Original Article

Validation of Single-Item Linear Analog Scale Assessment of Quality of Life in Neuro-Oncology Patients

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Abstract

Assessment of patient quality of life (QOL) requires balancing the details provided by multi-item assessments with the reduced burden of single-item assessments. In this project, we investigated the psychometric properties of single-item Linear Analog Scale Assessments (LASAs) for patients with newly diagnosed high-grade gliomas. Measures included QOL LASAs (overall, physical, emotional, spiritual, intellectual), Symptom Distress Scale (SDS), Profile of Mood States (POMS; overall, confusion, fatigue), and Functional Assessment of Cancer Therapy-Brain (FACT-Br; overall, brain, physical, emotional). Associations of LASA measures with SDS, POMS, and FACT-Br domains and with Eastern Cooperative Oncology Group performance score (PS) and Mini-Mental State Examination (MMSE) were assessed. Repeated measures ANOVA models compared the change over time of LASAs and SDS, POMS, and FACT-Br. Two hundred five patients completed the assessments across three time points. To allow comparison across measures, all scores were converted to a scale of 0–100, with higher scores indicating better QOL. LASA mean scores ranged from 60 to 78; SDS, POMS, and FACT-Br ranged from 62 to 81. FACT-Br physical (P < 0.001) and POMS fatigue subscale (P = 0.005) decreased over time, as did LASA physical (P = 0.08). LASA scales were strongly associated with corresponding scales on SDS, POMS, and FACT-Br (0.44 < r < 0.65; P < 0.001). LASA was negatively associated with PS and positively with MMSE, with associations similar in magnitude to the other QOL and psychosocial measures. The data suggest that the single-item LASA scales are valid for assessing QOL of...
cancer patients and are an appropriate alternative when a shorter instrument is warranted. J Pain Symptom Manage 2007;34:628–638. © 2007 U.S. Cancer Pain Relief Committee. Published by Elsevier Inc. All rights reserved.

**Key Words**
Quality of life, measurement, LASA, validation, neuro-oncology

**Introduction**

Quality-of-life (QOL) issues for cancer patients and survivors have received much recent empirical investigation. In neuro-oncology, the description and measurement of QOL continues to evolve. QOL is defined in broad terms and is thought to encompass several different aspects of life, including emotional functioning, physical functioning, cognitive functioning, social functioning, and spiritual well-being. There have been a large number of multi-item instruments developed to capture the cancer patient’s self-report of QOL, such as the Functional Assessment of Cancer Therapy (FACT-G) or the European Organization for Research and Treatment of Cancer measure. Many studies have shown that several of these multiple-item inventories with resulting summary scores are helpful in measuring QOL in adults with many different types of cancers. Multi-item assessments can provide great detail about an individual’s QOL and have high internal consistency.

However, multiple-item instruments can be lengthy and, therefore, time consuming for patients to complete, and this time burden may result in poor completion rates, especially in brain tumor patients. In addition, cancer patients experience many symptoms related to their cancer and its treatment, such as nausea and fatigue. Thus, patient burden is an important consideration. If proven to be psychometrically sound to provide helpful information for the practitioner, simpler measurements such as single-item scales could help reduce patient burden and yield important QOL information. The rationale for single-item assessments has been made repeatedly across a broad spectrum of applications.

Sloan et al. have proposed measuring QOL with single items or with brief multiple-item scales. Their basic tenet is that the research question involved will determine whether a single-item assessment will suffice or whether a more detailed assessment will be required. In their review of published literature, they conclude that both single-item and multi-item index scores provide clinically important information and are statistically robust. Sloan et al. suggest that single items may be sufficient when only a global impression of QOL is needed, when screening is desired to determine if a patient needs more in-depth assessment, or in a Phase II study attempting to assess whether a treatment has any impact on QOL.

There has been significant interest in developing and validating simple, single-item measures of aspects of QOL for use in appropriate situations, as described by Sloan et al. Linear analog self-assessment scales have been used as an assessment format in many multiple-item questionnaires. Essentially, as described by Cella, linear analog self-assessment scales are a type of assessment scale in which 100 mm lines are used. Anchoring descriptors are placed at each end of the line, and patients mark their current state on that symptom somewhere on that line. The score is the measured number of millimeters from the zero end of the scale to the patient’s indication of where they fall.

The development effort culminated in the Linear Analog Scale Assessment (LASA), which consists of five single items asking respondents to rate, on 0 to 10 scales, their perceived level of functioning (see Appendix); this LASA approach has since been used in multiple trials. As mentioned above, the definition of QOL and its domains has evolved over time, but at the time of the initial LASA development and data collection, QOL was conceptualized as a multidimensional construct with four domains (physical, functional, emotional, and social). We used that definition, as well as the experience of our multidisciplinary team of
treating professionals, including oncologists, physiatrists, psychiatrists, psychologists, physical therapists, and chaplains, to choose the domains included in the LASA. With this screening measure, patients are empowered to communicate with their physicians about their QOL overall and across four major life domains that are most distressing from their point of view. If necessary, these symptoms can then be evaluated in more detail. Although the LASA has been widely used in clinical studies, its psychometric properties have not been explored extensively. The goal of this paper is to present reliability and validity data for the LASA utilizing data obtained from neuro-oncology patients.

**Patients and Methods**

**Sample**

The participants included in this analysis are patients from the Glioma QOL study, which was a prospective companion protocol for three Institutional Review Board-approved North Central Cancer Treatment Group high-grade glioma treatment protocols. These treatment protocols and patient treatment and medical history have been previously described in detail and will only be described here briefly. The prospective treatment trials involved a total of 220 newly diagnosed high-grade glioma patients treated with chemotherapy and radiotherapy. Patients were deemed evaluable if they were alive without tumor progression.

**Measures**

Complete details of the study measures are included in the reports by Brown et al. and will not be repeated in detail here. Rather, we will provide brief summaries of the measures and their intended assessment constructs.

In these protocols, the LASA, along with one additional QOL measure and two psychosocial measures (see below), was completed by the patient (after receiving instructions on how to complete the forms) within 72 hours of study entry (baseline), at two months, and at four months. At baseline, at two months, and at four months, patients also underwent assessment with the Folstein Mini-Mental State Examination (MMSE). The Eastern Cooperative Oncology Group (ECOG) performance score (PS), a simple, widely administered measure of physical function, was also graded by the health care provider at baseline, at two months, and at four months. Collectively, patients completed the QOL measures, the psychosocial measures, and the MMSE in approximately 30 minutes.

LASA includes five simple items, each of which targets a specific domain of QOL (see Appendix). Specific domains include physical well-being (i.e., fatigue, activity level), emotional well-being (i.e., depression, anxiety, stress), spiritual well-being (i.e., sense of meaning, relationship with God), and intellectual well-being (i.e., ability to think clearly, concentrate). An item for overall QOL is also included. The Likert scales run from 0 (as bad as it can be) to 10 (as good as it can be). Thus, higher ratings suggest higher QOL.

**Functional Assessment of Cancer Therapy-Brain (FACT-Br)** is a self-administered 46-item measure, with 27 general items to assess physical, social/family, emotional, and functional well-being. The brain tumor-specific version includes an additional subscale of 19 brain tumor-specific QOL items. The scores on individual items run from 0 (not at all) to 4 (very much). Items are totaled to produce the following subscales, along with an overall QOL score: physical well-being, social/family well-being, emotional well-being, functional well-being, and brain tumor-specific scale. For validation purposes, we included the overall QOL score, the physical well-being subscale, the emotional well-being subscales, and the brain tumor-specific symptoms subscale, as those are the scales that have corresponding items on the LASA. Overall, higher ratings suggest higher QOL.

A recent study suggests that the FACT-G has a large effect size in differentiating patients with various ECOG performance scores. Short-term test-retest reliability is strong (0.92). The FACT-G overall score also has been shown to be appropriately correlated with other measures of global QOL.

**Profile of Mood States-Short Form (POMS-SF)** includes a self-administered list of 30 adjectives that the patient rates on a scale from 0 (not at all) to 4 (extremely). Subscales include tension/anxiety, vigor/activity, fatigue/inertia, depression/dejection, confusion/bewilderment,
and anger/hostility. For LASA validation purposes, we used the overall score, the fatigue/inertia subscale, and the confusion/bewilderment subscale. Higher scores indicate less distress or fewer symptoms of each scale.

Validation information shows that the POMS-SF has an acceptable internal consistency for the total score (0.91). The POMS-SF total score and subscales correlate appropriately with other psychosocial measures providing both convergent and discriminant validity.

Symptom Distress Scale (SDS) is a self-administered 13-item questionnaire developed to measure physical concerns in cancer patients. This measure is frequently used in oncology trials.

Statistical Methods

The LASA, along with the FACT-Br, POMS, and SDS, was completed by subjects at baseline and at two and four months after enrollment per the dictates of the larger treatment protocols. The raw summative scores from each QOL or psychosocial measure were transformed for analysis. For a given raw score, the transformed score was a value between 0 and 100 inclusive; this represented the relative position of the raw score along the theoretical dimension for the score. In all cases, 0 reflected the worst QOL and 100, the best. By using the transformed scores, we were able to compare scores designed to evaluate the same construct as well as to compare relative scores designed for different QOL domains.

The following techniques were used to provide information supportive of the validity of the LASAs. Because of the ordinal nature of the data, Spearman’s correlation coefficients were used to measure the associations of each LASA with the corresponding scales on the FACT-Br, POMS, and SDS. Repeated measures ANOVA models were fit for each LASA and the corresponding scales on the FACT-Br, POMS, and SDS to determine whether the change in LASA over time was similar to that of the other QOL and psychosocial scales. For these models, the scale was the dependent variable, and measurement time point was the independent variable. These models were fit with an autoregressive correlation structure. Finally, the association of the LASA and each QOL or psychosocial scale with the ECOG performance score and the MMSE score was assessed using Spearman’s correlation coefficient. In all cases, P-values ≤0.05 were considered statistically significant. Correlations <0.3 were considered weak, correlations from 0.3 to 0.5 were considered moderate, and correlations >0.5 were considered strong.

Results

Overall, there were 205 participants enrolled in the three clinical trials who completed the LASA at a minimum of one of the three time points: baseline, two months, and four months. One hundred ninety-four subjects (88% of evaluable patients) completed the LASA at baseline, 127 (71% of evaluable patients) completed the LASA at the two-month follow-up, and 82 (66% of evaluable patients) completed the LASA at the four-month follow-up. There were no significant differences in completion rates among QOL and psychosocial measures across the three studies (P > 0.10). Baseline demographics, tumor information, and treatment information for the 205 participants are presented in Table 1. The median age was 56 years, and the median baseline MMSE score was 29. The vast majority of participants were ECOG performance score 0 or 1 (89%). The median overall survival was 10.2 months, and the median progression-free survival was 4.7 months.

A typical reliability calculation when validating new questionnaires is internal consistency or Cronbach’s alpha. However, this coefficient is typically provided when the individual items are summed together to provide a total score on the measure. This is not the purpose of the LASA, as each item is intended to stand alone. However, Cronbach’s alpha is a measure of how much an individual’s response to one item is related to his/her responses on all the other items. As the LASAs are theorized to measure different facets of QOL, one might theorize that the LASAs could be related to one another, though perhaps not perfectly so. Thus, we present Cronbach’s alpha values for each time point despite the fact that the five items are not summed together to form a composite score. Cronbach’s alpha at time 0 was 0.83; at month two, it was 0.88; and at
month four, it was 0.88. We do not provide test-retest reliability, as QOL could be expected to be variable across time. However, we present below the change in each QOL scale over time.

Table 2 summarizes the mean, standard deviation, median, and range on the LASA, SDS, POMS, and FACT-Br across the three time points. There was no significant change across time for the overall score or emotional, spiritual, and intellectual scores for the LASA, the SDS, the overall and confusion scores for the POMS, and the overall score, emotional score, and brain score of the FACT-Br. The FACT-Br physical score ($P < 0.001$) and the POMS-fatigue score ($P = 0.005$) significantly decreased over time ($P < 0.001$), whereas the LASA physical score displayed a decreasing trend over time, but did not achieve statistical significance ($P = 0.083$).

To supplement the above repeated measures analysis, the change from the baseline to the two-month follow-up was calculated for each scale. All correlation coefficients were significantly different than 0 ($P < 0.001$ in each case except where noted). The associations of the change from baseline for each scale with the LASA change from baseline were as follows: $\Delta$LASA overall with $\Delta$SDS overall ($r = 0.41$), $\Delta$POMS overall ($r = 0.43$), and $\Delta$FACT-Br overall ($r = 0.41$); $\Delta$LASA emotional with $\Delta$FACT-Br emotional ($r = 0.23$, $P = 0.018$) and $\Delta$POMS overall ($r = 0.36$); $\Delta$LASA intellectual with $\Delta$FACT-Br brain ($r = 0.26$, $P = 0.006$) and $\Delta$POMS overall ($r = 0.52$); $\Delta$FACT-Br overall ($r = 0.42$); $\Delta$LASA emotional with $\Delta$FACT-Br emotional ($r = 0.32$, $P = 0.006$) and $\Delta$POMS overall ($r = 0.32$, $P = 0.009$); $\Delta$LASA intellectual with $\Delta$FACT-Br brain ($r = 0.30$, $P = 0.011$) and $\Delta$POMS confusion ($r = 0.58$); and $\Delta$LASA physical with $\Delta$FACT-Br physical ($r = 0.45$) and $\Delta$POMS fatigue ($r = 0.50$).

The association of the LASA scales with each corresponding scale on the SDS, POMS, and FACT-Br at baseline, two months, and four months is summarized in Table 3. LASA scales were significantly associated with the corresponding scales on the SDS, POMS, and FACT-Br ($P < 0.001$ in each case). All correlations were moderate to strong ($r = 0.50–0.65$) except for the correlation between the LASA emotional scale and the FACT-Br emotional scale at cycle 0 ($r = 0.44$), which was moderate in strength.

The association of the QOL and psychosocial scales with the ECOG performance score at each time point is displayed in Table 4. At baseline, the associations between the ECOG performance score and the LASA scales were similar to the associations between the other measures and the ECOG performance score (i.e., weak negative correlations). The correlations for each scale with the ECOG performance score were small and were as follows:
<table>
<thead>
<tr>
<th></th>
<th>Baseline</th>
<th>Two Months</th>
<th>Four Months</th>
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<tbody>
<tr>
<td></td>
<td>Mean ± SD</td>
<td>Mean ± SD</td>
<td>Mean ± SD</td>
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<tr>
<td></td>
<td>(Median; Range)</td>
<td>(Median; Range)</td>
<td>(Median; Range)</td>
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<tr>
<td></td>
<td>n</td>
<td>n</td>
<td>n</td>
</tr>
<tr>
<td><strong>LASA</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall</td>
<td>194</td>
<td>126</td>
<td>82</td>
</tr>
<tr>
<td>Physical</td>
<td>194</td>
<td>127</td>
<td>82</td>
</tr>
<tr>
<td>Emotional</td>
<td>194</td>
<td>127</td>
<td>82</td>
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<tr>
<td>Spiritual</td>
<td>194</td>
<td>126</td>
<td>82</td>
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<tr>
<td>Intellectual</td>
<td>194</td>
<td>127</td>
<td>82</td>
</tr>
<tr>
<td><strong>SDS</strong></td>
<td></td>
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<td></td>
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<tr>
<td>Overall</td>
<td>189</td>
<td>124</td>
<td>79</td>
</tr>
<tr>
<td><strong>POMS</strong></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Overall</td>
<td>172</td>
<td>115</td>
<td>77</td>
</tr>
<tr>
<td>Confusion</td>
<td>182</td>
<td>122</td>
<td>80</td>
</tr>
<tr>
<td>Fatigue</td>
<td>184</td>
<td>122</td>
<td>81</td>
</tr>
<tr>
<td><strong>FACT-Br</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall</td>
<td>190</td>
<td>117</td>
<td>78</td>
</tr>
<tr>
<td>Physical</td>
<td>192</td>
<td>126</td>
<td>81</td>
</tr>
<tr>
<td>Emotional</td>
<td>193</td>
<td>119</td>
<td>80</td>
</tr>
<tr>
<td>Brain</td>
<td>184</td>
<td>124</td>
<td>79</td>
</tr>
</tbody>
</table>

*Repeated measures ANOVA with an autoregressive correlation structure.
LASA overall \((r = -0.25)\), SDS \((r = -0.17)\), POMS overall \((r = -0.24)\), and FACT-Br overall \((r = -0.29)\). The association between the physical scale on the LASA and the ECOG performance score was moderate \((r = 0.36)\) and similar to the correlation of the physical scale on the FACT-Br \((r = 0.32)\) and the POMS-fatigue \((r = -0.31)\) with the ECOG performance score at baseline. However, the association of the ECOG performance score with the LASA emotional scale \((r = -0.20)\) was larger in magnitude than that with the FACT-Br emotional scale \((r = -0.07)\). The association of the LASA intellectual and the ECOG performance score was weak \((r = -0.16)\) as was the correlation of the POMS confusion with ECOG performance score \((r = -0.13)\); however, the association of the FACT-Br brain with the ECOG performance score was larger in magnitude \((r = -0.33)\). Similar findings were observed at two months and four months, with the exception that at two months the POMS confusion \((r = 0.08)\) and FACT-Br emotional \((r = -0.10)\) and at four months the LASA emotional \((r = -0.0004)\),

### Table 3

<table>
<thead>
<tr>
<th></th>
<th>Baseline</th>
<th>Two Months</th>
<th>Four Months</th>
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<tr>
<td><strong>SDS</strong></td>
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<tr>
<td>Overall</td>
<td>189</td>
<td>0.53</td>
<td>123</td>
</tr>
<tr>
<td>POMS</td>
<td></td>
<td></td>
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<tr>
<td>Overall</td>
<td>172</td>
<td>0.61</td>
<td>114</td>
</tr>
<tr>
<td>With LASA emotional</td>
<td>172</td>
<td>0.60</td>
<td>115</td>
</tr>
<tr>
<td>Confusion with LASA intellectual</td>
<td>182</td>
<td>0.58</td>
<td>122</td>
</tr>
<tr>
<td>Fatigue with LASA physical</td>
<td>184</td>
<td>0.63</td>
<td>122</td>
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<tr>
<td>FACT-Br</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Overall</td>
<td>190</td>
<td>0.58</td>
<td>116</td>
</tr>
<tr>
<td>Physical</td>
<td>192</td>
<td>0.59</td>
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<tr>
<td>Emotional</td>
<td>193</td>
<td>0.44</td>
<td>119</td>
</tr>
<tr>
<td>Brain with LASA intellectual</td>
<td>191</td>
<td>0.34</td>
<td>124</td>
</tr>
</tbody>
</table>

\(r = \) Spearman correlation coefficient. All correlation coefficients were significantly different from 0 \((P < 0.001)\) in each case.

The LASA overall was correlated with the SDS, POMS, and FACT-Br overall; the LASA physical was correlated with the FACT-Br physical and the POMS-fatigue; the LASA intellectual was correlated with the POMS confusion and the FACT-Br brain; and the LASA emotional was correlated with the FACT-Br emotional and POMS overall.

### Table 4

<table>
<thead>
<tr>
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<th>Baseline</th>
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<tr>
<td><strong>LASA</strong></td>
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<tr>
<td>Overall</td>
<td>194</td>
<td>-0.25</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Physical</td>
<td>194</td>
<td>-0.36</td>
<td>&lt;0.001</td>
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<tr>
<td>Emotional</td>
<td>194</td>
<td>-0.20</td>
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<td>Spiritual</td>
<td>194</td>
<td>-0.15</td>
<td>0.044</td>
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<tr>
<td>Intellectual</td>
<td>194</td>
<td>-0.16</td>
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<tr>
<td><strong>SDS</strong></td>
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<tr>
<td>Overall</td>
<td>189</td>
<td>-0.17</td>
<td>0.022</td>
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<td><strong>POMS</strong></td>
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<tr>
<td>Overall</td>
<td>172</td>
<td>-0.24</td>
<td>0.002</td>
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<td>Confusion</td>
<td>182</td>
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<tr>
<td>Overall</td>
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<tr>
<td>Brain</td>
<td>191</td>
<td>-0.35</td>
<td>&lt;0.001</td>
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\(r = \) Spearman correlation coefficient.

*Comparing correlation coefficient to 0.
SDS overall \((r = -0.05)\), POMS confusion \((r = -0.05)\), and FACT-Br emotional \((r = -0.04)\) had no significant association with the ECOG performance score.

Finally, the correlation of each QOL and psychosocial scale with the MMSE score at baseline was investigated (Table 5). Each scale was positively, but weakly, associated with the MMSE score. The associations of the LASA scales with the MMSE were similar in magnitude to the association of the other QOL and psychosocial scales with the MMSE. All correlation coefficients were significantly different than 0 \((P < 0.014\) in each case), with the exception of the FACT-Br emotional scale \((P = 0.094)\), POMS-fatigue \((P = 0.088)\), and LASA spiritual scale \((P = 0.111)\).

### Discussion

Our aim was to provide initial psychometric information for a five-item self-report measure of QOL in cancer patients. Although there are several existing well-validated and reliable, but much longer, measures of QOL in cancer patients, there has been a scientific call in support of the development of single-item assessment measures, such as the LASA. A validated, brief QOL measure, such as the LASA, would be advantageous because it would reduce patient burden, both in clinical situations and in clinical trials, and have more clinical utility for the busy practitioner. The results of this study provide initial evidence suggesting that the LASA may be as valid as lengthier measures of QOL in neuro-oncology patients.

Our foremost finding was that the summary statistics suggest that the LASA items have adequate variability within them to be clinically meaningful. That is, patients score along the entire spectrum of possible scores on the scales, avoiding restriction of range, ceiling or floor effects, and providing information that is meaningful and can be different across individual patients and across time. These results are consistent with findings from other studies.9,32,34,35

Second, we found that the LASA items correlated strongly with similar scales on other, well-validated, multi-item scales that are frequently used in cancer patients, thereby supporting the concurrent validity and construct validity of the LASA. Specifically, the overall QOL LASA item correlates strongly with the overall score on the FACT-Br, the overall SDS score, and the overall POMS score. The LASA physical item correlates strongly with the FACT-Br physical scale and with the fatigue subscale of the POMS. The LASA emotional item correlates strongly with the FACT-Br emotional scale and the overall POMS. The LASA intellectual item correlates strongly with the FACT-Br brain subscale and the confusion subscale of the POMS. In terms of sensitivity to change, we also found that the LASA items change over time in a manner similar to the longer QOL and psychosocial scales.

Third, we found that the LASA items were negatively correlated with the ECOG performance status and were positively correlated with the MMSE scores at baseline. The direction of these relationships is as expected and supports the construct validity of the LASA items. The magnitude of all these relationships is weak, which is also expected given the construct difference and, therefore, provides divergent validity for the items. For example, the performance status rating is determined by the provider and is heavily influenced by the patient’s physical functioning. The LASA is rated by the patient and is considered a broader assessment of overall QOL. In addition, the correlations between the ECOG performance status and MMSE and the other QOL and psychosocial scales are similarly weak.
This study does have several limitations. We only used neuro-oncology patients, so these results may not apply to other cancer populations. However, given that the measures used for validation purposes in this study are also used broadly with patients with many types of cancer, we might expect that the LASA would be similarly useful across populations. Also, though no formal validation trial of the LASA with other cancer patients has been published, the LASA has been used in other trials, with concurrent validation data published alongside the individual trial results. Further work also has been done using the LASA across a wide spectrum of patient populations and healthy populations. Secondly, we assessed QOL at three time points across four months, which is appropriate for patients, such as high-grade glioma patients, with a relatively short median survival. Perhaps longer follow-up, such as 12 to 36 months is needed to fully validate these scales in patients with other types of cancer with a much longer median survival or for whom cure is expected.

In summary, the LASA is a psychometrically validated brief measure of QOL. Despite its brevity, it provides an overall estimate and covers four major subcomponents of QOL (physical, emotional, spiritual, and intellectual). It therefore gives a global, comprehensive view of a patient’s QOL. We do not propose that the LASA items should replace longer, well-validated measures of QOL. When a more detailed assessment of QOL is desired or QOL is considered the primary outcome, either clinically or for research purposes, a longer measure may remain a clinician’s or researcher’s best choice. However, our results do suggest that the LASA is a psychometrically validated brief measure of QOL that may be useful as a screening measure, when only a broad view of QOL is desired or when time constraints require a very brief assessment.

References


Appendix A

Linear Analog Self Assessment

Name: ___________________________ Date: ___________________________

Directions: Please circle the number (0-10) best reflecting your response to the following that describes your feelings during the past week, including today.

1. How would you rate your physical well being over the past week?
   This question refers to such things as fatigue, activity, etc.
   0 1 2 3 4 5 6 7 8 9 10
   As bad as it can be
   As good as it can be

2. How would you rate your emotional well being over the past week?
   This question refers to such things as depression, anxiety, stress, etc.
   0 1 2 3 4 5 6 7 8 9 10
   As bad as it can be
   As good as it can be

3. How would you rate your spiritual well being over the past week?
   This question refers to such things as a sense of meaning and purpose, relationship with God, etc.
   0 1 2 3 4 5 6 7 8 9 10
   As bad as it can be
   As good as it can be

4. How would you rate your intellectual well being over the past week?
   This question refers to such things as the ability to think clearly, to concentrate, to remember, etc.
   0 1 2 3 4 5 6 7 8 9 10
   As bad as it can be
   As good as it can be

5. How would you rate your overall well being over the past week?
   0 1 2 3 4 5 6 7 8 9 10
   As bad as it can be
   As good as it can be