ORGANIZATION NEWS

Highlights From the Rehabilitation Measures Database

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Measurement Characteristics and Clinical Utility of the Hospital Anxiety and Depression Scale Among Adults With Cardiovascular Disease

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Adults with cardiovascular disease often experience symptoms of anxiety and depression that interfere with treatment, decrease quality of life, and increase mortality rates.[1-3] The Hospital Anxiety and Depression Scale (HADS) is a brief, descriptive self-report questionnaire validated in cardiovascular disease populations, offering an efficient way to screen patients for psychological comorbidities. Compared with other common depression and anxiety screening instruments originally designed for use in psychiatric settings, the HADS excludes physical symptoms that may be related to somatic medical conditions, such as weight loss and insomnia, and aims to detect the milder levels of distress commonly seen in cardiac patients.[3-5] The instrument consists of 14 items that can be administered via paper and pencil in<7 minutes. Two 7-item subscales assess distinct dimensions of anxiety and depression: HADS-A describes levels of generalized anxiety, and HADS-D focuses on symptoms of anhedonia. Each item is rated on a 4-point Likert scale where 0 indicates absence and 3 indicates extreme presence; 5 of the items are reverse-coded for a total possible score of 42, or 21 for each subscale, with higher scores indicating higher levels of anxiety or depression. For broader application, total HADS score is considered a representative measure of overall psychological distress.[3] The HADS has demonstrated excellent discriminant validity, construct validity, test-retest reliability, and internal consistency.[1,2,4,5] This strong psychometric evidence, along with the instrument's efficiency and consideration of somatic symptomology, make the HADS a useful screening measurement for anxiety and depression in cardiovascular disease populations.

This abbreviated summary provides a review of the psychometric properties of the Hospital Anxiety and Depression Scale in people with cardiovascular disease. A full review of the Hospital Anxiety and Depression Scale and reviews of over 440 other instruments for patients with various health conditions can be found at www.sralab.org/Rehabilitation-Measures.

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This instrument summary is designed to facilitate the selection of outcome measures by clinicians. The information contained in this summary represents a sample of the peer-reviewed research available at the time of this summary's publication. The information contained in this summary does not constitute an endorsement of this instrument for clinical practice or research applications. The views expressed are those of the summary authors and do not represent those of authors' employers, instrument owner(s), the *Archives of Physical Medicine and Rehabilitation*, the Rehabilitation Measures Database, or the United States Department of Health and Human Services. The information contained in this summary has not been reviewed externally.

BIBLIOGRAPHY

1. De Smedt D, Clays E, Doyle F et al. Validity and reliability of three commonly used quality of life measures in a large European population of coronary heart disease patients. Int J Cardiol 2013;167:2294-9.
2. Martin CR, Thompson DR. A psychometric evaluation of the Hospital Anxiety and Depression Scale in coronary care patients following acute myocardial infarction. Psychol Health Med 2000;5:193-201.
3. Roberts SB, Bonnici DM, Mackinnon AJ, Worcester MC. Psychometric evaluation of the Hospital Anxiety and Depression Scale (HADS) among female cardiac patients. Br J Health Psychol 2001;6:373-83.
4. Herrmann C. International experiences with the Hospital Anxiety and Depression Scale—a review of validation data and clinical results. J Psychosom Res 1997;42:17-41.
5. Kjærgaard M, Arfwedson Wang CE, Waterloo K, Jorde R. A study of the psychometric properties of the Beck Depression Inventory-II, the Montgomery and Åsbert Depression Rating Scale, and the Hospital Anxiety and Depression Scale in a sample from a healthy population. Scand J Psychol 2014;55:83-9.

Rehabilitation MEASURES	**Measure Name:** Hospital Anxiety and Depression Scale	**Acronym:** HADS	**Summary Authors:** Bond, R., Burns, J., Ehrlich-Jones, L.
Populations Reviewed: Cardiovascular Disease	**Admin Time:** 2-6 minutes	**Items:** 14	**Training Required:** None	**Required Equipment:** Paper and pencil.

Purpose and Administration Instructions:

The purpose of the HADS is to provide a scale with two dimensions to identify depression and anxiety severity among patients who are physically ill in a non-psychiatric setting. The HADS can be self-administered or interviewer administered.

Score:

- Total Sum Score: 0/42 (min/max)
- Subscale Score: 0/21 (min/max)

Reliability:

Test-Retest Reliability[2]
Excellent test-rest reliability with HADS total after up to two weeks (r>0.80)
Excellent test-rest reliability with HADS-A after up to two weeks (r=0.84)
Excellent test-rest reliability with HADS-A after two to six weeks (r=0.73)
Excellent test-rest reliability with HADS-A after more than six weeks (r=0.70)
Excellent test-rest reliability with HADS-D after up to two weeks (r=0.85)
Excellent test-rest reliability with HADS-D after two to six weeks (r=0.76)
Excellent test-rest reliability with HADS-D after more than six weeks (r=0.70)

Internal Consistency:

Excellent internal consistency with HADS total (Cronbach's alpha =0.82-0.878)[3,4]
Adequate to Excellent internal consistency with HADS-A (Cronbach's alpha =0.73-0.93)[2,3,4]
Adequate to Excellent internal consistency with HADS-D (Cronbach's alpha =0.72-0.90)[1,2,3,4]

Abbreviations:

HADS-A: Hospital Anxiety and Depression Scale-Anxiety subscale
HADS-D: Hospital Anxiety and Depression Scale-Depression subscale
CFA: Confirmatory Factor Analysis
Bentler's CFI: Bentler's Comparative Fit Index
TLI: Tucker Lewis Index
RMSEA: Root Mean Square Error of Approximation

Scoring Information:

14 items are scored on a 4-point Likert scale ranging from 0 to 3, with 5 items reverse coded. A total score is computed by summing the item scores. Two subset scales, one anxiety and one depression, are composed of 7 items each and are scored by summing the item scores. High scores indicate higher levels of anxiety or depression.

Scoring Interpretation:

- 0-7 = Normal
- 8-10 = Borderline abnormal (borderline case)
- 11-21 = Abnormal (case)

Cut-Off Scores:

HADS-total[3]: ≥ 9
HADS-D[2,3]: $4 - 9$
HADS-A[2]: 11

Validity:

Factorial Validity[2]
Excellent factorial validity with HADS total with one anxiety and one depression factor which remained stable across subgroups (r>0.90)
Discriminant Validity[2]
Excellent discriminant validity with HADS total compared across 18 separate studies (r=0.63)
Construct Validity[1]
Excellent construct validity with HADS total through CFA indicating good fit (Bentler's CFI=0.96, TLI=0.96, and RMSEA=0.06)

Cut-off Criteria:

	r	ICC
Excellent	$\geq .6$	$\geq .75$
Adequate	.31-.59	.40 -.74
Poor	$\leq .3$	$< .4$