ALQQL 9 FOR MEASURING QUALITY OF LIFE IN ALCOHOL DEPENDENCE
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Abstract — Aims: Quality of life (QoL) is an important factor of outcome tracking and treatment in alcohol misuse. A 9-item QoL
scale, ALQQL 9, obtained from the generic SF 36, is proposed as a measure that characterizes the QoL of alcohol-dependent patients. Our
objective was to study the psychometric properties of this subscale. Methods: ALQQL 9 was evaluated in two study groups of
patients with DSM-IV diagnosis of dependence: 104 inpatients, and 114 outpatients. Severity of dependence, alcohol consumption,
psychiatric, and somatic comorbidities were assessed. We studied the global properties of ALQQL 9 and its structure. Results: Cronbach
r-coefficients in both populations indicated good internal consistency (0.71 and 0.85). Test–retest intraclass coefficients for a 2-day
interval in hospital were in the range 0.57–0.78. Principal component analysis found a unidimensional scale. This subscale has proper-
ties that are consistent with the concept of QoL in alcohol dependence, i.e. lowered QoL compared with the general population, influ-
enced by gender, and depression. Conclusions: ALQQL 9 epitomizes QoL in alcohol-dependence. It gives a global measurement with
good psychometric properties. It could be used in clinical practice as a diagnosis and management support instrument and may also
be useful in research for evaluating treatment efficacy.

INTRODUCTION

Health-related quality of life (QoL) has only been a recognized medical variable for ~20 years. Its utility has been gradually
acknowledged, especially in chronic health disorders. QoL has to be considered when making decisions about healthcare,
because improvement of QoL is not an automatic result of improved clinical status.

In the psychometric tradition, the concept of QoL comprises several dimensions. Three areas seem to be essential: social,
psychological, and physical (Testa and Simonson, 1996). It is generally accepted that the more dimensions covered in
the questionnaire, the richer the information obtained, giving more universally applicable results. Multi-dimensional health
status measures give health-related QoL profiles (sets of standardized scores). Two different types of scales have to be
considered: generic, and disease-specific scales.

Generic, and disease-specific scales

Generic scales can address health-related QoL adequately in all diseases. They are useful in comparing QoL or effects of
treatment between quite different diseases. Their universality gives a large amount of data in many pathologies. The Short
Form 36 (SF 36) is one of the most widely used and simplest generic scales. SF 36 has been validated in a French-language
version, and a reference manual gives values for the general French population (Perneger et al., 1996).

Disease-specific QoL scales are optimized in term of sensitivity and specificity for a particular pathology. Each
disease does not alter all QoL dimensions, and items that are not influenced by the disease dilute the other
items that do change and (or) are altered. Most disease specific scales have been developed from generic scales by
eliminating non-relevant and (or) redundant items (strictly-linked items with identical evolution). Specific QoL scales
do not allow comparison between diseases but give a sharp and precise measurement for the considered disease as a
complement to the clinical assessment. They are constructed in such a way as to give a high sensitivity to change.

QoL in alcohol dependence

The French Alcohology Society (SFA) consensus conference on ‘support to the alcohol-dependent subject following
detoxification’ issued the target of helping patients to recover a good QoL, and emphasized both the lack of information
material in this field and the absence of a specific measurement tool (Agence Nationale d’Accréditation et d’Evaluation
en Santé, 1999).

QoL is in fact an essential indicator in this multifactorial pathology for both the diagnostic, and the therapeutic stages. The
DSM-IV definition of dependence does in fact deal with these aspects to some extent, since five of the nine items
cover the social, familial, and occupational consequences of alcohol consumption (the other tolerance and craving
items are more closely related to the quantification of consumption).

Foster et al. (1999) reviewed ‘QoL in alcohol-dependent subjects’. They noted the ‘paucity of papers’ and listed
the same key words identifies only three additional papers. QoL of alcohol-dependent subjects is reduced compared
with that of a normative healthy population (Hunt and McEwen, 1980; Welsh et al., 1993, McKenna et al., 1996),
with differences between gender (QoL poorer for women) (Foster et al., 2000). As regards SF 36, the role limitation
and psychological functioning scores are lower than those of physical and functioning dimensions (Daeppen et al., 1998),
and handicap is most important in physical and emotional

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role limitations, and social functioning (Morgan et al., 2004). Psychiatric comorbidities—especially depression—(Beattie et al., 1993; Daeppen et al., 1998; Driessen et al., 1998), disturbed sleep (Foster et al., 2002), social and other alcohol-related problems (Patience et al., 1996) are major factors linked to QoL.

A subscale of SF 36 characterizing alcohol dependence

SF 36 is a generic scale derived from an observational study (Brazier et al., 1992). Its internal and external validity in alcohol-dependent populations is established (McKenna et al., 1996, Patience et al., 1997). It is a self-questionnaire that yields profiles, and uses Likert-type scales. It comprises eight dimensions: physical functioning (PH), bodily pain (BP), mental health (MH), energy/vitality (VT), general health perception (GH), role limitations due to physical problems (RP), role limitations due to emotional problems (RE), and social functioning (SF) (Table 1).

The NEAT study provided QoL data in two groups after detoxification. QoL was measured with SF 36 at M0, M3, and M6 (Pelic et al., 2002; Morgan et al., 2004). The objective was to identify the best subscale of SF 36 specific for alcohol dependence defined as the smallest number of items covering a set of non-redundant dimensions satisfying a reasonable reliability (Lehert, 2002; Lehert and Poldrugo, 2002). At M3 and M6, change in QoL was shown to be essentially influenced by cumulative abstinence duration (CAD) (Morgan et al., 2004). Thus, for reasons of simplicity, sensitivity was estimated by rank correlation with CAD. The following iterative procedure was used: (i) at start, select the most sensitive dimension D1 and identify the kernel K1 of D1, the smallest number of items such that \( \alpha > 0.7 \); (ii) from this first dimension, select the dimension D2 defined as the most sensitive and least correlated with any already selected dimension, and identify its kernel K2; and (iii) iterate while all dimensions are entered or no remaining dimension is such that its minimum correlation with an existing dimension is > 0.7. As the algorithm is based on iterative procedures, results may vary between samples. Bootstrapped was used, first in using the whole sample, and then in excluding subsets of patients characterized by various socio-cultural or alcoholic characteristics to assess invariance to unspecified factors. The number of resulting dimensions was found to be quite stable (index of stability = 93%) and invariably reported role, mental, and physical dimensions (but not in that order). However the choice of items in the kernel was not stable, so as the most stable results appeared to be at least six, and at the most nine, this last option was retained, which consists of the items shown in Table 1 and which we call AlQoL9.

### Objectives

We considered AlQoL 9 as a scale characteristic of alcohol dependence-related QoL and set out to validate its French version, using the parent French validated SF 36 (Leplège et al., 2001). Our study had two objectives: (i) structural analysis of AlQoL 9 (to assess number of dimensions), and (ii) to assess sensitivity of AlQoL 9, focusing on whether it was able to highlight all known data on the QoL of dependent patients. We studied separately two alcohol-dependent patient populations (inpatients and outpatients) starting treatment to test the reproducibility of the results.

### MATERIALS AND METHODS

#### Study populations

Subjects were patients aged between 18 and 65, seeking treatment, who met the DSM IV criteria for alcohol dependence, and all subjects gave their informed consent. General exclusion criteria were patients for whom alcohol dependence was not the main diagnosis on axis I of DSM IV (mental retardation, schizophrenia, or other psychotic disorder, bipolar mood disorder), any other addiction (except tobacco), and severe personality disorders (in particular psychopathic and borderline patients). Subjects with anxiety or depression (as a secondary diagnosis) were not, however, excluded.

Inpatients were recruited in specialized addiction treatment wards (the University Hospital and the Sainte-Marie Hospital in Clermont-Ferrand). They were included on admission from March to September 2002. The diagnosis was made by clinicians specialized in alcohol-related pathologies and who were familiar with DSM IV.

Outpatients were included from March to December 2002 by 30 general practitioners. These GPs were chosen at random from the official public list of physicians in Central France. They attended training sessions for the mini international neuropsychiatric interview (MINI) to diagnose DSM-IV dependence and anxiety and mood disorders.

#### Data and measurements

The questionnaires including AlQoL 9 were filled out by the patients on the day they were admitted to hospital or at

### Table 1. Structure of SF 36 and items of AlQoL 9

<table>
<thead>
<tr>
<th>Dimensions of SF 36</th>
<th>Number of items</th>
<th>Range of scale</th>
<th>Items of alcohol SF 9</th>
</tr>
</thead>
<tbody>
<tr>
<td>PF (physical functioning)*</td>
<td>10</td>
<td>1–3</td>
<td>PF4 ‘are you limited in climbing several flights of stairs?’</td>
</tr>
<tr>
<td>BP (bodily pain)*</td>
<td>2</td>
<td>1–6</td>
<td>BP1 ‘how much bodily pain have you had in the last 4 weeks’</td>
</tr>
<tr>
<td>GH (general health)*</td>
<td>5</td>
<td>1–5</td>
<td>GH1 ‘in general would you say your health is excellent/.../poor?’</td>
</tr>
<tr>
<td>RP (role physical/limitation)*</td>
<td>4</td>
<td>1–2</td>
<td>RP4 ‘were you limited in the kind of work or other activities?’</td>
</tr>
<tr>
<td>MH (mental health)**</td>
<td>5</td>
<td>1–6</td>
<td>MH1 ‘have you been a very nervous person in the last 4 weeks?’</td>
</tr>
<tr>
<td>RE (role emotional/limitation)**</td>
<td>3</td>
<td>1–2</td>
<td>MH4 ‘Have you felt downhearted or low in the last 4 weeks?’</td>
</tr>
<tr>
<td>VT (vitality)**</td>
<td>4</td>
<td>1–6</td>
<td>RE2 ‘have you accomplished less than you would like in your work/activities?’</td>
</tr>
<tr>
<td>SF (social functioning)**</td>
<td>2</td>
<td>1–5</td>
<td>VT3 ‘did you feel worn out in the last 4 weeks?’</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>SF2 ‘have problems interfered with your normal social activities?’</td>
</tr>
</tbody>
</table>

*Items of the SF 36 Physical Health Dimension.

**Items of the SF 36 Mental Health Dimension.
Alcohol-dependence is a complex multifactorial pathology, and patients are heterogeneous. There is no real consensus on definition of subgroups or on how to describe the patients. In addition, many factors are able to influence QoL. Therefore, we collected numerous descriptive data in various fields we considered relevant: sociodemography, alcoholology, psychiatry, and somatics.

- The usual sociodemographic data collected were gender, age, marital status, living arrangements, and employment status.
- Prior alcohol history. Two datasets were collected: duration of alcohol misuse (<2, 3–5, 6–10, and >10 years) and earlier detoxification (none, 1–5, >5 years).
- Severity of alcohol-dependence.
- Psychiatric comorbidities.
- Somatic comorbidities.

We did not use the SADQ (severity of alcohol-dependence questionnaire) or ADS (alcohol-dependence scale) severity scales since they have not been validated in French.

DSM-IV diagnoses alcohol-dependence as positive scores for at least three of the nine diagnostic criteria for the last 12 months. Items 1–4 identify physical dependence. Severity of dependence was based on summation of DSM IV criteria and simplified by division into three categories: moderate, mild, and severe for 3–4, 5–6, and 7–9 positively-scored criteria, respectively (Woody et al., 1993).

The severity of the alcohol-dependence was also evaluated by clinicians using clinical global impression (CGI) which scores from 0 (not ill) to 7 (extremely severe).

Alcohol consumption can be used as an index of severity. Alcohol consumption was measured by the first three items of the AUDIT questionnaire indicating number of drinks per day of consumption, number of days of consumption per week, and number of 5-plus drinks on occasion per month (Gmel et al., 2001). AUDIT consumption scores go from 0 (abstinence) to 15 (more than seven drinks per day, each day).

**Psychiatric comorbidities.** Anxiety and mood comorbidities were accurately evaluated with the hospital anxiety and depression (HAD) scale in inpatients, and MINI interview for outpatients. HAD gave anxiety and depression scores. The common threshold usually retained to assert the presence of each disorder is eight (Herrmann, 1997). MINI is a standardized diagnostic tool consistent with DSM criteria (Sheehan et al., 1998). It was used here to diagnose major depressive episodes and anxiety disorders.

**Somatic comorbidities.** Alcohol-related somatic comorbidities were identified by the clinicians. They are grouped into six general categories: hepato–pancreatic (e.g., hepatitis, steatosis, or cirrhosis), gastric (hemorrhagic gastritis, and the like), cardiac (hypertension, cardiomyopathy, and the like), neurological (polyneuritis, Korsakov’s syndrome, and the like), oncological, or trauma-related. We developed a measure of physical comorbidities based on a simple count. Our index of somatic comorbidities scores from 0 (no comorbidity) to 6 (at least one comorbidity in each category).

**Analysis**

We separately conducted two identical analyses in each of the two populations to demonstrate any reproducibility (or to help explain any characteristics-related differences between the populations).

- Both populations were described and compared using all the data collected.
- General properties of AlQoL 9:
  - Distribution of responses per item was studied to assess acceptability (missing items) and upper and lower limit effects of the scale.
  - Assessment of internal consistency using Cronbach’s α-coefficient for global scale. Significance of internal consistency were interpreted according to Cicchetti (Cicchetti, 1994): <0.70 was classified as unacceptable, between 0.70 and 0.79 as fair, between 0.80 and 0.89 as good, and >0.90 as excellent.
  - Test–retest reliability of the AlQoL 9 scale was evaluated with the intraclass correlation coefficients (ICC) for inpatients. Qualitative interpretations of the ICC were based on the recommended ranges: ICC <0.40 was poor, 0.40–0.59 was fair, 0.60–0.74 was good, and 0.75–1 was excellent (Cicchetti, 1994).

- Structural analysis consisted in the following.
  - Screeplot to characterize the number of dimensions constituting the scale and exploratory principal dimension analysis (PCA) to represent inter-item correlations graphically.
  - Internal consistencies for each dimension possibly identified, and Pearson’s correlation coefficients between items and dimensions. Pearson’s coefficients were interpreted according to Cohen’s definitions of the size effect (Cohen, 1992): small when 0.10 ≤ r < 0.30, medium when 0.30 ≤ r < 0.50, and large when 0.50 ≤ r (Cohen, 1992).

- Informative properties (sensitivity and specificity) of AlQoL 9 consisted in evaluating the ability of the scale to find known QoL data in alcohol-dependent patients. Scores for each item were compared with data from the French general population and were compared between gender. A multivariate linear regression model was built using sociodemographic data (gender, age, living arrangement, and employment), severity of dependence according to DSM IV, alcohol consumption, psychiatric, and somatic comorbidities, earlier detoxification and age of alcohol misuse as adjustment variables. All collected data were considered as potential predictors of QoL. Each variable was considered as binary, nominal, or ordered as appropriate.

Data analysis was carried out using SAS® software. The statistical tests used are stated in the text. All statistical tests used a two-sided risk α of 5%. The graphic results (screeplot and PCA) were obtained using the R statistical package using the ‘psy’ library (www.r-project.org).
MINI is the mini international neuropsychiatric interview used to detect
Alcohol consumption
Earlier weaning 0.001
Age of alcohol misuse 0.74
Somatic comorbidities
Depression (MINI) — 55
Depression (HAD) 44 — 0.08
Anxiety (MINI) — 84
Anxiety (HAD) 76 — 0.11
Clinical global impression <0.0001
Severity of dependence
Moderate 47 41
(3 or 4 items) (%) 0.57
Mild (5 or 6 items) 36 39.5
Severe (7, 8 or 9 items) 18 19.5
Age of alcohol misuse
<2 years 8 5
3–5 years 14 15
6–10 years 17 20
>10 years 61 60
Earlier weaning
None 29 54
1–5 years 60 42
>5 years 11 4
Alcohol consumption
[mean (SD)]
Outpatients (%)
Inpatients (%)
Statistics (P)
Physical dependence 84 83 0.57
Severity of dependence
Moderate 47 41
(3 or 4 items) (%) 0.57
Mild (5 or 6 items) 36 39.5
Severe (7, 8 or 9 items) 18 19.5
Age of alcohol misuse
<2 years 8 5
3–5 years 14 15
6–10 years 17 20
>10 years 61 60
Earlier weaning
None 29 54
1–5 years 60 42
>5 years 11 4
Alcohol consumption
[mean (SD)]
Clinical global impression
Not ill 0 5
Very mild or mild 4 29
Moderate 37 15
Marked or severe 57 51
Extremely severe 2 0
Anxiety (HAD) 76
Anxiety (MINI) — 84
Depression (HAD) 44
Depression (MINI) — 55
Somatic comorbidities
[mean (SD)] 0.55 (0.46) 0.53 (0.60) 0.18

MINI is the mini international neuropsychiatric interview used to detect anxiety or mood disorders in outpatients. HAD is the hospital anxiety and depression scale used for inpatients. Alcohol consumption is based on AUDIT questions and scored from 0 (abstinence) to 15 (>7 drinks per day, each day). Statistics are P-values of Mann–Whitney tests for comparing means and exact Fisher tests for comparing percentages.

RESULTS

Population descriptions

The two populations were of similar sizes—104 inpatients and 114 outpatients—and were sociodemographically comparable. The sex ratio (male:female) was 4:1 (82 and 83%, respectively). Mean ages were 44 (9.6) and 48 (9.1) years, respectively. In both populations most of the patients lived alone (58 and 56%), and half of them were unemployed (44 and 53%).

Clinical characteristics were more heterogeneous between samples (Table 2). Slightly >40% presented moderate dependence, and >80% presented a physical dependence according to DSM-IV criteria. Nearly 90% of the inpatients (only 57% of outpatients) were considered moderately or markedly ill according to CGI. 40% of the outpatients were considered normal, borderline, or mildly ill compared with only 4% of the inpatients. Almost three-quarters of inpatients had an experience of prior detoxification (46% of outpatients) and their alcohol consumption was significantly greater. There were no between-population differences in psychiatric (depression or anxiety) or somatic comorbidities.

General properties of AlQoL 9

The validity of the AlQoL 9 instrument was excellent. There was only one missing data point (a non-response to item PF4 in outpatients). There was no upper limit effect for the global score in either of the two populations. There was a negligible lower limit effect in the outpatients, which was calculated as 1.8% (0% of inpatients).

The internal consistency of the AlQoL 9 was high, with a Cronbach’s α-coefficient of 0.85 in outpatients and 0.71 in inpatients.

Test–retest intraclass coefficients (ICC) for a 2-day interval in hospital were in the range 0.57–0.78 for the items: 0.78 for GH1, 0.73 for SF2, 0.72 for MH4, 0.67 for PF4, 0.64 for MH1, 0.64 for VT3, 0.60 for BP1, 0.57 for RP4, and 0.57 for RE2. ICC was 0.81 for the global AlQoL 9 score.

Structural analysis

A screeplot with simulations (available on request) showed a strong first dimension of AlQoL 9 in both populations, and suggested a weak second dimension in the inpatients.

PCA showed fairly similar diagrams (Fig. 1). The mental and physical health items were quite well distinguished and relatively well aggregated. Item RE2 came out as the less ‘stable’. The vitality item (VT3) was closest to the global score.

These graphical results may lead to group three physical health items (GH1, BP1, and PF4) in a physical health dimension (PHD) and the other six items (five mental health items and the RP4 role physical/limitation) in a mental health dimension (MHD).

Inter-dimension correlations between PHD and MHD were strong in outpatients (r = 0.61) and medium in inpatients (r = 0.31). The correlations between each item and its dimension were in the range 0.43–0.88. The correlations between each item and the other dimensions were in the range 0.07–0.57 (Table 3).

For both dimensions, Cronbach’s α-coefficients ranged from 0.46 to 0.82.

Structural analysis is not indicative of a true 2D scale structure, and thus argues in favour of using a simple global score for AlQoL 9, theoretically ranging from 9 (lowest QoL) to 41 (optimum QoL). The mean score obtained over the SF 36 reference sample in the general population is 32.

Informative properties

Based on the SF 36 reference data for the French general population, the QoL of alcohol-dependent patients was found to be significantly poorer than that of the general population (P < 0.0001 by Hotelling’s T², which allows all the items to be compared simultaneously). Two physical health items (PF4 and BP1) were closest to the general population. Three mental health items (MH1, MH4, and RE2) were found to have deteriorated most (Fig. 2).

In addition, QoL was more severely impaired in the women than in the men, with respective global scores of 19.8 (±5.0) vs 24.3 (±3.6) in outpatients (Mann–Whitney P = 0.012) and 21.8 (±3.6) vs 25.7 (±5.1) in inpatients (Mann–Whitney P = 0.002).

The regression model found that gender and depression had a significant impact on QoL score in both inpatient and outpatient populations. Other significant covariates were
DISCUSSION

This study was constructed in two independent patient populations enrolled in relatively small numbers (104 and 114 patients). The separate per-population analyses (and reproducibility of results) enhance its validity.

A sex ratio of 4–5:1 is normal in alcohol studies with clinical samples (Reynaud and Parquet, 1999). The two populations were similar. Mean ages of 44 and 48 years are consistent with the time taken to establish alcohol dependence (60% of patients had alcohol misuse since over 10 years). The high proportion of patients living alone (56–58%) and unemployed (close to 50%) reflects the social and familial causes or consequences of alcohol dependence. In the general French adult population (>18 years), 9% of people are unemployed, and only 30% live alone (Chaleix, 2001; Aerts and Bigot, 2002).

Inpatients seemed to be more severely affected. Very few had CGI scores of very mild or mild (4 vs 29% for outpatients). Their alcohol consumption was higher, and they had more often experienced earlier detoxifications. There were no significant differences between the two population groups in terms of anxious (75% of cases), depressive (50% of patients), or somatic comorbidities. It would appear that to some extent, patients generally enter (over the long-term?) into a defined hospital or outpatient healthcare system. Patients with a history of hospitalizations have probably been through more detoxifications.

The general properties of AlQoL 9 seem to be satisfactory. Acceptability was excellent. Internal consistency was ‘fair’ for inpatients (0.71) and ‘good’ for outpatients (0.85).

Test–retest reliability was ‘excellent’ for global score. It was ‘excellent’ for the general health item (GH1), ‘good’ for six items, and ‘fair’ for the two role limitation items (RP4 and RE2). These results only indicate good test–retest reliability, which was only carried out in one of the two populations at a time when detoxification difficulty is highest, (i.e. 48–72 h after detoxification was started). In fact, 12% of patients presenting with major signs of withdrawal were deemed unfit to fill out the questionnaire a second time.

Structural analysis in each of the two populations globally favours a one-dimensional scale. PCA showed a consolidation of items derived from the MHD and the PHD of SF 36, respectively. An aggregation of these items into two dimensions would give internal consistency for each dimension from 0.82 (good) to 0.46 (unacceptable). Correlations between the items derived from one dimension and the items of the other dimension were very often ‘large’ (>0.50), whereas they should be ‘small’ for separate dimensions.

Despite this reductive unidimensional approach, AlQoL 9 possesses excellent informative qualities. The scale showed...
good specificity for alcohol dependence, and in both populations it was able to identify the following:

- a poorer QoL than in the general population;
- more important deficit in mental health than in the physical dimension;
- a poorer QoL in women than in men (considering global score or each item); and
- depression as a major factor of QoL.

QoL in inpatients appears not only to be related to depression but also to anxiety and alcohol consumption. Although depression and anxiety disorders were a little less frequent in the inpatient population than the outpatients, they were probably more severe, thus causing deterioration of QoL that initially led to the hospitalization. It is difficult to explain the relationship between QoL and somatic comorbidity that was identified in the outpatients. One explanation would be that the outpatients did not experience more somatic problems but more serious somatic problems evolved to a stage affecting QoL. Indeed, over half of these patients had never detoxified and presented long-standing, uninterrupted alcohol consumption. It may also be that the subjective experience of comorbidities has more ravaging effects in outpatients, who are managed less intensively. The index of somatic complications used as an indicator in this study remains limited.

**CONCLUSION**

AIQoL 9 is a health-related QoL scale which epitomizes QoL in alcohol-dependence. The nine items that compose it (derived from the SF 36 generic scale) are highly characteristic of those aspects of QoL most affected by alcohol dependence. It demonstrates excellent informative qualities, and is sensitive to most of the factors known to be involved in the QoL of alcohol-dependent persons.

This very specific instrument could probably find applications in medium or long-term treatment evaluation. The NEAT princeps study showed a very good sensitivity to change at 3 and 6 months, but further investigations will be needed.

AIQoL 9 also has an immediate clinical utility, as it is easy use and high specificity should help patients in denial to become more aware of their condition by underlining—and quantifying—the impact of their alcohol consumption on their daily lives. This instrument could provide a complement to motivational counselling and facilitate the change process. It may thus help practitioners both to broaden their appraisals, which are currently based solely on alcohol consumption, and improve follow-up, as QoL may be a predictor of relapse.

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