CONCLUSIONS: Despite different methods (BMI vs. ICD-9 codes) for capturing obesity between two databases, prevalence rankings of comorbidities were similar. Obesity is therapeutically classified by BMI, however, most large claims databases capture obesity by ICD-9 codes. This may result in variation in weight group distributions among BMI and ICD-9 codes. Our findings highlight the need for further research in optimal sources for data in obese patients.

PSY78

ESTIMATING THE BMI-MORTALITY RELATION USING FRACTIONAL POLYNOMIALS

Wong E1, Wong BCM2, Garrison L1, Alfonso-Cristano B2, Flum D2, Arterburn D3, Sullivan SD1
1Department of Veterans Affairs, Seattle, WA, USA, 2University of Washington, Seattle, WA, USA, 3Empirische Beratung mbH, Denzlingen, Germany

OBJECTIVES: This study tests a flexible modeling approach, which endogenously estimates the non-linear and asymmetric functional form for body mass index (BMI), to examine the relationship between mortality and obesity measured as BMI > 30. METHODS: This study used the National Health Interview Survey (NHIS), between 1997 and 2000. Respondents were linked to the National Death Index with mortality follow-up through 2005. We estimated the 5-year probability of death using the logistic regression model adjusting for BMI, age, and sex. The multi-variable fractional polynomials (MFP) procedure was employed to determine the best fitting functional form for BMI and compared to alternative functional forms using a chi-squared test. Expected years of life lost due to obesity were based on adjusted death probabilities and computed using standard life table functions. RESULTS: The best fitting adjustment model contains the powers -1 and 2 for BMI. A chi-squared test shows a statistically significant improvement of the BMI model fit compared to other BMI polynomial functions. The estimated relationship between 5-year probability of death and BMI exhibits a J-shaped pattern for women and a U-shaped pattern for men. The BMI associated with minimum mortality is 27.53 for males and 27.72 for females. A 40-year-old female with a BMI of 40 has an estimated 5.82 fewer years of expected life compared to an analogous female with a BMI of 25. For a comparable change in BMI in a 40-year-old male, the expected years of life lost is 5.20. CONCLUSIONS: The BMI-mortality relation is flat around the minimum, but especially high mortality is associated with the morbidly obese. The MFP approach provides a robust alternative to estimating mortality by allowing the data to determine the best fitting model. The approach is also useful in estimating the relationship between the full spectrum of BMI values and other health outcomes.

PSY79

CONTENT VALIDITY OF THE MULTIPLE SCLEROSIS INTERNATIONAL QOL (MULTISQL) QUESTIONNAIRE IN IRAQ, EGYPT, MOROCCO, SAUDI ARABIA AND TUNISIA

Trevin A1, Salmasi L1, Auquier P2
1MAP Institute, Lyon, France, 2Timone University Hospital, Marseille, France

OBJECTIVES: The MiusSQL questionnaire was co-developed in 15 countries to assess the quality of life of patients with Multiple Sclerosis. The objective of this study was to test the cultural relevance of the instrument in 4 Arabic countries (Egypt, Morocco, Saudi Arabia and Tunisia) and Iran, not involved in the initial development process. We assessed the conceptual equivalence of the translations with the UK original used as a basis for translation. METHODS: In each country, the translation process was conducted by a linguistic expert, using either the standard forward/backward methodology or the adjusted process (adaptation from the Saudi Arabic version, including cognitive interviews with 6 patients). The basis for discussion was the concept list developed in collaboration with the author. RESULTS: Linguistic and cultural issues emerged during the translation process. First, the acronym “MS” used throughout the original version for “Multiple Sclerosis” was replaced by the full name in Arabic countries for clarity, but not in Iran where the patients preferred the abbreviation. Second, using euphemistic expressions for taboo concepts such as sex life proved necessary to ensure homogeneous response across all languages without any negative connotation. Finally, leisure activities (e.g. shopping, going out to a movie, gardening) described in the original had to be adapted to the religious and social context in the target countries. CONCLUSIONS: The 5 language versions of the MiusSQL were established following a proven standardized methodology, on the basis of a concept list worked out with the author, to allow international data pooling and mining whilst addressing the specific challenges of regard to the whole support for the different countries. The MiusSQL is a useful tool, continuous and diverse international feedback on wording during the linguistic validation process.

PSY80

PRIORITY OR WEIGHTING AND WEIGHTING OF PATIENT-RELEVANT ENDPOINTS (PRESS) AS PART OF THE IQWIGS EFFICIENCY FRONTIER METHOD IN GERMANY

Wieck A1, Brixner D2, Arnold RJ3, Arnold Consultancy & Technology LLC, New York, NY, USA, 2Empirische Beratung mbH, Denzlingen, Germany, 3Mount Sinai School of Medicine, New York, NY, USA

OBJECTIVES: To compare the estimates of Prevalence Ratio (PR) and Odds Ratios (OR) as effect measures in the analysis of cross sectional data for obese individuals suffering with chronic comorbid conditions. METHODS: Medical Expenditure Panel Survey data files from 2005-2007 was utilized for the analysis. Obese adults were defined as age ≥ 20 years and having a BMI ≥ 30. Prevalence ratios were estimated from logistic regressions by dividing predicted prevalence estimates of comorbidities among obese individuals to the predicted prevalence of comorbidities in non-obese individuals after adjusting for socio-demographic factors. Odds ratios were boot-strapped. confidence intervals were calculated around the prevalence ratios. Odds ratios were generated by using the ‘Survey’ Logistic’ syntax in SAS after adjusting for the same socio-demographic factors. RESULTS: Both odds ratios and prevalence ratios indicate that obese individuals have a burden of chronic conditions in the United States. Obese individuals had the greatest odds of having hypertension and osteoarthritis followed by coronary heart disease, diabetes and dyslipidemia. Prevalence ratios were highest for diabetes, followed by hypertension, osteoarthritis and dyslipidemia. Odds ratios were almost always greater than the prevalence ratios for all chronic conditions. The confidence intervals derived around odds ratios were also wider than the confidence intervals around the prevalence ratios. CONCLUSIONS: The relative importance of obesity upon different disease conditions differed depending on whether PR or OR were estimated. This study along with previous literature shows that odds ratios may be overestimating the true effect of a disease condition on the prevalence of a comorbid disease. Although it is easier to derive odds ratios, prevalence ratios may be more realistic estimates of the true public health burden. Thus prevalence ratios should ideally be used as effect measures instead of odds ratios especially for commonly occurring disease conditions.