Determinants of depression among women from a large community engagement project

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OBJECTIVES/SPECIFIC AIMS: Depression is one of the leading causes of diseases and disability among women of all ages in the United States. Lack of research to meet women’s needs, access to health care, job opportunities, and drug use significantly contribute to depression among women. This paper aimed to explore the determinants of depression among women from a large community-based sample. METHODS/STUDY POPULATION: HealthStreet is a community engagement research initiative at the University of Florida that utilizes the community health worker (CHW) model to assess health concerns and conditions of community members and link them to available social and medical services and health research. From October 2011 through December 2016, CHWs assessed 8469 community members from various locations in the community such as grocery stores, bus stops, health fairs, laundromats, and others. Among these 8469 participants contacted and assessed by the CHWs, 4952 (58.3%) were women. RESULTS/ANTICIPATED RESULTS: Of the total 8469 participants, 4952 were women and 1839 (37.1%) reported ever having depression. Mean age of women who reported depression was 44.1 years (SD = 14.4). Women who were current users of 3 or more drugs were 10 times more likely (95% CI: 5.73, 18.40; OR: 10.27) to report depression compared with those who did not currently use any drugs. Those who were food insecure in the past 12 months (95% CI: 1.970, 2.576; OR: 2.253) were twice more likely to report depression, while never married (95% CI: 0.576, 0.771; OR: 0.660), and currently unemployed (95% CI: 0.535, 0.715; OR: 0.619) were less likely to report depression. Chronic health conditions such as hypertension (41.6% vs. 33.7%), diabetes (14% vs. 10.5%), and cancer (12.1% vs. 8.3%), and comorbid psychiatric symptoms such as anxiety (54.2% vs. 10.8%) and bipolar disorder (23.8% vs. 2.8%) were significantly higher (p < 0.001) among women with depression compared with their counterparts. Significantly more women without a history of depression had medical insurance (68.8% vs. 64.3%) as compared with women with depression. DISCUSSION/SIGNIFICANCE OF IMPACT: Depression was associated with food insecurity and drug use. The impact of drug use continues to be a major mental health concern among community-based women. Further, these findings emphasize the importance of community engagement programs such as HealthStreet, which utilizes the CHWs' model to link community members to social and medical services within the community, in improving the mental health of women.
Serious cardiovascular morbidity and mortality in a cohort of adults with Fontan physiology
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OBJECTIVES/SPECIFIC AIMS: The morbidity and mortality in adults with single ventricular hearts who have undergone Fontan palliation is poorly defined. These patients have a high burden of arrhythmia, heart failure, and re-operation. We hypothesized that age and type of Fontan predict occurrence of arrhythmia.

METHODS/STUDY POPULATION: In total, 205 patients aged 18 years who had undergone a Fontan procedure were identified. Those with incomplete data were excluded. Demographic, anatomic, pharmacologic, imaging, hemodynamic, and electrophysiologic data were collected. The χ² and Mann-Whitney U tests were used to establish significance as defined as p < 0.05.

RESULTS/ANTICIPATED RESULTS: Of the 205 patients identified, 59 had been lost to follow-up. Of the 146 patients (77, 53% female; 25, 12% had died at a median (IQR) age of 27 (21–34); in patients alive as of 10/2016 the median age was 26 years (22–34). Fontan types were lateral tunnel (LT) (n = 79, 54%, 20%); extracardiac (EC) (n = 32, 22%), right atrial to pulmonary artery (RV-PA) (n = 28, 19%, and Fontan with Bjork modification (n = 4, 2.7%). Systemic left ventricle (n = 96, 66%) was more common than systemic right ventricle (n = 43, 30%). Of the 146 patients, 101 (69%) had significant morbidity or morality: 86 (59%) were diagnosed with arrhythmia, 18 (12%) died, and 11 (8%) underwent heart transplants. Frequent procedures included: Fontan revisions/cryoballoon in 28 (19%), electrophysiology studies with ablation in 73 (50%), and pacemakers in 53 (36%). Of the arrhythmia diagnoses, 57 (64%) were atrial tachyarrhythmias. RV-PA Fontan procedures were associated with significantly more atrial arrhythmia than all other Fontan types (70% vs. 30%; p < 0.01). There was no statistical difference in occurrence of atrial arrhythmia in adults with LT Versus EC Fontans (p = 0.3). While patients who had undergone RV-PA and Bjork Fontans were older with median age 34 years, there was no significant difference in age between LT and EC (median 24.0 and 24.5). DISCUSSION/SIGNIFICANCE OF IMPACT: Adult survivors of the Fontan procedure suffer from significant morbidity and mortality. The single most prevalent morbidity is atrial arrhythmia. We conclude that RV-PA Fontans, now obsolete, have the highest prevalence of arrhythmia and that there is no difference in arrhythmia burden between LT and EC Fontans. Given the high prevalence of morbidity and mortality in this population, it is imperative that they be followed by cardiologists with expertise in congenital heart disease.

Phenotypic characteristics of pediatric nonalcoholic fatty liver disease
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OBJECTIVES/SPECIFIC AIMS: The purpose of this study is to characterize children with nonalcoholic fatty liver disease (NAFLD) living in the Southeastern United States. METHODS/STUDY POPULATION: This retrospective electronic medical record chart review was conducted on a random sample of 206 children identified with NAFLD. Patients were included if they met the following criteria: confirmed NAFLD through either an ultrasound or liver biopsy or clinical suspicion of fatty liver disease alongside elevated alanine aminotransferase (ALT) in the absence of other etiologies causing elevated transaminase. Patients were excluded if they had hepatitis or other documented liver disease. Data collected at initial presentation included age, gender, ethnicity, height, weight, body mass index (BMI), BMI percentile, blood pressure, Hba1c, aspartate aminotransferase (AST), ALT, γ-glutamyl transferase (GGT), total cholesterol, total triglycerides, low-density lipoprotein, and high-density lipoprotein. Statistical analysis: for descriptive statistics frequency counts and percentages alongside standard deviations, range, min/max values for the continuous variables were calculated. RESULTS/ANTICIPATED RESULTS: This study included 206 children diagnosed with NAFLD. Subjects were primarily male (n = 136, 66%) and Caucasian (n = 133, 66%), followed by Hispanic (n = 42, 21%), Black (n = 25, 12%), and Asian (n = 2, 1%). Mean age at diagnosis was 12 ± 3.5 years. Mean weight was 57.7 lbs, height (in), and BMI (kg/m²) of subjects at diagnosis were 192 ± 77.6 lbs, 61.7 ± 6.6 in, 34.6 ± 9.7 kg/m², respectively. Patients had an average systolic blood pressure of 124 ± 15.4 mmHg and diastolic blood pressure of 69.6 ± 10.6 mmHg. Mean ALT was 91.8 ± 67.2 U/L. AST was 61 ± 38.8 U/L, and GGT was 55.1 ± 46.6 U/L. Mean Hba1c was 5.8 ± 1.4%, cholesterol was 176 ± 36.3 mg/dL, triglycerides were 200 ± 134 mg/dL, low-density lipoprotein was 107.6 ± 32.1 mg/dL, and high-density lipoprotein was 39.9 ± 8.4 mg/dL. DISCUSSION/SIGNIFICANCE OF IMPACT: In addition to having significantly elevated liver enzymes, children with NAFLD had several derangements in their metabolic profile, most notably high triglyceride levels and Hba1c values in the prediabetic range. Although lifestyle modification is the gold standard treatment for NAFLD, pharmacotherapy may need to be included to address metabolic syndrome.