# Response to Sheehan, B. (2012) Assessment scales in dementia. *Ther Adv Neurol Disord* 5: 349–358

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I read with interest a recent review 'Assessment scales in dementia' by B. Sheehan published in *Therapeutic Advances in Neurological Disorders* [Sheehan, 2012]. The review provides important information but leaves out scales that are useful for research in advanced dementia when the subjects are mostly nonverbal. We have developed several scales for this population that may be useful for readers of the journal.

Since most of the scales that measure the severity of dementia bottom out in severe stages, we developed the Bedford Alzheimer Nursing Scale – Severity (BANS-S) scale that does not have this problem [Volicer *et al.* 1994]. The score of this scale correlated with density of neurofibrillary tangles measured in subsequent autopsy. The scale may also be used to define the severe stage of dementia [Van der Steen *et al.* 2006]. Discomfort and pain are difficult to evaluate in noncommunicative individuals. We have also developed the Discomfort Scale – Dementia of the Alzheimer Type (DS-DAT) scale [Hurley *et al.* 1992] to measure discomfort and the Pain Assessment in Advanced Dementia (PAINAD) scale [Warden *et al.* 2003] to measure pain. While DS-DAT is most useful for research studies, PAINAD can be used in routine clinical practice and was translated to several languages.

Behavioral symptoms are often the most disturbing symptoms of dementia. Most scales evaluating these symptoms rely on caregiver report and do not differentiate circumstances at which the symptoms occur. Direct observation can differentiate between two main behavioral symptoms, agitation and rejection of care, and we developed observational scales for both of these symptoms: the Scale for Observation of Agitation in Persons with Dementia (SOAPD) [Hurley *et al.* 1999] and Resistiveness to Care Scale (RTC-DAT) [Mahoney *et al.* 1999]. One factor that may improve quality of life of institutional persons with dementia are visits by their relatives. Improving the quality of these visits may increase their frequency and family satisfaction. Therefore, it can be useful to measure the quality of these visits using the Family Visit Scale for Dementia (FAVS-D) scale [Volicer *et al.* 2008].

Finally, because advanced dementia is a terminal disease, it is important to be able to evaluate end-of-life issues. We developed three scales that measure Satisfaction With Care at the End-of-life in Dementia (SWC-EOLD), Symptom Management at the End-of-life in Dementia (SM-EOLD) during the last 3 months of life, and Comfort Assessment in Dying with Dementia (CAD-EOLD) [Volicer *et al.* 2001]. These scales were validated [Kiely *et al.* 2006] and are sensitive to clinically meaningful changes of specific outcomes related to end-of-life care and quality of life among residents with end-stage advanced dementia and their healthcare providers [Kiely *et al.* 2012].

The psychometric characteristics of all of these scales were evaluated and they were used in multiple research studies. None of these scales is copyrighted and they are available for free use.

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## Conflict of interest statement

The author declares that there are no conflicts of interest.

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