

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.

A natural question is whether the distribution of sample population has shifted in the past 50 years. This is especially relevant in the era where psychiatric diagnoses are billed using ICD10 diagnoses. In this retrospective chart review, we analyzed 51 patients at an outpatient psychiatric clinic that received an ICD10 billing code for a psychiatric disorder and whose chart contained either a Zung Anxiety or Zung Depression test.

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 at the clinic.

We show in this work that for those patients diagnosed with either an anxiety or depressive disorder, the corresponding Zung Scale reflects these diagnoses. Indeed, 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 for depression on the SAS.

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 ICD10 diagnoses.

Results

Figure 1. Distribution of raw scores on the Zung Anxiety Scale for the total sample population ($n = 50$) and the subpopulation only for those with an anxiety-related disorder ($n = 21$).

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 difficult-to-control factors such as implicit bias, e.g., the SAS and SDS results may have influenced to some degree the diagnosis of anxiety or depression. This would potentially result in over-reporting of the relation between ICD-10 diagnoses and Zung SAS/SDS scores. However, this does not exclude the possibility that these scales still have utility in the clinical setting. Future research should be aimed at designing studies that can control for these biases.

Based off this study, there are many paths that could be researched further surrounding this topic. Researchers could compare the effectiveness of the Zung scales with other widely used and more modern scales such as:

- Patient Health Questionnaire (PHQ),
- Sheehan Disability Scale (SDS) [6],
- DSM-V Self-Rated Cross-Cutting Symptom Measure Scales
- Depression Anxiety Stress Scale (DASS)
- Generalized Anxiety Disorder Assessment (GAD-7).

Further research can 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 can also examine whether older scales like the Zung scales align with modern diagnostic criteria for these billing codes.

It 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 accurately 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 these scales and their relation to ICD-10 diagnoses can be enhanced.

References

[1] The Zung Self-Rating Anxiety Scale (SAS)