Journal of Periodontal Medicine & Clinical Practice

Vol - 5, Issue - I, Jan-Apr 2018

www.jpmcp.com

Review Article

Biopsychosocial Approach - A Novel Perspective To Treat Chronic Pain.

Punia R S, AssocProf, Vaseemuddin S, Khuller N, Handa P

Punia R S, Vaseemuddin S, Khuller N, Handa P.:**Biopsychosocial approach - a novel perspective to treat chronic pain.** J Periodontal Med Clin Pract 2018;01:5-9

1. **Dr. Ramandeep S Punia** (Assoc Prof, Dept of OMR, Dasmesh Institute of Research & Dental Sciences, Faridkot)

2. **Dr. Syed Vaseemuddin** (Prof & Head, Dept of OMR, Dasmesh Institute of Research & Dental Sciences, Faridkot)

3. **Dr. Nitin Khuller** (Prof & Head, Dept of Periodontics ; Dasmesh Institute of Research & Dental Sciences, Faridkot)

4. **Pulkit Handa** (BDS Intern, Dasmesh Institute of Research & Dental Sciences, Faridkot)

Abstract:

Background: The presenting article illustrates the Biopsychosocial model of pain and highlights the need for early assessment of both physical and psychosocial variables to identify patients with acute pain who may progress to experience chronic pain that is more difficult to treat. Biopsychosocial model is now widely accepted as the most heuristic approach to chronic pain. With this model in mind the treatment should be aimed at all etiologic factors (biological , social and psychological)and emphasis on the importance of taking in account the dynamic interactions therapist trained to work with patients in acute and chronic pain) among them in the actual clinical scenario .This model enables clinicians to refer patients for adjunctive care (such as cognitive-behavioral therapy provided by a behavioral pain-management psychologist and a physical therapist trained to work with patients in acute and chronic pain).

Key Words: chronic pain,Biopsychosocial model, elements, temporomandibular disorders, Somatoform disorders, chronic low back pain, atypical facial pain.

Introduction:

The biomedical model is based on the premise that pain can almost always be described in terms of biological or organic causes. This view often assumes that psychological and social processes are largely irrelevant to biological illnesses focusing instead on mainly biochemical imbalances.

That is to say that this model clearly separates the body and mind, but as we go further in the presenting article on the Biopsychosocial model the intertwining of these two can be appreciated.

Thirty years ago George.L.Engel highlighted the inadequacies and limitations of the biomedical model and advocated the endorsement of Biopsychosocial approach. The Biopsychosocial model evaluates the integrated "whole person," with both the mind and the body together as interconnected entities, recognizing and enveloping a complete understanding of pain with special emphasis on biological, psychological, and social components.

The biological aspect encompasses the medical and physical (organic) aspects of pain, whereas psychological refers to the mental and behavioral aspects of pain. In contrast to the unidimensional biomedical perspective, which focuses on etiological and pathophysiological explanations for chronic pain, or the psychogenic view, which suggests pain as physical manifestations of psychological difficulties, the Biopsychosocial view provides an integrated model that incorporates purely mechanical, physiological processes as well as psychological and social contextual variables that may cause and perpetuate chronic pain. In a nutshell it is impossible to fully understand

the problem of pain using physical or medical aspects alone. Unlike the conventional biomedical model, which separates the body and mind Biopsychosocialmodel is a more holistic approach.

ELEMENTS OF CHRONIC PAIN

- **Sensory**: Physical sensations make up the experience of pain and is described in four key dimensions:

Location /intensity/quality/ time variation temporal components.

- **Emotional**: This includes the emotional states that accompany the experience of pain. Examples include anxiety depression, despair accompanying pain.
- **Mental**: Thoughts which accompany emotions or in other words decision making processes .It includes awareness of pain, pain memory and the ability to cope with it, the term is used interchangeably in current literature as cognitive.
- **Behavioral**: Important as actions can have profuse effects on the physical activities and social interactions which influence pain perception.

But each of these factors cannot be considered in isolation rather each element interacts with and is affected by each other element.

VICIOUS CYCLES

This leads to a vicious cycle of pain which is a sensory experience leads to a decrease in activity which leads to depression (emotional) and decreased self worth. Furthermore, pain intensity ratings are doubled when stress is present and other studies have previously shown a strong and positive correlation between pain severity and impairment of activities. The Chronic pain patient may be unable to cope with his / her situation, which can lead to loss of self confidence, avoidance of others, and feelings of hopelessness and helplessness. They may blame the clinician for failing to solve the problem and there can be outright hostility and anger, and perhaps litigation, directed towards practitioners who they perceive has made the condition worse through inappropriate treatment.[1-4]

POSITIVE CYCLES

Fortunately, the interactions can work in a positive way as well. Even though it is difficult to directly control your painful physical sensations and negative emotional reactions they can be significantly altered by altering thoughts and actions. That is why pain self management is emphasized in the Biopsychosocial model.

WORKING OF BIOPSYCHOSOCIAL MODEL[5-10]

To illustrate the applications of the Biopsychosocial model, some of the most commonly encountered conditions are described below.

1 .TEMPOROMANDIBULAR DISORDERS (TMD)

Possibly the most important application in the field is towards the TMD.

According to the American Academy of Orofacial Pain (Okeson 1996), temporomandibular disorders (TMD) are defined as "a collective term embracing a number of clinical problems that involve the masticatory muscles, the temporomandibular joint and associated structures, or both."

The perception of pain is highly dependent upon psychological factors. They are thought to have a role in the cause or maintenance of TMD and may predispose the condition to chronicity. On the other hand, it has been stated that psychological disturbances may be a direct consequence of pain related life events in TMD patients . These factors in themselves do not generate the symptoms but instead they modify the patient's reaction to these symptoms . So the origin of the symptoms is still physical, but their severity and attribution, along with the patient's behavior are otherwise dependent on psychosocial factors.

2. SOMATOFORM DISORDERS (SOMATIC SYMPTOM DISORDERS)

Somatoform disorders constitute a group of disorders that have two features in common: (1) physical (somatic) symptoms that suggest a medical condition, but that are not explained fully by a medical or mental disorder, and (2) the symptoms "must cause clinically significant distress or impairment in social, occupational or other areas of functioning".

The Biopsychosocial model offers many advantages with respect to somatising adults. Assessment for the presence of underlying anxiety and depression by this approach is must. Early in the consultation seeking to explain and educating the patient regarding the importance of psychological and emotional factors either as maintaining factors or as causally related to the symptoms can help a lot in the treatment of such disorders.

3. DEPRESSION

Numerous studies have also shown a high rate of depression in patients with facial pain and TMD. The Biopsychosocial model encourages clinicians to explain conditions, such as depression, by examining all relevant factors. These include body, mind, and social factors that might be contributing to the development or continuation of the condition. Psychological factors influencing depression include negative patterns of thinking and judgments and a lack of coping skills.

The Biopsychosocial model suggests that these interdependent factors (biological, psychological and social factors) all end up influencing each other. Depression can be caused by any number of factors that could appear to be independent from one another, but are essentially related to one another.

This approach identifies the patients symptoms, examines for bodily signs, looks to independent markers of dysfunction, offers a preliminary diagnosis, and directs attention to treatments.

4. ATYPICAL FACIAL PAIN

The categorization of patients with similar pain histories into a diagnostic pigeonhole labeled

"atypical" is self contradictory, and the definition of a condition is unsatisfactory. A better term might be chronic facial pain", as distinct from temporomandibular disorder which affects the jaw rather than the mid-face and intraoral pains.

Atypical odontalgia has a similar character but is localized to one or more premolar or molar teeth, simulating pulpits'. There may be a history of inappropriate dental treatment including extraction, and subsequent recurrence of symptoms apparently from another tooth. Patients often attribute their pain to an antecedent event such as a dental procedure, or minor trauma to the face. In both these cases there is a long standing association in the literature between chronic facial pain and psychological distress, particularly depression. In this scenarioBiopsychosocial approach tend to prove a major boon for the patient. This suggests that beliefs and attributions about the cause of their symptoms may affect psychological wellbeing in patients with chronic pain. This approach encourages identification of vulnerability factors in the individual person as well as investigation into the nature of the stressor, and may be a useful theoretical basis from which to advance the study of depression in chronic pain.

5. CHRONIC LOW BACK PAIN (CLBP)

Chronic low back pain (CLBP) is a widespread and extensive problem. In order to understand the experience of CLBP, it is important to consider the Biopsychosocial model, which views physical illnesses as the result of the dynamic interaction among biological, psychological, and social factors. Poor Biopsychosocial functioning has been found to predict higher pain severity in CLBP patients.

Biopsychosocial conceptualizations of chronic pain have received increasing support in the broader pain literature . However, little research involving CLBP patients includes an investigation of all three levels of biopsychosocial functioning. Specifically, studies on CLBP often investigate only two of the three levels (usually biological and psychological) of Biopsychosocial functioning. Though these studies have provided important building blocks for a Biopsychosocial understanding of chronic pain, they are all incomplete. It is important to include all three areas of functioning in order to fully understand the heuristic model of CLBP and to best target interventions that address those areas.

Research has documented that Biopsychosocial functioning and pain exist in a mutually reinforcing relationship, such that chronic pain predicts Biopsychosocial functioning and that Biopsychosocial functioning predicts chronic pain. [11-14]

CONCLUSION

For any patient with a chronic pain condition, the potential role of psychological factors in magnifying, minimizing, or maintaining pain and the Biopsychosocial model in the treatment of patients with pain should not be underestimated. Psychological strategies employed in pain management include cognitive behavioral therapy (modifying attitudes, beliefs and expectations), relaxation and biofeedback, and hypnosis.

It is thus highly advisable to have input from appropriately experienced clinicians to assess the psychological aspects of pain, and the problems it causes. For the referring Clinician, it should be noted it is possible that previously undetected pathophysiology may exist in conditions that can be difficult to diagnose such as neuropathic Orofacial

pain. Most importantly, the medical / dental practitioner and the patient must have a common understanding prior to psychological / psychiatric assessments that the patient "is imagining the pain".

REFERENCES

1) Biopsychosocial model in depression revisited. Pubmed-ncbi

2) The Biopsychosocial approach to adolescents with somatoform disorders..RedOrbit

3) The Biopsychosocial approach

4) Chronic facial pain : a multidisciplinary approach.

5) Dworkin SF, LeResche L. Research diagnostic criteria for temporomandibular disorders: review, criteria, examinations and specifications,critique. J Cranio Dis Facial Oral Pain 1992;6(4):301-55.

6) Israel HA, Scrivani SJ. The interdisciplinary approach to oral, facial and head pain. J.Am Dent Assoc, 131(7): 919-926

7) Phillips JM, Gatchel RJ, Wesley L, Ellis E. Clinical implications in acute temporomandibular disorders. JADA 2000;132

8) Merskey H, Bogduk N. Classification of Chronic Pain: Descriptions of Chronic Pain Syndromes and Definitions of Pain Terms, 2nd ed. Seattle, IASP Press, 1994, pp. 53-55

9) Melzack R, Wall P D 1965 Pain mechanisms: a new theory. Science 150:971-9791

10)https://www.ncbi.nlm.nih.gov/pubmed/17140747

11) Okeson JP. Bell's orofacial pains. 5th ed. Chicago: Quintessence. 1995;123-3

12) Turk, DC. (1997). Transition from acute to chronic pain: Role of demographic and psychosocial factors. In T. S. Jensen, J. A. Turner, & Z. Wiesenfeld-Hallin (Eds.), Proceedings of the 8th World Congress on Pain: Progress in pain research and management (pp. 185-213). Seattle,WA: IASP Press.

13) Turk, DC, &Okifuji, A. (1996). Perception of traumatic onset, compensationstatus, and physical findings: Impact on pain severity, emotional distress and disability in chronic pain patients. Journal of Behavioral Medicine. 19, 435-453.

14) Vickers ER, Cousins M, Nicholas M. Facial pain: a biopsychosocial problem. Medicine Today 2000; 11: 42-8.

Competing interest / Conflict of interest The author(s) have no competing interests for financial support, publication of this research, patents and royalties through this collaborative research. All authors were equally involved in discussed research work. There is no financial conflict with the subject matter discussed in the manuscript.
Source of support: NIL