OBJECTIVES: Diabetes is a challenge to manage, with poorly controlled diabetes having a serious impact on patients’ overall well-being. Individuals vary in interpersonal characteristics and their ability to be self-reliant, termed as attachment style. Attachment theory provides the conceptual framework for these interpersonal differences that can lead to differences in seeking care and disease management.

The objective of this study is to assess if variation in attachment style is associated with social support, self-care, and diabetes-related quality of life (QOL) in Veterans.

METHODS: Patients seeking care at the local VHA during FY 2010 with a recorded HbA1c level were randomly selected from administrative data, and surveys were mailed. 126(38%) respondents returned surveys. Self administered survey included validated measures on diabetes self-care, diabetes-related QOL (Diabetes-39), medication adherence, social support, and patients experience with the healthcare system. Each patient was classified using the Relationship Style Questionnaire, scores individuals on continuum using two models, self-model, and others-model. Higher score on self-model indicates individuals with positive view of self, while higher score on others-model indicates positive view of others. Linear regression was used to assess association of health outcomes with attachment style.

RESULTS: Participants were predominantly white (63%), married (60%), and did not depend on a family member or friend for daily activities (83%). 63% of diabetics had at least one family member diagnosed with diabetes. Individuals with high social support reported better HbA1c, more frequent glucone monitoring, and higher medication adherence. More positive view of self was associated with lower diabetes-related distress, and higher diabetes-related QOL. More positive view of others was associated with better social support. Results for attachment style remained after adjusting for age, gender, race, and education (p < 0.05).

CONCLUSIONS: Social support varies with attachment style which could affect diabetes-related QOL. Interventions to improve diabetes-care should consider patients’ attachment style.

PBDB79

ASSOCIATION OF SELF-CARE BEHAVIOR IN DIABETES WITH HEALTH RELATED QUALITY OF LIFE (HRQOL): BEHAVIORAL RISK FACTOR SURVEILLANCE SYSTEM (BRFSS) STUDY

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OBJECTIVES: Self-care in diabetes can avoid the risk of serious complications and also influence a person’s HRQOL. This study examined the association of self-care behavior with four measures of HRQOL-General Health, Physical Distress, Mental Distress and Activity Limitations in diabetic patients. METHODS: Data of non-institutionalized US population aged 18 years or older was obtained from 2010 BRFSS. A total of 4966 diabetics who reported diabetes and all the four measures of HRQOL were used in the study. Self-care behavior comprised of both, Self-Monitoring of Blood Glucose (SMBG) and self-foot care brought out at least once a day.

RESULTS: Of 4966 diabetic patients, SMBG was performed daily by 77.28% and self-care foot-care was done daily by 73.32%. Yet, less than half (41.17%) of diabetic patients had a self-care behavior (SMBG and self-foot care both on a daily basis). Diabetic patients without self-care behavior were significantly more likely than diabetic patients with self-care behavior to report poor/ fair general Health (82.48% vs. 75.35%, p = 0.005), Physical Distress (52.44% vs. 44.13%, p = 0.005), Mental Distress (56.65% vs. 52.99%, p = 0.005) and activity Limitations (56.10% vs. 44.04%, p = 0.0001). Self-care behavior was significantly associated with all the four measure of HRQOL in non-institutionalized diabetics patients within 18 years or above. CONCLUSIONS: Self-care behavior is of utmost importance in diabetes as it can delay the progression of this lifestyle disease. Impaired HRQOL was reported significantly more in those diabetic patients without a self-care behavior as compared to those with it. Incorporating SMBG and self-foot-care on a day to day basis can facilitate to keep diabetes under control and even improve HRQOL.

PBDB80

EFFECT OF DIABETES PATIENT CHARACTERISTICS ON THE WILLINGNESS-TO-PAY FOR A NEW BASAL INSULIN – A DISCRETE CHOICE EXPERIMENT

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OBJECTIVES: Despite the advances made with the introduction of basal insulin analogs, many diabetes patients still achieve inadequate glycemic control, and could benefit from new basal insulin. This study evaluated the effect of patient characteristics on the willingness to pay for a hypothetical new basal insulin. A discrete choice experiment survey was designed to assess patient preferences. Using a US representative household panel, the survey was administered online to 600 adult T2DM patients. Preferences were tested concerning hypoglycemia events risks, diabetes control techniques, hypoglycemia, injection timing flexibility, and blood glucose monitoring frequency. Random effects probit models were used for data analysis. Incremental WTPs vs. existing basal insulin therapies by patient characteristics (i.e., age, gender, race, urban status, income level, insurance, perceived diabetes control and diabetes treatment effectiveness) were examined either in terms of monthly copayment or health insurance contribution.

RESULTS: The average patient’s incremental WTP was $59.0 via copayment and $89.3 via health insurance contribution for a new basal insulin that reduces hypoglycemia events risks (by 25% for overall and 40% for night-time), injection frequency (from some twice daily use to none), and increases injection flexibility (e.g., up to 2 days gap between consecutive injections). Older patients (age ≥65 years) were willing to pay more than younger patients (+$20.6 via copayment, p = 0.025), and so were patients with higher household income i.e. ≥$55K (+$21.1, p < 0.01). No other significant differences were observed for other patient characteristics. Incremental WTPs for patients who perceived their diabetes in complete control, or patients who were very satisfied with insulin therapy were low (e.g. <$40 via copayment), but differences were not significant. CONCLUSIONS: Although adult T2DM patients appear to value fairly strongly the attributes of a new hypothetical basal insulin, elderly patients seem to have particularly high valuations.
diabetes metrics between pharmacies located in zip codes with high versus low Hispanic populations. Analyze prevalence, incidence, new patient age, adherence to therapy, glycated hemoglobin (HbA1c) level, disease severity, and inferred disease progression. METHODS: Catalina Health™ receives a nationally representative sample of pharmacy data containing 40% of all US retail prescription volume and 130 million unique patient IDs. The data is HIPAA compliant, updated daily, longitudinal, and not projected. SELECTED RESULTS: Paired glucose tolerance (IGT), and impaired fasting glucose (IFG) patients. Among the patients, 5.76% had at least one complication and 0.86% had more than one complication. The most common complication was diabetic vasculopathy (T2DM), impaired glucose tolerance (IGT), and impaired fasting glucose (IFG) patients. Among the patients who had at least two follow-up visits during the study period, 2.95% IGT patients and 2.34% IFG patients turned into diagnosed diabetes status. Within one-year diabetes management, the percentage of patients with ideal blood sugar rose from 20.58% to 28.10% according to fasting plasma glucose (FGP) test results. The percentage of patients who monitored blood sugar regularly rose from 77.90% to 83.27%. The percentage of patients who did not exercise reduced from 46.24% to 45.31%. The percentage of patients who monitored diet completely according to doctor’s suggestion rose from 80.83% to 82.31%. Regression analysis showed that over 50 years old, taking exercise exercises, attending group follow-ups and door-to-door follow-ups (compared to outpatient follow-up visit) were the factors with positive impact on maintaining ideal blood sugar level. Over 7-year disease duration, overweight, and obesity had negative impact on blood sugar maintenance. The accuracy model results showed that the metrics were both relatively low under the community-hospital-integrated diabetes management system in Shanghai Minhang district. The performances in blood sugar control and self-management have been improved during one-year study period. Effectiveness of group follow-up and door-to-door follow-up are superior to that of out-patient follow-up visit.

PDB86
EVALUATION OF PHARMACISTS TIME AND THERAPY MANAGEMENT FOR PATIENTS WITH TYPE 2 DIABETES SERVED BY A RURAL FREE CLINIC
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OBJECTIVES: Quantify the amount of time spent, number and type of interventions, and clinical and economic impact of medication therapy management (MTM) by pharmacists for patients with diabetes mellitus (DM) in a clinic serving a rural uninsured population. METHODS: Data from 565 patients continuously enrolled in a newly established pharmacist service were analyzed. Patients were ≥18 years of age, qualified for free care based on income and lack of insurance, and had a diagnosis of DM. Under a collaborative agreement, pharmacists provided MTM for clinic patients. The amount of time pharmacists spent with patients was tracked through MTM CPT codes. Number and types of interventions were captured by drug class. Clinical impact was measured by changes from baseline hemoglobin A1c (HbA1c) levels, blood pressure, and lipid levels. Economic impact was calculated using published cost estimates for pharmacy services achieving a ≥1% decrease in HbA1c levels. RESULTS: Coding information was captured for 481 patient encounters. Most visits (80.5%) were 30–45 minutes, and included education, counseling, and medication changes. There were 1,159 interventions documented, with the most common interventions being medication adherence counseling, and medication changes. Increasing a dose was the most common modification (50.4%), followed by adding an additional medication (28.4%). Insulin was the class most often adjusted or initiated (50% adjustments, 50% new starts). Followed by antihypertensive agents (19.1% adjustments, 12.8% new starts). Compared to baseline, 35.7% of patients achieved HbA1c goal of ≤7% (P = 0.001). A significant number of patients also reached SBP goal <130mmHg (P = 0.016), DBP goal <80mmHg (P = 0.007), LDL ≤100mg/dL (P = 0.001), or triglycerides ≤150mg/dL (P = 0.009). Approximately 71% of patients had a ≥1% decrease in HbA1c. Given an expected annual savings of $1,118/patient, this would equate to a total savings of $84,782. CONCLUSIONS: The study demonstrated pharmacist time spent on MTM and showed positive clinical and economic outcomes in a rural free clinic.

PDB87
REAL-WORLD RETROSPECTIVE ANALYSIS OF DEMOGRAPHIC CHARACTERISTICS AND PREVALENCE OF DIABETES IN SHANGHAI MINHANG DISTRICT
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OBJECTIVE: The objective was to examine the demographic characteristics and prevalence of diabetes in Shanghai Minhang district. METHODS: The study was based on the information system from the community-hospital-integrated diabetes management program established since 2007. The program screened for diabetes in community health care centers, built up an information system of Electronic Health Record (EHR), and conducted various forms of follow-up visits and disease management with different time spans according to patients’ diabetes situations.
RESULTS: There were 45,709 diabetes patients managed during the study period from October 2008 to September 2009. Type1 diabetes (T1DM), Type2 diabetes (T2DM), impaired glucose tolerance (IGT), and impaired fasting glucose (IGF) patients accounted for 0.97%, 92.11%, 5.08%, and 1.83%, respectively. The average diabetes duration was 7.72 ± 6.06 years and the mean age was 64.98 ± 11.14 years old. Among the patients, 5.76% had at least one complication and 0.86% had more than one complication. The most common complication was diabetic vasculopathy, accounting for 45.15% of the patients with complications. Diabetic retinopathy, diabetic nephropathy, diabetic neuropathy, and diabetic dermopathy occupied 34.70%, 15.46%, 13.39%, and 9.82% of the patients with complications, respectively. Based on the last follow-up visit during the study period, the average fasting plasma glucose (FGP) was 7.05 ± 1.91mmol/L and the average postprandial plasma glucose (PPG) was 8.64 ± 3.29mmol/L. The percentage of the patients whose blood sugar level was considered to be ideal, fair, and poor was 36.12%, 32.53% and 31.34% respectively. As with the average blood sugar level, the number was 67.27%, 20.08% and 37.16% respectively. The percentage of the patients whose blood pressure was considered to be ideal, fair, and poor was 39.53%, 36.61% and 23.85% respectively. The number was 69.48%, 20.08% and 9.41% respectively. With regard to the percentage of the patients who monitored blood pressure regularly, the number was 77.27%, 17.37% and 5.38% respectively. CONCLUSIONS: The diabetes patients managed are mainly T2DM with long disease durations and the elderly. The complication prevalence was relatively low, suggesting that there were deficiencies in the complications screening and information recording in the program. The program provided an effective and efficient way to better understand real-world management of diabetes.