PDB75

HEALTH OUTCOMES AMONG TYPE 2 DIABETES PATIENTS WITH COMORBID OBESITY IN BRAZIL
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OBJECTIVES: The aim of the current study was to assess the patient characteristics, treatment patterns and health outcomes of adult patients with type 2 diabetes (T2D) with and without comorbid obesity in Brazil. METHODS: Data were obtained from a cross-sectional national Health and Wellbeing Survey, a self-reported medical condition survey of the adult Brazilian population (N=12,000). Obese T2D patients (n=155) were compared with non-obese T2D patients (n=320) on demographics, HbA1c, insulin usage, health behaviors and prevalence of hypertension and high cholesterol. Differences amongst the two groups on levels of health status (assessed with the Short Form 36) were tested in a series of multiple regressions, controlling for the effects of patients’ socioeconomic status. RESULTS: T2D patients were mostly male (53.8%) and had a mean age of (54.97). A total of 87.7% of patients did not know their HbA1c and only 16.21% were on an insulin, neither of which varied by presence of obesity. Obese T2D patients were significantly more likely to belong to B1 socioeconomic group and significantly less likely to belong to C1 socioeconomic group than non-obese T2D patients (30% vs. 21% and 10% vs. 19%, respectively, all p<0.05). Hypertension was significantly more prevalent among obese T2D patients than among non-obese T2D patients (61% vs. 43%, p<0.05). Adjusting for differences in socioeconomic status, obese T2D patients reported significantly lower levels of PCS (Adjusted Mean (Madj)=42.7 vs. 44.6, p<0.05) and had significantly lower health utilities than non-obese T2D patients (Adjusted Mean (Madj)=0.68 vs. 0.72, p<0.05). CONCLUSIONS: Few patients in Brazil were aware of their HbA1c, suggesting a lack of self-management. Inaccurate T2D patients were more likely to report comorbid hypertension and worse health status yet were no more likely to use insulin than their non-obese counterparts. Improved patient education and management of obese T2D patients may improve health outcomes for these patients.

PDB76

APPROACHES TO ASSESSING THE IMPACT OF DEATH COMORBIDITY ON HEALTH-RELATED QUALITY OF LIFE MEASURES FOR USE AMONG MULTI-ETHNIC ENGLISH-SPEAKING ASIANS WITH DIABETES: AN INTERIM ANALYSIS
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OBJECTIVES: To evaluate existing diabetes-specific patient reported outcome (PRO) measures and the Patient Reported Outcomes Measurement Information System (PROMIS) item banks in relation to their ability to capture health-related quality of life (HRQoL) domains that are relevant to multi-ethnic English speaking Asians with Type 2 diabetes mellitus (T2DM). METHODS: Eligible patients were recruited from a diabetes clinic in a Singapore tertiary care hospital to participate in the study. PROs were assessed using the Diabetes Health Profile, Diabetes-39, the Comprehensive International Classification of Functioning, Disability and Health Core set for Diabetes and PROMIS Version 1.0 item banks (all developed in the West). RESULTS: Of 79 T2DM patients approached, 54 agreed to participate in 3 groups (0 men, 10 Chinese, 2 Malay, 2 Indians and 1 Eurasian, mean (SD) age: 46.8 (±4.5) years). HRQoL issues in T2DM were organized into 26 domains and 58 sub-domains. Existing DM-specific PRO measures did not capture cognitive functioning and restricted participation in religious activities (domain) and modified participation in social activities and engagement of others (sub-domains). 13 of 26 domains and 19 of 58 sub-domains were assessed by the PROMIS Version 1.0 item banks (physical functioning, anxiety, depression, anger, fatigue interference/experience, social role performance/satisfaction, pain, pain interference/quality/behavior). CONCLUSIONS: There is a significant degree of overlap in HRQoL domains and sub-domains between Western and Asian populations but gaps exist. When using generic PROMIS item banks to assess HRQoL among multi-ethnic Asian populations with T2DM, additional item banks are needed to fill these gaps and increase content validity.

PDB77

HEALTH-RELATED QUALITY OF LIFE BY ASSESSMENT OF CARDIOVASCULAR DISEASE (CVD) RISK IN PATIENTS WITH TYPE 2 DIABETES: KOREAN QUDIT OF DIABETES-PARTICIPANT DEPENDENT QUALITY OF LIFE (KR-ADQOL)
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OBJECTIVES: To investigate the hypothesis that access to healthcare is different for diabetic patients with and without obesity. METHODS: Medical Expenditure Panel Survey (MEPS) 2008 data was analyzed for diabetic patients with and without obesity. Access to healthcare was measured as patients who reported to have usual source of care (USC) provider. Logistic regression and goodness of fit tests were conducted to investigate the hypothesis that access to healthcare is different for diabetic patients with and without obesity. RESULTS: A total of 155 T2DM patients (35% women) with and without obesity were included. Access to healthcare was measured as patients who reported to have usual source of care (USC) provider. Logistic regression analysis shows that patients with both diabetes and obesity had better access to healthcare (OR=1.3432, p=0.037) compared to only diabetic patients. Patients with public insurance (OR=1.356, p<0.05) and US residents (OR=1.356, p<0.05) were more likely to have reported more access to healthcare than the patients. CONCLUSIONS: Some factors like patients in rural communities, type of insurance, aged, gender, race, age have reported difference in access to health care. In order to investigate the hypothesis that access to healthcare is different for diabetic patients with and without obesity, future studies should be addressed by the PROMIS Version 1.0 item banks.

PDB78

HEALTH OUTCOMES AMONG TYPE 2 DIABETES PATIENTS WITH COMORBID OBESITY IN KOREA
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OBJECTIVES: To evaluate existing diabetes-specific patient reported outcome (PRO) measures and the Patient Reported Outcomes Measurement Information System (PROMIS) item banks in relation to their ability to capture health-related quality of life (HRQoL) domains that are relevant to multi-ethnic English speaking Asians with Type 2 diabetes mellitus (T2DM). METHODS: Eligible patients were recruited from a diabetes clinic in a Singapore tertiary care hospital to participate in the study. PROs were assessed using the Diabetes Health Profile, Diabetes-39, the Comprehensive International Classification of Functioning, Disability and Health Core set for Diabetes and PROMIS Version 1.0 item banks (all developed in the West). RESULTS: Of 79 T2DM patients approached, 54 agreed to participate in 3 groups (0 men, 10 Chinese, 2 Malay, 2 Indians and 1 Eurasian, mean (SD) age: 46.8 (±4.5) years). HRQoL issues in T2DM were organized into 26 domains and 58 sub-domains. Existing DM-specific PRO measures did not capture cognitive functioning and restricted participation in religious activities (domain) and modified participation in social activities and engagement of others (sub-domains). 13 of 26 domains and 19 of 58 sub-domains were assessed by the PROMIS Version 1.0 item banks (physical functioning, anxiety, depression, anger, fatigue interference/experience, social role performance/satisfaction, pain, pain interference/quality/behavior). CONCLUSIONS: There is a significant degree of overlap in HRQoL domains and sub-domains between Western and Asian populations but gaps exist. When using generic PROMIS item banks to assess HRQoL among multi-ethnic Asian populations with T2DM, additional item banks are needed to fill these gaps and increase content validity.

PDB79

VARIATION IN ATTACHMENT STYLE AND HEALTH OUTCOMES OF DIABETES PATIENTS
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OBJECTIVES: Diabetes is challenging to manage, with poorly controlled disease 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 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 in the development and 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 EHC, more frequent glucose monitoring, and greater 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 were significant after adjusting for age, gender, race, and education (p<0.05).

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

PDB79

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 noninstitutionalized US population aged 18 years or older was obtained from 2010 BRFSS. A total of 4966 individuals 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 on an average of 14 days in past 30 days. RESULTS: Of 4966 diabetic patients, SMBG was performed daily by 77.28% and self 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. 63.70%), Physical Distress (71.66% vs. 64.03%, p=0.0001), Frequent Mental Distress (56.65% vs. 52.99%, p=0.0104) and Frequent Activity Limitations (64.04% vs. 56.30%, p<0.0001). Self-care behavior was significantly associated with all the four measure of HRQOL in noninstitutionalized US diabetic patients aged 18 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.

PDB80

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 (WTP) for a hypothetical new basal insulin among patients with type 2 diabetes mellitus (T2DM). METHODS: 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 expectations, 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 satisfaction) were examined either in terms of monthly costs (via 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 highly the attributes of a new hypothetical basal insulin, elderly patients seem to have particularly high valuations.

PDB81

VALUE OF A DIABETES PREVENTION PROGRAM IN RURAL KENYA: COMPARING PAYMENT CARD AND STRUCTURED HAGGLING WILLINGNESS TO PAY

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OBJECTIVES: Diabetes is a preventable disease with prevalence in Kenya considered on par with Western countries. Diabetes prevention and care is especially important in nonwestern countries where lifestyle factors associated with the acute care model of treatment, however it is unknown how rural residents will perceive such a program. Study objective was to value a diabetes prevention program (education, screening and referral) by comparing two willingness to pay (WTP) techniques in rural Kenya: the commonly used payment card (PC) and the recently developed structured haggling (SH), considered more consistent with Sub-Saharan African culture. METHODS: Convenience sample of adult residents from a rural county in Kenya (Kiambu) were randomized to one of two WTP techniques, SH (Onwujekwe 2004) and PC. Program benefits (WTP data) were collected face-to-face interviews. Ex-ante approach was used assuming: societal perspective, 5 year project life, and 3% discount rate. RESULTS: WTP data was collected from 158 rural residents (70% male, 2.5% diabetic, 11% own a vehicle and mean monthly expenditures of Ksh10,930 (US$1103 12.7%). Annual mean WTP for the prevention program was Ksh 683.97 (US$2011$7.95) for PC and Ksh 683.97 (US$2011$7.95) (45.52) for SH per respondent per year, p=0.516. Bids ranged from Ksh 0 to 5000. Assuming the program benefits 4800 rural adults, the program WTP is estimated at a mean of Ksh 14,420,838 (US$2011$167,684).

CONCLUSIONS: Diabetes prevention program have been shown to be effective in other counties. In the present study rural Kenyan residents did value a diabetes prevention program favorably. This is the first published study comparing PC and SH, however no statistical difference was perceived between the two WTP methods. As part of a larger study the benefits and costs will be compared to estimate the net societal benefit of the prevention program in rural Kenya.

PDB82

FACTORS INFLUENCING THE SPENDING ON HERBAL REMEDIES BY THE PATIENTS WITH TYPE 2 DIABETES MELLITUS IN THE CENTRAL REGION OF INDIA

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OBJECTIVES: To use a model of adoption for determining various factors that influence the willingness of patients to spend more on herbal remedies that are useful in diabetes. METHODS: In this study, survey forms were provided to 1500 patients with type 2 diabetes in 9 major government hospitals of central region of India. The patients included in the survey were aged 20 or older and residing in 2 major states of India (Madhya Pradesh & Chhattisgarh). The independent variables were patient characteristics, types of herbal therapies, social systems and communication mediums. The dependent variable was the amount spending divided into monthly spending of Indian Rupee (INR) 250 (~$5) or less important in INR 250 (~$5). Binary logistic regression was performed to examine the relationship between variables of adoption model and amount spent on herbal remedies.

RESULTS: Out of the 1500 survey forms provided to the patients there were 85 incomplete surveys and 29 survey forms were not returned back by the patients. Thus, there were 1386 usable returned surveys. A total of 984 (71%) patients reported using herbal remedies useful in diabetes. The logistic regression was done using the 786 (56.7%) patients who spent money on herbal remedies in last one month. The overall regression was significant (P<0.05). The major influences on spending money on herbal remedies were over-the-counter (OTC) drug use, herbal use, and the consultations with the physicians practicing traditional medicine. The patients who consulted with physicians practicing traditional medicine tend to spend 6.2 times higher on herbal remedies as compared to those who do not consult. Patients aged 40 or older reported spending more on herbal remedies in comparison with younger patients.

CONCLUSIONS: Patients having information about herbal remedies from physicians and OTC drug use was positively related to spending on herbal remedies that are beneficial in diabetes. A model of adoption can be a useful tool in similar studies.

DIABETES/ENDOCRINE DISORDERS – Health Care Use & Policy Studies

PDB83

DIABETES MEDICATION USAGE PATTERNS IN GEOGRAPHIES WITH HIGH HISPANIC POPULATIONS IN THE UNITED STATES

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OBJECTIVES: To determine whether culturally relevant diabetes education is warranted for US geographies with high Hispanic populations. Examine differences in