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Comparison of generic and disease-specific measures of quality of life in first-episode psychosis

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ABSTRACT

Background: Quality of life (QOL) is now recognised as an important measure of outcome that could potentially influence clinical decision-making for those with a first-episode psychosis (FEP). A number of QOL instruments are available however; many differ in their conceptual orientation which may have serious implications for the outcome of QOL studies, interpretation of findings and clinical utility. We aimed to compare two commonly used tools representing both generic and disease-specific constructs to examine whether both tools appraise the same underlying QOL traits and also whether disease-specific tools retain their psychometric properties when used in FEP groups.
Methods: We assessed 159 consecutive individuals presenting with FEP in a defined catchment area with two commonly used QOL tools and examined the findings using the multi-trait multi-method matrix.
Results: Similarly named domains of QOL between both tools (Psychological Wellbeing, Physical Health, Social Relations) showed good convergent validity using confirmatory factor analysis. However, discriminant validity was not established given that domains loading onto their indicated latent factors were more strongly correlated with their non-corresponding latent factors.
Conclusions: A major consideration in undertaking the present study was to assess the extent to which the outcome of QOL studies in FEP were valid and that systematic error did not provide another plausible explanation for findings. Establishing convergent validity demonstrates that either tool could be used satisfactorily to measure the QOL construct identified however; we did not establish discriminant validity. Doing so would have demonstrated that QOL domains are substantively different in that they contain some unique piece of information determining clinical utility. These findings are important for our understanding of multi-dimensional models of QOL.

1. Introduction

Quality of life (QOL) is now recognized as an important outcome measure, used in the evaluation of both pharmacological and psychosocial treatments during a first episode of psychosis (FEP) (Thorup et al., 2010; Ho et al., 2000). The QOL concept aspires to take a step beyond traditional indicators of outcome, such as hospital recidivism and symptom remission, by reflecting patient-level concerns about their well-being that are recognized as increasingly important in clinical decision-making (Cotton et al., 2010; Malla and Payne, 2005). Indeed, the widespread availability of QOL instruments suggests they are popular in both research and in clinical use. Even still, disagreement among experts persists regarding a universal definition of QOL, the perspective from which it should be viewed and its constituent parts. Consequently, measuring clinically meaningful improvement in the quality of patient's lives is hindered by the lack of consensus on a gold standard approach.

Instruments differ in their orientation towards subjective or objective perspectives of QOL (Malla and Payne, 2005), whether QOL comprises a unitary measure or multiple life domains (Awad and Voruganti, 2000) or whether it should reflect the life domains of generic populations or be specific to the influence of specific illnesses on the quality of people's lives (Melle et al., 2005).

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As a result, it seems possible that the use of a particular QOL measure may have serious implications for the outcome and tools oriented towards different perspectives may be non-equivalent or biased (Shadish et al., 2002). Inaccurately estimating the quality of people's lives makes comparison between studies challenging and importantly, has wider implications for the interpretation and application of findings in clinical practice.

Multi-trait multi-method matrices (MMTM) are routinely used to evaluate construct validity and the extent to which reliable variance on a measure is due to the method of assessment (Eid et al., 2009; Podsakoff et al., 2003; Campbell and Fiske, 1959). This method requires an examination of all possible correlations between two or more traits that are measured by two or more measures (Schmitt, 1978). Ideally, tests will show that similar traits that are measured by different methods will be correlated strongly and also that different traits measured by either method will not correlate significantly (Walters, 2009). The aim of the present study was to establish and compare the psychometric properties of two frequently used QOL tools in FEP, namely the WHOQOL-Bref (The Whoqol Group, 1998) and the WQLI-Client Version (Becker et al., 1993). Although both instruments endorse the QOL construct as the subjective appraisal of participant with multiple dimensions of life, the former is a generic instrument and the latter is a disease specific instrument. In theory, there should be substantive differences between each tool due to this conceptual distinction in addition to similarities such as, the ability of multidimensional models of QOL to derive clinically relevant results (Ruggeri et al., 2005; Sainfort et al., 1996).

A major problem noted with respect to analysing Campbell & Fiske's criteria for convergent and discriminant validity is the subjectivity in visually inspecting matrices to arrive at valid conclusions (Schmitt, 1978). Thus, several analytic procedures have been utilized with confirmatory factor analysis believed to be most advantageous (Hadorn and Hays, 1991; Kenny and Kashy, 1992). A key aspect of this study was to employ the criteria of Campbell & Fiske in examining the convergent and discriminant validity of QOL tools using confirmatory factor analytic techniques.

2. Methods

2.1. Subjects

Between February 2009 and April 2011, we assessed 159 consecutive individuals presenting with FEP aged between 17 and 65 years within a geographically defined catchment area (population approx. 375,000). Participants were excluded if they had prior treatment with anti-psychotic medication for more than 30 days, had an existing learning disability, or had psychosis deemed to be the result of a general medical condition. Individuals satisfying DSM-IV criteria for psychotic disorder diagnoses, primary psychotic disorder ($n = 66$) or primary mood disorder ($n = 20$), who reported on their QOL were included in this study.

2.2. Measures

Participants' diagnoses were established using the Structured Clinical Interview for DSM-IV (Association, 2000) and comprised those with both affective and non-affective psychoses at first treatment for psychotic illness. Having a first episode of psychosis referred to patients who were largely untreated within secondary services, however, there may be unsuccessful attempts at gaining entry or attempting to engage a person in treatment. Given this, if they had been prescribed pharmacological treatment for a psychotic illness by a primary care physician for more than 30 days prior to presentation for treatment, they were deemed not suitable for the study. Onset was denoted by the first noted psychotic symptoms (reality distortion, disorganised speech) by either retrospective assessment with the participant, family or prior healthcare records. Both pharmacological and psychosocial treatments were offered at inception into the clinical service denoting adequate treatment availability as the offset of psychosis. As such, we defined first episode psychosis as the first presentation with psychotic symptoms to secondary mental health services where an adequate trial of pharmacological treatment has not been administered prior to presentation. Given that there are several difficulties in establishing the boundaries of first-episode psychosis and in attempting to ensure that participants are relatively homogenous and representative of the sample from which they were drawn, these operational definitions were utilised in conjunction with weekly consensus meetings chaired by the Professor of Psychiatry or designated equivalent. QOL was assessed using the WHOQOL-Bref and WQLI-Client which are described in the section below.

2.3. Description of QOL instruments

Both QOL instruments have been detailed elsewhere and have reported good reliability and validity (Skevington et al., 2004; Becker et al., 1993). See Table 1 for a descriptive comparison of QOL definitions, constructs and operationalisation in both instruments.

2.4. Procedures

Data were collected as part of a larger observational study determining outcomes of an epidemiological cohort of participants with FEP. The study raters (post-membership registrars in psychiatry and clinical nurse specialists in psychosis) received training in the use of instruments and were subject to inter-rater reliability testing. Concordance in diagnosing patients with the SCID interview was minimum 90%. Assessments typically commenced within 48 h of receipt of referral for assessment and treatment of FEP, and were conducted sequentially with interviewer assessments first, then self-reported assessments. Self-report assessments were administered after a level of clinical stability had been achieved. Informed consent and ascent was obtained at entry into the study and ethical approval was granted by the St John of God Hospitaller Services Provincial Ethics Committee.

2.5. Statistical analysis

MMTM was used to test hypotheses regarding convergent and discriminant validity (Campbell and Fiske, 1959) by assessing variance due to measurement method. As before, using this approach, the domains of QOL are considered traits and the instruments are considered methods and when combined allow for consideration of validity. Convergent validity, defined as the degree of shared variance between indicators of latent constructs, is established by examining the validity diagonals and the columns and rows of the heterotrait-heteromethod triangles. Correlations in the validity diagonal should be significantly different from zero and should be higher than the correlation coefficients in the columns and rows of the corresponding triangles thus indicating a level of agreement between rating similar concepts using different methods (Campbell and Fiske, 1959). In this study, the validity diagonal refers to psychological well-being, physical health and social relations. Conversely, discriminant validity, defined as the extent to which a construct is truly distinct from other constructs (Hair et al., 2010), is established by ascertaining correlation coefficients within the heterotrait-heteromethod triangles show a pattern of inter-