Are the Zung Depression and Anxiety Scales Still Valid in 2023?


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Abstract

The Zung Self-Rating Anxiety Scale (SAS) and Zung Self-Rating Depression Scale (SDS) were developed by Dr. William Zung in the early 60s and 70s to assess the level of anxiety and depression in patients. These 2 scales have withstood the test of time being used in clinical practice, but it is of interest to assess if these scales are still relevant in practice today.

Results

In this work, we explored the validity of the Zung SAS and SDS in the modern era. We analyzed the Zung SAS and SDS scales of 51 patients at an outpatient psychiatric clinic in South Carolina and compared the results of these self-rated assessments with the ICD-10 billing codes that these patients were assigned by a psychiatrist.

We show in this work that for those patients diagnosed with either an anxiety or depressive disorder, the corresponding Zung Scale scores correlate well with the modern disorder based on the ICD-10 criteria. Patients with an anxiety disorder typically scored in the mild to moderate range for anxiety on the SAS. Likewise, patients with a depressive disorder also scored in the mild to moderate range in the SDS.

These results suggest that the Zung Depression and Zung Anxiety scales still correlate well with the modern understanding of these psychiatric disorders (depression and anxiety) established by ICD-10 diagnoses.

Conclusions

Zung SAS and SDS scores are elevated in those with anxiety and depressive disorders (defined according to the criteria specified by ICD-10 billing codes, respectively). This suggests that despite these tests being over 50 years old, they still have relevance and translate to some degree for assessing the state of depression and anxiety in patients.

This study was limited by the use of retrospective data, which may affect the validity of these findings. Future research should be aimed at designing studies that can control for these biases.

Based on this study, there are many paths that could be researched further surrounding this topic. Researchers could compare the effectiveness of the Zung scales with others widely used and more modern scales such as the Patient Health Questionnaire (PHQ) and Depression Anxiety Stress Scale (DASS).

Introduction and Methods

The Zung Self-Rating Anxiety Scale (SAS) was developed in 1971 by Dr. William Zung as a way to screen people for anxiety-related psychological and somatic symptoms. The Zung Self-Rating Depression Scale (SDS) was developed in 1965 by Dr. William Zung to assess the level of depression in patients with depressive disorder.[1] Both the SAS and SDS consist of a total of 20 questions (each scored a value 1-4, answered by the patient, that cover symptoms of anxiety and depression). These results suggest that the Zung Depression and Anxiety scales still correlate well with the modern understanding of these psychiatric disorders (depression and anxiety) established by ICD-10 diagnoses.

Methods:

Data was collected from an outpatient psychiatric clinic in South Carolina. Many of these patients come to this clinic as a last resort, with many displaying extreme symptoms. We looked at 51 patients that all met the inclusion criteria consisting of (1) possessing psychiatric diagnoses billed under ICD-10, as well as (2) at least one of the Zung Anxiety or Zung Depression scales filled out. Patients were classified as having either an anxiety or depressive disorder based on the ICD-10 billing codes in their chart. We used these billing codes:

- Anxiety disorders: F41.0 – panic disorder (episodic paroxysmal anxiety); F41.1 – generalised anxiety disorder
- Depressive disorders: F32.9 – major depressive disorder (MDD); single episode; F33.3 – MDD with psychotic symptoms; F34.1 – dysthymic disorder
- Moderate-severe anxiety: 39.0% (n = 15) of the population
- Severe anxiety: 4.9% (n = 2) of the population

These results suggest that the Zung Depression and Anxiety scales still correlate well with the modern understanding of these psychiatric disorders (depression and anxiety) established by ICD-10 diagnoses.

Table 1. Table for Zung Anxiety Scale ranges based off index score

<table>
<thead>
<tr>
<th>Zung Anxiety Scale Ranges</th>
<th>Total sample population (n = 50)</th>
<th>Subpopulation with an anxiety disorder (n = 25)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal Index Score ≤ 44</td>
<td>10 (20%)</td>
<td>7 (28%)</td>
</tr>
<tr>
<td>Mild to moderate anxiety</td>
<td>45 ≤ Index Score ≤ 59</td>
<td>13 (52%)</td>
</tr>
<tr>
<td>Moderate anxiety</td>
<td>60 ≤ Index Score ≤ 69</td>
<td>7 (28%)</td>
</tr>
<tr>
<td>Extreme anxiety</td>
<td>70+ Index Score</td>
<td>1 (4%)</td>
</tr>
</tbody>
</table>

Table 2. Table for Zung Depression Scale ranges based off index score

<table>
<thead>
<tr>
<th>Zung Depression Scale Ranges</th>
<th>Total sample population (n = 40)</th>
<th>Subpopulation with a depressive disorder (n = 20)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal Index Score ≤ 60</td>
<td>10 (25%)</td>
<td>5 (25%)</td>
</tr>
<tr>
<td>Mild depression</td>
<td>61 ≤ Index Score ≤ 69</td>
<td>10 (50%)</td>
</tr>
<tr>
<td>Moderate depression</td>
<td>70 ≤ Index Score ≤ 79</td>
<td>5 (25%)</td>
</tr>
<tr>
<td>Severe depression</td>
<td>80+ Index Score</td>
<td>1 (5%)</td>
</tr>
</tbody>
</table>

Further research could also delve into the relationships between the Zung scale scores and ICD-10 diagnoses and billing codes as well as the relevance of other more modern scales to these same billing codes. This could also examine whether older scales like the Zung scales align with more modern diagnostic criteria for these billing codes.

Zung would also be relevant to consider how sensitive each of these scales are to these diagnoses. Anxiety and Depression often occur with each other and other disorders; future studies could delve into the relationships between these diagnoses, how to diagnostically and efficiently diagnose them, and specific relevant billing codes. It could be pertinent to investigate how different scales are also related to each other. By conducting further research, our understanding of clinical relevance and accuracy of these scales can be enhanced.

References


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