PODIUM SESSION II: DEVELOPMENTS IN QUESTIONNAIRES

EQ-SD AND SF-6D

EQ1

PSYCHOMETRIC COMPARISON OF EQ-SD AND EQ-SD-5L IN STUDENT POPULATION
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OBJECTIVES: The new five-level version of the EQ-SD is now officially available, a pilot five-level version of EQ-SD questionnaire was successfully tested in patients with cancer. Other studies, using the official EQ-5D-5L, in moderately or severely disabled populations of patients with stroke, diabetes, injury, or psychiatric conditions are under way. Nothing is known about how EQ-5D-SD performs in relatively young and healthy populations. Aim of the study was to compare a polish version of the three-level EQ-SD questionnaire (3L) with the five-level version (5L) in a student population.
METHODS: In March 2010, all students from the Faculty of Pharmacy, Medical University of Warsaw were surveyed with a set of HRQoL questionnaires (3L, EQ-VAS, SF-36, and 3L). We examined percentage of reported problems, proportion and size of logical inconsistencies, ceiling effect, redistribution properties, convergent validity with SF-36 domains, and discriminatory power using Shannon’s indices.
RESULTS: Four hundred eighty-five students were approached and 443 responded to all questionnaires (3L, SF-36, and 3L). The domains with the highest and the lowest proportion of reported problems by 3L were Anxiety/Depression (57.1%) and Self-Care (0.2%), respectively. 3L and 5L responses were highly correlated in Pain/Discomfort (Pearson’s r = 0.71), Usual Activities (0.64), and Anxiety/Depression domains (0.64). Mean rate of logical inconsistencies was 3.02%, with 93% of them being level 1 (according to Janssen et al., 2008). The ceiling effect was identified in 47% of 3L questionnaires and 54% of 5L questionnaires. Absolute informativity was higher with the 5L version, with similar relative informativity for both instruments. CONCLUSIONS: Results obtained in students support introduction of new 3L-level version of EQ-5D in young and healthy populations. EQ-5D-SD appears to be more favorable in terms of ceiling effect and absolute informativity.

EQ2

TESTING THE PERFORMANCE OF THE NEWLY DEVELOPED VERSION OF THE EQ-5D WITH 5 LEVELS OF SEVERITY: APPLICATION ON A COHORT OF PATIENTS WITH CHRONIC HEPATIC DISEASES
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OBJECTIVES: To assess the performance of the EQ-5D-5L in a naturalistic context targeted to patients with hepatic diseases. Preliminary investigations suggest that the new version of EQ-5D, with five levels (5L) of severity per domain, is promising to assess individuals’ QoL as approximately the standard version with three levels. However, further research is encouraged to investigate the EQ-5D-5L properties in different subsets and contexts. METHODS: This study was conducted within a project aimed to estimate costs and QoL related to hepatic diseases. The participants selected for the study were enrolled using a convenient sample including the 5L standard descriptive system, the 5L-5L descriptive system, and the 5L-5L descriptive system. The following properties were tested: feasibility (amount of missing answers); amount of inconsistent and consistent responses between 3L and 5L versions, convergent validity with the 3L version and VAS (Spearman’s rank correlation coefficient), discriminant validity (construct validity). RESULTS: Data from 426 patients were analyzed: 69% male, 19 to 84 (median = 57) years old. They were affected with: chronic hepatitis C (25.4%), chronic hepatitis B (22.5%), chronic hepatitis B and C (12.5%), cirrhosis (20.9%), liver transplantation (19.0%), hepatic carcinoma (4.3%), nonalcoholic steatohepatitis (1.9%), and other less frequent hepatic diseases. With the standard version (3L), patients reported some or severe problems with mobility (24.2%), self-care (10.4%), usual activities (29.0%), pain/discomfort (35.5%), and anxiety/depression (37.4%). Median VAS was 70 (15–100). Missing answers were more frequent with the 5L version (6.4% vs. 4.0% of patients). In total, 97.5% of responses were consistent. Convergent validity of 5L-VAS was 0.81, ranging from 0.86 (18–29 years) to 0.71 (80–84 years). For SF-6D, mean HRQoL for the same population was 0.74, ranging from 0.75 (18–29 years) to 0.66 (80–84 years). With regard to gender, HRQoL was higher overall for men compared to women. Men had an EQ-5D score of 0.83 and a SF-6D score of 0.79; in contrast, women had an EQ-SD score of 0.79 and a SF-6D score of 0.73. Across disease groups, the mean EQ-SD scores ranged from 0.60 (pneumonia) to 0.75 (endocrine), mean SF-6D index values ranged from 0.64 (pneumonia) to 0.71 (endocrine). CONCLUSION: Although EQ-5D and SF-6D appear to measure similar constructs, our results show that EQ-5D performs well in the general population depending on chosen instrument. However, when comparing our results across disease groups, differences between the instruments appear less substantial. Our findings could have serious implications for the transparency of cost-effectiveness analysis, if different studies use HRQoL measurements that are not equivalent.

PODIUM SESSION I: DEVELOPMENTS IN METHODOLOGICAL MODELLING

STRUCTURAL UNCERTAINTY IN COST-EFFECTIVENESS MODELS OF TREATMENT FOR ALZHEIMER’S DISEASE
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OBJECTIVES: To discuss and explore important sources of structural uncertainty in a decision model for drug treatment in Alzheimer’s disease. Progression in Alzheimer’s disease can be modeled on various domains (e.g., cognition, function, behavior), each of which can be measured by various scales. Defining disease progression and incorporating a treatment effect can therefore be difficult, requiring many assumptions based on little or inconsistent evidence, resulting in a great deal of structural uncertainty. METHODS: We explored the impact of structural uncertainties in a published three-state Markov model of treatment for Alzheimer’s disease. This ultimately led to the development of a novel model. Elements of structural uncertainty included 1) defining the model states; 2) predicting occupancy of the states over time; and 3) allowance for disease progression within a state. RESULTS: Assessment of the step-by-step structural changes to the published model indicated a number of assumptions having a relatively large impact on the cost-effectiveness results, generally resulting in lower costs per quality-adjusted life-year (QALY) associated with the treatments. The cumulative impact of these assumptions was also considerable. However, there is little evidence to inform which assumptions are the most realistic. CONCLUSIONS: Investigation into sources of structural uncertainty has helped to identify which assumptions had the largest impact on the estimated costs per QALY. However, this does not help to reduce the uncertainty in the decision model but does make the structural uncertainty explicit. Decision-makers are therefore forced to address this type of uncertainty as well as parameter uncertainty. Exploring structural uncertainty also helps to identify gaps in the current evidence base to help understand which assumptions may be the most credible.