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Title: CancerSupportSource: Validating a 15-item Spanish web-based distress screening tool in the community

Background: The Institute of Medicine (IOM), NCCN, and the American College of Surgeons have recognized that screening for psychosocial concerns is critical to ensuring quality cancer care for the whole patient. Few tools have been validated for Spanish speakers in the community where up to 85% of cancer patients are treated. CancerSupportSource-Spanish is a 25-item Spanish web-based tool (CSS-Sp-25) designed to screen patients for distress in the community and connect them to appropriate resources. CSS-Sp-25 asks patients to rate their concerns across 25 items using a five-point scale (0 not at all to 4 very seriously concerned). For each item, patients indicate whether they want to: 1) talk with a healthcare team member; 2) receive print information; or 3) online resources. The purpose of this study was to test the psychometric properties of a shorter 15-item version (CSS-Sp-15), including a 4-item depression subscale, among a community-based sample of cancer survivors.

Methods: A convenience sample of 182 Spanish-speaking cancer survivors was recruited across 6 affiliates of a cancer support organization. Participants (91% female, median age 54) completed a paper-and-pen survey including the CSS-Sp-25, the Functional Assessment of Cancer Therapy – General well-being scale (FACT-G), the Center for Epidemiologic Studies Depression Scale (CES-D), and the Distress Thermometer (DT).

Results: CSS-Sp-15 demonstrated high internal reliability (Cronbach's alpha=0.94). The median distress score (sum of 15 item ratings) was 23 with 64% indicating scores at or above 17 and correlated moderately with the FACT-G (R^2=0.35, p<0.001), CES-D (R^2=0.46, p<0.001) and DT (R^2=0.24, p<0.001) indicating moderate concurrent validity. The correlation with "gold standard" measures was approximately equivalent for CSS-Sp-15 and CSS-Sp-25. In ROC analysis, a score ≥17 on the CSS-15 has a true positive rate (sensitivity) of 97% and false positive rate (1-specificity) of 5% compared to a score ≥28 on the CSS-25 (AUC=0.99). In other words, 113 of the 117 (95%) who indicated risk of distress on the CSS-Sp-25 would also be classified as at risk on the CSS-Sp-15. For the 4-item depression subscale (sad, lonely, nervous, fatigue; alpha=0.89), the sensitivity and specificity for depression (CES-D≥21; AUC=0.85) was 91.8% and 69.0%, respectively, if the depression score (sum of 4 problem ratings) was ≥7.

Conclusions: CSS-Sp-15 showed moderate to strong psychometric properties and can be a valuable instrument to screen for psychosocial distress. These results have important implications for the delivery of screening and psychosocial referral for underserved populations. Future research will test the implementation of CSS-Sp-15 for cultural sensitivity in diverse Spanish speaking communities.