Translation, adaptation and validation of the diabetes distress scale for Indonesian diabetic outpatients with various types of complications
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Published in:
Value in Health

DOI:
10.1016/j.jval.2016.08.205

IMPORTANT NOTE: You are advised to consult the publisher's version (publisher's PDF) if you wish to cite from it. Please check the document version below.

Document Version
Publisher's PDF, also known as Version of record

Publication date:
2016

Link to publication in University of Groningen/UMCG research database

Citation for published version (APA):

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EQ-SD during 2016. A visual analog scale (VAS) score and health index score were computed, and the difference was measured for non-participants (selected by propensity score matching). This study uses linear regression models to determine the change in the EQ-SD score, controlling for age, gender, A1C, LDL, body mass index (BMI), duration, comorbidity, and severity. **RESULTS:** There is an insignificantly higher EQ-SD index score group 2 (P = 0.93), compared with the non-P4P group after controlling for patient factors. The between-group difference in the EQ-SD VAS score is not significant for controlling for patient factors. **CONCLUSIONS:** There is no difference in health status and health-related quality of life among patients participating in the newly featured P4P program versus non-participants.

PDB30

**ESTIMATING THE ECONOMIC BURDEN OF HYPOGLYCEMIA IN PATIENTS WITH TYPE 1 AND TYPE 2 DIABETES MELLITUS IN AUSTRIA**

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**OBJECTIVES:** To assess health care costs and productivity losses associated with hypoglycemia in type 1 and type 2 diabetic patients per person and for Austria. **METHODS:** The target population comprised type 1 diabetics and type 2 diabetics with T2DM who had not previously self-administered injectable medications. A self-completion survey was conducted to identify studies reporting on epidemiology, health care resource use, and work productivity losses of hypoglycemia. This was supplemented by market research reports. Input data and expert opinion. **RESULTS:** The target population comprised type 1 diabetics and type 2 diabetics with T2DM. The prevalence of hypoglycemia was approximately 14.7% (10.1% with BMI 25.1-26.9, 27-29.9, 30 or greater, respectively). Several measures were selected for P4P and non-P4P groups.

PDB31

**ASSESSMENT OF KNOWLEDGE AND PRACTICE REGARDING FOOT CARE OF DIABETES MELLITUS PATIENT IN TERTIARY CARE HOSPITALS, QUETTA, PAKISTAN**

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**OBJECTIVES:** This study aimed to assess the knowledge and practice of foot care in DM patients among two different Government hospitals and general community of Quetta city, Pakistan. **METHODS:** A cross-sectional study was conducted in two government hospitals and general population of diabetic patients in Quetta city. A total of 200 patients was interviewed. Data was gathered from April to September 2015. Pretested questionnaire was used to assess the knowledge and practice of diabetic patients regarding foot care.

PDB32

**PREFERENCES FOR TREATMENT ATTRIBUTES OF DULAGLUTIDE AND LIRAGLUTIDE AMONG PATIENTS WITH TYPE 2 DIABETES MELLITUS AND THEIR WILLINGNESS TO SELF-INJECT DIABETES MEDICATION: A COMPARISON BETWEEN JAPAN AND THE UNITED KINGDOM**

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**OBJECTIVES:** To compare preferences for treatment features of dulaglutide and liraglutide among patients with type 2 diabetes mellitus (T2DM) in Japan and the United Kingdom (UK), and their willingness to self-inject diabetes medication. **METHODS:** Two discrete choice experiments (DCE) were conducted in Japan and the UK among patients with T2DM who had not previously self-administered injectable medications. The DCEs were conducted through in-person interviews and examined six attributes: dosing frequency, blood sugar (HbA1c) change, weight change, type of delivery system, and frequency of treatment. **RESULTS:** Utilities were estimated using logit regression models and used to calculate relative importance (RI) values for each attribute. Prior to completion of the DCE, participants were queried about willingness to self-inject medication for T2DM. Following the DCE, participants were asked their willingness to take medication represented by dulaglutide and liraglutide medication profiles. **RESULTS:** Final analytic samples consisted of 182 participants in Japan and 243 from the UK. In both studies, dosing frequency of delivery system, and frequency of adverse events were the top 5 most important attributes, in rank order, with minor variation in the relative importance of each attribute across countries. Pre-study willingness to take injectable medication was significantly lower in Japan (1.7%) compared to the UK (37.9%) (p < 0.001). Post DCE willingness to take medication represented by dulaglutide and liraglutide medication profiles also differed, with fewer Japanese participants ‘somewhat willing’ or ‘very willing’ (dulaglutide: 42.4%; liraglutide: 4.4%) compared to their UK counterparts (dulaglutide: 30.5%).

PDB33

**EFFECTIVENESS OF SELF-MONITORING OF BLOOD GLUCOSE (SMBG) IN REDUCING HBA1C OF DIABETES MELLITUS TYPE-2 PATIENTS IN JAKARTA, INDONESIA: PRELIMINARY FINDINGS**

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**OBJECTIVES:** Indonesia could lose as much as US$93 billions due to diabetes between 2006-2015. The prevalence of DM patients was 6.9 million people in 2010 and is predicted to reach 11.9 million people in 2030. Preventive actions are needed related to control blood sugar and HbA1C level. It is hypothesized that patients who monitor their blood sugar have higher probability of compliance with diets and treatments. Therefore, providing DM patients with blood glucose monitor is assumed to be able to contribute for better outcome of treatment. We conducted a quasi experiment study by providing Self-Monitoring of Blood Glucose (SMBG) for DM patients in Jakarta. The study aims to ascertain good control of diabetic patients in Jakarta.

PDB34

**TRANSLATION, ADAPTATION AND VALIDATION OF THE DIABETES DISTRESS SCALE FOR INDOONESIAN DIABETIC OUTPATIENTS WITH VARIOUS TYPES OF COMPLICATIONS**

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OBJECTIVES: To translate, adapt, and validate the Diabetes Distress Scale (DDS) instrument for Indonesian type 2 diabetes mellitus (T2DM) patients with various types of complications. METHODS: Participants were recruited from four hospitals and two primary healthcare facilities. The procedure of the study included forward and backward translations, an adaptation testing with a small subset of participants, and a validation test. Factor analysis with maximum likelihood estimation and promax rotation was used to investigate the instrument structure. Internal consistency among the items was estimated using Cronbach’s alpha for each of the four domains. The instrument form resulting from this study was labeled DDS17 Bahasa Indonesia. RESULTS: 324 participants (246 from hospitals and 78 from primary healthcare facilities) were involved in this study. Understanding of the exact meaning of questions by study participants was improved by adding T2DM daily activity examples (e.g. diet, exercise and adherence to therapy) to several questions after the translations and adaptation procedure. The factor analysis showed correlation among the four factors ranging from 0.40 to 0.67. The order in the factor analysis was first interpersonal distress, followed by emotional burden, physician distress, and regimen distress. The internal consistency for the four domains ranged from 0.78 to 0.83. CONCLUSIONS: The DDS17 Bahasa Indonesia provides a valid and reliable scale for assessing distress of Indonesian T2DM outpatients. The use of valid tools in future research and clinical trials is recommended for the Indonesian context.

PDB37 AN OBSERVATIONAL STUDY ON HEALTH RELATED QUALITY OF LIFE IN DIABETES MELLITUS PATIENTS

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OBJECTIVES: The main objective of the present study focuses on evaluation of physical and social aspects of health related quality of life in Indian Diabetic Mellitus patients in representative sample population. METHODS: The study consisted of a representative population sample of 325 out-patients with diabetes mellitus and self-report study. The questionnaire was filled out for a period of one year at tertiary care hospital, Warangal. Data was obtained using different sources and patients were interviewed to identify health related quality of life (HRQOL) using 3 modified questionnaires “SF-36 WHO wellbeing questionnaire, Quality of life enjoyment and satisfaction questionnaire, Diabetes specific quality of life scale questionnaire”. These modified questionnaire includes domains like emotional wellbeing, functional wellbeing, physical wellbeing, social/family wellbeing, diabetic specific goals and satisfaction on blood glucose values, burdens and restrictions from diabetes and its treatment. RESULTS: In the present study, the HRQOL is categorised as high, moderate and low. Overall patients are 325, among them 260 were adults and 65 were geriatrics further 152 were male, 173 were female. In reference with WHO standard for adults, 3% geriatrics had moderate HRQOL and 40% geriatrics shared moderate HRQOL and 23% adults, 57% geriatrics shared low HRQOL. Based on enjoyment and satisfaction scale 88% adults, 63% geriatrics shared high HRQOL. In reference with Diabetic Specific scale 97% adults and 95% geriatrics shared moderate HRQOL. CONCLUSIONS: Domains of HRQOL of diabetic patients was found to be affected moderately so it requires careful management of Diabetes Mellitus. Self perceived health status was the main predictive factor influencing the overall HRQOL.

PDB38 PSYCHOMETRIC PROPERTIES OF THE CHINESE VERSION OF PROBLEM AREAS IN DIABETES SCALE (SG-PAID-C) AMONG HIGH-RISK POLYDYSHYMNIA PATIENTS WITH UNCONTROLLED TYPE 2 DIABETES IN SINGAPORE

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OBJECTIVES: Undetected diabetes distress is a cause of concern. However, the lack of validated questionnaire is a barrier to screening and management of distress. The aim of this study was to examine the validity and reliability of the Chinese version of Problem Areas in Diabetes Scale (SG-PAID-C) and its association with socio-demo-graphic and clinical parameters in patients with type 2 diabetes. METHODS: This cross-sectional study was conducted in four outpatient healthcare institutions in Singapore. Chinese-speaking patients with uncontrolled type 2 diabetes, poly-harmcy, and multiple co-morbidities were administered SG-PAID-c. The prospective study was carried out for a period of one year at a tertiary care hospital, Warangal. Data was obtained using different sources and patients were interviewed to identify health related quality of life (HRQOL) using 3 modified questionnaires “SF-36 WHO wellbeing questionnaire, Quality of life enjoyment and satisfaction questionnaire, Diabetes specific quality of life scale questionnaire”. These modified questionnaire includes domains like emotional wellbeing, functional wellbeing, physical wellbeing, social/family wellbeing, diabetic specific goals and satisfaction on blood glucose values, burdens and restrictions from diabetes and its treatment. RESULTS: In the present study, the HRQOL is categorised as high, moderate and low. Overall patients are 325, among them 260 were adults and 65 were geriatrics further 152 were male, 173 were female. In reference with WHO standard for adults, 3% geriatrics had moderate HRQOL and 40% geriatrics shared moderate HRQOL and 23% adults, 57% geriatrics shared low HRQOL. Based on enjoyment and satisfaction scale 88% adults, 63% geriatrics shared high HRQOL. In reference with Diabetic Specific scale 97% adults and 95% geriatrics shared moderate HRQOL. CONCLUSIONS: Domains of HRQOL of diabetic patients was found to be affected moderately so it requires careful management of Diabetes Mellitus. Self perceived health status was the main predictive factor influencing the overall HRQOL.

PDB39 INCREASING TREND OF HEALTH RELATED QUALITY OF LIFE AWARENESS FOR DIABETIC CARE AMONG INDIAN SCIENTISTS

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OBJECTIVES: The health related quality of life (HRQoL) focused research in developing countries is scanty and far between, where 80% of healthcare cost is borne by the patient. Indian patients have different social, socioeconomic and personal characteristics from the Western counterparts, which cannot be directly extrapolated to Asian populations. This study was conducted to make an assessment of the trends in HRQoL research in patients with diabetes in India and Asia vis-à-vis the western population. METHODS: We performed literature searches in PubMed, Clinical trials.gov and country-specific registries for 1985-2016 to identify studies investigating HRQoL in patients with diabetes and compared these for the US and the UK. RESULTS: Only 46 publications were identified from India, whereas 131 from the USA and UK. The number of papers published in India increased from 2 in 1991-95 and 1996-2000, 4 in 2001-2005 and 7 in 2006-2010 to 31 in 2011-2016. Similar trends were also observed in other Asian countries like China, Singapore, Malaysia, Japan. 17 papers published in Indonesia focused on diabetes distress. The diabetes specific assessment tools like ADDQoL were used very sparsely. A QoL tool (Quality of Life Instrument for Diabetes patients, QoLI) specific for Indian patients with diabetes has also been developed. DISCUSSION: Future studies on its clinical utility should be conducted.

DIABETES/ENDOCRINE DISORDERS – Health Care Use & Policy Studies

PDB40 MARKETING SITUATION AND MEDICAL REFORM POLICY ANALYSIS OF ORAL HYPOGLYCEMIC DRUGS IN CHINA

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OBJECTIVES: To analyze the current marketed hypoglycemic drugs in China, and explore the effect of new medical reform policies on hypoglycemic drugs. METHODS: collect the registration information of oral hypoglycemic drugs from the official website of CFDA, statistical analysis of the variety and therapeutic spectrum of the drugs. RESULTS: There were 9 categories of oral hypoglycemic agents in Chinese market, including 27 chemical drugs (including 9 different dosages) which provided 772 domestic manufacturers and 30 abroad manufacturers, and 26 traditional Chinese medicines (TCMs) which provided by 79 domestic manufacturers. Totally 22 hypoglycemic drugs were involved in the national medical insurance list, including 13 chemical ones and 9 TCMs. Among them, only 7 hypoglycemic included in the new medical reform policies, including Glyburide, glipizide, glimepiride, metformin, acarbose, Xiaoekwan, Shenqiwangtang particles. CONCLUSIONS: Oral hypoglycemic chemical agents can basically ensure domestic need of diabetes therapy. The field of anti-diabetic therapy, traditional Chinese medicines occupied a certain market. The implementation of national essential medicines system and medical insurance policy meet the basic need of diabetic patients to some extents, but more coverage and reimbursement were needed for the increasing population and burden of diabetic patients.

PDB41 STUDY OF PRESCRIBING PATTERN OF ANTI-DIABETIC DRUGS IN NEWLY DIAGNOSED TYPE 2 DIABETES MELLITUS

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OBJECTIVES: To study the prescribing pattern of anti-diabetic drugs in newly diagnosed type 2 diabetes mellitus (T2DM) patients. METHODS: Retrospective observational study, carried out in a south Indian tertiary care teaching hospital. Institutional ethics committee approval was obtained prior to the study. As per the study criteria, data of newly diagnosed T2DM patients admitted during the year 2013 and 2014 was collected from medical records department (MRD) registry using ICD code E 11.9. Drug utilization was measured as DDD/1000 diabetic patients/day. RESULTS: During the study period total 662 patients were newly diagnosed with T2DM. The mean age of the study population was 52.5 ± 12.5 years (mean±SD) and 64.5% of patients were male. 164 patients had over weight and 67 patients were obese. Generalized weakness (n=89), fatigue (n=70) and polyuria (n=41) were the most common symptom present at the time of diagnosis. Among the study population 39.4% patients received single anti-diabetic drug, 29.3% patients received dual anti-diabetic drug and 17.8% patients received multiple anti-diabetic drug treatment. 39.9% patients received only oral anti-diabetic drugs, 18.6% patients received only insulin therapy, while 28.1% patients received combination of oral anti-diabetic drugs and insulin therapy. Consumption of insulin was 4.1 DDD/1000 diabetic patients/day in 2013, which was increased to 6.3 DDD/1000 diabetic patients/day in 2014. Among the oral anti-diabetic drugs biguanides (58.2%) was the most common prescribed, followed by sulfonylureas (29.3%) and alpha-glucosidase inhibitors (5.4%). Combination of biguanides and insulin was prescribed to 30.7% patients. The most prescribed anti-diabetic drugs results from the western studies cannot be directly extrapolated to Asian populations. This study reveals that insulin and metformin was the most prescribed anti-diabetic drug in our hospital.

PDB42 HEALTH CARE DIRECT COST BURDEN OF DIABETES IN MEDICARE BENEFICIARIES WITH OBESITY

A901

VALUE IN HEALTH 19 (2016) A807-A918