Psychometric Evaluation of the Revised Iowa Pain Thermometer (IPT-R) in a Sample of Diverse Cognitively Intact and Impaired Older Adults: A Pilot Study

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ABSTRACT:

Self-report pain assessment tools are commonly used in clinical settings to determine patients’ pain intensity. The Iowa Pain Thermometer (IPT) is a tool that was developed for research, but also can be used in clinical settings. However, its utility in clinical settings is challenging because it uses a 13-point scale (0-12 scale) that does not align with common electronic pain scoring metrics. Therefore, this study evaluated the psychometric properties of an 11-point (0-10 scale) adaptation of the Iowa Pain Thermometer (IPT-R) to evaluate the psychometric properties of the IPT-R and to determine patient preference for a self-report pain assessment tool. A descriptive, correlational design was employed. The IPT-R was compared with the original IPT and a numeric rating scale (NRS). This study was conducted in the southeastern United States with 75 adults ranging in age from 65-95 years with varying levels of cognition. Participants were primarily representative of black and white backgrounds. Participants were asked to rate current pain, worst pain during the past week, and reassessment of current pain after 10-minute intervals using three scales (IPT-R, IPT, and NRS) presented in random order. Participants were asked to identify the tool preferred (the easiest to use and that best represented their pain intensity). Spearman-rank correlations were performed to determine convergent validity and test-retest reliability. Based on the results of this
preliminary study, the IPT-R has good validity and reliability. The participants in this sample preferred the IPT-R over the original IPT (0-12 scale) and the traditional NRS (0-10 scale). Clinicians may consider using this tool with diverse older patients to assess pain intensity. © 2015 by the American Society for Pain Management Nursing

BACKGROUND

Despite clinical guidelines and best practices for pain assessment and management in older adults (AGS Panel on Chronic Pain in Older Persons, 2002, 2009), this population remains at high risk for underassessment of pain. Pain is a common problem among older adults worldwide, especially among those who have cognitive impairment (CI; Paulson, 2014) and those who are racially and ethnically diverse (Booker, in press; Green & Prabhu, 2013; Lavin & Park, 2014). Assessment of pain intensity is important, because it is a key factor that guides treatment decisions. Because pain is subjective, it is important to obtain self-report of pain whenever possible. The gold standard and most commonly used method to assess pain is self-report using a pain assessment tool such as the numeric rating scale (NRS; Hjermstad et al., 2011). Use of a standardized measurement scale is recommended to promote better and consistent pain assessment; a variety of tools have been developed for use with older adults to address their unique needs and abilities including faces scales, pain thermometers, and NRS. However, the variety of pain assessment tools with different intensity measurement metrics (e.g., 0-5, 0-10, 0-12, 0-20, and 0-100) can create challenges interpreting and communicating pain intensity. The Iowa Pain Thermometer (IPT; Fig. 1) has established validity, reliability, and preference across samples of older adults and incorporates an NRS, a Verbal Descriptor Scale (VDS; i.e., word descriptors), and a pain thermometer to assist with understanding the tool's purpose. Despite this, it often is not used in clinical settings because it is not scored on the 0-10 NRS metric commonly used in most health care facilities as standard of care.

Furthermore, the type of assessment tools used in clinical settings are usually determined by staff, whereas tool preference should be decided by individual patients because various pain measurement tools may be culturally inappropriate for use in different racial and ethnic populations. Thus, the lack of consideration of patients' tool preference may affect reliability of self-report intensities. Finally, many pain measurement tools lack psychometric testing with older adults across cognitive status and diverse racial and ethnic backgrounds. The purpose of this study was to report the psychometric testing of the Revised Iowa Pain Thermometer (IPT-R; Fig. 1) after adaptation to a 0-10 rating scale with a sample of racially diverse, cognitively intact and impaired older adults.

LITERATURE REVIEW

Numerous researchers have evaluated various self-report pain assessment tools in older adults resulting in a greater empirical evidence base on tool reliability and validity. Foundational studies of tool comparison have been published elsewhere (Chibnall & Tait, 2001; Closs, Barr, Briggs, Cash, & Seers 2004; Coker et al., 2008; Herr, Spratt, & Garand, 2007; Taylor & Herr, 2003; Ware, Epps, Herr, & Packard, 2006). These studies have documented the psychometrics of various tools such as the Colored Analog Scale (CAS), Faces Pain Scale (FPS), IPT, NRS, Visual Analog Scale (VAS), VDS, and Verbal Rating Scale (VRS). Older adults, including those with CI, are able to use these self-report tools. Of the tools most compared, the FPS, IPT, and NRS are most preferred. Among black and other racially diverse older adults, the FPS is the tool of choice, whereas white, older adults prefer the IPT, NRS, and VRS. Ware and colleagues (2006) provided a literature review of pain assessment tools in...

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