

Chronic frequent headache in the general population Wiendels, N.J.

Citation

Wiendels, N. J. (2008, February 20). *Chronic frequent headache in the general population*. Retrieved from https://hdl.handle.net/1887/12608

Version:	Corrected Publisher's Version
License:	Licence agreement concerning inclusion of doctoral thesis in the Institutional Repository of the University of Leiden
Downloaded from:	https://hdl.handle.net/1887/12608

Note: To cite this publication please use the final published version (if applicable).

Chapter 1

Introduction to

chronic frequent headache in the general population

Chronic frequent headache (CFH) is a collective term for primary headaches occurring on more than 14 days per month for at least three months. Almost all patients start with episodic migraine or tension-type headache, which gradually becomes more frequent until their headaches are almost daily. As attack frequency increases, headache characteristics change. Migraine headaches often lose typical migraine features and become less severe, and tensiontype headaches gain migraine features like nausea, making it difficult for the physician to diagnose the original headache type. The term chronic daily headache (CDH) is commonly used to describe these headaches. However, since patients do not necessarily have headaches every day, we prefer the term CFH.

The prevalence of CFH in the general population is around 4% worldwide.¹⁻⁴ CFH occurs in all ages. In elderly the prevalence of CFH was found to be 4%, while the actual prevalence in children has not been determined, but is estimated to be around 1%.⁵ In the Netherlands, 13% of schoolchildren between the age of 10 and 17 years reported having headaches a few times per week.⁶ The relatively high prevalence of CFH together with a low quality of life indicates that CFH is a serious health problem.

Quality of life of CFH patients in the general population is greatly impaired when compared to healthy controls.⁷ Comorbidity can have a negative influence on quality of life as well. In migraineurs, quality of life reduces with increasing attack frequency and when combined with other chronic conditions.⁸ In headache clinics, the majority of patients with CFH have a comorbid psychiatric disorder.⁹⁻¹¹ And there is evidence that anxiety and depression are associated with CFH in the general population as well. The extent to which comorbidity influences quality of life in CFH has not been studied.

There are limited data on the incidence and natural course of CFH. In a general population sample in the USA with a headache frequency of 2-104 days/year, the one-year cumulative incidence of CFH was 3%.¹² Subjects with a relatively high baseline frequency had an elevated risk for incident CFH. In a specialized headache centre in Germany 14% of patients with episodic migraine developed chronic headache during one year of follow-up.¹³ A relatively high headache frequency of 10 - 15 days/month and use of acute headache medication on > 10 days/month were risk factors for chronification.

Overuse of acute headache medication is considered an important risk factor for CFH. In a community-based study conducted among Chinese elderly (> 64 years) CFH was associated with analgesic overuse and overuse was a predictor of persistent CFH at follow-up four years later.¹⁴ Clinical experience suggests a causal relationship with overuse of acute headache medication because withdrawal of medication often results in a dramatic improvement of headache frequency.¹⁵ Other factors that have been associated with CFH in the general population include female sex, low educational level, previously married status, arthritis, habitual snoring, and a history of migraine.^{12,14,16} Because the control groups in these studies included subjects who rarely had headaches (only two headaches a year), these factors could be associated with having headaches regularly, rather than with chronic headache in particular.

Psychological factors may also play an important role in the chronification of headache. Multidimensional models of pain distinguish between sensory and affective components of pain perception, and many different brain regions are activated with pain perception.¹⁷ Cognitive processes, like attention and distraction, can modulate pain perception as has been demonstrated by using functional magnetic resonance imaging.¹⁸ The Gate Control Theory of Pain proposes that specific brain activity may open or close spinal-gating mechanisms, thereby increasing or decreasing pain.¹⁹ Psychological factors may impact on pain experience via their influence on these mechanisms. Cognitive factors like catastrophizing and locus of control are associated with increased pain ratings and predict disability,²⁰ and personality factors have been associated with chronic headaches and substance abuse.^{10,21} Since both cognitive and personality measurements can be influenced by presence of depression and anxiety, psychiatric comorbidity should be accounted for when studying relationships between psychological factors and CFH.

In general, if headache frequency increases to more than four days a month, preventive drug therapy should be considered. About two-thirds of migraine patients will have a 50% reduction in frequency.²⁴ Many patients however do not consult a doctor for headaches and treat themselves with over-the-counter products.²⁵ A temporary increase in headache frequency is often accompanied by an increase in acute medication use, which can lead to medication-overuse-headache (MOH) in susceptible patients. Pain relief by drug intake is a strong reinforcing factor, together with withdrawal headache when intake is reduced.

11

Withdrawal of all acute headache medication is the only appropriate treatment. There are however no placebo-controlled trials demonstrating efficacy of drug withdrawal, and spontaneous decrease of headache frequency has also been observed in general population surveys.^{3,12} Most information on the effect of withdrawal comes from headache clinics, while the majority of MOH patients are to be found in the general population. It makes more sense to advise probable MOH patients to discontinue overuse in General Practice, before they are referred to headache specialists. Studies on the efficacy of withdrawal in General Practice are needed.

In conclusion, CFH is a serious health problem which affects a significant number of people. It is still largely unknown why some patients with episodic headache evolve into chronic frequent headache. Early detection of risk factors may improve prevention and management of CFH.

Aims of this thesis

We studied the prevalence and associated factors of CFH in the adult population in the Netherlands. The study is questionnaire-based, a quick overview is presented below. To identify putative risk factors for chronification of headache we compared subjects with CFH to subjects with infrequent headaches. Clinical and psychological features are described and the extent to which these factors contribute to the impact of headache on quality of life. In addition, we used data from the Drug Information Project (GIP database) of the Health Care Insurance Board (CVZ) to study triptan use and overuse in the Dutch general population. Given that medication overuse is a major problem in CFH in the general population and little is known about the optimal treatment, we evaluated the effect of withdrawal in medication overusing patients in General Practice. And lastly, we retrospectively studied clinical features of CFH in children and adolescents presenting to the neurology clinic of Leiden University Medical Centre.



Overview questionnaire study.

References

- Castillo J, Munoz P, Guitera V, Pascual J. Epidemiology of Chronic Daily Headache in the General Population. Headache 1999; 39:190-196.
- 2. Lanteri-Minet M, Auray JP, El Hasnaoui A, Dartigues JF, Duru G, Henry P et al. Prevalence and description of chronic daily headache in the general population in France. Pain 2003; 102(1-2):143-149.
- Lu SR, Fuh JL, Chen WT, Juang KD, Wang SJ. Chronic daily headache in Taipei, Taiwan: prevalence, follow-up and outcome predictors. Cephalalgia 2001; 21(10):980-986.
- Scher AI, Stewart WF, Liberman J, Lipton RB. Prevalence of Frequent Headache in a Population Sample. Headache 1998; 38:497-506.
- Abu-Arefeh I, Russell G. Prevalence of headache and migraine in schoolchildren. BMJ 1994; 309(6957):765-769.
- Bandell-Hoekstra IENG, Abu-Saad HH, Passchier J, Frederiks CMA, Feron FJM, Knipschild P. Prevalence and characteristics of headache in Dutch schoolchildren. European Journal of Pain 2001; 5(2):145-153.
- Guitera V, Munoz P, Castillo J, Pascual J. Quality of life in chronic daily headache: A study in a general population. Neurology 2002; 58(7):1062-1065.
- 8. Terwindt GM, Ferrari MD, Tijhuis M, Groenen SM, Picavet HS, Launer LJ. The impact of migraine on quality of life in the general population: the GEM study. Neurology 2000; 55(5):624-629.
- Juang KD, Wang SJ, Fuh JL, Lu SR, Su TP. Comorbidity of depressive and anxiety disorders in chronic daily headache and its subtypes. Headache 2000; 40(10):818-823.
- 10. Mathew NT, Stubits E, Nigam MP. Transformation of episodic migraine into daily headache: analysis of factors. Headache 1982; 22(2):66-68.
- 11. Verri AP, Proietti CA, Galli C, Granella F, Sandrini G, Nappi G. Psychiatric comorbidity in chronic daily headache. Cephalalgia 1998; 18 Suppl 21:45-49.
- 12. Scher AI, Stewart WF, Ricci JA, Lipton RB. Factors associated with the onset and remission of chronic daily headache in a population-based study. Pain 2003; 106(1-2):81-89.
- 13. Katsarava Z, Schneeweiss S, Kurth T, Kroener U, Fritsche G, Eikermann A et al. Incidence and predictors for chronicity of headache in patients with episodic migraine. Neurology 2004; 62(5):788-790.
- 14. Wang SJ, Fuh JL, Lu SR, Liu CY, Hsu LC, Wang PN et al. Chronic daily headache in Chinese elderly: prevalence, risk factors, and biannual follow-up. Neurology 2000; 54(2):314-319.
- Diener HC, Limmroth V. Medication-overuse headache: a worldwide problem. Lancet Neurol 2004; 3(8):475-483.
- Scher AI, Lipton RB, Stewart WF. Habitual snoring as a risk factor for chronic daily headache. Neurology 2003; 60(8):1366-1368.
- 17. Apkarian AV, Bushnell MC, Treede RD, Zubieta JK. Human brain mechanisms of pain perception and regulation in health and disease. Eur J Pain 2005; 9(4):463-484.
- Villemure C, Bushnell MC. Cognitive modulation of pain: how do attention and emotion influence pain processing? Pain 2002; 95(3):195-199.
- 19. Melzack R, Wall PD. Pain mechanisms: a new theory. Science 1965; 150(699):971-979.

- 20. Sullivan MJ, Thorn B, Haythornthwaite JA, Keefe F, Martin M, Bradley LA et al. Theoretical perspectives on the relation between catastrophizing and pain. Clin J Pain 2001; 17(1):52-64.
- 21. Pud D, Eisenberg E, Sprecher E, Rogowski Z, Yarnitsky D. The tridimensional personality theory and pain: harm avoidance and reward dependence traits correlate with pain perception in healthy volunteers. Eur J Pain 2004; 8(1):31-38.
- 22. Holroyd KA, O'Donnell FJ, Stensland M, Lipchik GL, Cordingley GE, Carlson BW. Management of chronic tension-type headache with tricyclic antidepressant medication, stress management therapy, and their combination: a randomized controlled trial. JAMA 2001; 285(17):2208-2215.
- 23. Rains JC, Penzien DB, McCrory DC, Gray RN. Behavioral headache treatment: history, review of the empirical literature, and methodological critique. Headache 2005; 45 Suppl 2:S92-109.
- 24. Goadsby PJ, Lipton RB, Ferrari MD. Migraine--current understanding and treatment. N Engl J Med 2002; 346(4):257-270.
- 25. Lipton RB, Scher AI, Steiner TJ, Bigal ME, Kolodner K, Liberman JN et al. Patterns of health care utilization for migraine in England and in the United States. Neurology 2003; 60(3):441-448.