

25-74 years, enrolled in the KPG diabetes registry, and reported eGFR > 60 ml/min/1.73m². Capillary and venous blood samples were collected as well as anthropometric measures and questionnaire data. Descriptive estimates were calculated and prevalence of early CKD was reported by elevated cystatin C (defined as cystatin C >0.1 mg/dl) and eGFR. Cystatin C estimates obtained from venous and capillary blood were compared using Bland-Altman and scatter plots. **Results:** The mean age of patients was 53 years. Approximately 71% (40 of 56) were African-American, 59% (35 of 59) were female, 7% (4 of 56) had less than a high school education, and 79% (44 of 56) were obese. The means (± SE) for eGFR, cystatin C (venous), and cystatin C (capillary) were 93.1 (2.70) ml/min/1.73m², 0.72 (0.02) mg/dl, and 0.68 (0.03) mg/dl, respectively. The prevalence of stage 2 CKD was 44% (26 of 59) and stage 3 CKD was 56% (33 of 59). We identified 5% (3 of 59) and 7% (3 of 44) of patients with early stage CKD using cystatin C measures in venous and capillary blood, respectively. The correlation between estimates of cystatin C using venous and capillary blood were high (r = 0.81). **Conclusions:** In this study of patients with normal eGFR, we found that 5-7% had evidence of early CKD as indicated by elevated cystatin C. Further, estimation of cystatin C using capillary blood samples (which are quick and simple to collect) correlated very closely with cystatin C measured in venous blood. A larger study to obtain population-based measures of cystatin C in patients with stage 1 or 2 CKD may identify a significant number of patients with pre-clinical CKD.

Keywords: Chronic kidney disease, Diabetes, Cystatin C
doi:10.3121/cmr.2011.1020.ps2-40

C-C2-03:

Journey for Control of Diabetes: The Interactive Dialogue to Educate and Activate (IDEA) Study – Short-term Results of a Randomized Controlled Trial

JoAnn Sperl-Hillen, MD¹; Sarah Beaton, PhD²; Omar Fernandes, MPH¹; Jodi Lavin-Tompkins, RN, CNP¹; Ann Von Worley, RN, BSHS²; Emily Parker, PhD, MPH¹; Ann Hanson, BS¹; Patricia Glasrud, MS, RDABQ¹; Herbert Davis, PhD²; Kenneth Adams, PhD¹; William Parsons, MS²; Vic Spain, PhD, DVM³

¹HealthPartners; ²LCF Research; ³Merck and Co., Inc

Background/Aims: Group diabetes education for patients is cost-efficient and could be more effective than an individual approach. The objective is to determine whether outcomes of group education are comparable to individual education in the short-term. **Methods:** We identified 9,971 patients from two healthcare systems, ABQ Health Partners in New Mexico and HealthPartners in Minnesota, through electronic health records (EHR) with type 2 diabetes (T2DM) diagnostic codes and sub-optimal blood sugar control (A1c > 7%). Invitations were mailed from June 2008 - May 2009 and 623 (6.2% participation) subjects were randomized to: (1) Individual Education (IE), (2) Group Education (GE), or (3) Usual Care (UC)/no education. Education was delivered through the American Diabetes Association-recognized education programs of the participant's care system. IE used a conventional approach with three 1-hr sessions, and GE used four 2-hr sessions using the U.S. Diabetes Conversation Map® education program. Psychosocial and behavioral measures were survey-assessed at baseline, 1, and 4 months after the last scheduled educational session. Clinical measures were obtained through the patient's EHR in the 6 months preceding baseline & randomization and preceding the second follow-up survey. General and linear mixed modeling methods were used to assess patient changes from baseline to follow-up in A1c, General Health Status (SF-12), Problem Areas in Diabetes (PAID), Diabetes Empowerment Scale (DES), components of the Diabetes Care Profile (DCP), Readiness to Change (RTC), Recommended Food Score (RFS), and physical activity (PA) using the BRFSS. **Results:** At follow-up, the mean A1c for IE decreased .61% (p<.001), .36% for GE (p=.003) and .34% for UC (p=.01). The A1c for IE decreased by .27% compared to UC (p=.02) and .25% compared to GE (p=.01). Compared to UC, mean PAID was reduced by IE (-.37, p=.02) and GE (-.30, p=.05) and SF12 physical health score, PA, and RFS were increased by IE 1.98 (p=.03), 41.17 minutes/week (p=.05), and .62 (p=.06), respectively. DES, RTC, and DCP were not significantly changed by IE or GE. **Conclusion:** At 4 months post-education

completion, individual education for this patient population resulted in improved A1c's compared to usual care and group education. Diabetes-specific distress (PAID score) was reduced with both methods of education. **Keywords:** Diabetes education, Group education, Conversation map
doi:10.3121/cmr.2011.1020.c-c2-03

PS2-18:

Characterization of the Health Care of Patients with Impaired Fasting Glucose Compared to Those with Normal Fasting Glucose Managed in a Rural Multi-Specialty Medical Group Practice

Yvette Henry, PhD¹; H. Lester Kirchner, PhD¹; James Pitcavage, MSPH¹; Raymond Menapace, BS¹; Thomas Graf, MD¹; John Kennedy, MD¹; Ronald Harris, MD¹; Peter Berger, MD¹

¹Geisinger Medical Center

Background/Aims: Patients with impaired fasting glucose (IFG) are at risk for developing diabetes and cardiovascular disease. The microvascular and macrovascular changes caused by diabetes often predate diabetes onset by years. Diabetes and its complications can be delayed and even prevented by lifestyle modification and medical therapy. The extent to which patients in our rural health care environment receive such proven care strategies remains unknown. The aim of this study was to compare IFG patients to normoglycemic patients in clinical characteristics, risk factors for vascular disease, and co-morbid conditions, and the frequency and rigor with which they were evaluated and treated in a rural healthcare multispecialty group medical practice in Central Pennsylvania. **Methods:** A case-control study design was employed to address the aims of the study. Clinical data from patients treated at Geisinger Clinic between January 1, 2004 and August 31, 2009 were extracted from the Geisinger electronic health record and analyzed. **Results:** A total of 19,684 IFG patients and 19,684 controls were included in the study population. Compared with normoglycemic patients, IFG patients were slightly older (50.3 years vs. 47.7 years) and had more co-morbid illnesses (1.5 vs. 0.9 co morbidities, p<0.0001). Despite this, IFG patients were evaluated only slightly more frequently for vascular disease, and risk factors for vascular disease were treated only slightly more rigorously than they were in normoglycemic patients with the vast majority of at risk patients remaining suboptimally treated for modifiable risk factors for vascular disease. **Conclusions:** Despite impaired fasting glucose having been shown to be a marker for increased risk of type 2 diabetes and future cardiovascular disease, physicians in our rural multispecialty group practice do not appear to consistently discriminate between their management of patients with impaired fasting glucose and those with normoglycemia.

Keywords: Pre-diabetes, Impaired fasting glucose
doi:10.3121/cmr.2011.1020.ps2-18

C-C2-02:

Extreme Childhood Obesity is Associated with Lower Extremity Injuries

Annette Adams, PhD¹; Krikor Deramerian, MD²; Amy Porter, MD²; Steven Jacobsen, PhD, MD¹; Corinna Koebnick, PhD¹

¹Kaiser Permanente Southern California; ²Kaiser Permanente Baldwin Park Medical Center;

Background/Aims: Obesity rates for children and adolescents are increasing rapidly. The same age groups are also disproportionately affected by unintentional injury. Though evidence exists for the association between obesity and injury, we sought to estimate the association between degree of overweight/obesity and the occurrence of fractures, sprains, dislocations, and pain in the lower extremities. **Methods:** For this population-based, cross-sectional study, measured weight and height, and diagnosis of lower limb fractures, sprains, dislocations, and pain were extracted from electronic medical records of 914,271 patients aged 2-19 years who were enrolled in an integrated health plan 2007-2009. Weight class (underweight, normal weight, overweight, moderate and extreme obesity) was assigned based on body mass index-for-age. **Results:** Children and adolescents who were extremely