



REVIEWS

Underuse of Behavioral Treatments for Headache: a Narrative Review Examining Societal and Cultural Factors

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Migraine affects over 40 million Americans and is the world's second most disabling condition. As the majority of medical care for migraine occurs in primary care settings, not in neurology nor headache subspecialty practices, healthcare system interventions should focus on primary care. Though there is grade A evidence for behavioral treatment (e.g., biofeedback, cognitive behavioral therapy (CBT), and relaxation techniques) for migraine, these treatments are underutilized. Behavioral treatments may be a valuable alternative to opioids, which remain widely used for migraine, despite the US opioid epidemic and guidelines that recommend against them. Identifying and removing barriers to the use of headache behavioral therapy could help reduce the disability as well as the personal and social costs of migraine. These techniques will have their greatest impact if offered in primary care settings to the lower socioeconomic status groups at greatest risk for migraine. We review the societal and cultural challenges that impose barriers to optimal use of non-pharmacological treatment services. These barriers include insufficient knowledge of migraine/headache behavioral treatments and insufficient availability of clinicians trained in non-pharmacological treatment delivery; limited access in underserved communities; financial burden; and stigma associated with both headache and mental health diagnoses and treatment. For each barrier, we discuss potential approaches to minimizing its effect and thus enhancing non-pharmacological treatment utilization.

Case Example

A 25-year-old graduate student with a prior history of headaches in college is attending school in the evenings while working a full-time job. Now, his headaches have significant nausea and photophobia. They are twice weekly and are disabling enough that he is unable to complete homework assignments. He does not understand why the headaches occur on Saturdays when he pushes through all week to get through his examinations that take place on Friday evenings. He tried two different migraine preventive medications, but neither led to the 50% reduction

in headache days his doctor had hoped for. His doctor had suggested cognitive behavioral therapy (CBT) before initiating the medications, but he had been too busy to attend the appointments, and the challenges in finding an in-network provider proved difficult. Now with the worsening headaches, he opted for the CBT and by the fifth week had already noted improvements in his headache frequency and intensity.

KEY WORDS: headache; behavioral interventions; migraine; barriers to care.

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INTRODUCTION

Migraine affects over 40 million people (18% of women, 6% of men) ¹ in the USA and is the second most disabling condition (in life-adjusted years lost) per the World Health Organization (WHO).^{2, 3} Over half (52.8%) of all visits for migraine take place in primary care settings.⁴ Research has shown that migraine is under-diagnosed and under-treated in the primary care setting, with close to 40% of people with migraine needing preventive therapy but only 13% of them actually receiving it.⁵ Moreover, there is on average a 4-year delay between migraine diagnosis and the start of preventive medication,⁶ with reasons cited including lack of knowledge and discomfort using migraine preventive medications. However, migraine preventive medications do not need to be the main emphasis of migraine preventive therapy. Behavioral therapy for migraine (e.g., CBT, biofeedback, and relaxation techniques) also have grade A evidence for migraine prevention.^{7–10}

Knowledge of behavioral treatment efficacy among primary care physicians (PCPs) appears to be uneven. Research has shown that a clear majority of PCPs are aware that biofeedback is an evidence-based preventive treatment for migraine, whereas knowledge of CBT and relaxation training is much more varied.^{11, 12} Furthermore, even with awareness of the

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role of behavioral therapies in headache prevention, there is a demonstrated knowledge-to-implementation gap. The same research indicates that PCP referrals of patients with headache to biofeedback range from 1.40 to 10%, to CBT range from 2.53 to 10%, and to relaxation therapy up to 40%.^{11, 12}

This review discusses the societal and cultural factors that may contribute to poor utilization and referral rates of non-pharmacological treatments for headache, with suggestions to enhance non-pharmacological treatment implementation discussed for each factor. Specifically, we examined: (a) lack of knowledge regarding non-pharmacological treatment options among referring practitioners and headache patients; (b) the relatively limited number and distribution of clinicians trained in non-pharmacological headache treatments; (c) demographic-minority, socio-economic, and third-party payer-related disparities in healthcare access; and (d) societal stigma associated with a diagnosis of headache, compounded by the stigma of referral to a perceived “psychiatric” treatment. We also present barriers identified by our team of experts (based on experiences and prior publications)^{13–17} for both healthcare providers and patients, along with ways to overcome these barriers (Table 1). Using the Transtheoretical Model of Stages of Change,¹⁸ we show how healthcare providers and patients may advance from one stage to the next to overcome barriers (Table 2). Change can be hard, and in Table 2, we emphasize how collaborations between mental health and other medical professionals can be beneficial. There needs to be education on adherence detection and relapse prevention, and when asking about adherence, it is important to normalize difficulties, openly address patients’ perception of barriers, and develop strategies for addressing the barriers.

METHODS

The team comprised two board-certified neurologists who are headache experts with research focusing on migraine and behavioral therapy, five psychologists with a special interest in headache, and a psychiatrist who collaboratively worked to determine which resources to use. We began with an outline of topics and related papers and added to it over time as needed and as new studies were published. This is a narrative, rather than a systematic, review, and we did not formally define search terms.

RESULTS AND DISCUSSION

Lack of Knowledge

Non-pharmacological treatment options and their efficacy may feel unfamiliar to both referring practitioners and patients. Yet, the principles of behavioral treatment apply to every level of the clinical encounter from history taking, to communication about patient needs and preferences, and to the development and presentation of the treatment plan. Pharmacotherapy

does not work if patients do not take their prescribed medication. Medical practitioners may not be aware of the extent to which they already use behavioral principles in practice. By focusing on those skills, clinicians may enhance self-efficacy and become more open to expanding their repertoire of nonpharmacologic skills.

In an assessment of PCPs’ migraine knowledge,¹¹ one-third of providers were not aware that the American Academy of Neurology’s evidence-based guidelines for preventive non-pharmacologic headache treatment included biofeedback, CBT, and relaxation training. While the vast majority (78%) of PCPs knew that biofeedback had level A evidence-based treatment, just over half identified CBT (56%) and relaxation therapy (61%) as evidence-based treatments. Relaxation therapy was recommended by 40% of PCPs, and only 10% recommended CBT or biofeedback, demonstrating a gap at the level of implementation.¹² PCPs instead reported referring patients for non-level A evidence-based treatments such as acupuncture (50%), physical therapy (30%), and psychoanalysis (20%). Given the influence that primary medical care providers have on patient attitudes and beliefs, this lack of PCP knowledge and implementation of evidence-based practice presents a significant obstacle.

Another knowledge gap concerns awareness of when and how to refer to behavioral treatment.¹⁹ Although the American Headache Society (AHS) disseminates education materials for primary-care professionals,²⁰ including U.S. Headache Consortium Guidelines that support inclusion of behavioral strategies in every patient’s treatment,^{21, 22} a substantial proportion of medical professionals only refer patients with longstanding or complex headache presentations, or poor responders to pharmacological therapies; in reality, behavioral therapies are well-tolerated and cost-effective treatment options for most people with migraine.^{23–25}

Patients with headache are often unaware of evidence-based non-pharmacological treatment options, despite widespread electronic media access. One study found that almost 4 out of 10 (37%) individuals with chronic pain may be unaware that psychological interventions are an effective treatment modality for pain.²⁶ A recent mixed-methods study found that approximately one-third of patients with migraine who did not initiate behavioral treatment were skeptical about the benefits of behavioral therapy.¹³

Addressing Lack of Knowledge

Early-career training and continuing educational opportunities in headache diagnosis and treatment essentials are available for professionals. The AHS has outlined core competencies in headache education, with a dissemination plan for medical students,²⁷ and a headache education program for residents (including internal medicine residents).²⁸ Both the AHS and the National Headache Foundation (NHF) additionally offer conferences geared toward PCPs, such as the AHS annual Scottsdale Headache Symposium, instituted in 1970.

Table 1 Barriers in Primary Care for the Provider and for the Patient and Ways to Address the Barriers

Barriers in primary care	Provider questions and challenges	Provider interventions
Lack of knowledge regarding non-pharmacologic treatment options	What behavioral treatments are evidence based? How, when, and where should patients be referred?	Early career and ongoing education about non-pharmacological treatments and community resources American Headache Society https://americanheadachesociety.org/PrimaryCare National Headache Foundation Association for Migraine Disorders
Belief that behavioral interventions are for longstanding or complex headache patients who have failed pharmacotherapies	Who should be referred? How to match the patient to the treatment?	Introduce the biopsychosocial model Emphasize that behavioral interventions for migraine are designed to treat migraine and not psychopathology Counsel that combined drug and non-pharmacological therapy can produce better outcomes than either modality alone
Limited availability of clinicians trained in non-pharmacologic treatment	How do we improve access by increasing the number of providers trained in non-pharmacologic treatment for migraine or through Internet-based and app-based interventions?	Training at behavioral health meetings Educating directors of psychology training programs, increased knowledge about training opportunities in pain programs Funding for training behavioral health providers for pain/migraine Develop and validate Internet-delivered CBT or mindfulness as well as other approaches App-delivered relaxation approaches
Lack of insurance reimbursement	How do we improve insurance reimbursement? How do we develop lower cost behavioral interventions?	Advocacy to insurance companies and Congress for improved coverage Education to behavioral health providers about using “behavioral health codes i.e. migraine” instead of “mental health codes” when making the referral Develop evidence-based Internet-delivered approaches and app-based relaxation approaches
Access to treatment in low SES and under-represented communities	How can we improve access in low SES and under-represented communities?	Provide initial self-help treatment approaches for patients to initiate Provide low-cost therapy options to patients in the office Research evidence-based scalable accessible therapies for patients (e.g., group interventions, Web-based and smartphone-based interventions)
Provider perception that behavioral treatments are stigmatic	How do we reduce stigma surrounding behavioral therapy?	Educate providers about behavioral therapy Educate providers about the underlying physiologic basis for behavioral therapies to reduce stigma (e.g., recent neuroimaging studies showing MRI changes pre- and post-cognitive behavioral therapy) Physicians can discuss referral for health and behavioral treatment to address symptom management, adjustment, adherence to treatment, and to learn health-related behaviors, as opposed to “mental” issues
Patient barriers Lack of knowledge of non-pharmacologic treatment and provider options	Patient -What behavioral treatments are evidence based? How do patients find providers?	Patient intervention Develop and disseminate, through providers and in direct to consumer contexts, educational materials on behavioral treatments and how to find them Position behavioral treatments as complementary and not alternative approaches Develop model educational interventions for providers to distribute in print or on their websites Provide access to organizations with high-quality patient education such as the American College of Physicians/American Headache Society, Association for Applied Psychophysiology and Biofeedback (AAPB), National Association of Cognitive-Behavioral Therapists, Association For Behavioral and Cognitive Therapies Find a practitioner website with the aforementioned organizations Resources for finding electronic/smartphone-based treatments Educate patients that finding benefit in these treatments requires patient commitment, including the adoption of various lifestyle changes/skills and that there is not necessarily a “quick fix”
Belief that behavioral interventions are for longstanding or complex headache patients who have failed pharmacotherapies and negative stigmas surrounding behavioral interventions	How do we educate (a) regarding the purpose of behavioral interventions, (b) to remove the stigma around behavioral interventions, and (c) who should be getting behavioral interventions?	Media campaigns Educational brochures Patient education podcasts Web-based material

(continued on next page)

Table 1. (continued)

Barriers in primary care	Provider questions and challenges	Provider interventions
Limited availability of clinicians trained in non-pharmacologic treatment	How do patients obtain behavioral interventions with few clinicians trained to provide them?	Develop and study new evidence-based scalable, accessible behavioral interventions and encourage patients to join such studies as research participants Create resources to disseminate electronic/smartphone-based treatments
Access to treatment in under-represented communities	How do we ensure that all patients get equal access to behavioral treatments for migraine?	Research such as the recent NIH Request for Information (RFI) for how to develop/enhance partnerships and collaborations among clinicians and investigators that focus on underserved or under-represented populations Patient advocacy for reimbursement including participation in Headache on the Hill
Patient perception that behavioral treatments are stigmatic	How do we reduce stigma surrounding behavioral therapy?	Educate patients about the goals of behavioral therapy, to relieve pain, reduce triggers, optimize medication adherence rather than treating psychopathology Educate patients about the biological mechanisms of behavioral therapies to reduce stigma (e.g., recent neuroimaging studies showing MRI changes pre- and post-cognitive behavioral therapy)

The barriers identified in the table are based on expert opinion and the barriers identified in the literature^{16, 17, 44-46}

Furthermore, time and money-saving alternatives to attending conferences and workshops exist online; the NHF offers webinars and other resources for individuals with headache, healthcare professionals, and the media, and the Association for Migraine Disorders offers free online CME courses.

Increased awareness that the AHS is a society for *all* headache care providers is needed.²⁹ The AHS has “primary front line headache care” as well as “behavioral issues” special interest sections,³⁰ and members of these sections cross-pollinate and help to disseminate knowledge about evidence-based behavioral therapies. In addition, recent initiatives such as the new AHS First Contact Program have been developed to help PCPs learn more about migraine through grand rounds, Web-based tools, and other educational materials: <https://americanheadachesociety.org/PrimaryCare>.²⁹

Adjunct training opportunities have been advanced to potentially address attitudinal and practical factors underlying referral decision-making for behavioral treatment. Early professional exposure to tenets of the biopsychosocial model of diagnosis and treatment and the clinical potential of behavioral interventions increases openness to alternative healthcare interventions, potentially changing practice culture over time.³¹
³² Reminders about the pathophysiology of pain perception and how to target it have been posited as an important factor in promoting practitioner-patient interaction and effective patient education.³³ Recommendations for healthcare providers on how to refer patients for non-pharmacological treatments^{15, 25} include emphasizing that behavioral therapy is a first-line option for headache-specific intervention, not treatment for mental illness or reserved for refractory patients with comorbidity, and combined drug and non-pharmacological therapy can produce better outcomes than either modality alone.²⁵

Finally, widely used resources for PCP education on headache should be reviewed and updated to improve information on non-pharmacological treatment. Many of the resources that serve as primary information sources for PCPs, e.g.,

UpToDate, have little discussion of evidence-based non-pharmacologic treatments for migraine prevention.

Overall, there needs to be quality improvement efforts to close the knowledge practice gap and better promote the implementation of these interventions in practice.

Limited Access to Trained Clinicians

A global-needs assessment estimating the proportion of clinicians trained in overall behavioral pain treatment found that 11.5% of 323 psychologists/therapists queried believed themselves to be “very competent” in treating individuals with pain, while almost 55% deemed themselves as either “treating pain but lacking confidence,” or simply not attempting to treat patients with pain. Approximately 90% acknowledged interest in learning more about pain psychology,³⁴ suggesting substantial self-perceived professional skill limitations among psychologists/therapists.

The confluence of state-of-the-art healthcare services at large urban academic-supported medical centers and health systems includes services for the diagnosis and treatment of pain³⁵ but may result in scarce resources for those living outside of urban or suburban centers.^{36, 37}

Addressing Limited Accessibility to Trained Clinicians

Mounting evidence demonstrating the effectiveness of a multidisciplinary approach to headache care^{7, 22, 25} has enhanced training opportunities for behavioral health providers.³⁴ In 2011, the Institute of Medicine examined pain as a significant public-health problem, and set out a comprehensive “blueprint” for government and professional organizations to (1) support curriculum and education improvement for healthcare professionals, and (2) increase the number of health professionals with advanced expertise in pain care.^{38, 39} Most recently, the Opioid Workforce Act of 2019 was proposed to fund additional

Table 2 Motivation to Get Healthcare Professionals and Patients Out of the Precontemplation Phase and Closer to Treatment¹⁸

Transtheoretical model of stages of change	Healthcare Professionals	Patients
Precontemplation	Incorporate information on behavioral interventions in traditional CME programs to access providers interested in headache but not fully aware of behavioral interventions	Patient education Motivational interviewing
Contemplation	Make available educational materials for those seeking to learn more Provide explicit criteria for patient selection, referral procedures, and access Have grand rounds and discussions with other colleagues regarding their practice related to the implication of health behavioral interventions among headache patients in order to continue obtaining evidence supporting the efficacy of this treatment approach	Increase awareness of costs and benefits of participating in headache-specific behavioral interventions Explore benefits of proactive engagement in behavioral treatments for headache management Increase awareness of specific behavioral health interventions associated with facilitating successful behavioral health treatment outcome Incorporate information on behavioral interventions in practice websites and written material
Preparation	Recommend the use of biopsychosocial model in their practice Create a referral system and network with other health professionals who practice and value headache-specific health and behavioral interventions in their community	Consult with providers to help plan for implementation and adherence to specific behavioral headache interventions Identify potential barriers and develop plan to address any potential barriers
Action	Remove barriers to action by providing tools that facilitate the introduction of behavioral interventions and facilitate the referral. It should be as easy to refer to a mindfulness group as it is to refer to endocrinology and cardiology and the procedures should be parallel Invite and offer opportunities for HCPs to explore alternative treatment options and discuss related concerns Teach specific approaches to making the referral for a behavioral intervention, to explore patients' comfort level and preference and select a form of behavioral intervention the patient is most likely to consider Ensure patients understand the benefits and risks of the discussed interventions Actively engage in educating colleagues and residents regarding the benefits of health and behavioral treatments	Begin implementation of behavioral headache interventions Adhere to recommended frequency and dosage of interventions Complete required documents such as a headache diary and tracking sheets Monitor use of interventions to facilitate collaborative discussion and evaluation with providers Identify most effective behavioral health interventions
Maintenance	Collaborate with mental health and other medical professionals nationwide to examine the efficacy of behavioral interventions in headache populations. Educate on adherence detection and relapse prevention. When asking about adherence, normalize difficulties, openly address patient perception of barriers, and develop strategies for addressing the barriers Educate and advocate at national conferences and with organizations about the efficacy of behavioral health interventions and importance of training health professionals in these areas Support insurance panels to reimburse these forms of treatment for headache populations	Identify benefits of maintaining adherence to behavioral health interventions in the long term Seek consultation regarding strategies and behaviors associated with prolonged adherence with provider Develop a contingency plan to facilitate maintenance and prevent non-adherence

Medicare-supported graduate medical education positions in hospitals that have or are in the process of establishing approved residency programs in addiction medicine, addiction psychiatry, or pain management.⁴⁰ Headache on the Hill advocated for including headache specialist training to this bill.⁴¹

As discussed earlier, a multipronged approach combining efforts to expand clinician expertise and utilization of evidence-based behavioral approaches with the integration of briefer and self-help approaches may be needed to address access challenges. For example, brief clinical approaches can reduce therapist time by 50 to 80%, with research supporting efficacy, efficiency, and long-term success.^{23, 42} Use of electronic or digital technology could further make a significant impact on behavioral treatment accessibility. A review of 23 studies examining treatment delivered via Internet connection, CD ROM, or other personal devices indicated that Internet-delivered CBT approaches were the most effective in headache reduction.⁴³ However, many digital health studies to date have been complicated by difficulties with low

adherence and high drop-out rates suggesting interventions may need to be modified to enhance user acceptability. We refer readers to several recent publications on this topic.⁴²⁻⁴⁶

Since all behavioral headache treatments require some degree of "self-management,"⁴⁷ research must seek to find the most effective mix of therapist involvement and home-based components. Examination of patient factors predicting or enhancing adherence may help⁴⁸⁻⁵⁰ inform "best match" behavioral treatment models with individuals most likely to benefit from them, consistent with a personalized medicine approach.⁵¹

Addressing Access to Treatment and Reimbursement in Low SES and Diverse Communities

Unfortunately, under-represented groups are not well-studied in headache clinical trials, and the American Headache Society's Underserved Populations in Headache Medicine

Special Interest Section is on record regarding this significant gap in headache research (Mia T. Minen, MD, MPH, email communication, October 25, 2020). Healthcare disparities related to under-represented status, socioeconomic status (SES), and poor health insurance coverage impact non-pharmacological treatment access.⁵² A report examining diagnosis and treatment of headache among people with under-represented race and ethnicities in the USA revealed that, although severe or frequent headache prevalence was high in all groups, African American and Hispanic adults may be receiving less adequate care in comparison with Caucasian adults.⁵³ Moreover, a panel exploring general knowledge and use of integrative/complementary alternative medicine (CAM) noted lower use of CAM among Hispanics and African American patients than among Caucasian patients.⁵⁴ In addition, language limitations, immigrant or non-citizen status, and cultural beliefs about effective treatment also may decrease access to healthcare in general,⁵⁵ and perhaps utilization of behavioral treatment options to an even greater degree.

Rates of migraine are higher among individuals with lower SES,⁵⁶ who are disproportionately more likely to experience poor diet and greater stress alongside decreased access to quality healthcare,⁵⁷ which has been identified as a barrier to presenting for headache consultation.⁵⁸ Among those who consult for headache, higher SES is a positive predictor of receiving a migraine diagnosis,⁵⁸ and there is greater use of CAM by individuals with higher income and education levels.⁵⁴ Furthermore, individuals in lower SES groups are more likely to receive migraine care in emergency departments,⁵⁹ where they are even less likely to be presented non-pharmacological treatment options.⁶⁰

Having poor health insurance coverage is a significant barrier to utilizing behavioral therapy for headache. Although behavioral treatment options for headache management are generally more cost-efficient both in the short and long term,²³ lack of reimbursement and higher co-pay rates for behavioral headache therapies often preclude treatment access,^{25, 61} reflecting challenges in parity for behavioral health benefits.⁶²

Addressing Access to Treatment and Reimbursement in Low SES and Diverse Communities

Headache awareness focused on improving consultation rates and appropriate diagnostic services for patients who are currently less likely to receive them, including those with lower income, men, and the uninsured, is imperative.⁵⁸ Integration of behavioral treatment options into community health centers with federal and local initiatives may help,³⁷ especially if headache screening is integrated as part of an overall change in culture in the healthcare community.⁵⁴

The affordability of non-pharmacological headache treatment can present a challenging barrier to overcome. Traditional behavioral treatment protocols involve 8–12 1-h in-person office visits with a highly trained clinician.⁶³ A variety of

alternative treatments/treatment delivery formats have been developed with at least some of those approaches meeting the criterion of equivalent efficacy. Perhaps the best-studied alternative service delivery approaches are the “limited therapist-contact interventions.” These interventions employ the same therapeutic components as their clinic-based behavioral treatment counterparts but typically incorporate only one or two monthly clinic sessions.^{10, 64} Clinic sessions are employed to introduce headache self-management skills and address problems encountered in acquiring or using these skills. Patient manuals and audio recordings are utilized to guide patients in acquiring and refining headache self-management skills, which can be practiced at home and with clinician assistance via digital communication (e.g., phone, text, e-mail) to assess adherence, address obstacles to skills acquisition/implementation, and document progress. Research evaluating limited therapist-contact interventions for headache has shown this approach to be equivalent or superior to clinic-based treatment.^{9, 10}

For pharmacological headache management, a “stratified care” model, in which more disabled individuals receive migraine-specific treatments as first-line intervention, has found research support for both efficacy^{21, 65} and cost-effectiveness.^{21, 66} In behavioral treatment, however, “stepped care” models have recently garnered interest and research support. Stepped care highlights initial self-help treatment approaches with no or limited professional contact treatment or “prudent limited office treatment” (PLOT).⁴² This is especially important in the time of the COVID-19 pandemic when the ability to access in-person headache care may be limited.^{67, 68} Four distinct steps, or levels of intensity, have been suggested, where the patient’s interest in and motivation to learn self-help skills, and their initial treatment response, inform decisions for more intensive, less intensive, or no treatment, as appropriate.^{51, 69}

Current treatment guidelines do not distinguish among bio-feedback, CBT, and relaxation training in terms of efficacy, preferred use with specific patients,^{7, 70} treatment mechanisms, essential curative elements, or algorithms for referral and treatment.¹⁹ Thus, further research is needed to not only examine the dosage of behavioral therapy for efficacy⁴⁷ but also the efficacy of individual versus group based interventions. Recent research on mindfulness-based cognitive therapy (MBCT) has been conducted for migraine using 1:1 sessions,⁷¹ but group-based approaches need to be assessed to determine whether they can achieve equivalent outcomes. Smartphone-based behavioral interventions in primary care have also been conducted.⁷²

Societal Stigma

Stigma, or internalized negative discriminatory stereotyping, can affect both initial help-seeking and treatment persistence,^{73, 74} especially in those with diagnosed chronic migraine.⁷⁵ Headache itself has long carried associated stigma,

often being perceived as a disorder that is “all in the head.”^{20, 76} In an early study surveying 252 patients seeking headache treatment, 41% were concerned about others’ negative judgment of them and 56% had concerns about their previous physician’s judgment.⁷⁷ People with migraine report equally high perceived stigma scores across age, income, and education.⁷⁵

Additional stigma may be associated with receiving, or even being referred for, psychological/behavioral treatment,⁷³ especially if the rationale for this intervention is not clarified.⁷⁴ In a survey of over 1000 individuals with chronic pain, almost 30% either noted concern about their pain being judged as “not real” or “psychological,” or expressed doubt that a pain psychologist could help them.³⁴ Prior to 2002, third-party payer reimbursement of non-pharmacological treatment required a “mental health” diagnosis, another stigmatizing concern.^{61, 74} Now, “behavioral health codes” can be used with “migraine” as the diagnosis.^{15, 78}

Addressing Societal Stigma

Stigma as discussed above relates to concerns about being labeled as having, or being treated for, a condition perceived as “mental,” which may be perceived as due to some flaw in the patient’s character, as opposed to a medical health problem. Stigma related to labels used in headache diagnosis and treatment was confronted by a diverse consensus panel of physician, academics, advocates, and patients who provided opinions regarding the labeling of both migraine and the person with migraine. Without full consensus being reached, participants generally endorsed terms believed best to describe current science in migraine and support its credibility as a recognized medical condition. Results indicated that the term “migraine” was preferred to “migraine headache,” “disease” was preferred to “illness,” “sufferer” should be avoided if possible, and “migraineur” and “person with migraine” were equally controversial terms.⁷⁹

Changes in conceptual illness models underlying diagnostic nomenclature may have helped reduce diagnosis-related stigma. For example, the Ninth International Classification of Diseases (ICD-9) categorized migraine as a neurological disorder, with tension and tension-type headaches listed under “psychiatric” disorders and “psychogenic” headache,⁸⁰ whereas ICD-10, introduced in the USA in 2015, classifies tension-type headaches under “Diseases of the Nervous System.”⁸¹ This change helps providers relay two direct messages to patients: (a) migraine and tension-type headaches are brain diseases, and (b) referral for non-pharmacological treatments is to address behaviors and cognitions that trigger or exacerbate headache, not to find or address mental or emotional problems that may better explain their symptoms.

Another illness model change is the replacement of psychoanalytic explanations of emotional conflict causing physical illness with psychophysiological conceptualizations of headache.⁹ Similarly, psychiatry has increasingly adopted a brain-

based disease model focusing on models of disruptions in neural brain circuitry alongside a biopsychosocial model that considers patients’ social/cultural context, and psychological determinants during interaction with medical professionals and the healthcare system.^{34, 82, 83} Together, these changes have brought a paradigm shift away from mind-body terminology and toward an integrative model of physical disorders and illness.⁹ The introduction in 2002 of Health and Behavior CPT codes based on the biopsychosocial model has further supported cognitive, behavioral, and psychophysiological approaches to treating medical disorders. Accordingly, behavioral health practitioners provide services aimed at symptom management, adjustment to and coping with physical illness or disability, adherence to medical treatment, and learning about health-related behaviors.⁸⁴

CONCLUSION

Despite significant evidence demonstrating positive outcomes among people with headache who are referred to and follow the recommendations for behavioral migraine interventions, underutilization of this grade A evidence-based preventative treatment remains a challenge. While some measures addressing societal and cultural obstacles to utilization are in motion, progress is slow. Factors such as lack of knowledge regarding non-pharmacological treatment options, demographic- and ethnic-based disparities, stigma toward headache and mental health treatment, and sparse availability of trained clinicians continue to serve as barriers to treatment utilization. Now, especially during the opioid epidemic, education aimed at current healthcare practitioners and trainees is imperative,¹⁵ with exposure to non-pharmacological treatment options during medical training and within clinical practice increasing the probability of changing the culture over time, standardizing patient referral for such treatments.³² The impact of demographic factors and ethnic disparities on behavioral headache treatment utilization presents complexities at a public health level,⁵⁸ as do the understanding and treatment of pain itself.^{38, 85} Public health measures must be taken that engage oversight agencies and institutions in promoting standard-of-care training for clinician trainees and practicing clinicians.^{38, 39} Finally, models of behavioral treatment must be explored that extend the reach of and accessibility to the still-limited number of clinicians trained in non-pharmacological headache treatment. Such models include limited therapist contact approaches and incorporation of technology, promoting the self-management techniques necessary for treatment success. Research that matches patient factors with the ideal combination of therapist guidance and psychoeducational materials may facilitate adherence to, and ultimately utilization of, non-pharmacological interventions.⁵¹

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