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Assessing depression in cancer patients - a longitudinal comparison of three questionnaires

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The article by Johns *et al.* (1) compares the Hopkins Symptom Checklist 20-item depression scale (HSCL-20) (2), the Short-Form 36 Mental Health Inventory five-item distress scale (MHI-5) (3), and the Patient Health Questionnaire nine-item depression scale (PHQ-9) (4) in 309 adults with cancer in a longitudinal study. The authors compare internal consistencies and construct validity. Moreover, they address responsiveness of these three scales to results of a systematic treatment of depression over three-months by comparing these measures to patients' self-reports of their depressive symptoms (improved, no change, or worsening). These comparisons provide clinically relevant information considering the fact that studies find comorbidity of cancer with depression ranging from 3-77% with especially high numbers in patients receiving palliative care (for a review see) (5). As Vodermaier *et al.* (6) point out, the wide range of prevalence rates can be partially explained by differences in diagnostic criteria and instruments used to measure depression. Taking this into account and considering the significant negative consequences of depression (including but not limited to functional impairment, reduced quality of life, poor treatment adherence, and even increased mortality; for reviews see) (6-8), Johns *et al.*'s (1) focus on patient-reports of depression with good psychometrics address an important topic.

Johns *et al.* (1) report good internal consistencies and construct validity at baseline for all three scales. Looking into responsiveness, John *et al.* (1) confirm that all three instruments differentiate between patients reporting their depression as improved, unchanged, or worse after three months of systematic treatment and each of these measures

is able to depict a treatment effect when compared to a control group. Finally, using receiver operating curve analysis the scales distinguish improved from non-improved patients. In summarizing, this study is indicating the HSCL-20 (2), the MHI-5 (3), and the PHQ-9 (4) to be appropriate measures to assess depressive symptoms in adult cancer patients based on their psychometric values. From a clinical point of view, this is an encouraging result, as all three measures are short and therefore easily utilized in a patient population oftentimes challenged by limited attention span and fatigue (9). Moreover, the straightforward scoring options for each of the scales increase the likelihood of their application in busy clinical settings.

One other interesting finding that Johns *et al.* (1) report is that two abbreviated versions of the studied instruments (MHI-d and PHQ-2) show less responsiveness to changes in depression when compared to the full length instruments (HSCL-20, MHI-5, PHQ-9). Johns *et al.* (1) use this pattern of findings to engage in the debate whether depression instruments that contain somatic items overestimate the associations between depression and cancer [e.g., (7,10-14)]. This discussion is fueled by the fact that the DSM-IV relies heavily on somatic symptoms for the diagnosis of a depressive disorder and these symptoms are seen commonly in cancer patients as result of their illness progression or as adverse effects of their treatments (e.g., fatigue, poor appetite, sleep problems). Therefore, the interpretation of somatic symptoms has been labeled as one of the most common problems in diagnosing depression in cancer patients (15). However, Johns *et al.* (1) argue their findings that instruments including somatic items show

more responsiveness to demonstrate that somatic items do not lead to an overestimation of depression in cancer patients. Nevertheless, such interpretations need to be made cautiously as change in depression is only assessed by patient-responses to the retrospective question, "Overall, since starting the study, would you say that your depression is worse, about the same, or better?". It might be that patients include their overall well-being and physical symptoms into their own depression evaluation as they are not given any criteria on how to assess their depression. This may be particularly true as patients have been asked this question after repeatedly filling in the questionnaires (including somatic symptoms) that might shape their impression of how the researchers define depression. Therefore, the patient report may at least in part be based on symptoms related to the patient's cancer or treatment side effects rather than their depression. In line with this topic, a recent meta-analysis about depression as predictor of the development of breast cancer found that studies using depression instruments including somatic items found stronger associations between cancer and depression than studies that do not assess these symptoms (16). This underscores the need for future research to clarify this issue further.

In conclusion, Johns *et al.*'s (1) study is set apart from other attempts to evaluate depression scales by taking the extra effort to utilize a longitudinal design. Moreover, including three measures in their research design allows for comprehensive discussions. Given these advantages, it would have been desirable to include instruments with widespread clinical utilization like the Hospital Anxiety and Depression Scale (HADS) (17), even if they have been researched in cross-sectional designs before. Considering that the HADS is one of the most often utilized instruments to measure depression in cancer patients (8) and the fact that recent reviews of depression instruments come to the conclusion that the HADS is one of the best instrument for assessing depression in cancer patients (6-8), the inclusion of the HADS would allow to compare the findings regarding the HSCL, MHI, and PHQ to this "gold standard" of patient-reports in cancer patients.

Depression is one of the most common mental health problems in palliative care (18) but current literature still reports concerning underdiagnosing of depressive disorders in this patient population (19,20). Efforts to provide psychometrically sound tools to assess for depressive symptoms are one important step to address this challenge. As many settings still do not have mental health

professionals readily available to routinely assess all cancer patients (9), future research is needed to focus on how these assessment tools can be used by other professionals (e.g., nurses) to screen for emotional distress in general and depressive symptoms in particular to trigger referrals to specialized professionals who are qualified to diagnose depressive disorders.

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