The Hospital Anxiety and Depression Scale in patients with systemic sclerosis: a psychometric and factor analysis in a monocentric cohort

Sirs,

Dr Garaiman *et al*. (1) used the Hospital Anxiety and Depression Scale (HADS) to assess symptoms of depression, anxiety, and what they referred to as "distress" in 316 patients with systemic sclerosis (SSc). They reported that 32.2% had anxiety (HADS-Anxiety ≥8), 25.9% had depression (HADS-Depression ≥8), 18.5% had mixed anxiety-depressive disorder (both criteria met), and 49.5% had "distress" (HADS-Total ≥8). They recommended screening with the HADS and referral of patients with positive screens to a psychiatrist.

Scores above a cut-off on mental health symptom questionnaires are often used to report what is described as "prevalence" (2-4). In fact, members of our team have done this previously (5, 6). However, in recent years, it has become clear that this practice generates estimates that are usually highly exaggerated (2-4). The extent to which the prevalence of any mental disorder generated by symptom questionnaire scores overestimates actual prevalence depends on the questionnaire and cut-off score used (2, 3). A recent individual participant data meta-analysis (4) compared depression prevalence-based on HADS-Depression >8 to true depression prevalence based on the Structured Clinical Interview for DSM (SCID), a standardised diagnostic interview designed to be administered by an experienced diagnostician to closely replicate actual diagnostic procedures. The study included 41 primary studies and 6,005 participants and found that prevalence based on HADS-Depression ≥8 (24.5%), the standard used by Garaiman *et al*. (1), was more than twice as high as true SCID prevalence (11.6%). Heterogeneity across primary studies was too high to correct statistically or predict how HADS-Depression results might map onto true prevalence in any given study (4). The same problems apply to using symptom questionnaires for other mental health conditions, including anxiety (2).

In their discussion of limitations, Garaiman *et al*. noted that the percentages of participants above cut-offs cannot be interpreted as true prevalence. Acknowledging this, however, does not resolve the problem. Cut-offs on mental health symptom questionnaires, including the HADS, are set to maximise or balance sensitivity and specificity for screening, which is not related to prevalence. Furthermore, there is no evidence that these cut-offs delineate clinically significant impairment. For any cut-off, those who score above the cut-off have greater impairment on average from those below the threshold (2-4).

Several randomised trials have evaluated the effects of screening for depression in postpartum women, patients with osteoarthritis, patients with post-acute coronary syndrome, and post-deployment military personnel. None of the trials have found that depression screening improved mental health outcomes (7). Trials of screening for "distress" have also failed to find benefit (8), and there are no trials of screening for anxiety disorders. Unlike scenarios in which patients seek clinical management because they are ill or injured, screening is done on apparently healthy people. All screening programmes consume resources and result in adverse events for people who would not have experienced those events without screening. It is tempting to call for screening when there is an important condition that may be underdiagnosed in routine practice, there is a test to detect the condition, and effective treatments available. Mental health screening with questionnaires like the HADS in SSc would require referral of large numbers of patients for psychiatric assessment, and some patients would be treated. Based on trials conducted in other medical conditions, however, this would not likely improve mental health. Instead of screening, health care providers who care for people with SSc should engage patients in discussions about their overall wellbeing, including mental health; should be alert to clinical cues that suggest a mental disorder may be present; and should refer patients who report problematic symptoms for further assessment (7).

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References

1. Garaiman A, Mihai C, Dobrota R *et al*.: The Hospital Anxiety and Depression Scale in patients with systemic sclerosis: a psychometric and factor analysis in a monocentric cohort. *Clin Exp Rheumatol* 2021; 39: 34-42. https://doi.org/10.55563/clinexprheumatol/qo1ehz
2. Thombs BD, Kwakkenbos L, Levis AW, Benedetti A: Addressing overestimation of the prevalence of depression based on self-report screening questionnaires. *CMAJ* 2018; 190: E44-9. https://doi.org/10.1503/cmaj.170691
3. Levis B, Yan XW, He C, Sun Y, Benedetti A, Thombs BD: Comparison of depression prevalence estimates in meta-analyses based on screening tools and rating scales versus diagnostic interviews: a meta-research review. *BMC Med* 2019; 17: 65. https://doi.org/10.1186/s12916-019-1297-6
4. Brehaut E, Neupane D, Levis B *et al*.: Depression prevalence using the HADS-D compared to SCID major depression classification: An individual participant data meta-analysis. *J Psychosom Res* 2020; 139: 110256. https://doi.org/10.1016/j.jpsychores.2020.110256
5. Thombs BD, Hudson M, Taillefer SS, Baron M: Prevalence and clinical correlates of symptoms of depression in patients with systemic sclerosis. *Arthritis Care Res* 2008; 59: 504-9. https://doi.org/10.1002/art.23524
6. Thombs BD, Taillefer SS, Hudson M, Baron M: Depression in patients with systemic sclerosis: a systematic review of the evidence. *Arthritis Care Res* 2007; 57: 1089-97. https://doi.org/10.1002/art.22910
7. Thombs BD, Markham S, Rice DB, Ziegelstein RC: Does depression screening in primary care improve mental health outcomes? *BMJ* 2021; 374: n1661. https://doi.org/10.1136/bmj.n1661
8. Meijer A, Roseman M, Delisle VC *et al*.: Effects of screening for psychological distress on patient outcomes in cancer: a systematic review. *J Psychosom Res* 2013; 75: 1-17. https://doi.org/10.1016/j.jpsychores.2013.01.012