Chronic Pain
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These reading assignments chronicle research findings in the area of chronic pain in terms of the integration of the effects on the body and the effects on the mind. First, the reading assignments address the theories related to the development and maintenance of chronic pain, common pain syndromes, and medical management of these disorders. Then, the reading assignments address the effects of psychological factors on the development and maintenance of chronic pain syndromes and, conversely, the effects of chronic pain on the development of psychological symptoms. Next, the reading assignments address medical and psychological assessment and treatment issues in pain and how these issues are related to treatment and subsequent outcome of treatment. Since Life Care Planners often see individuals with pain that is co-morbid with other catastrophic injuries, pain arising from catastrophic injuries is addressed, along with recommendations for psychological and medical treatment protocols for representative types of pain.

Introduction

Chronic pain can be the primary or subsequent diagnosis applied to a given person's symptoms or syndromes. Rather than focus on the countless diagnoses that include chronic pain, this reading assignment will describe the mechanisms and management of chronic pain, physical and psychological symptoms, complex signs or syndromes. Specific strategies for physical and vocational rehabilitation are expertly discussed elsewhere in these courses by other highly qualified authors. The expression of pain is determined by a number of factors that is individual to each case. These factors have been documented to affect not only how the pain is expressed, but also by the amount of disability that is related to the pain (Flor & Turk, 1988). In addition to the physical effects of pain, there are multiple psychological factors that may influence treatment course and ultimate therapeutic outcome; these factors include cognitive factors, personality and emotional factors, behavioral factors, personal historical factors, and environmental factors (Turk, 2001). While these factors are often viewed as an "overlay" to the physical component of pain, these factors may pre-exist and form the basis for the pain complaints and disability related to pain. These factors will be addressed, along with the relevant literature, in this reading assignment.

The interaction of pain and emotional factors has been extant in the literature since the writings of the ancient Babylonians and Greeks. In the first textbook of psychiatry, authored by Benjamin Rush, the actions of the mind are cited as having an effect on the functioning of the body. Since then, the mind-body dichotomy has been addressed in a number of ways. The advent of behavioral medicine and health psychology has helped to smooth the transition between a
medical model and a model that integrates the physical and emotional aspects of pain (Gatchel, 1999). The goals of this assignment are to chronicle research findings in the area of chronic pain in terms of the integration of the effects on the body and the effects on the mind. First, the assignment will address the theories related to the development and maintenance of chronic pain, common pain syndromes, and medical management of these disorders. Then, the assignment will address the effects of psychological factors on the development and maintenance of chronic pain syndromes and, conversely, look at the effects of chronic pain on the development of psychological symptoms. Next, it will address medical and psychological assessment and treatment issues in pain and how they are related to treatment and subsequent outcome of treatment. Since Life Care Planners often see individuals with pain that is co-morbid with other catastrophic injuries, pain arising from catastrophic injuries will be addressed, along with recommendations for psychological and medical treatment protocols for representative types of pain.

**Life Care Planning Resources**

When creating a life care plan, recommendations for management of chronic pain should follow nationally validated, evidence-based clinical practice guidelines whenever they exist. In fact, diagnosis based guidelines exist for several diagnoses and syndromes that may be encountered in the catastrophically injured person. Osteoarthritis, rheumatoid arthritis and juvenile arthritis management guidelines are well presented in the 2002 treatise from the American Pain Society (Simon, 2002). Cancer pain management guidelines are well discussed in the U.S. Department of Health and Human Services document "Clinical Practice Guideline No.9" (Jaconx & Carr, 1994; [www.ahrq.gov/clinic/epcsums/canpainsum.htm](http://www.ahrq.gov/clinic/epcsums/canpainsum.htm)). Guidelines may be found in 2003 Archives of Neurology (Dworkin & Backonja, 2003). Pain management recommendations for older persons may be reviewed in Journal of American Geriatric Society (2002 Supplement). As regards to spinal cord injury (SCI), the Department of Veterans Affairs (VA) offers an excellent resource in the Department of Veterans Affairs Spinal Cord Care Clinical Practice Guidelines. Chronic female pelvic pain diagnosis and management guidelines may be found in the 2004 Journal of Obstetrics and Gynecology. In 1999, the American Medical Directors Association published pain control guidelines for persons utilizing long-term care.

Web-published references on Consensus Statements by American Academy of Pain Management, American Pain Society and the House of Delegates of the Federation of State Medical Boards form the foundation for the Model Guidelines for Use of Controlled Substances for the Treatment of Pain. The Cochrane Effective Practice and Organization of Care Group (EPOC) focuses exclusively on reviews of interventions designed to improve professional practice and the delivery of effective health services. The National Guidelines Clearinghouse is a comprehensive database of evidence-based clinical practice guidelines produced.
by the U.S. Agency for Healthcare Research and Quality (AHRQ). Their website includes guidelines for Traumatic Brain Injury (TBI) Rehabilitation as well as TBI management in adults and children.

**Direct and Indirect Costs of Chronic Pain**

A 1996 Louis Harris and Associates survey of chronic pain treaters and sufferers reported that the most common types of chronic pain (other than cancer) were low back pain, osteoarthritis, fibromyalgia and headaches. Pain treatment is the leading reason for a person to visit a healthcare provider (Turk, 1996).

In the United States (U.S.) population, the average chronic pain patient has suffered for seven years, received treatment from three or more physicians, experienced three major surgeries and incurred medical expenses of $100,000 or more (McCarberg & Wolf, 1999). It is estimated that U.S. business and industry loses about $90 billion annually in sick time, lost productivity, direct medical costs and other indirect costs attributed to chronic pain among employees (Hurley, 1996; Waddell, 1996).

**Definitions, Epidemiology & Etiologies**

**Definitions**

The American Chronic Pain Society considers Chronic Pain to be:

- Persistent pain that continues a month or more beyond the usual recovery period for an illness or injury, or
- Persistent pain as result of a chronic condition that extends over months or years despite treatment ("intractable"). It may be "continuous" or "intermittent recurrent" (Mersky & Boduk, 1994).

**Epidemiology**

About 86 million Americans are disabled to some degree by a chronic pain condition that directly affects the quality of life and economic security of the person afflicted, as well as coincidentally compromising his/her family circumstances (Pappagallo & Heinberg, 1997). Clinical studies have repeatedly confirmed that constant, unremitting pain is associated with degradation of many systemic body functions, including cardiovascular, neurologic, psychologic, immune, endocrine and musculoskeletal systems (Chapman & Gavin, 1999; Turk, 2004; Tennant, 2004). Fifty percent of older Americans living independently experience serious pain (Mobily & Herr, 1994) and up to 80 percent of nursing home residents experience severe, under-treated pain (Won & Lapane, 1999).

**Etiologies**
Acute pain is simply perception of distress that may or may not result in injury. Individual response to acute distress/pain may vary with circumstances of the occurrence, degree of injury, emotional intensity, attendant to the event, and cultural or personal preconditioning. The neurobiology of peripheral, spinal and central pain signal processing and perception is exceedingly complex (Melzack & Wall, 1965; Raj, 1999), thus warranting constant scientific research and reassessment. Three types of acute pain origins are generally referenced as:

a. Somatic- arising from the musculoskeletal system, typically perceived as sharp, intense, discrete and well localized,

b. Visceral- arising from the viscera (gut, vessels, organs, lymphatics, etc.), typically perceived as dull, crampy, aching, burning and poorly localized and frequently accompanied by unusual autonomic nervous system activation such as sweating, nausea, bowel and bladder irritability, swelling and cardiovascular instability, and

c. Referred- arising from a given body part but perceived in an area of the body reflective of the embryonic nerve, muscle or organ developmental location. Typically the area that hurts is somewhat remote from the true pain generation site; i.e., heart pain (angina) hurts in the neck where it developed in utero before migrating into the thorax during fetal maturation. Similarly lumbar disc or facet joint pain (lumbago) may be perceived in the spine and also in the muscles of the buttocks and posterior thighs, which were intrauterine developmental neighbors to the discs and facets before birth.

Chronic pain- etiologies are universally multifactorial. Injury, disease, neglect, or abuse may be the triggering focuses. Yet, response to a brief stimulus or sustained stress initiates highly personal integrated contributions from physiologic, emotional, societal, financial, ethnic, moral and spiritual realms of the affected person's life. Chronic pain assumes the proportions of a pervasive disease. Should chronic pain remain under treated, suffering becomes the emotional consequence of this unresolved stress. Suffering, although accompanying chronic pain, must be viewed as a separate phenomenon. It may occur in the absence of pain or persist beyond the diagnosis and resolution of the physiologic pain generator. Direct consequences of longstanding suffering are depression, maladaptive coping and personality changes (Aronoff, 1992).

Etiology-All pain perception, either acute or chronic, is subjective, hence defying quantification. Although pain has been deemed "the Fifth Vital Sign" by the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) in 2001, most pain rating tools (Wong-Baker Faces Scale [Wong & Hockenberry-Eaton, 2001], Verbal Intensity Pain Rating, Visual Analog Pain Scale) are only helpful as trend indicators rather than absolute measurements of response to treatment.
Chronic Pain Management

Goals for Chronic Pain Management are:

a. Achieve rapid pain reduction- with conservative treatments followed by medications, diagnostic /therapeutic nerve blocks, neuromodulation (electro-stimulation), surgery for specific indications if conservative care fails,

b. Increase function with home-based physical rehabilitation,

c. Enhance coping with encouragement, support & formal therapy,

d. Facilitate socioeconomic rehabilitation

Chronic Pain is typically divided into three broad types by mechanism -somatic, neuropathic and psychologic:

a. Somatic – arising from injury, ischemia, infection or inflammation of the musculoskeletal, connective tissue skin, i.e., arthritis, scleroderma, lupus erythematosisis, whiplash, temporomandibular joint dysfunction (TMJD), posttraumatic headaches, endometriosis, and sickle cell crisis,

b. Neuropathic-
   Central- arising from injury to the central nervous system (spinal nerve root entry zones, spinal cord and brain), i.e., painful paraplegia or hemiplegia, post-thalamic stroke pain (Dejerine-Roussy Syndrome), phantom limb pain or complex regional pain syndrome (CRPS) - type 1 (reflex sympathetic dystrophy);

c. Peripheral
   arising from nerve injury, nerve destruction (deafferentation) or autonomic nervous system dysfunction, i.e., postherpetic neuralgia, trigeminal neuralgia, ischemic or diabetic peripheral neuropathy, complex regional pain syndrome (CRPS) - type 2 (causalgia), Charcot-Marie-Tooth Syndrome, compressive spinal nerve root syndromes, entrapment neuropathies (i.e., Carpal Tunnel Syndrome), intercostal neuralgia, post-irradiation neuralgia.

e. Psychological- arising from emotional stress expressed somatically i.e., non-specific vaginismus, many myofascial syndromes, factitious disorder, conversion disorder, Munchausen's syndrome (Rowlingson & Calader, 1996).

References


- Department of Veterans Affairs Spinal Cord Care. Clinical Practice Guidelines. (Full Citation Missing).


• Rush, B.
• Turk, 1996.