Clinical and epidemiological aspects of headache in a neurology clinic in Babol, Northern Iran

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The lifetime prevalence of headache is 93% for men and up to 99% for women.[1] The public health significance of headaches is often overlooked, probably due to their episodic nature and lack of mortality, but headache disorders are often incapacitating, with considerable impact on social activities and work, and may lead to significant drug consumption.[2] The socio-economic burden of headache includes both direct costs associated with health care utilization and costs associated with missed working activity due to absence from job or reduced efficiency. Due to its high prevalence and wide spectrum of disability, tension-type headache has greater socioeconomic impact than any other type.[3] Headache disorders constitute enormous proportions of public-health problems. Epidemiological data are required to determine the significance of these disorders. This cross-sectional study has been conducted to obtain the clinical and epidemiological characteristics of headache disorders in a clinic-based sample of headache patients in our region.

This descriptive and clinic-based cross-sectional study with census sampling was conducted on 48,750 patients admitted to a neurology clinic in Babol, north of Iran, from 1995-2004. Babol comprises a University City, smaller satellite towns and agricultural areas with a population of 550,000 (census data). From these patients, we selected only headache cases without any definite and proved systemic or brain disease. According to the Headache Classification Committee of the International Headache Society (IHS) 1988, a definite cause of the headache was recorded. For each patient, a file was recorded including: age, gender, main occupation, initial etiology of headache diagnosed by a primary non neurologist physician, diagnosis of the headache causes according to IHS by neurologist, precipitating factors of headache for primary headaches, sources of drugs supply such as: a drugstore seller recommendation, unprofessional advice (from relatives, friends, and colleagues). The analgesic consumption was defined as using at least one tablet a week. Data were analyzed by descriptive statistical methods to compare the clinical and epidemiological characteristics of headache.

Among 48,750 patients referred to a neurology clinic, headache was the chief complaint in 25,810 (52.9%) cases. From these patients, we selected only headache cases without any definite and proven systemic or brain disease. In the final stage, a group of 19,845 patients, whose diagnosis was confirmed in the second evaluation remained and were included in the study. Most patients 5,268 (26.5%) were in the age range of 30-39 years. The females complained of headache more often than the males, 12,145 (61.2%) versus 7,700 (38.8%). The most frequent causes of headaches were tension type headache, migraine headache, cervical disease, systemic and metabolic disorders, sinusitis, ophthalmic disorders and space-occupying lesions of the brain, and other miscellaneous causes **(Table 1).** Most cases had another diagnosis in their primary consult **(Table 1)** including sinusitis and ophthalmic disease as the most attributed causes. The most frequent occupation types for females were: housekeepers 6,180 (31.1%), employees 4,254 (21.4%), free jobs 353 (1.8%), unemployed 241(1.2%), retirees 174 (0.9%), and students 943 (4.75%), for the males they were employees 2865 (37.2%), free jobs 1,853 (9.3%), unemployed 1,453 (7.3%), retirees 371 (1.9%), and students 1,158 (5.8%). Out of 14,898 primary headache sufferers, stress, especially due to family, and economical reasons, was the most frequent precipitating factor in 4,844 tension type headaches (49.5%) and 2,010 migraine (39.3%), food items in 1,682 tension type headaches (17.25%) and 1,079 migraine (21.1%), and sleep disturbances in 1,664 tension type headaches (17%) and 925 migraine (18.8%), were the next ones, in the remaining 2,687, no definite factor was found. Most primary headache sufferers 10,721 (72%) declared regular consumption of analgesics for pain relief, before any medical referral was undertaken. An adult cold tablet was the most common drug 5,628 (37.7%), acetaminophen codeine 2,681 (18%), NSAID, especially Ibuprofen 1,370 (9.2%), ergotamine compound drugs 595 (4%), and other different types of drugs 447 (3%) had been used by the other patients. Triptan, sedative, or neuroleptic

Table 1 - Comparison of frequency and percent of headache etiology in headache patients in Babol diagnosed by non neurologist physician and neurologist.

Headache type	Headache etiology diagnosed by neurologist	Headache etiology diagnosed by non neurologist physician
Tension headache	49.3	15.8
Migraine	25.8	10.9
Cervical disease	11.3	5.9
Metabolic and systemic disease	4.75	17.0
Sinusitis	4.3	27.6
Ophthalmic disease	2.9	17.4
Others	1.8	5.4

drugs were rarely used. Drug sources included: drugstore seller 3,456 (23.2%), a family member 3,251 (21.8%), relatives 1,634 (11%), friends 1,237 (8.3%), and colleagues 1,143 (7.7%). Most (4,634 [31.1%]) took more than 10 tablets a week, 3,653 (24.5%) took 6-10 tablets a week, 1,197 (8%) took 4-6 tablets a week, and 1,237 (8.3%) took 1-2 analgesic tablets a week.

Most of the neurological consults in this clinic-based study were carried out due to headache, and prevalence of headache in our clinic was 52.9%. In this study, most patients were 30-40 years of age, which matches the reports of other studies.[1] This complaint is more common in females and we found the rate to be 61.2% in females, higher than that of males. The high prevalence of headache in employed women in this study may actually reflect the impact of fatigue and stress of the workplace, despite, in our region, the frequency of employed women in the general population is much lower than that of housekeepers, while nearly all employed women are also housekeepers. The high prevalence of headache in employed men in this study, is probably related to stress of workplace and fatigue.

In this study, tension headache was the most common headache in the patients seeking medical care, and migraine was the second. The high frequency of tension headache in comparison with that of migraine in this clinic-based study in this region correlates with other studies from the East.[4] In this study, regarding non neurologist physicians' initial diagnosis, we observed that they mostly put sinusitis and ophthalmic disorders as the first line of diagnosis of headache cause in our region. Nevertheless, the incorrect initial diagnosis has been reported in other studies. Stress was the most common precipitating factors in these cases of primary headaches, especially in 49.5% of tension headache and in 39.3% of migraine, consistent with most reports.[5] The rate of analgesic drug consumption in our cases was very high (72%) in primary headache patients, more than other studies. Adult cold tablets and acetaminophen codeine tablets were the 2 most often used drugs by our patients, whereas in the other reports, other drugs were used by headache sufferers, in a Danish population study. Acetylsalicylic acid preparations and paracetamol were the most commonly used analgesics, and in a study in medical students, acetaminophen and Mefenamic acid were the most commonly used drugs.

These data demonstrate that headache is an important public health problem in our region, and the individual and societal burden of headache is substantial. This dictates the fact that more attention should be given to headache disorders, especially considering strategies leading to adequate primary prevention, diagnosis, and treatment. Also, the findings of this study show a great disagreement between the initial diagnoses in the first consult and the real diagnoses for the patients with headache. These properly reveal the importance of educating our physicians with regards to the international statistical reports of headache cause and a change in view of evaluating of such patients, and their diagnosis.

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