

A multiaxial evaluation of the headache patient

Uma avaliação multiaxial de paciente com cefaleia

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ABSTRACT

Background: Primary headaches are considered a complex medical problem. They usually appear as isolated episodes but can progress into chronic headaches entailing significant functional disability for the patient. With the objective of upgrading the quality of care given to headache patients, there have been several proposals to integrate the wide array of variables which influence headache experiences into a systemized evaluation model. Such a system should prevent key elements from being overlooked, aid diagnosis and facilitate treatment plans. However, as of yet, no such model has been widely adopted. **Method:** In the present paper, we propose integrating The International Classification of Headache Disorders (ICDH) into a multiaxial assessment system similar to the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) which is used in psychiatry. The contents of the different axes found in the DSM cover many of the fundamental clinical variables which have been supported by the medical literature for the past twenty years. Our discussion focuses mainly on chronic headache and migraine since they are clinically relevant to this form of evaluation. We believe our proposed model could be applied generally to all headache types. **Conclusion:** Headache disorders require an evaluation method flexible enough to reflect the multiple dimensions influencing the course of the disease. In order to achieve a systemized, widely accessible evaluation, we propose a headache patient evaluation structure that is familiar and generally accepted by the medical community. Implementing such a system would be beneficial as it could lead towards building a more uniform evaluation system, facilitate student learning and communication among practitioners, all of which are important steps for improving patient care.

Keywords: Migraine; Headache; Multiaxial; Evaluation; Classification

INTRODUCTION

Over the past 20 years, major efforts have been made to further our understanding of headache disorders. An internationally accepted headache classification was published by the International Headache Society in 1988⁽¹⁾ and revised in 2004,⁽²⁾ new abortive and preventive medication has been developed and practical guidelines have been drafted to structure treatment options.⁽³⁻⁵⁾ Despite these advances, migraine, one of the most frequent and disabling headaches, is still under-diagnosed and under-treated. Patients often do not consult a physician for their migraines, those who do are not always correctly diagnosed and those who are given a correct diagnosis do not always receive optimal treatment. Some efforts have been made to address these issues. The MIDAS⁽⁶⁾ questionnaire and migraine diagnosis screeners,^(7,8) are examples of tools developed for primary care physicians to measure the debilitating effects of migraines on patients' daily functions, improve diagnosis and promote better healthcare management. However, such tools are not widely used and, consequently, migraines are still associated with severe disability in 53.7% of patients.⁽⁹⁾

One important complication related to episodic migraines is their potential to progress into chronic headaches. This risk, coupled with the challenge of identifying patients in whom this potential exists, only reinforces the need to optimize migraine diagnosis and treatment. From an interventional perspective, Bigal and Lipton⁽¹⁰⁾ examined the process of migraine chronification by dividing the associated factors into two categories,

non-modifiable and modifiable. The former includes genetics, gender, age, being of Caucasian ancestry, socioeconomic status, and educational level; the latter includes high headache frequency, obesity, medication overuse, caffeine, snoring and apnea, psychiatric comorbidities and stress. Comorbidities particularly contribute to headache-related disability,^(11,12) and the authors stress the importance of screening for them. In all, it is clear from these authors' work that several variables influence migraine experiences and that, even if the correct diagnosis is made, one still risks overlooking key elements that contribute to the development of the patient's symptoms. Hence there is an evident need for an evaluation tool that goes beyond simple headache diagnosis.

Several attempts have been made along these lines: since 1992, five papers from three groups have been published⁽¹³⁻¹⁷⁾ stating that primary headaches represent a complex disease that requires a clear diagnosis, global clinical profile and adapted treatment to improve the quality of care. The authors included many of the modifiable factors listed above, (headache frequency, medication overuse, comorbidities, stress and disability) into a systemized evaluation system. However, the proposals have not been widely accepted, as their novel and varied structures have limited their use among headache specialists. We believe that this could be remedied by the use of a headache evaluation system that is more uniform and constructed from standardized and reliable medical knowledge.

Therefore we propose in the present paper a pilot multi-axial evaluation tool. We believe that a systemized multi-axial evaluation system for patients suffering from all types of headaches could improve diagnosis by ensuring that all relevant information concerning the patient is included in the final evaluation. This would render treatment and care management much more effective as all contributive factors would be addressed. We believe that with a few modifications, the DSM-IV evaluation framework could be used as an ideal template for designing such an evaluation tool not only because it integrates all the variables considered relevant when evaluating headache patients but because its structure will aid its spread and acceptance within the medical community. Indeed, by drawing from previous models – namely from the International Headache Society and the DSM – we hope that the familiarity of our model's structure will facilitate accessibility and enable any type of practitioner (from specialists to medical

students) to provide a more thorough, in depth, and reliable medical evaluation. We favor the DSM model over other multi-axial systems since it is an accepted reference supported by the prevailing biopsychosocial model.

METHODS

In the sections below we present an overview of the multi-axial psychiatric methods as found in the DSM (section A) as well as the headache classification scheme proposed by the IHS (section B). We then propose our own synthesis.

A. The multi-axial psychiatric evaluation model: the DSM⁽¹⁸⁻²⁰⁾

The classification of mental illnesses that preceded the DSM-III was based on a psychosocial and psychodynamic etiological view. Inter-evaluator diagnostic reliability was poor, so a scientific approach to these illnesses was not possible. Framed within a scientific perspective and with increased communication among physicians in mind, a diagnostic revision was undertaken to create the DSM-III. The authors adopted a purely descriptive approach to symptoms, eliminating any reference to etiology; precise criteria were established for making reliable diagnoses. In addition to this diagnostic component and because of the difficulty involved when evaluating patients with psychiatric problems, the authors created a multi-axial evaluation framework for identifying, from the most important clinical variables, those that were the most useful for psychiatric cases. Five axes were defined. The first draft of the DSM-III was developed by expert consensus and validation studies were used to prepare the DSM-IV.⁽²¹⁾

- *Axis I describes the clinical symptoms, defined by precise criteria and a clinical course over time.*
- *Axis II describes personality disorders and traits and, in the DSM IV, maladaptive personality features and defense mechanisms. This axis is relevant because the clinical presentation, the response to treatment and the clinical course of the disease are also influenced by personality traits. It is distinct from Axis I and warrants special attention, as it is often neglected in favor of the clinical syndrome. This axis underscores the importance of personality disorders in relation to the diagnosis in Axis I.*
- *Axis III describes current medical conditions. It adds information to the overall clinical picture and can be useful for understanding or managing the case.*

- *Axis IV identifies the psychological stressors that can affect the diagnosis, treatment and prognosis of the mental disorders established in Axes I and II. These stressors can contribute to the exacerbation or onset of an illness or can be the consequence of a mental illness, hence the importance of taking them into account.*

- *Axis V assesses the patient's global functioning level based on three dimensions: psychological, social and occupational. Using a percentage scale to quantify these three dimensions, Axis V is used to assess the impact of the mental illness. The process can also be repeated over time to evaluate continually the patient's clinical course.*

B. The International Classification of Headache Disorders (ICHD)

The International Classification of Headache Disorders is considered the main medical reference for headache disorders. It was published in 1988 in response to criticisms that the existing model published in 1962⁽²²⁾ was unreliable due to its lack of strict operational diagnostic guidelines. Just as was the case for the DSM, this problem was remedied by referencing to precise diagnostic criteria defined by expert consensus. It was revised in 2004 through the use of validation studies. Although the ICHD model did not adopt a multi-axial evaluation system like the DSM, its strict operational guidelines ensure diagnostic reliability, which in turn facilitates research by promoting further communication among experts.

Given that the methodology used when assessing a psychiatric patient – that is achieving a diagnosis by select criteria with added dimensions to factor in – overlap with ones used for the headache patient, it seems reasonable to ask whether it would be beneficial to have a similar system for headache patients. The ICHD could provide consistency and reliability for the diagnosis while the contents of the five axes styled from the multi-axial psychiatric evaluation used in the DSM could help extract the vital information needed by any clinician to ensure a global assessment of the patient. Some of the potential benefits are immediately apparent, including cases in which there is medication overuse, medical and psychiatric comorbidities, behavioral characteristics, stress and disability. Our following discussion focuses mainly on chronic headache and migraine because they are clinically relevant to this form of evaluation. However, we believe that our proposed model could be applied generally to all headache types.

Our Proposal for a Multi-axial Headache Evaluation

Axis I. IHS Classification (primary/secondary headache)

Axis II. Complications

- a) *Chronic migraine*
- b) *Medications overuse*

Axis III. Comorbidities

- a) *Medical*
- b) *Psychiatric*
 - 1) *Clinical disorders*
 - 2) *Clinical disorders, including headache coping strategies*

Axis IV. Psychosocial and environmental problems (DSM-IV Axis IV)

Axis V. Disability

Figure 1. Our proposed model which integrates diagnostic criteria from the ICDH and the multi-axial structure from the DSM-IV

Axis I describes the diagnosis of headache disorders according to the existing ICHD criteria. It serves to establish that headaches are the primary reason for the consultation. It can involve more than one diagnosis as the clinical course of the headaches progresses.

Axis II, which we refer to as the "complications" axis, pertains to the presence of chronic migraine and to medication overuse. Because of their clinical importance and because they are closely linked, we propose that a separate axis be devoted to each of these factors, especially since only 20.2% of chronic migraineurs are diagnosed.⁽²³⁾ The IHS does, in fact, grant special status to chronic migraine, as a complication of episodic migraine.

Axis III describes associated conditions or comorbidities, both medical and psychiatric.

They may or not be associated with the headaches.⁽²⁴⁾ However, from a medical perspective, these comorbidities are essential to include as they greatly affect treatment options, e.g., asthma and beta-blockers or vasculitis and triptans, bipolar disorder and preventive medication. Painful comorbidities can also complicate the patient's clinical course, e.g., fibromyalgia and irritable bowel syndrome and other comorbidities, such as obesity, snoring and apnea that are associated with chronification.

Axis III also includes personality disorders and traits as comorbidities, as these can modulate the patient's coping strategies for his or her headaches, medication use and relationship with the health care professional; such considerations are especially important if the patient is at risk for medication overuse. For further explanation of patients with type II⁽²⁵⁾ medication overuse, we refer to the works of Saper et al.⁽¹⁶⁾

Axis IV covers environmental and psychosocial stressors because the link between stress as a trigger for headaches/migraine attacks and the progression to chronic headaches has been well established.^(26,27) Identifying the different stressors and determining their importance in a patient provides guidance for the course of care which should emphasize psychological (Cognitive Behavioral Therapy) or psychophysiological (relaxation, biofeedback) treatment.

Axis V is devoted to the disability assessment. In the field of headache medicine, a structured evaluation including this axis should incite the clinician to examine the impact of the patients' headaches, as patients seldom report functional disability or emotional repercussions spontaneously.⁽²⁸⁾ The type of questionnaire used is less important, it is the act of evaluating disability which needs to be the focus. Headache specialists could use MIDAS or other scales like HIT-6 while primary care physicians could use global assessment functioning (GAF) found in the DSM. Primary care clinicians whose practice cannot bear the burden of an additional questionnaire could conduct a less formal disability assessment, which could consist simply in asking the patient about any missed or disrupted work days or social activities.

EXAMPLES

Reformulating Clinical Vignettes⁽²⁹⁾

These vignettes, originally published by Sun-Edelstein et al.,⁽²⁹⁾ were designed to illustrate which headache diagnoses are reached when using the ICHD criteria. They describe a fictional woman of 38 years suffering from chronic headache for the past 3 years. The goal was to demonstrate how, notwithstanding the nearly identical profiles, these patients can still be given differing headache diagnoses when following ICHD diagnostic criteria. We have taken the same vignettes and have applied our proposed multiaxial headache patient evaluation to reveal how seemingly uniform profiles can turn into unique, complex cases.

PATIENT A. "38F with mild-moderate headache every day for 3 years. Prior to daily headache, had migraines 1-5 days/month. Now has a migraine 10 days/month. Previously used sumatriptan every other day but has been using it only twice per week for the last 6 months. Does not use any other acute-care medication".

Axis I: Migraine without aura.

Axis II: Chronic migraine.

Axis III: Asthma, primary Raynaud's syndrome.

Major depression in remission; generalized anxiety disorder.

No presumed or diagnosed personality disorders.

Axis IV: Son died 3 years ago as a result of a skiing accident. Troubled marital relationship ever since.

Axis V: Misses 1 day of work per month and regularly cancels family activities. MIDAS grade III.

PATIENT B. "38F with mild-moderate headaches every day for 3 years. Prior to daily headache, had migraines 1-5 days/month. Now has a migraine 10 days/month. Has been using sumatriptan every other day for 2 years. Does not use any other acute-care medication."

Axis I: Migraine without aura.

Axis II: Medication overuse headache.

Axis III: obesity (Body Mass Index: 35), Glucose Tolerance Test positive, snoring, obsessive personality disorder.

Axis IV: Disagreement with coworkers and boss over work, which she feels is botched by the others.

Axis V: Misses 3 days of work per month and does not go out for fear of a migraine attack. MIDAS grade IV-A.

PATIENT C. "38F with mild-moderate headaches every day for 3 years. Prior to daily headache, had migraines 1-5 days/month. Now has a migraine 4 days/month. She previously used sumatriptan every other day but has been using it once per week for the last 6 months. Does not use any other acute medication."

Axis I: Chronic Tension Type Headache, migraine without aura.

Axis II: Nil.

Axis III: Nil.

Axis IV: Family problems because of limitations in activities.

Axis V: Misses work occasionally. Occasional limitation in family activities. MIDAS grade II.

PATIENT D. "38F with mild-moderate headache every day for 3 years. Prior to daily headaches, had migraines 1-5 days/month. Now has migraine 4 days/month. Has been using sumatriptan every other day for 2 years. Does not use any other acute-care medication."

Axis I: Migraine without aura.

Axis II: Medication overuse headache.

Axis III: No medical comorbidity.

Drug abuse, cocaine, alcohol, cannabis.

Borderline personality disorder.

Axis IV: Has separated twice in the past year. Conflict with immediate family. Has moved recently.

Axis V: Totally disabled, stopped working on her physician's advice. MIDAS grade IV-B.

COMMENTS ON VIGNETTES

The headache histories presented in these four vignettes are practically identical, except for the ICHD diagnosis. However, by using the multiaxial evaluation, a very different, more nuanced picture emerges which can entail significant implications for treatment options and overall patient prognosis.

In the case of patient A, medical comorbidities interfere with preventive and abortive treatment. The patient's disability is significant. Marital difficulties and bereavement are significant and should be addressed using psychotherapy since these issues have remained problematic for years. While the patient's depression is in remission, her general anxiety disorder must still be pharmacologically and psychotherapeutically addressed since these factors have been proven to have an impact on headaches and disability. However, the absence of a personality disorder should influence the prognosis positively.

In the case of patient B, evaluation shows major medical comorbidities (obesity, snoring) that interfere directly with the patient's headache experiences; they should be treated first. The patient's obsessive personality disorder, coupled with interpersonal conflicts, is a source of stress at work. The issues are likely to have a significant impact on the course of care and should be addressed using psychotherapy if possible.

In the case of patient C, the data do not indicate any comorbidities or problem situations. Her disability is easily manageable.

In the final case, there is a potential challenge in terms of management. The patient does not have any medical comorbidity, but her psychiatric comorbidities as well as the presence of psycho-environmental stressors are significant for her evaluation. Her disability is severe and of mixed origin as it is due both to her headaches and to her psychiatric problems. These must be addressed first. Limits and expectations must be clearly defined as goals of treatment.

DISCUSSION

The headache classification published in 1988 by the International Headache Society was motivated by the unreliability inherent in earlier classifications. The notion of disability and tools designed to assess it such as the MIDAS questionnaire were developed to obtain more information about the patient but could still not present an adequate global clinical picture; consequently, treatment was rarely optimal.

To address these problems, Saper and colleagues⁽¹⁶⁾ identified key variables to consider in order to fully comprehend the complexity of each case and integrated them into an original staging system. Their proposed system is primarily addressed to headache specialists to help them triage patients according to the case's complexity and to help establish the corresponding intensity of treatment.

Cady et al.,⁽¹⁵⁾ drawing from Blau's phase model and their convergence model, proposed another classification of patients which proved to be clinically insightful, but was difficult to use as its complexity limited its usage to highly specialized headache experts.

Seshia et al.⁽¹⁷⁾ suggested an original multiaxial classification for chronic headache which they believed could be used for any other type of headache as well. They defined six axes inspired from the axes styled in the DSM-IV. However, as with many of the previous propositions, Seshia et al.'s classification required in-depth knowledge of headaches, again making its usage limited to specialists. Furthermore, because they used six axes rather than five, the structure of their evaluation diverges from that of the DSM and makes it unfamiliar, thus harder to teach.

We believe that the lack of a standardized method to guide headache patient evaluation is problematic as it risks lessening the effectiveness of subsequent treatment and impedes discussion among experts. Therefore, in contrast to the preceding proposals, we do not suggest a staging or a classification system, but a global evaluation model for headache patients, structured in the form of a multiaxial system similar to the DSM-IV. Our evaluation system integrates the ICHD criteria to ensure diagnostic reliability, but its real strength lies in its similarity to the DSM-IV. We consider our proposed system to be much more accessible to clinicians than the previously proposed models because the multiaxial evaluation structure found in the DSM-IV is taught during the formative years of medical students and it is widely integrated within the primary care sector.

It should be noted that Axis II of our proposed model differs from that of the DSM-IV. We determined that this axis should emphasize two clinically problematic, yet too often omitted situations: medication-overuse headache and chronic migraine. Axes III, IV and V include elements which incorporate what the authors mentioned above have identified, such as comorbidities, environmental stressors and headache-related disability not spontaneously reported by patients. We did not include headache frequency because the widespread use of calendars or headache agendas is enough to assess this variable.

The ultimate objective of classification schemes such as those presented by Saper et al.,⁽¹⁶⁾ Cady et al,⁽¹⁵⁾ or Seshia et al.⁽¹⁷⁾ is to improve patient care. However, as most headache patients are firstly assessed by primary care physicians, these classification schemes are unlikely to be used because their structure and content targets specialists in headache medicine. Our model can aid any practitioner to evaluate a patient and offer a global picture which can not only aid diagnosis but can also aid in structuring an adapted treatment and follow-up plan.

CONCLUSION

Headache diagnosis has been facilitated since the introduction of the International headache classification. However, the evaluation of patients with headaches is a complicated task and presents many of the same dimensions encountered in psychiatric disorders. It requires a clinician to consider confounding variables that could be systematized. In order to devise an optimal treatment, one must follow a thorough evaluation structured so that all dimensions relevant to headache treatment can be accounted for and key factors contributing to the patient's unique situation identified. However, as the goal of the present proposal is to create both a reliable and user-friendly tool, we realize that this evaluation tool needs to be simple and easily accessible to all levels of physicians, from experienced clinician to medical student. Therefore, this headache multiaxial evaluation structure is an attempt to integrate established diagnostic tools (the DSM and the IHCD) with some aspects of classification schemes proposed by others in order to achieve such an objective. We suggest that combining the diagnosis criteria provided by the IHCD with the in-depth, multiaxial DSM-style evaluation will provide a tool to establish a reliable evaluation. By including the most important dimensions relevant to headache medicine into a medical evaluation, the

clinician can provide a treatment plan that is more likely to be effective. Because our multiaxial evaluation system proposal draws from reliable models, we believe it will easily be accepted and integrated within clinical practice. We hope that further contributions are made to this model, for instance, to move towards integrating a proper staging system that would guide treatment options more effectively. If such a multiaxial evaluation could become standardized within headache medicine, not only is communication facilitated, but much-needed research focused on patient care is encouraged.

REFERENCES

1. Headache classification committee of the International Headache Society. Classification and diagnostic criteria for headache disorders, cranial neuralgias and facial pain. *Cephalalgia*. 1988;8(suppl 7):1-96.
2. Headache Classification Subcommittee of the International Headache Society. The International Classification of Headache Disorders 2nd Edition. *Cephalalgia*. 2004;24 (suppl 1):1-160.
3. Pryse-Phillips WE, Dodick DW, Edmeads JG, Gawel MJ, Nelson RF, Purdy RA, et al. Guidelines for the management of migraine in clinical practice. *CMAJ*. 1997;156(9):1273-87. Erratum in *CMAJ* 1997;157(10):1354.
4. Silberstein SD et al. Practice parameter: evidence-based guidelines for migraine headache (an evidence-based review): report of the Quality Standards Subcommittee of the American Academy of Neurology. *Neurology* 2000;55(6):754-62. Erratum in *Neurology* 2000;56(1):142.
5. Agence Nationale d'Accréditation et d'Évaluation en Santé. Prise en charge diagnostique et thérapeutique de la migraine chez l'adulte et chez l'enfant: aspects cliniques et économiques. *La Lettre du Neurologue*. 2000;no3 vol. VII (suppl) :1-14.
6. Stewart WF, Lipton RB, Kolodner K, Liberman J, Sawyer J. Reliability of the migraine disability assessment score I a population-based sample of headache sufferers. *Cephalalgia*. 1999;19(2):107-14.
7. Lipton RB, Dodick D, Sadovsky R, Kolodner K, Endicott J, Hettiarachchi J, Harrison W; ID Migraine validation study. A self-administered screener for migraine in primary care: The ID Migraine validation study. *Neurology*. 2003; 61(3): 375-82.
8. Pryse-Phillips W, Aubé M, Gawel M, Nelson R, Purdy A, Wilson K. A headache diagnosis project. *Headache* 2002; 42(8):728-37.
9. Lipton RB, Bigal ME, Diamond M, Freitag F, Reed ML, Stewart WF; AMPP Advisory Group. Migraine prevalence, disease burden, and the need for preventive therapy. *Neurology* 2007; 68(5):342-9.
10. Bigal ME, Lipton RB. Clinical course in migraine: conceptualizing migraine transformation. *Neurology*. 2008;71(11) :848-55.
11. Lantéri-Minet M, Radat F, Chautard MH, Lucas C. Anxiety and depression associated with migraine : influence on migraine subjects' disability and quality of life, and acute migraine management. *Pain*. 2005;118(3):319-26.

12. Saunders K, Merikangas K, Low NC, Von Korff M, Kessler RC. Impact of comorbidity on headache-related disability. *Neurology*. 2008;70(7):538-47.
13. Saper JR, Hamel RL, Sell L, Winters M. A staging system for primary headache disorders. *Headache*. 1992;32:257.
14. Lake AE, Saper JR, Hamel R, Kreeger C. Proposal for a multiaxial diagnostic system for headache. *Headache*. 1995;35:285-6.
15. Cady RK, Schreiber CP, Farmer KU. Understanding the patient with migraine: the evolution from episodic headache to chronic neurologic disease. A proposed classification of patients with headache. *Headache*. 2004;44(5):426-35.
16. Saper J, Lake A 3rd, Lipton R. Staging headache cases: reconciling the complexity of a case with the required intensity of treatment. *Headache*. 2007;47(1):90-3.
17. Seshia SS, Wöber-Bingöl Ç, Guidetti V. The classification of chronic headache: Room for further improvement? *Cephalalgia*. 2010;30(10):1268-70.
18. American Psychiatric Association: *Diagnostic and Statistical Manual of Mental Disorders, Third Edition*, Washington, D.C., APA, 1980.
19. Wilson M. DSM-III and the transformation of American psychiatry: a history. *Am J Psychiatry* 1993;150 (3):399-410.
20. Williams JB. The multiaxial system of DSM-III: Where did it come from and where should it go? *Arch Gen Psychiatry* 1985; 42(2):175-80.
21. American Psychiatric Association: *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition*. Washington, DC, American Psychiatric Association, 1994.
22. Ad Hoc committee on classification of headache. *JAMA* 1962; 179:127-8.
23. Bigal ME, Serrano D, Reed M, Lipton RB. Chronic migraine in the population: burden, diagnosis, and satisfaction with treatment. *Neurology*. 2008;71(8):559-66.
24. Lipton RB, Silberstein SD. Why study the comorbidity of migraine? *Neurology*. 1994;44(suppl 7):S4-S5.
25. Saper JR, Lake AE 3rd. Medication overuse headache: type I and type II. *Cephalalgia*. 2006;26(10):1262.
26. Scher AL, Stewart WF, Buse D, Krantz DS, Lipton RB. Major life changes before and after the onset of chronic daily headache: a population-based study. *Cephalalgia*. 2008;28(8):868-78.
27. Fernandez E, Sheffield J. Relative contributions of life events versus daily hassles to the frequency and intensity of headaches. *Headache*. 1996;36(10):595-602.
28. Buse DC, Rupnow MF, Lipton RB. Assessing and managing all aspects of migraine: migraine attacks, migraine-related functional impairment, common comorbidities, and quality of life. *Mayo Clin Proc*. 2009;84(5):422-35.
29. Sun-Edelstein C, Bigal ME, Rapoport AM. Chronic migraine and medication overuse headache: clarifying the current International Headache Society classification criteria. *Cephalalgia*. 2009;29(4):445-52.

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