and compared CK activity in postmortem samples of cerebral, cerebellar, myocardial, arterial, and skeletal muscle tissue from 17 White and 10 Black men, using linear mixed models.

Mean tissue CK activity was higher in all tissues of Black people ($P=.002$, estimated marginal means 107.21 [95%CI, 76.7 to 137.7] mU/mg protein in White, vs 188.6 [148.8 to 228.4] in Black people).

Population subgroups at high risk for hypertension, including Black people, men, and the obese, were previously reported to have relatively high serum and skeletal muscle CK. We proposed that concomitantly elevated cardiovascular CK may increase ATP-buffer capacity for pressor responses. These are the first data suggesting that cardiovascular CK activity is high in a population subgroup with high hypertension risk.

047

THE PATTERN OF CARDIOVASCULAR DISEASE IN BUJUMBURA – BURUNDI

C FOTZEUI; H Kaptchouangii

Background. Cardiovascular disease (CVD) is rising in low-income countries, being considered the second-leading killer in sub-Saharan Africa. The pattern of the disease is yet to be widely studied in order to provide specific and cost-effective response.

Objective. This study was conducted to determine the local pattern of adult cardiovascular diseases seen at King Khaled University Teaching Hospital, with emphasis on the patients' characteristics, associated factors, availability of resources, morbidity and mortality in order to identify areas for future studies.

Methods. One hundred and four adults, 59 males and 45 females admitted from the Emergency Department with cardiovascular-related diagnosis, were selected from the admission registry, and enrolled in a nine-month prospective study from May 2006 to February 2007. Data collected from patient's interview and chart's review were statistically analyzed.

Results. The mean age at admission was 55 years with a sex ratio of 1.3 for males. The mean hospital stay was 14.1 days. Heart failure was the main indication for admission (38.5%), followed by stroke (30.8%). There is a significant association between high blood pressure and morbidity from stroke, heart failure, and acute coronary syndrome ($P < .0001$). The overall mortality was 35.6%. Heart failure appears to be the highest cause of mortality; and fatality was highest among patients with hypertensive urgency or emergency (Fisher's exact test $P=.045$)

Conclusions. The findings from this study in a University Hospital in East Africa show that heart failure represents more than one third of cardiovascular disease admissions, high blood pressure being a significant associated factor. There is an urgent need to establish effective preventive interventions to slow the progression of the cardiovascular disease expansion in sub-Saharan Africa.

048

DOUBLE JEOPARDY: THE PREVALENCE OF HYPERTENSION IN THE DIABETIC POPULATION OF THE BALTIMORE PARTNERSHIP TO REDUCE CARDIOVASCULAR DISPARITIES

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Objectives. Hypertension is a common comorbidity of type 2 diabetes mellitus (DM) affecting 20%–60% of people with DM. NHANES indicates the prevalence of hypertension is significantly greater among African Americans(AA) with diabetes(73.1%) as compared to Whites(58.6%) with diabetes. We compared the prevalence of hypertension in this diabetic predominately AA (96%) cohort of the Baltimore Partnership to Reduce Cardiovascular Disparities to that found in NHANES.

Methods. Patients with uncontrolled diabetes (N=686) are enrolled in this arm of the study. The diagnosis of diabetes was ascertained on the basis of nationally recognized American Diabetes Association guidelines, and hypertension was defined as a patient having a diagnosis of hypertension as defined by the treating physician.

Results. The majority of study subjects were African American (96%), female (61%), and the average age was 61. Out of the 686 diabetic patients, 512 are also identified as hypertensive. The prevalence of hypertension was noted to be 74.6% (512/686) in this population. This is significantly greater than the hypertension prevalence in the White diabetic NHANES 1999–2002 cohort (58.6%). These results are very similar to those seen in the subset of diabetic African Americans (73.1%) from NHANES 1999–2002.

Conclusions. This predominately African American diabetic cohort was noted to have a significantly higher prevalence of hypertension than their White counterparts and than NHANES subjects. Diabetic initiatives targeting African American communities should strongly consider hypertension education an integral part of any project, since the majority of patients are likely to have concomitant hypertension.

049

INSULIN RESISTANCE HAS NO APPARENT EFFECT ON THE LIPID PROFILE IN AFRICAN AMERICAN WOMEN

KL GORING¹; GL Vega²; BA Frempong³; M Ricks³; S Sen³; AE Sumner³

The dyslipidemia of insulin resistance includes not only increased TG and low HDL but also increased apoB, LDL particle number, hepatic lipase (HL) activity and decreased HDL, HDL-size and lipoprotein lipase (LPL) activity. As African Americans have lower TG and higher HDL levels than Caucasians, it is unknown if the concept of dyslipidemia of insulin resistance applies to African Americans. Our goal was to determine the association between insulin resistance and dyslipidemia in African Americans. In a cross-sectional study of 131 non-diabetic African Americans (68M, 63W), age 35+8y (mean+SD), BMI 30.9+7.5 kg/m², fasting lipid profiles and post-heparin LPL and HL activities were obtained. Insulin resistance was determined from the insulin sensitivity index (SI). The subjects were divided into tertiles of SI. Insulin-resistance was defined by the tertile with the lowest SI (SI<2.24). Insulin-sensitive was defined as SI>2.24. Insulin-sensitive and resistant subjects were compared by t-tests. Results are provided in the table. In conclusion, for African Americans there is a sex difference in the influence of insulin resistance on the lipid profile. For men, with the exception of LPL activity, insulin resistance was associated with dyslipidemia. In women, the impact of insulin resistance on the lipid profile was not apparent and needs exploration.

Lipid Parameters According to Insulin Sensitivity Status

	Ins Sen (48 Men)	Ins Res (20 Men)	Ins Sen (39 Women)	In Res (24 Women)
TG (mg/dL)	75±31	103±44**	53±26	62±31
HDL(mg/dL)	48±10	42±8*	53±11	51±8
apoB (mg/dL)	83±23	101±33*	77±22	86±25
LDL particle no.	1183±363	1553±583**	1164±323	1333±400
HDL size (nm)	8.91±0.47	8.58±0.25**	9.30±0.39	9.21±0.41
LPL activity	9.11±2.45	8.56±2.37	9.23±3.27	9.75±3.14
HL activity	20.57±8.11	29.10±12.49**	16.29±4.55	18.23±6.40

* P≤.05.
** P≤.01.

050

TACKLING SIGNIFICANT HEALTH DISPARITIES FACED BY RURAL AND DISADVANTAGED MINORITY POPULATIONS IN THE STATE OF MISSISSIPPI

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While Mississippi annually ranks near the very bottom when dealing with social issues such as education, the state has the unenviable label of leading the entire US in racial and ethnic healthcare disparities. In fact, Mississippi has the highest percentage of African American population per capita and leads the nation in mortality rates due to cardiovascular disease. The sad reality is that this population suffers a disproportionate disease burden in several areas which include: infant mortality, cancer, HIV/AIDS, diabetes, obesity and stroke. The predominance of rural, medically underserved areas and a large uninsured population plays a significant role in the aforementioned realities associated with health care in Mississippi.

The Mississippi Institute for Improvement of Geographic Minority Health and Health Disparities seeks to address the many significant health disparities faced by rural and disadvantaged minority populations in the state. More specifically, the institute's mission is to improve the health of rural and minority populations while simultaneously eliminating health disparities. With respect to the rural and minority population of Mississippi, the overall goals of the institute are to: 1) increase awareness of healthcare issues; 2) increase access to quality healthcare; 3) increase the number of health care professionals available to provide services; 4) document improved health outcomes; and 5) develop models that can be replicated across the state and throughout the United States to effectively address state and national policies and programs to improve health.

Consisting of four programmatic cores (Research, Health Services, Education/Awareness, and the Center for Health Information and Patient Safety [CHIPS]) and one administrative core, the institute achieves its goals through partnering with eleven organizations throughout the state. Partner organizations include: The University of Mississippi Medical Center, Alcorn State University, Jackson State University, The Mississippi Diabetes foundations, The Mississippi Hospital Association, The Mississippi Primary Health Care Association, The Mississippi State Department of Health, Mississippi State University, Mississippi Valley State University, Rust College, The University of Southern Mississippi and Tougaloo College. These separate entities work together cohesively serving as a hub for program development, information dissemination and research on eliminating racial/ethnic and rural health disparities.

051

DEVELOPMENT OF A VALID AND RELIABLE TOOL FOR TESTING KNOWLEDGE OF CARDIOVASCULAR DISEASE AND ITS RISK FACTORS IN PATIENTS DIAGNOSED WITH HYPERTENSION AND/OR DIABETES: THE BALTIMORE CARDIOVASCULAR PARTNERSHIP

DE JONES; E Saunders; M Jackson

Objective. The objective is to develop and test the validity and reliability of a written tool assessing African American hypertensive and diabetic patients' knowledge of cardiovascular disease (CVD) and its risk factors.

Materials and Methods. Construction of the tool will build on measures adapted from past research and construction of new items as necessary. Following the initial development of the tool, the expertise, experience, and familiarity of the physicians with the patient population of the Baltimore Partnership to Reduce Cardiovascular Disparities will be relied upon for evaluation and revision of items. Focus groups of 8–10 patients with diabetes and 8–10 patients with hypertension will be asked to complete the preliminary questionnaire and comment on the items. Patients recruited from the parent project's treatment and control groups, will assist with construct-related validity. The tool will then be administered to each patient while s/he is waiting to be seen by the physician/provider at all visits after the tool is developed.

Summary of Results. For assessing construct validity, factor analysis (principal component or classic) will be used. Internal consistency reliability will be evaluated using the Kuder-Richardson formula 20 (KR-20). The alpha level will be set at 0.05. Test-retest reliability testing will also be employed. Bivariate correlations will be examined using Spearman's Rank Correlations. Additional analysis will be carried out as necessary.

Conclusions. Customized/tailored counseling may increase patient compliance with treatment and improve communication between physician/providers and patients. Having some idea of what African Americans know about CVD will raise physician's awareness and assist with the initiation of effective communication.

052

HYPERTENSION ASSOCIATED VASCULAR INFLAMMATION IN AFRICAN AMERICANS: EFFECTS OF COMBINING VALSARTAN WITH HYDROCHLOROTHIAZIDE VERSUS AMLODIPINE

AD Robinson; W Daley; D Zappe; K Jamerson

Hypertension and its related complications are of paramount importance to African Americans who are disproportionately affected. Angiotensin receptor blocker (ARB) therapy is a viable method of treating hypertension and attenuating its associated increased inflammatory state. The AAVANCE study examined a cohort of African American patients with class II hypertension randomized to receive valsartan + hydrochlorothiazide or amlodipine in a non-inferiority trial for blood pressure management. Secondary analysis of serum markers was performed to elucidate the effects of these antihypertensives on vascular inflammation. Results: Neither therapy has marked effects on inflammatory cytokines other than CRP. Importantly, CRP values in hypertensive African Americans were considerably higher than those previously reported in population based studies. While valsartan is effective in lowering CRP associated with hypertension, either this benefit is not experienced by African Americans, or in the current study, this effect may have been attenuated by the addition of hydrochlorothiazide. Conclusion: This raises the concern whether controlling BP without reducing vascular inflammation has clinical significance. This concern is especially relevant in African Americans where disparate morbidity outcomes have been associated the use of RAS blockers.
