CONVERGENT VALIDITY OF QUALITY OF LIFE INTERVIEW (QOLI) IN AN INDIAN SETTING: PRELIMINARY FINDINGS

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ABSTRACT

Quality of life research in India on patients with schizophrenia is scarce. Quality of life interview (QOLI), a commonly used instrument in the West has not been used in a developing country like India. The aim was to assess convergence validity of QOLI (modified as per the Indian cultural background). 38 clinically stable outpatients with chronic schizophrenia (as per ICD-10) were administered QOLI-Brief version. Quality of Life Scale (QLS) and WHOQOL-Bref over two interviews-the latter two scales having cross-cultural applicability. Significant correlations were obtained for QOLI with QLS and WHOQOL-Bref. It can be concluded that QOLI demonstrated convergent validity with both a disease-specific (QLS) and a generic (WHOQOL-Bref) scale, which have been previously used in the Indian setting. Hence, results support the applicability of QOLI in a different socio-cultural setting.

Key words: Quality of life-Disease specific scales-Generic scales-Schizophrenia-Culture

Recognized as an important measure of outcome of health intervention (Leplege and Hunt, 1997), assessment of quality of life (QOL) is being increasingly used in physical illnesses (Fallowfield, 1994; Skevington, 1994) as well as mental illnesses (Saxena et al., 1998). The available QOL instruments include generic and disease-specific instruments. The generic instruments, being too broad-based, are time-consuming (Schumacher et al., 1991). The disease-specific instruments, focussing more on the areas routinely explored by the clinicians, reduce the patient burden and thus improve the response pattern (Lehman, 1996).

For severe and persistent mental illness (SPMI), including schizophrenia, a number of disease-specific instruments have been developed in the past two decades (Lehman, 1996; Barry and Zissi, 1997). Of these, Quality of Life Interview (QOLI) (Lehman, 1983), developed in the USA, has been widely used in North America, England and Australia (Levitt et al., 1990; Sullivan et al., 1992; Barry et al., 1993; Trauer et al., 1997). Despite some validity problems due to its reliance on patients; self-report (Lehman et al., 1993), QOLI has been shown to have adequate construct (Lehman, 1983; Oliver and Mohamead, 1992), predictive (Lehman et al., 1991) and convergent (Lehman et al., 1993) validity. Published norms for different samples of patients allow comparisons of new patient samples (Lehman, 1996), including those from developing countries.

Availability of such QOL instruments notwithstanding, the QOL research in SPMI from developing countries is very limited. One reservation against application in developing countries of QOL instruments developed in the West may be conceptual issues related to the linguistic and cultural influences on health and illness and to the assessment of QOL (Hunt and
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Wiiklund, 1987). To overcome this problem the World Health Organization, through multicentric cross-cultural research including India, developed generic scales for comprehensive assessment of QOL (WHOQOL-100 and WHOQOL-26 or WHOQOL-Bref) (Saxena et al., 1998). However, neither WHOQOL nor QOLI have been used in SPMI in a developing country. From India only three studies of QOL in SPMI have been reported. Of these, one used Endicott’s QOL Enjoyment and Satisfaction Questionnaire (Gupta et al., 1998). Of the other two (Chaturvedi et al., 1997; Gupta et al., 2000) using Heinrich’s Quality of Life Scale (QLS), one (Gupta et al., 2000) showed easy cross-cultural applicability of QLS in India patients with schizophrenia. Thus, there is ample scope for assessing the applicability and convergent validity of QOLI against QLS and WHOQOL in patients with schizophrenia in a developing country like India. The present study was conducted to assess the convergent validity of Quality of Life interview (QOLI)-Brief Version in an Indian setting with following objectives:

1. To assess convergent validity of QOLI with another disease-specific scale i.e. QLS and WHOQOL-Bref.
2. To assess convergent validity of QOLI with a generic scale i.e. WHOQOL-Bref.

MATERIAL AND METHODS

Sample: The sample comprised 38 patients with an ICD-10 (WHO, 1992) diagnosis of schizophrenia attending the outpatient clinic of the Department of Psychiatry at the Postgraduate Institute of Medical Education and Research, Chandigarh - a tertiary care referral centre located in northern India. The patients, in the age-range of 18-50 years, were ill for 2 years or more. They had been clinically stable for 3 or more months preceding the intake. Clinical stability was defined as the drug dosage not having been increased by more than 50% during the 3 months immediately prior to the intake. The patients having associated major chronic physical illness, organic brain disease or substance (except tobacco) abuse were excluded. Informed consent was taken prior to intake.

Assessment of psychopathology: Manifest psychopathology was assessed by using the Brief Psychiatric Rating Scale (BPRS) (Overall and Gorham, 1962).

QOL Assessment Instruments: For purposes of the study, QOLI-Brief Version was compared with a disease specific scale viz. Quality of Life Scale (QLS) (Heinrichs et al., 1984) and a generic scale viz. WHOQOL-Bref (WHO, 1996; Saxena et al., 1998).

a) QOLI-Brief Version (Lehman et al., 1994) is a disease specific scale for SPMIs, including schizophrenia. It has 74 items, takes 16 minutes to complete and has good psychometric properties (Lehman, 1996) comparable to the QOLI- Full Version (Lehman et al., 1982). It is a structured questionnaire covering 8 life domains: living situation, daily activities and functioning, family relations, social relations, finances, work and school, legal and safety issues and health. There are two items on general life satisfaction also. All (except for health) are assessed in terms of both objective and subjective indicators of QOL.

The following modifications were made in the scale for the present study:

1. Exclusion from analysis of (a) frequency of contact by telephone in the domain of social relations and family relations as this was not applicable to our patient sample due to their social background (the facility of telephone not being available to most patients), b) objective domains of living situation (residence in last one year) and legal and safety issues (arrests/assaults in last one year) as identical scores were obtained in all subjects.
2. Consideration of items relating to current employment in the domain of work and school as the objective indicator in that domain on the lines of a study by Lehman et al.(1993); and consideration of household work as a type of job since a large part of our sample consisted of housewives / women working in the household.
3. Change of scoring pattern of the item of ‘work in the past year’ so that higher score indicated better QOL in keeping with other items. All subjective items were scored from 0-1 in the domain of daily activities and functioning and finances, 0-2 for work and school, 0-5 for social
relations and family relations. The scores of all subjective and objective domains were added to give subjective and objective subscale scores respectively; these two were then added to form the total scale score.

b) Quality of Life Scale (QLS): (Heinrichs et al., 1984) is a semi structured interview to assess the deficit syndrome in patients with schizophrenia and is used for objective measurement of the patients, QOL. It provides a framework of questions, which are rated by trained clinicians and can be altered or added as per requirement. The 21 items assess four domains viz. interpersonal relations, instrumental role functioning, intrapsychic foundations, and common objects and activities during the preceding four weeks. The ratings range from 0-6 and the score is inversely proportional to the degree of impairment. The scale requires about 45 minutes for administration, and has been shown to have good inter-rater reliability (Heinrichs et al., 1984).

For use in the Indian setting, certain items were modified in keeping with the socio-cultural background of our patient population. This modified scale was found to have good inter-rater reliability and validity (Gupta et al., 2000).

c) WHOQOL-Bref, Field Trial Version (WHO, 1996) is a 26 item self administered generic questionnaire and a shorter version of the WHOQOL-100 scale (WHOQOL Group, 1998). The Hindi version was used in this study (Saxena et al., 1998). This scale lays emphasis on the subjective evaluation of the respondents rather than on their objective life conditions. Evaluation is based on the situation in the two weeks prior to the assessment. It covers four domains namely-physical health, psychological health, social relationship and environment, in addition to items on general well being. The items are scored from 1-5 so that higher score indicates better QOL. The scale has sound psychometric properties. The mean score of each domain, calculated by dividing the total score by the number of items in the domains, ranged 1-5, and the total score ranged 5-25.

Methodology

The data was collected over two interviews of the patients who fulfilled the proposed inclusion and exclusion criteria. At the first assessment, patients were administered QLS and their psychopathology was rated using the BPRS.

The second assessment was made at an interval of 10-28 days (mean ±s.d.=18.42±8.67). The two assessments were spaced out to minimize the carry-over effect of the response to the two disease-specific QOL instruments as well as any actual change of QOL between the two assessments. During the second assessment, patients were administered QOLI and WHOQOL-Bref and psychopathology was re-rated on BPRS.

Statistical Analysis

Convergent validity was demonstrated by Pearson's correlation coefficients calculated between QOLI and QLS on one hand, and QOLI and WHOQOL-Bref on the other.

RESULTS

The mean age of the sample was 33.84 years (s.d.=9.29 years, range=19-50 years); 42% of patients being in age group of 18-30 years, 61% being female, 50% unmarried; 92% educated; 50% being housewives/household workers and 26% unemployed; duration of illness from 24 to 288 months (mean ±s.d.=113.6±80.6 months); and period of stability ranged from 15 to 265 months (mean ±s.d.=85.7±68.5 months). The BPRS scores at first assessment (mean ±s.d.=24.37±5.81) and second assessment (mean± s.d.=24.11±5.45) were comparable (t=1.081; p>0.05)

Correlation of QOLI and QLS: The first step was to evaluate the total and subscale scores of QOLI with QLS. High degree of correlation was obtained for QLS with subjective QOLI (r=0.564, p<0.001), objective QOLI (r=0.765, p<0.001) and total QOLI (r=0.662, p<0.001) scores. Thereafter, the objective domains of QOLI were analyzed with the various domains of QLS, based on the previous attempt by Lehman et al. (1993). 'Frequency of social contact' and 'Work in the past one year' from the QOLI demonstrated highly significant correlation with comparable related constructs of QLS viz. 'Interpersonal relations' and 'Instrumental role functioning' respectively.
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role functioning' respectively. 'Daily activities and functioning' and 'Frequency of family contacts' from the QOLI had insignificant correlation with comparable constructs of QLS viz. 'Common activities' and 'Interpersonal relations' respectively.

| VARIABLES | R VALUE |
|-----------|---------|
| Daily activities and functioning (QOLI) vs Common activities (QLS) | 0.273 |
| Frequency of family contact (QOLI) vs Interpersonal relations (QLS) | 0.126 |
| Frequency of social contact (QOLI) vs Interpersonal relations (QLS) | 0.604* |
| Work in past one year (QOLI) vs Instrumental role functioning (QLS) | 0.751* |

p<0.001

| VARIABLES | R VALUE |
|-----------|---------|
| General life satisfaction (QOLI) vs Intrapsychic foundations (QLS) | 0.413* |
| Satisfaction with family relations (QOLI) vs Interpersonal relations (QLS) | 0.499** |
| Satisfaction with social relations (QOLI) vs Interpersonal relations (QLS) | 0.657*** |
| Satisfaction with work and school (QOLI) vs Instrumental role functioning (QLS) | 0.783*** |

*p<0.05, **p<0.01, ***p<0.001

The subjective domains of QOLI were then compared with selected domains of QLS. All domains of QOLI showed a significant correlation with selected domains of QLS; correlation values ranging from low to high.

Correlation of QOLI and WHOQOL: As the domains of QOLI were not comparable to those of WHOQOL, only the total and subscale scores of QOLI were evaluated with the total WHOQOL score. High degree of correlation was obtained for WHOQOL with total QOLI (r=0.577; p<0.001) and subjective QOLI subscale (r=0.557; p<0.001) scores with low and significant correlation with objective QOLI subscale (r=0.381; p<0.05) score.

DISCUSSION

Compared to the reported western clinic populations of schizophrenia (Atkinson et al., 1997) the greater proportion of married subjects in our sample is explained by the social norm of early marriage in India (Thara and Srinivasan, 1997) and greater proportion of housekeepers is explained by the preponderance of females in our sample and the social norm of females being housekeepers rather than employed outside home.

QOLI versus QLS: Highly significant correlations obtained between the total scores of QLS and total as well as subjective and objective subscale scores of QOLI imply that at face value, QOLI and QLS can be used inter-changeably to assess QOL. However, QLS being a purely objective scale (Heinrichs et al., 1984), correlating it with subjective subscales of QOLI poses conceptual difficulties, which are outside the purview of the discussion of the present paper.

The finding of a high correlation between all the subjective domains of QOLI and the comparable QLS domains, similar to the finding of Lehman et al. (1993), highlights the convergence validity of QLS and subjective domains of QOLI. This is despite the fact that Lehman et al. (1993) studied a heterogeneous group of SPMI who were administered the scale by a non-clinical interviewer. But the variation in convergence validity across objective domains of QOLI and QLS is not in keeping with the results of the previous study (Lehman et al., 1993), which showed correlation in QOLI domains of 'Frequency of social contact' and 'Daily activities and functioning'. The present
study found correlation for 'Frequency of social contact' and 'Work in the past one year'. The lack of significant correlation for the QOLI domain. Frequency of family contact in both studies could be due to the fact that a majority of the items under the domain 'Interpersonal relations' of QLS give more credence to social relations than to family relations (Heinrichs et al., 1984). However, lack of significant correlation for the QOLI domain 'Daily activities and functioning' is not fully clear. Although the results appear to point out that modification of QOLI (as per our socio-cultural requirements) have broadly not affected its construct validity, yet the more uniform pattern of domain-wise convergence for subjective QOLI rather than objective QOLI with QLS is not in keeping with the actual construct validity of these scales. Therefore this issue needs to be focussed on in more detail in future studies using these two instruments.

Identical results had been obtained regarding correlation of certain objective domains of QOLI with QLS in a previous report by us (Gupta et al., 2000). This finding strengthens the fact that QOLI and QLS can be used interchangeably in the Indian setting. However, the previous study had found no correlation between the subjective domain- "General life satisfaction" (of QOLI) and "Intrapsychic foundations" (of QLS): contrary to that seen in this study. This could be due to differing sample size in both studies.

QOLI versus WHOQOL-Bref: Though WHOQOL-Bref is a generic instrument and QOLI is a disease-specific instrument, yet convergent validity was assessed. WHOQOL-Bref is a multilingual instrument developed in Hindi for Indian patients. Hence, if convergent validity can be demonstrated, then use of QOLI in Indian patients becomes more feasible. On the other hand, lack of convergent validity would support the notion that disease-specific instruments are better instruments for assessing QOL in schizophrenia.

Despite significant convergent validity being demonstrated for the WHOQOL-Bref with the total and subscale scores of QOLI: the lower correlations with objective subscale of QOLI could be due to the difference in the basic measurement construct of either parameter i.e. WHOQOL-Bref being a purely subjective scale. However overall significant convergent validity between the two scales points towards the fact that reliability can be placed on subjective QOL scores obtained using WHOQOL-Bref when applied to patients with schizophrenia. One possible reason for the good convergent validity of QOLI with WHOQOL-Bref could be that, due to a multicentric, collaborative input into the development of WHOQOL-Bref (Saxena et al., 1998), this generic scale encompasses those concepts of QOL that are inherent to the model on which QOLI is also based. However this is purely conjectural and needs to be examined in greater detail. The results of Trauer et al. (1998), demonstrating moderate degree of correlation of QOLI with a generic scale, are not comparable, as the generic scale used was different i.e. Life Skills Profile. On the other hand, Carpiniello et al. (1997) had shown lack of correlation between a generic scale (standard of living interview) and a disease specific scale (QOL Self Assessment Inventory; QLS-100) for patients with schizophrenia.

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