



## Editorial

# Incorporation of health technologies: The importance of drug treatment of primary headaches in the Brazilian unified health system

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Primary headaches have disabling characteristics that allow them to be classified as Chronic Noncommunicable Diseases (NCDs). Currently, cardiovascular diseases, cancer, diabetes, and chronic respiratory diseases are considered CNCD, leaving headaches excluded from this list and, consequently, keeping them out of political attention.<sup>1,2</sup> The non-incorporation of headaches as a CNCD in the Brazilian Unified Health System prevents the user from receiving adequate care when diagnosed with a headache. The care for patients with headache, when included in lines of care, can make it more equitable, effective, safe, and humanized, ensuring a more appropriate diagnosis and cost-effective treatment for the health system.<sup>3</sup>

Migraine is currently recognized by the World Health Organization (WHO) as the second leading cause of disability worldwide, first in those under 50 years of age and first in Western European countries and Australia.<sup>4</sup> In Brazil, evidence shows that about 30 million people suffer from migraines, 5% to 25% are women and 2% to 10% are men. That is, migraines are 2.2 times more prevalent in females.<sup>2,4</sup> The total number of records of specific hospitalizations in Brazil from 2014 to 2018 due to migraine and other headache syndromes was 42.9 thousand, representing 0.09%, about 7.8 thousand hospitalizations for this condition. The annual average of general hospitalizations in Brazil is approximately 10 million, with a proportion of 0.08%, due to migraine and other headache syndromes.<sup>5-10</sup>

Patients who receive a definitive diagnosis and treatment in managing headaches and, above all, prophylactic treatment, in primary care have a better quality of life, in addition to causing a considerable decrease in the number of visits to secondary care and hospitalizations.<sup>11-14</sup> That is why it is essential to train professionals working in primary care through matrix support in health with the help of specialist physicians working in specialized centers to manage headaches.

There is no record of Clinical Protocols and Therapeutic Guidelines (CPTG) by the Ministry of Health (MH) for the drug treatment of headaches in Brazil. Physicians working in the unified health system or Supplementary Health use protocols and consensuses published by headache and neurology societies, care protocols, or international guidelines.<sup>15</sup>

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The absence of clinical guidelines or protocols makes correct drug treatment difficult because there is no specific ICD related to adequate technology for the treatment of headaches and migraines by the unified health system.

In Brazil, the prescription of drugs within the scope of the unified health system is based on decree 7,508/2011 that regulates law 8,080/1990, in which universal and equal access to pharmaceutical care presupposes simultaneously being prescribing drugs following the National List of Essential Medicines (NLEM) and the CPTG or with the specific supplementary state, district or municipal list of medicines. Making it mandatory for physicians working in the unified health system to reliably prescribe or exhaust all medications available in NLEM.<sup>16</sup> The National Commission for the Incorporation of Technologies in the unified health system is responsible for proposing updating the NLEM every two years and evaluating the incorporation, alteration, or exclusion of technologies, based on the receipt of spontaneous requests, as per Decree No. 7,646 of 2011.

Specific drugs for migraine attacks, such as triptans and ergotamine derivatives, or non-specific drugs, such as simple analgesics and non-steroidal anti-inflammatory drugs, NSAIDs are the most indicated.<sup>15</sup> The concomitant use of antiemetic drugs, neuroleptics, and corticosteroids can be used, if necessary, to alleviate other symptoms of the crisis. Dopaminergic antagonists with antiemetic action, such as metoclopramide, domperidone and bromopride, can be useful even when there is no nausea since migraine attacks also cause gastroparesis. Regarding preventive treatment options (prophylaxis), beta-blockers, calcium channel blockers, antidepressants, antiepileptics, neurotoxins, and vitamins/phytotherapeutics are observed. For patients with chronic migraine, there are only two options whose effectiveness in prophylaxis is based on robust clinical evidence: topiramate and onabotulinum toxin.<sup>15</sup> Notably, no currently existing prophylactic treatments were explicitly developed for migraine. Recently, more selective targeted therapies directed at CGRP, monoclonal antibodies indicated for the preventive treatment of migraine, have been developed and approved.<sup>17-27</sup>

The NLEM update in 2022 did not incorporate any technology to treat the main primary headaches, nor did it expand access to medications already incorporated for headaches, such as the use of topiramate medications.<sup>28-33</sup> and botulinum toxin A<sup>34-35</sup>, already incorporated into the unified health system to treat other conditions.

Migraine needs to be treated as a public health problem, with the same political relevance contained in the CNCD,

paying attention to the damage it causes to people's lives, such as absenteeism at work, drop in productivity, association with psychological, social, emotional and affective nature due to the way it alters the sufferer's cognitive functions. Unfortunately, the consequences of headaches are still a subject of little discussed with the population for planning policies to deal with it. The evaluation of health technologies is essential for the sustainability of the unified health system since it depends on the balance between access, rational use, prices and risks involved in the incorporation of these technologies.

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## References

- Schmidt MI, Duncan BB, e Silva GA, Menezes AM, Monteiro CA, Barreto SM, . . . Menezes PR. **Chronic non-communicable diseases in Brazil: burden and current challenges.** *The Lancet* 2011;377(9781):1949-1961 Doi: 10.1016/s0140-6736(11)60135-9
- Souza MNP, Cohen JM, Piha T, Ribalov R, Lengil T, van der Laan A, . . . Lee LK. **Burden of migraine in Brazil: A cross-sectional real-world study.** *Headache: The Journal of Head and Face Pain* 2022;62(10):1302-1311 Doi: 10.1111/head.14413
- Peres MFP, Queiroz LP, Rocha-Filho PS, Sarmiento EM, Katsarava Z and Steiner TJ. **Migraine: a major debilitating chronic non-communicable disease in Brazil, evidence from two national surveys.** *The Journal of Headache and Pain* 2019;20(1):Doi: 10.1186/s10194-019-1036-6
- Queiroz LP, Peres MFP, Piovesan EJ, Kowacs F, Ciciarelli MC, Souza JA and Zukerman E. **A Nationwide Population-Based Study of Migraine in Brazil.** *Cephalalgia* 2009;29(6):642-649 Doi: 10.1111/j.1468-2982.2008.01782.x
- De Souza Silva M, Esther da Silva Alves G, Thiago de Lima Silva J, Flaudiano Bem Leite A and Roberta



- Ribeiro dos Santos E. **Interações por enxaqueca.** *Jornal Memorial da Medicina* 2020;1(2):57-65 Doi: 10.37085/jimmv1.n2.2019.pp.57-65
6. Krymchantowski A, Jevoux C, Silva-Neto RP and Krymchantowski AG. **Migraine Treatment in Emergency Departments of Brazil: A Retrospective Study of 2 Regions.** *Headache* 2020;60(10):2413-2420 Doi: 10.1111/head.13999
  7. Peres MFP, Queiroz LP, Rocha-Filho PS, Sarmiento EM, Katsarava Z and Steiner TJ. **Migraine: a major debilitating chronic non-communicable disease in Brazil, evidence from two national surveys.** *J Headache Pain* 2019;20(1):85 Doi: 10.1186/s10194-019-1036-6
  8. Queiroz LP, Peres MF, Piovesan EJ, Kowacs F, Ciciarelli MC, Souza JA and Zukerman E. **A nationwide population-based study of migraine in Brazil.** *Cephalalgia* 2009;29(6):642-649 Doi: 10.1111/j.1468-2982.2008.01782.x
  9. Domingues RB, Aquino CC, Santos JG, da Silva AL and Kuster GW. **Prevalence and impact of headache and migraine among Pomeranians in Espírito Santo, Brazil.** *Arq Neuropsiquiatr* 2006;64(4):954-957 Doi: 10.1590/s0004-282x2006000600013
  10. Raffaelli E. **Migraine awareness, treatment, and education in Brazil.** *Cephalalgia* 1998;18 Suppl 22(67; discussion 67-68 Doi: 10.1177/0333102498018s2213
  11. Nichols V, Pearce G, Ellard DR, Evans S, Haywood K, Norman C, . . . team C. **Patient and public involvement in a UK National Institute for Health Research Programme Grant for Applied Research: experiences from the Chronic Headache Education and Self-management Study (CHESS).** *Prim Health Care Res Dev* 2021;22:e72 Doi: 10.1017/S1463423621000670
  12. Charleston Lt and Evans RW. **Public policy and headache: observations of health care policy in the US congress from a legislative fellow's perspective.** *Headache* 2013;53(5):827-830 Doi: 10.1111/head.12098
  13. Steiner TJ. **Headache in the world: public health and research priorities.** *Expert Rev Pharmacoecon Outcomes Res* 2013;13(1):51-57 Doi: 10.1586/erp.12.78
  14. Ziegler DK. **Headache. Public health problem.** *Neurol Clin* 1990;8(4):781-791
  15. Kowacs F, Roesler CAdP, Piovesan ÉJ, Sarmiento EM, Campos HCd, Maciel Jr JA, . . . Jurno ME. **Consensus of the Brazilian Headache Society on the treatment of chronic migraine.** *Arquivos de Neuro-Psiquiatria* 2019; 77(7): 509-520 Doi: 10.1590/0004-282x20190078
  16. Silberstein SD and Edvinsson L. **Is CGRP a marker for chronic migraine?** *Neurology* 2013;81(14):1184-1185 Doi: 10.1212/WNL.0b013e3182a6cc33
  17. Aggarwal M, Puri V and Puri S. **Serotonin and CGRP in migraine.** *Ann Neurosci* 2012;19(2):88-94 Doi: 10.5214/ans.0972.7531.12190210
  18. Salvatore CA and Kane SA. **CGRP receptor antagonists: toward a novel migraine therapy.** *Curr Pharm Biotechnol* 2011;12(10):1671-1680 Doi: 10.2174/138920111798357401
  19. Tvedskov JF, Tfelt-Hansen P, Petersen KA, Jensen LT and Olesen J. **CGRP receptor antagonist olcegepant (BIBN4096BS) does not prevent glyceryl trinitrate-induced migraine.** *Cephalalgia* 2010;30(11):1346-1353 Doi: 10.1177/0333102410363491
  20. Ho TW, Edvinsson L and Goadsby PJ. **CGRP and its receptors provide new insights into migraine pathophysiology.** *Nat Rev Neurol* 2010;6(10):573-582 Doi: 10.1038/nrneurol.2010.127
  21. Schelstraete C and Paemeleire K. **CGRP antagonists: hope for a new era in acute migraine treatment.** *Acta Neurol Belg* 2009;109(4):252-261
  22. Tfelt-Hansen P and Ashina M. **CGRP in migraine.** *J Headache Pain* 2009;10(5):385; author reply 387-388 Doi: 10.1007/s10194-009-0139-x
  23. Edvinsson L. **CGRP blockers in migraine therapy: where do they act?** *Br J Pharmacol* 2008;155(7):967-969 Doi: 10.1038/bjp.2008.346
  24. Durham PL. **CGRP receptor antagonists: a new choice for acute treatment of migraine?** *Curr Opin Investig Drugs* 2004;5(7):731-735
  25. Brain SD, Poyner DR and Hill RG. **CGRP receptors: a headache to study, but will antagonists prove therapeutic in migraine?** *Trends Pharmacol Sci* 2002;23(2):51-53 Doi: 10.1016/s0165-6147(02)01945-4
  26. Doods H. **Development of CGRP antagonists for the treatment of migraine.** *Curr Opin Investig Drugs* 2001;2(9):1261-1268
  27. Autunno M, Messina C, Blandino A and Rodolico C. **Hypnic headache responsive to low-dose topiramate: a case report.** *Headache* 2008;48(2):292-294 Doi: 10.1111/j.1526-4610.2007.01000.x
  28. Diener HC, Bussone G, Van Oene JC, Lahaye M, Schwalen S, Goadsby PJ and Group T-M-S. **Topiramate reduces headache days in chronic migraine: a randomized, double-blind, placebo-controlled study.** *Cephalalgia* 2007;27(7):814-823 Doi: 10.1111/j.1468-2982.2007.01326.x
  29. Palacio E, Rodero L and Pascual J. **Topiramate-responsive headache due to idiopathic intracranial hypertension in Behcet syndrome.** *Headache* 2004; 44(5): 436-437 Doi: 10.1111/j.1526-



- 4610.2004.04095.x
30. Leone M, Dodick D, Rigamonti A, D'Amico D, Grazzi L, Mea E and Bussone G. **Topiramate in cluster headache prophylaxis: an open trial.** *Cephalalgia* 2003; 23(10):1001-1002 Doi: 10.1046/j.1468-2982.2003.00665.x
  31. McGeeney BE. **Topiramate in the treatment of cluster headache.** *Curr Pain Headache Rep* 2003;7(2):135-138 Doi: 10.1007/s11916-003-0023-3
  32. Rapoport AM, Bigal ME, Tepper SJ and Sheftell FD. **Treatment of cluster headache with topiramate: effects and side-effects in five patients.** *Cephalalgia* 2003; 23(1): 69-70; author reply 70 Doi: 10.1046/j.1468-2982.2003.00481\_1.x
  33. Aschehoug I, Bratbak DF and Tronvik EA. **Long-Term Outcome of Patients With Intractable Chronic Cluster Headache Treated With Injection of Onabotulinum Toxin A Toward the Sphenopalatine Ganglion - An Observational Study.** *Headache* 2018;58(10):1519-1529 Doi: 10.1111/head.13398
  34. Russo M, Manzoni GC, Taga A, Genovese A, Veronesi L, Pasquarella C, . . . Torelli P. **The use of onabotulinum toxin A (Botox((R))) in the treatment of chronic migraine at the Parma Headache Centre: a prospective observational study.** *Neurol Sci* 2016;37(7):1127-1131 Doi: 10.1007/s10072-016-2568-z
  35. Yerry JA, Kuehn D and Finkel AG. **Onabotulinum toxin a for the treatment of headache in service members with a history of mild traumatic brain injury: a cohort study.** *Headache* 2015;55(3):395-406 Doi: 10.1111/head.12495