American Pain Society
RESEARCH
EDUCATION
TREATMENT
ADVOCACY
PUBLISHED BY ELSEVIER
The Journal of Pain, Vol 17, No 9 (September), Suppl. 2, 2016: pp T21-T49
Available online at www.jpain.org and www.sciencedirect.com

Assessment of Psychosocial and Functional Impact of Chronic Pain

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Abstract: **The psychosocial and functional consequences of chronic pain disorders have been well documented as having significant effects on the experience of pain, presentation to health care providers, responsiveness to and participation in treatment, disability, and health-related quality of life. Thus, psychosocial and functional consequences have been incorporated as 1 of the 5 dimensions within the integrated Analgesic, Anesthetic, and Addiction Clinical Trial Translations, Innovations, Opportunities, and Networks (ACTTION)-American Pain Society (APS) Pain Taxonomy (AAPT): 1) core diagnostic criteria; 2) common features; 3) common medical comorbidities; 4) neurobiological, psychosocial, and functional consequences; and 5) putative neurobiological and psychosocial mechanisms, risk factors, and protective factors. In this article we review the rationale for a biopsychosocial perspective, on the basis of current evidence, and describe a set of key psychosocial and behavioral factors (eg, mood/affect, coping resources, expectations, sleep quality, physical function, and pain-related interference with daily activities) that are important consequences of persistent pain and that should be considered when classifying patients within the comprehensive AAPT chronic pain structure. We include an overview of measures and procedures that have been developed to assess this set of factors and that can be used as part of the comprehensive assessment and classification of pain and to address specific research questions.**

Perspective: ***Psychosocial and functional consequences are important considerations in the classification of individuals with chronic pain. A set of key psychosocial and behavioral factors (eg, mood/affect, coping resources, expectations, sleep quality, physical function, and pain-related interference with daily activities) that should be considered when classifying patients within the comprehensive classification of chronic pain disorders developed by the AAPT are outlined and examples of assessment methods for each are described.***

Key words: *Biopsychosocial, classification, physical function, beliefs, mood, fatigue, sleep, social support, taxonomy.*

The Analgesic, Anesthetic, and Addiction Clinical Trial Translations, Innovations, Opportunities, and Networks (ACTTION) public-private partnership with the U.S. Food and Drug Administration and the American Pain Society (APS) has collaborated to develop a classification system that incorporates current knowledge of biopsychosocial mechanisms, entitled the ACTTION-APS Pain Taxonomy (AAPT). The overriding objective of the AAPT is to develop, to the extent possible, an evidence-based taxonomy of the most common chronic pain conditions, which is on the basis of a consistently applied multidimensional framework, and then to commission experts to validate the classification by applying the proposed framework to individuals across the indicated set of chronic pain conditions. The results of these and

The views expressed in this article are those of the authors, none of whom has financial conflicts of interest relevant to the specific issues discussed. No official endorsement by the U.S. Food and Drug Administration (FDA) or the pharmaceutical and device companies that have provided unrestricted grants to support the activities of the ACTTION public-private partnership with the FDA should be inferred. Financial support for this supplement and for the development of the AAPT has been provided by the ACTTION public-private partnership, which has received research contracts, grants, or other revenue from the FDA, multiple pharmaceutical and device companies, and other sources. A complete list of current ACTTION sponsors is available at: http://www.acttion.org/partners.

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1526-5900/$36.00

http://dx.doi.org/10.1016/j.jpain.2016.02.006

subsequent studies on the reliability and validity of the AAPT will determine the adequacy of and the need for refinements to the classification.

To accomplish the objective of developing a comprehensive taxonomy, a meeting was convened on May 17 and 18, 2013, bringing together clinical and basic scientists with expertise in pain mechanisms and in the major chronic pain disorders in adults and children. On the basis of extensive discussions the AAPT was developed and designed to be multidimensional, consisting of 5 interrelated dimensions, namely: 1) core diagnostic criteria; 2) common features; 3) common medical comorbidities; 4) neurobiological, psychosocial, and functional consequences; and 5) putative neurobiological and psychosocial mechanisms, risk factors, and protective factors. The recommendation of the AAPT working group was that all 5 dimensions comprising the AAPT framework should be applied to each chronic pain disorder.

In this article we focus specifically on 1 part of dimension 4 of the AAPT classification system—psychosocial and functional consequences of chronic pain. We also consider psychosocial and behavioral constructs and processes that interact with physiological features and mechanisms and their interrelationships contributing ultimately to the experience, effect, report, and response to pain, and thereby classification. Neurobiological consequences, also included in dimension 4, are not discussed in this article. It is important to acknowledge that many of the psychosocial constructions and processes contained in dimension 4 (psychosocial consequences) and dimension 5 (psychosocial mechanisms, risk factors, and protective factors) overlap. This occurs because chronic pain extends over time and many initial psychosocial consequences of the presence of pain can become mechanisms in the subsequent amplification and maintenance of symptoms over time. Taking a longitudinal perspective underscores how psychosocial mechanisms and consequences can represent causal factors as well as responses to the presence of persistent pain depending on when they are assessed. Thus, although the current article reviews the assessment of psychosocial and functional effect of chronic pain, we encourage readers to also examine the article by Edwards et al,[66] in this issue of *The Journal of Pain*, which covers psychosocial mechanisms and risk factors of chronic pain. We have attempted the broadest conceptualization of what is intended in dimensions 4 and 5 although we acknowledge that there are intrinsic overlaps between dimensions 4 and 5 of the AAPT. This taxonomy is envisioned as describing, within the limits of how we can reliably and pragmatically measure, these 2 dimensions as if they are relatively independent; however, we are aware that causation is complex, recursive, and nonlinear.

There are several goals for this article. First, we sought to provide a brief overview of the rationale for a biopsychosocial perspective in chronic pain and thus provide justification for including dimension 4 within the comprehensive AAPT system (see also Edwards et al,[66] in this issue of *The Journal of Pain*). Second, we identify and describe a set of key psychosocial and behavioral variables (eg, affect, beliefs and expectations, coping resources, sleep quality, physical function, and pain-related interference with daily activities) that are influenced by the presence of chronic pain and have, in addition, an effect on symptoms. The third goal is to identify some of the most common ways of assessing this set of psychosocial and behavioral factors as well as the functional consequences of pain. Although the compendium of available measures and assessment procedures is voluminous with many designed for specific conditions (eg, osteoarthritis, back pain, fibromyalgia) and age groups (ie, infants, children, adolescents, adults, and the geriatric population), we focus on general concepts and include an overview of an illustrative sample of selected measures and procedures that have been widely used with adults and those who are able to communicate (Tables 1–5). We have included references in this set of tables so the reader can examine the studies and ascertain the psychometric properties and patient population characteristics. The reader should also review other sources describing more specific measures and populations in depth[9,65,89,131,219] when considering appropriate measures to include in a study or within clinical practice where classification is important.

Pain: A Biopsychosocial Perspective

Historically, the concept of pain largely depended on the assumed linearity between identifiable organic pathology and pain report. Thus, the amount of pain was expected to be associated with and proportional to the nature and amount of tissue damage. When the presence and extent of a pain report was not "validated" by objectively determined pathology, the subjectively reported pain was considered "functional" or "psychogenic." In these circumstances, psychological constructs and processes were presumed to be the underlying mechanisms and consequently were considered to be playing a causal role. In instances when "objective evidence" existed to support reports of pain, psychological factors, when considered, were treated as secondary reactions and largely irrelevant to the pure physiological, "real," or "organic" pain. However, over the past 4 decades, research has repeatedly and consistently shown that pain of all types represents a complex biopsychosocial phenomenon. The report of pain is always subjective. A range of cognitive, behavioral, and affective constructs and processes, in addition to physical and other biomedical factors, have been identified as essential aspects of understanding the experience of pain and its consequences, namely, perception, effect, and responses of those reporting pain, particularly chronic pain. Although they are entwined, it is important to distinguish psychosocial constructs and processes as "causal" agents, from psychosocial constructs and processes as mediators and moderators of the ongoing pain experienced. The interaction of psychosocial factors with the physical domain such as tissue damage or impairment contributes to variation in disability and