DOI: 10.14744/DAJPNS.2024.00249
Dusunen Adam J Psychiatr Neurol Sci
2024;37:119-121

GUEST EDITORIAL

A path to better quality of life in migraine: The biopsychosocial approach

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The biopsychosocial model is patient-centered, emphasizing the patient-physician relationship and evaluating diseases holistically, including biological, social, and psychological factors. This model was first introduced by George Engel in 1977 (1, 2). It is more comprehensive than the biomedical model, initially proposed for psychiatric disorders, later applied to chronic pain, and recently to migraines.

Hippocrates' emphasis on climate, environment, and lifestyle in his definition of illness suggests that the biopsychosocial approach was inspired by an awareness of the role of psychological factors in physical health. The World Health Organization's (WHO) 1948 definition of health also incorporates the biopsychosocial approach, including physical, mental, and social well-being concepts.

Social systems, consisting of family, community, and society; biological systems, including organs, tissues, and cells; and psychological systems, such as cognition, emotion, and motivation, interact with each other. It is necessary to consider all three dimensions simultaneously to understand patients and adequately address their complaints.

The currently dominant biomedical model is analytical, reductive, and specialized. While it has undoubtedly led to significant advances in medicine, it focuses narrowly on specific areas, treating patients as objects and dismissing the potential value of subjective complaints in scientific research. The dualistic biomedical model separates mind and body, a concept rooted in Descartes' philosophy. Conditions that cannot be explained at the cellular or molecular level are often dismissed and undervalued (3).

In contrast, the biopsychosocial model, as proposed by Engel, aims to prioritize patients and prevent their marginalization and disempowerment. The model introduces more empathy and passion into medical practice, equating the role of patients with that of physicians, and suggests that patients' psychological states and social structures can potentially alter biological processes, influencing the development and persistence of diseases.

According to von Bertalanffy's general systems theory, molecules, cells, organs, organisms, individuals, families, societies, and the universe are interconnected wholes, where changes in one aspect affect the others (3). In the biopsychosocial model, psychological components include behaviors, emotions, and cognitions (thoughts, beliefs, attitudes), which can be influential in chronic conditions and may resist treatments such as botulinum toxin and erenumab (4).

Psychosocial risk factors include depression, social isolation, stress, and socioeconomic status. Protective factors include social support, self-efficacy, and optimism (positive outlook). When considering affective factors, chronic pain patients often report negative emotions, thoughts, and behaviors. While these may be seen as secondary to pain, prospective studies have shown that such negative emotions and thoughts could also play a role in the development of chronic migraines (5).

Depression and anxiety significantly affect pain intensity and can contribute to chronic migraine, leading to physical disability, work impairment, increased healthcare costs, and reduced quality of

How to cite this article: Inan LE. A path to better quality of life in migraine: The biopsychosocial approach. Dusunen Adam J Psychiatr Neurol Sci 2024;37:119-121.

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life. Positive emotional states and optimism are associated with less pain and disability (6) and contribute to resilience in chronic migraine (5). Social support has been shown to positively impact physical functioning in chronic migraine patients. For instance, Guillory and colleagues demonstrated that even social support through messaging on social media can reduce pain intensity (7).

A well-established patient-physician relationship has been shown to affect pain severity and functionality (5). Catastrophizing, a cognitive distortion, exacerbates pain perception by making the pain seem unbearable and unsolvable. This cognitive distortion is linked to negative emotional states, depression, and anxiety and is a significant factor in chronic pain, leading to increased healthcare costs. Catastrophizing can be mitigated through cognitive-behavioral therapy and a multidisciplinary approach, particularly physical therapy focused on exercise and activity. Family members' catastrophizing attitudes can also worsen pain and disability (5).

Expectations of positive outcomes can increase pain control, trigger more active coping strategies, lead to better functionality, and prevent the transition from acute to chronic pain. These factors play a protective role in chronic pain, providing resilience for children, adolescents, and adults, and are linked to less disability, better functionality, and reduced depressive symptoms. Cognitive-behavioral therapy is a key mechanism in managing chronic pain (Fig. 1) (5).

From a physician's perspective, the principles of biopsychosocial-centered clinical practice include maintaining conscious awareness of the patient at the center, having the appropriate emotional tone, accurately obtaining the patient's history, and distinguishing between what the patient wants and what they need. Clinical skills involve not just identifying patient concerns but also influencing patient behaviors, thereby revealing psychosocial aspects of somatic complaints (such as ongoing abuse and alcoholism) and eliminating unnecessary medical tests and iatrogenic causes (3).

Communication should be tailored to the patient's level of understanding, presenting information in small, digestible pieces. Overloading can lead to reduced comprehension and increased emotional distance between the patient and the physician. The physician should demonstrate warmth, understanding, interest, and generosity. Building trust is essential, requiring evaluations to be conducted with kindness, good intentions, realism,

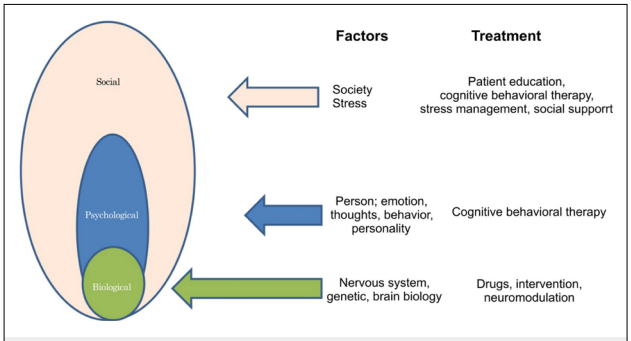

Figure 1. Biopsychosocial model in migraine management.

and a positive demeanor. Respect should be maintained even with difficult patients. Creating an environment where patients can express their emotions is crucial, and physicians should be aware of their own emotions and know when to communicate them. Maintaining functional relationships may require setting boundaries.

Criticisms of the biopsychosocial model include claims that it is overly general, time-consuming, and not suitable for daily use by patients. Some argue that it is not testable, but Gatchel and Turk (8) have demonstrated the validity of the model. Others claim it is a luxury that is not affordable in many low- and middle-income countries. However, the economic burden of the biomedical model and diseases surpasses that of the biopsychosocial approach. The key is changing the perspective rather than the model itself.

Conflict of Interest: The author have no conflict of interest to declare.

Use of AI for Writing Assistance: Not used.

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