

Pain intensity in cancer

Junya Zhu, Saul N Weingart

Center for Patient Safety, Dana-Farber Cancer Institute, Boston, Massachusetts, USA

Corresponding to: Junya Zhu, MS, MA. Center for Patient Safety, Dana-Farber Cancer Institute, 450 Brookline Avenue, Boston, MA 02215-5450, USA. Email: junya_zhu@dfci.harvard.edu.



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Pain is a common, subjective, and multi-dimensional experience among patients with cancer. Pain intensity is recognized as one of the most clinically relevant dimensions of the pain experience (1). More than one-third of cancer patients with pain rated their pain intensity as moderate or severe (2). To ensure that patients receive optimal pain control, the Veterans Health Administration launched the "Pain as the 5th Vital Sign" initiative in 1999, requiring a pain intensity rating (0 to 10) for all clinical encounters (3). Joint Commission developed new standards for pain assessment and management in 1999, and integrated these standards into the survey process in 2001 (4).

Pain intensity can be reliably measured by self-report using several pain scales, including the visual analogue scale, numeric rating scale, and verbal rating scale. These scales are highly inter-correlated and well validated among patients with pain (5). The most commonly used scale to measure cancer-related pain intensity is the 11-point numeric rating scale, from 0 (no pain) to 10 (worst pain you can imagine); these scores can be categorized as none (score, 0), mild (score, 1-3), moderate (score, 4-6), and severe (score, 7-10) (6). The faces pain rating scale (from smiling to distressed) is used for children or patients with cognitive impairment (6). In addition, the World Health Organization has developed a three-step ladder that uses a tiered categorization of pain as mild, moderate, or severe to guide cancer pain treatment (7). However, because pain is a complex experience influenced by functional, emotional, and psychosocial factors, multidimensional pain measurement tools, such as the McGill Pain Questionnaire, the Brief Pain Inventory, and the Memorial Pain Assessment Card, are recommended for more comprehensive pain assessment. These tools are designed to measure, not only pain intensity, but also pain site, quality, and pattern, other

symptoms (e.g., fear, depression, anxiety) related to pain, alleviating and aggravating factors, as well as effectiveness of treatment (1,5).

Pain intensity is used as a screen that may trigger a comprehensive pain assessment. It is often used to determine the urgency of treatment and the selection and titration of pain control medications. However, despite the development of evidence-based clinical practice guidelines by the federal government and by various professional organizations, the implementation is by no means consistent and under-treatment of cancer pain is common among advanced cancer patients (8,9). Weingart and colleagues reported limited clinician compliance with National Comprehensive Cancer Network pain guidelines in a retrospective chart review study of 85 ambulatory patients with advanced cancer (9). Deandrea *et al.* found that nearly one of two patients with cancer pain is undertreated in a review of published literature (8). The poor guideline adherence and widespread under-treatment may be related to the lack of regular reassessment and little understanding of the longitudinal nature of pain, because the majority of current pain studies have either applied cross-sectional designs or selected a limited number of time points to examine pain incidence or intensity. The scarcity of longitudinal pain studies may be partially due to the lack of suitable data sets. At Dana-Farber Cancer Institute, pain intensity scores have been routinely solicited and documented in the electronic medical record of patients at each clinic visit. Using that electronic database, Zhu and colleagues identified considerable between-patient differences in longitudinal pain variability, factors associated with high pain variability, and increased risk of death related to worsening pain intensity over time among a cohort of 949 patients with advanced stage cancer (10). This study

highlighted the fluctuating nature of pain intensity among cancer patients and underscored the need for careful, ongoing pain assessment and management (10).

In conclusion, patients are the best and only sources of information in quantifying their pain intensity. Unidimensional measurement of pain intensity is the first step in the successful control of pain, and multidimensional measurement questionnaires may be used in more comprehensive pain assessment. Because pain intensity fluctuates over time and varies depending on the type and stage of cancer, the type of treatment regimen, and psychological and physical factors, longitudinal studies of pain pattern and variability are in particular needed to examine whether the pain treatment has the desired effect, and how changes in pain intensity are related to pain management and other clinical outcomes.

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References

1. Frampton CL, Hughes-Webb P. The measurement of pain. *Clin Oncol (R Coll Radiol)* 2011;23:381-6.
2. van den Beuken-van Everdingen MH, de Rijke JM, Kessels AG, et al. Prevalence of pain in patients with cancer: a systematic review of the past 40 years. *Ann Oncol* 2007;18:1437-49.
3. Department of Veterans Affairs, Geriatrics and Extended Care Strategic Healthcare Group, National Pain Management Coordinating Committee. Pain as the 5th Vital Sign Toolkit. October 2000, rev ed. Available online: <http://www1.va.gov/painmanagement/docs/TOOLKIT.PDF>
4. Cohen MZ, Easley MK, Ellis C, et al. Cancer pain management and the JCAHO's pain standards: an institutional challenge. *J Pain Symptom Manage* 2003;25:519-27.
5. Caraceni A, Cherny N, Fainsinger R, et al. Pain measurement tools and methods in clinical research in palliative care: recommendations of an Expert Working Group of the European Association of Palliative Care. *J Pain Symptom Manage* 2002;23:239-55.
6. National Comprehensive Cancer Network. NCCN Clinical Practice Guideline in Oncology (NCCN Guidelines™): Adult Cancer Pain. Version 1. 2012. Fort Washington, PA: National Comprehensive Cancer Network; 2012.
7. World Health Organization. WHO's Pain Ladder. Available online: <http://www.who.int/cancer/palliative/painladder/en/>
8. Deandrea S, Montanari M, Moja L, et al. Prevalence of undertreatment in cancer pain. A review of published literature. *Ann Oncol* 2008;19:1985-91.
9. Weingart SN, Cleary A, Stuver SO, et al. Assessing the quality of pain care in ambulatory patients with advanced stage cancer. *J Pain Symptom Manage* 2012;43:1072-81.
10. Zhu J, Davis RB, Stuver SO, et al. A longitudinal study of pain variability and its correlates in ambulatory patients with advanced stage cancer. *Cancer* 2012. [Epub ahead of print].

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