Burn Specific Health Scale

Description

The Burn Specific Health Scale (BSHS) is the only condition-specific health status instrument for use in patients with burn injuries. It was originally developed by Blades et al in 1982 and has subsequently had abbreviated (BSHS-A; Munster et al 1987), revised (BSHS-R; Blalock et al 1994) and, most recently, brief (BSHS-B; Kildal et al 2001) versions produced. It is a self-administered questionnaire and the different versions have been translated into several languages. The original version contained 114 items. The BSHS-A has 80 items across four domains (physical, mental, social, and general) and eight subscales (mobility and self-care, hand function, role activities, body image, affective, family/friends, sexual activity, and general health concerns). The BSHS-R has 31 items with two domains (physical and psychological) and seven sub-domains, and the BSHS-B has 40 items covering nine domains (heat sensitivity, affect, hand function, treatment regimens, work, sexuality, interpersonal relationships, simple abilities, and body image). The brief version is cited commonly in the literature and was developed because of perceived shortcomings with the other versions in coverage of aspects of burn-specific health and inter-correlation of domains and sub-domains (Willebrand and Kildal 2008). A recent second-order factor analysis of the BSHS-B revealed three broad domains: affect and relations, function, and skin involvement. These authors suggest that the work sub-scale be considered as an outcome domain in itself.

Instructions to the client and scoring: The BSHS-B takes 10–15 minutes to complete and 5 minutes to score. Responses are made on a 5-point scale from 0 (extreme (ly)) to 4 (none/not at all) for each of the 40 items and patients are asked to select the best answer. Mean scores are calculated for each of the domains.

Reliability and validity: Internal consistency of the BSHS-B has been shown to be good with a Cronbach's α of 0.75–0.93 (Kildal et al 2001). There is evidence of concurrent validity for the BSHS-B when compared with the abbreviated and revised versions (Kildal et al 2002). It is claimed that the BSHS-B exhibits construct validity in its association with a variety of aspects of burn-related health (Willebrand and Kildal 2008, Wikehult 2008).

The BSHS-B has been used to establish criterion validity for the *Quick*DASH in an Australian sample with upper limb burns and it was found that while mean scores improved over the period of the study for both measures, the effect sizes were greater for the *Quick*DASH (Wu et al 2007). When used in conjunction with the SF-36, the BSHS-B was found to provide more useful information regarding fear-avoidance and post-traumatic stress disorder in relation to return to work (Dyster-Aas et al 2007).

Commentary

Outcome measurement in burn care is currently under review as, until relatively recently, the principal measure of outcome was survival. With improvements in mortality rates, the emphasis has shifted to assessment of morbidity (Blades et al 1982). It is recommended that a battery of measures be used to reflect the multidimensional nature of the sequelae of burn injury. These should include condition-specific as well as generic measures of health status so that meaningful data related to the condition can be collected as well as allowing for comparison with other conditions and population norms (Dyster-Aas et al 2007, Litleré Moi et al 2006). In addition, measures of function and disability (impairment, activity limitation, and restrictions in participation) are needed and linkage to the International Classification of Functioning, Disability and Health (ICF) is desirable (van Baar et al 2006).

The BSHS is the only condition-specific measure of health status currently in use for the burn injury population and was originally developed to reflect the morbidity associated with burn injuries (Blades et al 1982). The BSHS has been used increasingly in the literature; in the most recent publications, there has been almost exclusive use of the BSHS-B with most of the research emanating from the Uppsala University Burns Research Group who were responsible for the development of this version.

The reliability of the BSHS-B has been established in one study in English but has not been replicated. Construct and criterion validity of the Korean version of the BSHS-B have been established (Son et al 2005). There has also been principal component factor analysis (Kildal et al 2001) and second order factor analysis (Willebrand and Kildal 2008).

Limitations include the lack of information on clinically important change, possible ceiling effects, and minimal comparison with other measures. There is a need for further research to investigate these clinimetric issues but the BSHS-B does represent an attractive option for the assessment of burn-specific health status in conjunction with generic measures of quality of life such as the SF-36.

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Self-Administered Leeds Assessment of Neuropathic Symptoms and Signs

Description

In recent years tools designed to evaluate and diagnose neuropathic pain have been developed. Whilst most of these tools comprise both patient self-report items and physical assessment of sensory features, the Self-Administered Leeds Assessment of Neuropathic Symptoms and Signs (S-LANSS) (Bennett et al 2005) allows for patient self-completion. The S-LANSS was developed from the original LANSS tool (Bennett 2001) and was designed to be capable of identifying pain of predominantly neuropathic origin on the basis of the patient's current symptoms and signs (Bennett et al 2005). It is free and available from the original paper.

Instructions to the client and scoring: The questionnaire takes only 5–10 minutes to complete and score, and requires no special training to administer. It comprises seven items consisting of five symptom items and two self-examination items. The symptom items include questions about pins and needles, skin colour changes, increased skin sensitivity, 'electric shock' type pain, and 'burning pain'. The two self-examination items include allodynia and numbness. A score of 12 or greater identifies patients with pain of a predominantly neuropathic origin (Bennett et al 2005).

Validity, reliability and sensitivity to change: In 200 patients with chronic pain and attending a tertiary pain referral centre, the S-LANSS was demonstrated to be 74% (95% CI 65% to 83%) sensitive and 76% (95% CI 68% to 85%) specific in identifying neuropathic pain when subjects completed the questionnaire unaided, and 80% sensitive and 80% specific when completed in an interview format (Bennett et al 2005). In this study, the reference or gold standard used for comparison was detailed expert clinical examination and assessment. Sensitivity (57%; 95% CI 46% to 69%) and specificity (69%; 95% CI 61% to 77%) of the S-LANSS have been shown to be lower when used in a general community population (Weingarten et al 2007).

Internal consistency (Cronbach's α = 0.76 to 0.81) has been demonstrated to be satisfactory (Bennett et al 2005). It is claimed that the S-LANSS has construct validity due to the association of individual item scores to the total score (Bennett et al 2005). There have been no studies investigating test retest reliability. The S-LANSS is designed to be a screening tool and as such its sensitivity to change has not been investigated. Nevertheless the original LANSS tool has shown sensitivity to treatment effects (Khedr et al 2005) but this is an area that requires more investigation.

Commentary

In recent times there has been increased awareness in physiotherapy of the assessment and understanding of pain processes that may underlie a patient's condition. It has also been suggested that common painful musculoskeletal conditions such as low back pain, neck pain, whiplash, and fibromyalgia may have a neuropathic pain component (Freynhagen et al 2006, Fishbain et al 2008, Sterling and Pedler 2008). The identification of such a presentation would seem important as it has been argued that treatments based on pain mechanisms, rather than treating pain as a uniform phenomenon, may lead to improved outcomes (Freynhagen et al 2006, Fishbain et al 2008, Sterling and Pedler 2008).

The development of screening tools to clinical detect neuropathic pain is in its early days and further work is required before such a diagnosis can be confidently made using a questionnaire alone. However physiotherapists may consider including such a tool in their assessment of patients with pain as an adjunct to other examination techniques. Recent investigation has shown that 34% of an acute whiplash cohort scored > 12 on the S-LANSS indicating a predominantly neuropathic component to the pain of these individuals (Sterling and Pedler 2008). This group of patients (S-LANSS > 12) also reported higher levels of pain and disability and demonstrated the presence of mechanical hyperalgesia indicating that the S-LANSS may be a useful tool to include in the early assessment of whiplash injury (Sterling and Pedler 2008). Whilst the S-LANSS has not been specifically used in other musculoskeletal conditions, a similar tool (PainDetect) has been utilised in research of low back pain with similar proportions of patients showing predominately neuropathic pain (Freynhagen et al 2006).

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