DIABETES RISK ASSESSMENT—APPLICATION AND VALIDATION OF A DIABETES RISK SCREENING SCORE APPLIED TO THE NATIONAL HEALTH AND WELLNESS SURVEY

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OBJECTIVES: To apply a risk assessment algorithm to a national US population sample to determine the prevalence of at-risk pre-diabetic and undiagnosed diabetic participants and (ii) to validate the role of the risk factors included in the scoring algorithm in the prediction of diagnosed type 2 diabetes.

METHODS: Data from the 2009 US National Health and Wellness Survey (NHWS) were used to apply a modified version of a recently developed scoring algorithm/prediction model to identify patients at-risk for screening for pre-diabetes and undiagnosed diabetes. The algorithm combines six risk factors to generate total risk scores: age, gender, family history of hypertension, high blood pressure, obesity, and physical activity. Estimates of the national prevalence of those at risk together with key health status attributes were generated. RESULTS: Among those 18 years of age and over in the NHWS sample (N = 74,474) without a confirmed diagnosis of diabetes, 27.3% of participants were estimated to be at risk for diabetes and a further 16.5% for pre-diabetes. Among those with a confirmed diagnosis of diabetes (excluding persons with type 1 diabetes), 73.6% were confirmed by the scoring algorithm with a further 13.8% meeting pre-diabetic criteria. Overall, 10.0% had confirmed type 2 diabetes diagnosis. The fitted prediction model indicated the following variables were strongest risk factors in the NHWS sample: (i) age 60 years and over (odds ratio 6.94); (ii) morbid obesity (odds ratio 6.11); (iii) a family history of diabetes (odds ratio 4.79); and (iv) being obese (odds ratio 3.04). All variables significant at the 1% level. The sensitivity was 22.2%, specificity 97.8%, positive predictive value 57.3% and negative predictive value 91.0%, with area under the ROC curve of 0.847. CONCLUSIONS: This study provides strong support for the new scoring algorithm to identify both pre-diabetic and diabetic at-risk populations.

SURVIVAL AS A FUNCTION OF HBA1C IN PEOPLE WITH TYPE 2 DIABETES: A RETROSPECTIVE COHORT STUDY

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OBJECTIVES: To study predictors of statin use in overweight and obese adults and consistency with current 2004 American Diabetes Association (ADA) guidelines.

METHODS: A retrospective cross-sectional analysis of National Ambulatory Medical Care Survey (NAMCS) and outpatient part of the National Hospital Ambulatory Medical Care Survey (NHAMCS) of 2005–2007 was conducted among overweight and obese adults aged 18 to 64 years. Statin prescription (received or not) was the outcome measure. Descriptive statistics and multivariate logistic regression were carried using SAS9.2 to determine predictors of receiving statin prescriptions. The multivariate model was stratified based on age: Model1 (18 to 40 years) and Model2 (41 to 64 years), as a significant interaction was found between diabetes and age (chank test p = 4.3729<0.8). RESULTS: A total of 3141.387 million visits were examined, 94.176 (2.9%) with a statin prescription. Diabetics were more likely to receive a statin prescription compared to nondiabetics (Model1: Odds Ratio (OR) 4.12 95% Confidence Interval (CI): 3.77–4.61, p < 0.0001; Model2: OR 2.85 95%CI: 2.21–3.27, p < 0.0001). Females were less likely to get statin prescription compared to males [Model1: OR 0.52 (CI: 0.42–0.63 p < 0.0001); Model2: OR 0.68 (CI: 0.39–0.78 p < 0.0001)]. Specialists were more likely to prescribe statin compared to generalists [Model1: OR 1.44 (CI:1.31–1.84, p < 0.0013); Model2: OR 1.61 (CI: 1.35–1.91, p < 0.0001)]. Other significant predictors included hypertension (p1 = 0.0037; p2 = 0.0001), hyperlipidemia (p1 < 0.0001; p2 < 0.0001), congestive heart failure (p1 = 0.0044; p2 = 0.0004) and counseling (p1 = 0.0011; p2 < 0.0001). Race and ethnicity were not significant in both models. CONCLUSIONS: Diabetes were more likely to receive statin prescriptions compared to nondiabetics, consistent with ADA recommendations. Further research is needed to ensure achievement of target cholesterol levels in this high risk population.

DIABETES/ENDOCRINE DISORDERS – Cost Studies

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OBJECTIVES: A new dipeptidyl peptidase-4 inhibitor, saxagliptin, has been recently approved for the T2D treatment. This study evaluates the budget impact of the introduction of saxagliptin to the Brazilian Private Healthcare System (PSH).

METHODS: A model was developed to estimate the annual cost of T2D treatment per patient of the population potentially impacted by the introduction of saxagliptin to the PHS. The analysis also estimates the economic impact to the system of all oral anti-diabetic drugs (OADs) for 3 consecutive years. Target population (T2D patients on OADS and HbA1c uncontrolled) and patient disposition over treatment pathway were based on epidemiological and pharmacoepidemiological data, and clinical specialist interviews. Pharmaceutical direct costs are based on factory price (FP) and Defined Daily Dose (DDD). We assumed saxagliptin FP to be 115.3% of sitagliptin FP. Univariate Deter- minants of annual costs included were: age, gender, income, HbA1c, A1c sensitivity analysis is conducted to determine the impact on annual costs. RESULTS: The growth in population and prevalence increased the target population throughout the analysis. The prevalence estimate in year 1 was 328,218 and increased to 349,212 in year 3. The growth also impacted total costs in scenario...