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Original article

The EQ-5D: A useful quality of life measure in borderline personality disorder?

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Abstract

Introduction. — Borderline Personality Disorder (BPD) is a severe psychiatric disorder and is associated with significant impairment in quality of life. The aim of the present study is to assess the internal and external responsiveness of the EuroQoL-5D (EQ-5D) in BPD patients.

Patients and Methods. — Data from 49 patients included in a multi-center Dutch randomized trial were used. We used both the EQ-5D utility score and the Visual Analogue Scale of the EuroQoL, and the Borderline Personality Disorder Severity Index-IV (BPDSI-IV). To determine internal responsiveness, we calculated the standardized response mean (SRM). To determine external responsiveness, we calculated Spearman correlations for the change scores, and compared EQ-5D scores for clinically improved vs. non-clinically improved patients as measured with the BPDSI-IV.

Results. — Patient scores improved on all instruments during the three years. SRMs for BPDSI-IV were significantly higher than EQ-5D utility. Three-year Spearman correlation between change scores of BPDSI-IV and EQ-5D utility was 0.487, between BPDSI-IV and EQ-VAS it was 0.404, both statistically significant. EQ-5D utility scores for patients who clinically improved were significantly higher than for patients who did not.

Discussion. — We conclude that the EQ-5D is fairly responsive in BPD, and, therefore, especially because of its brevity and user-friendliness, can serve as a useful tool in economic evaluations in patients with BPD.

Keywords: Borderline Personality Disorder; Health economics; Quality of life

1. Introduction

Individuals who suffer from Borderline Personality Disorder (BPD) constitute a very severe group of psychiatric patients who are difficult to treat. The problematic nature of BPD is characterized by recurring crises, hospitalisations, self-mutilation, suicide attempts, addictions and episodes of depression, anxiety and aggression. Also typical for BPD is its chronic nature. The onset of BPD generally takes place in adolescence, and prevalence in the general population is estimated to range from 0.5 to 2.0% [1,28]. The suicide risk is estimated up to 10% [23]. From the above, it may be clear that Health Related Quality of Life (HRQoL) in patients with BPD is significantly impaired compared to that of healthy individuals.

HRQoL can be measured in several ways. For instance, there are generic and disease-specific instruments. Generic instruments are suitable for all diseases, and disease-specific instruments are especially designed for 1 disease. In economic evaluations, generic HRQoL instruments are preferred, as they allow us to determine the allocative efficiency of alternative

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actions. As argued by Dowie [8], for an HRQoL measure to have decision validity, it is the outcomes from *all* alternative treatments for the condition that determine the relevant HRQoL measure, not the outcomes from the condition itself, or any 1 treatment.

A well-known generic instrument for measuring HRQoL is the EuroQol-5D (EQ-5D) [10,3], which allows for calculation of a utility score ranging from −0.59 to 1, with a higher score indicating a higher HRQoL. The EQ-5D utility can also be used to calculate so-called Quality Adjusted Life Years (QALY), where 1 QALY is the equivalent of one year spent in perfect health (i.e., with a utility score of 1).

Various studies confirm that BPD indeed is associated with a severely decreased HRQoL with EQ-5D values ranging from 0.48 to 0.52 [35,24,29], as HRQoL in the general population as measured with the EQ-5D in various countries has been found to range between 0.83 and 0.87 [5,19,30].

There is consensus that newly developed instruments for measuring health status should be tested for validity and reliability before they can be used in clinical studies. For instruments developed to measure changes over time, responsiveness or sensitivity to change is also considered an important aspect [34]. Although the EQ-5D is by far the most widespread instrument for measuring HRQoL and calculating QALYs within the context of economic evaluations [26], its validity in psychiatric populations has not yet been established unambiguously. For instance, Konig et al. [18] found the EQ-5D to be a reasonably valid instrument for a population with schizophrenia, since different response levels at the EQ-5D dimensions were generally associated with significantly different scores of measures used for comparison. However, van de Willige et al. [36] concluded that the use of the EQ-5D utility score as the core measure in economic evaluation does not seem appropriate in the field of psychiatry, because of the fact that the EQ-5D did not correspond with changes in social and psychological well-being as measured on the WHOQoL-BREF (i.e., the short version of the WHOQoL) in a population with schizophrenia. The authors argued that this was probably due to the fact that in calculating the utility score based on EQ-5D, the physical components are over-stressed for use in a psychiatric population. For patients with a major depression, Sapin et al. [31] found that the EQ-5D changes significantly with clinical change, and correlates well with the Short Form-36 [37], a descriptive generic HRQoL instrument, and with the Quality of Life for Depression Scale (QLDS), a disease-specific HRQoL instrument. Therefore, and also because the EQ-5D is easy to collect in large sample surveys because of its brevity and simplicity, they conclude that the EQ-5D is suitable for use in depression. Gunther et al. [11] investigated responsiveness of the EQ-5D in patients with depression by comparing it with the WHOQoL-BREF and several clinical measures. They found that the EQ-5D utility score is less responsive than the EQ-VAS and the other measures and needs larger sample sizes than they used to detect meaningful differences.

Regarding BPD, there is very little evidence on the validity of the EQ-5D. Soeteman et al. [32] compared the EQ-5D with the Global Severity Score (GSI) of the Symptom Checklist 90 Revised (SCL-90-R) for patients with complex personality problems and personality disorders, and found a correlation (Pearson's r) of −0.49. As this was a cross-sectional correlation, it still is possible that even though patients improve clinically, this does not reflect upon the EQ-5D scores when the domains that the patients improve on are not present in the EQ-5D, or are not prominent enough in the EQ-5D scoring algorithm. Brazier et al. [4] have pointed out in a recent HTA-technology report that validation of the EQ-5D in BPD patients is necessary.

The aim of the present study is to assess the responsiveness of the EQ-5D when used in a BPD population, by comparing the EQ-5D with a clinical instrument, the Borderline Personality Severity Index-IV (BPDSI-IV) [2].

2. Study population and data collection

Data were collected as part of a multi-center, randomized trial in the Netherlands, comparing 2 types of outpatient psychotherapy for Borderline Personality Disorder [12]. Sample size at baseline was 86 patients. The time horizon of the study was four years, with an assessment at every three months during the first three years, and a final follow-up assessment after the fourth year. There was a significant number of patients lost to follow-up. Dropout was already 40% after three years, and was mainly caused by the patient not having confidence in the therapy or therapist. For detailed information, see Giesen-Bloo et al. [12]. Therefore, we decided to only include the completers up to three years for the present analysis, since censored data would not be of any use to assess responsiveness. Also, we only analyzed 4 of the 13 available assessments: the baseline measurement, and one, two, and three years after baseline. The reason for this decision was to keep the results surveyable. In the results section, we will refer to these as T0, T1, T2, and T3, respectively. Excluding the dropouts from the analysis meant that 49 patients were left in the sample. As there was 1 patient with a missing baseline value for the EQ-VAS, the analyses for EQ-VAS were performed for 48 patients. Mean age of the patients was 31 years (SD: 8.55), and 90% was female.

2.1. Instruments

The BPDSI-IV [2] is a 70-item interview with 9 dimensions reflecting the 9 DSM-IV criteria of BPD, such as for instance unstable relationships, lack of anger control, recurrent suicidal behaviour, and chronic feelings of emptiness. In the present trial, the BPDSI-IV was administered by a research assistant. The aggregated score ranges from 0 to 90. In general, when the BPDSI score is less than 15, a patient is considered not to have BPD. In accordance with Giesen-Bloo et al. [12], we also applied the concept of reliable change [17]. For the BPDSI-IV, reliable change was calculated at 11.70. This means that when patients' BPDSI score after three years was $\geq$11.70 points lower compared to baseline, the patient was considered to be reliably improved.