SPHERE 12 Screening Questionnaire

Description

The SPHERE 12 (Somatic and Psychological HEath REport) is a 12-item, self-rated tool to screen for anxiety, depression, and somatisation in primary care. The SPHERE 12 is a shortened version of the SPHERE 34 (Hickie et al 2001a), which was derived from the General Health Questionnaire (GHQ-30), the Schedule of Fatigue and Anergia, the Illness, Fatigue and Irritability Questionnaire, and the Diagnostic Interview Schedule for somatisation. Six items of the SPHERE 12 assess psychological health (PSYCH subscale) and six assess physical symptoms and fatigue (SOMA subscale).

Instruction to the patient and scoring: Patients rate the PSYCH and SOMA items in terms of how much each has troubled them over the past few weeks on a scale of 0–2 (0 = never troubled, 2 = troubled most of the time). A score of two or more on the PSYCH subscale reflects the presence of a possible mental disorder (anxiety or depression) and three or more on the SOMA subscale reflects the presence of a possible somatic disorder (somatoform disorder or somatisation) (Hickie et al 2001a, Wilhelm et al 2008). Positive scores on both scales reflect a mixed presentation. The SPHERE 12 can be used as a broad or a narrow screening tool: the broad screen requires a positive score on PSYCH and/or SOMA subscales, while the narrow screen requires a positive score on both PSYCH and SOMA subscales.

Commentary

Early identification of mental health disorders is essential for optimum patient care. The most appropriate setting for early detection is primary care. Physiotherapists in primary care are commonly exposed to patients with diagnostic labels such as chronic fatigue syndrome or ongoing, unexplained pain. Epidemiological and genetic research has shown that there are strong links between non-specific somatic symptoms and anxiety and depression (Hansell et al 2011, Katon et al 2007) and this may lead to these disorders being missed (McFarlane et al 2008).

Using a tool to screen for mental disorders is likely to help early identification and improved care. The SPHERE 12 is a potentially good candidate for this role because it is easy to apply and brief. The broad screen also has the advantage of high sensitivity, which means that ‘at risk cases’ are unlikely to be missed. However, it also has low specificity and only fair validity when compared with the CIDI, the gold standard of psychiatric diagnosis. This combination of features indicates a significant number of false positive ‘cases’ will be identified using the SPHERE 12 screen and this could lead to unnecessary and costly investigations (Phillips et al 2002).

Consideration of a number of factors might make this tool more appealing to the primary care clinician. First, the suggested thresholds may not be the most appropriate to detect different mental health disorders in the primary care setting, (see Table in McFarlane et al 2008 p. 341). There is therefore a need to determine unique threshold values for each mental health disorder and apply these values when using the SPHERE 12 (McFarlane et al 2008, Clover et al 2009). Second, specificity may be improved by using the narrowest screen of SHERE 12 along with an additional tool such as the SF-12 Mental Component Scale, as suggested by Wilhelm et al (2008). Third, some further research is needed into the validity of the SPHERE 12 in different patient populations. Finally, clinicians should regard the SPHERE 12 primarily as a screening tool and the scores should be used to direct further investigations into the presenting signs and symptoms, rather than to diagnose mental disorders.

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References

The Patient-Rated Elbow Evaluation (PREE)

Description
The Patient-Rated Elbow Evaluation (PREE) is a 20 item patient-reported outcome questionnaire that measures elbow-related pain and disability of the affected upper extremity (MacDermid 2001). Its framework is consistent to its wrist counterpart Patient-Rated Wrist Evaluation (PRWE) (MacDermid et al 1998). The 20 items are categorised under 3 subscales. Five items fall under the pain subscale; the remaining items measure functional disability. The specific activity subscale contains 11 of these items and addresses specific tasks which are difficult with elbow conditions; the final four items address areas of usual role performance (personal care, household work, occupational work, and recreation) in relation to the previous capability/role.

Instructions to clients and scoring: Patients are asked to rate their pain and functional difficulty of the affected side on a 0–10 numeric rating scale. The pain subscale is anchored at 0 (no pain) and 10 (worst ever), while the two function sub scales are anchored at 0 (no difficulty) and 10 (unable to do). The subscale scores are combined to produce one single total score where pain and disability are equally weighted. The pain score is obtained by summing the 5 pain items (max. possible score = 50). The function score is obtained by summing the scores of 15 items and then dividing it by 3 (max. possible score is 150/3 = 50). The total score is obtained by summing the pain score and the function score (max. possible score is 50 + 50 = 100). A higher total score indicates greater pain and disability. If an item score is missing then it can be replaced by the mean score of the particular subscale (MacDermid 2010).

Reliability: The PREE has been found to have a high internal consistency of 0.95 (Vincent et al 2012). In the PREE developmental study (MacDermid 2001) which included 70 subjects with various elbow pathologies from both post-surgical and non-surgical conditions, the PREE was found to exhibit excellent test-retest reliability (ICC = 0.95).

Construct validity: Angst and colleagues (2005) found the PREE to exhibit moderate to high correlations with the patient-reported form of the American Shoulder and Elbow Surgeons questionnaire elbow form (pASES-e) (Spearman’s rho 0.92) and the Disabilities of the Arm, Shoulder and Hand questionnaire (DASH) (Spearman’s rho 0.68) in a sample of total elbow arthroplasty patients. Two other studies (MacDermid 2001, Vincent et al 2012) which included patients with varied elbow disorders found the PREE to exhibit moderate to high correlations with similar constructs of the pASES-e and the DASH satisfying the construct relationships hypothesised a priori.

Sensitivity to change or responsiveness: The PREE was found to exhibit large effect sizes (ES) and standardised Response Means (SRM) in a total elbow arthroplasty sample (ES 1.50, SRM 1.37) (Angst et al 2012). A study which included 128 patients with varied elbow pathologies found the PREE to exhibit large ES (1.6) and SRM (1.7) (Vincent et al 2012). None of the studies has used a criterion measure like the Global Rating of Change scale (GRC) which would enable calculation of the Minimal Clinically Important Difference (MCID) which could make this measure even more clinically relevant.

Commentary
Elbow disorders are one of the important causes for pain and functional limitation in the upper limb. The US Food and Drug Administration (FDA) recommends the use of valid and reliable patient-reported outcome measures. The PREE was designed to measure pain and functional disability; and in the limited number of available studies has shown high reliability and responsiveness; and appropriate construct validity. Its structure has been supported by both factor analysis and Rasch analysis. It has been recommended for use in a score set to measure general health, subjective and objective function in elbow pathology patients (Liem et al. 2012). Angst recommends PREE for ‘every set measures for elbow joint disorders’ and calls it as the most responsive measure when compared to four other measures used to measure elbow pain and disability (Angst et al. 2012). Future studies to confirm the factor structure and to identify MCID of the PREE would increase our confidence about the measurement properties across different contexts; and contribute to more accurate application of the measure in clinical practice.

References

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