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ORIGINAL ARTICLE

Frequency of primary headaches in the community and in specialized care centers*

Frequência das cefaleias primárias na comunidade e em centros de cuidados especializados

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ABSTRACT

BACKGROUND AND OBJECTIVES: The comparison of headache features in general population and in tertiary care centers may explain factors associated to the search for medical assistance and the obstacles to such assistance. This study aimed at comparing demographic findings and the frequency of migraine and tension headache (THA) in general population and in a specialized care center.

METHOD: All inhabitants of a small village were interviewed about the presence of headache. In one randomly selected region, people who answered positively were evaluated by a team of neurologists specialized in headache. They have also evaluated a number of patients consecutively treated by a specialized center. Diagnoses have followed International Headaches Classification criteria (2004).

RESULTS: Participated in this study 1605 inhabitants of the whole village and 258 inhabitants of the region selected as sample. From these, 76 people reporting headache went through a neurological evaluation, as well as 289 patients of the specialized center. THA was the most common headache among general population (77.6%), followed by migraine (61.8%) with diagnostic overlapping in a good percentage of cases. In the outpatient setting the vast majority of patients had migraine (79.8%), while only 20.4% had THA, being the diagnostic association far less common.

CONCLUSION: THA is more common in the community and migraine prevails in specialized centers. Understanding the contrasts of both primary headaches within these two scenarios may help the planning of preventive actions and the use of health care resources.

Keywords: General population, Migraine, Studies in specialized centers, Tension headache.

RESUMO

JUSTIFICATIVA E OBJETIVOS: A comparação entre as características da cefaleia encontradas na população geral e em centros de cuidados terciários pode elucidar fatores associados à procura de consulta médica e obstáculos ao atendimento. O objetivo deste estudo foi contrastar os achados demográficos e a frequência de migrânea e de cefaleia do tipo tensional (CTT) na população geral e em um centro de atendimento especializado.

MÉTODO: Todos os habitantes de uma pequena cidade foram entrevistados quanto à presença de cefaleia. Em uma região, escolhida por sorteio, os moradores que responderam positivamente foram avaliados por uma equipe de neurologistas especialistas em cefaleia. Esses profissionais também avaliaram uma casuística de pacientes atendidos consecutivamente em um centro especializado. Os diagnósticos seguiram os critérios da Classificação Internacional das Cefaleias-2004.

RESULTADOS: Foram entrevistados 1.605 moradores em toda cidade e 258 na região da amostra. Destes, os 76 que tinham cefaleia passaram por avaliação neurológica, bem como 289 pacientes do centro especializado. As mulheres representaram a maioria, tanto na comunidade quanto no ambulatório. Na população, a frequência de CTT foi de 77,6% e a de migrânea de 61,8%, havendo sobreposição diagnóstica em boa parcela dos casos. Já no ambulatório a vasta maioria dos pacientes tinham migrânea (79,8%), enquanto apenas 20,4% tinham CTT, sendo a associação diagnóstica bem menos comum.

CONCLUSÃO: A CTT é mais comum na comunidade e a migrânea em centros especializados. Conhecer os contrastes destas cefaleias primárias nestes dois cenários pode auxiliar o planejamento de ações preventivas e utilização dos recursos assistenciais.

Descritores: Cefaleia do tipo tensional, Estudos em centros especializados, Migrânea, População geral.

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INTRODUCTION

Migraine and tension headache (THA) are the most common types of primary headache according to the epidemiological perspective[1]. Several studies with these types of headache have been carried out in tertiary centers or within the community[2]. Evidences suggest that data collected in these two different scenarios may significantly vary. For example, the incidence of migraine in a specialized center is 30% to 90%, and of THA is 5% to 30%[3]. On the other hand, the incidence of migraine in the community is 12% to 23% and of THA between 13% and 80% of the population[4]. Young and middle-aged females are disproportionately affected in all scenarios. With regard to THA, population-based studies show that males are more affected than females, while tertiary center studies suggest more frequency among females as compared to males[3,4].
Comparisons between population-based studies and specialized center studies will allow a more integrated understanding of such primary headaches, not only with regard to the epidemiology of the disease, but also with regard to factors associated to medical visits and barriers to adequate care[2].
These findings may be used for educational planning and for the development of preventive strategies aiming at optimizing treatment and resources[5]. The greater difficulty is that most studies carried out in specialized centers characterize patients within a sample where all patients have some type of headache. In the population, the denominator to access the frequency of the disease includes individuals with and without headache. The comparison, then, is not symmetric, which means that studies carried out in specialized centers describe a relative frequency, while population-based data describe the prevalence.
The development of studies with uniform methodology, specifically shaped to carry out such comparisons, may better reflect similarities and differences among primary headaches found in the population, in primary care centers and in specialized centers.
So, this study aimed at contrasting demographic data and the frequency of migraine and THA in the population and in a specialized care center.

METHOD

Community data were collected in Capela Nova, Minas Gerais, located approximately 150 km from the capital of the state, Belo Horizonte. According to the Brazilian Census from the year 2000, population was approximately 2066 inhabitants (1631 above 10 years of age). This study is part of a transversal study investigating the prevalence of headaches in all city residents, called Capela Nova Study.
The local Family Health Program (PSF) had broad coverage and maintained regular visits of health community agents to all 556 city homes.
From September to November 2005, all residents with more than 10 years of age were asked by these agents about the incidence of headache in the 12 months previous to the interview. People sleeping in the house were considered residents. The questionnaire had a heading (gender, age, marital status and education) and the question: "have you had headache in the last 12 months?"
After population interview, one of the six census micro-regions of the city visited by health community agents was randomly selected to make up the sample. There, all residents reporting headache the year before the study were invited for a neurological evaluation with headache specialists. Headaches diagnosis was based on the second edition of the International Classification of Headache Disorders-2004. Participants were evaluated in the health center of the city or at home, according to their availability, in the first months of 2006.
The Headaches Outpatient Setting of the Clinicas Hospital, Federal University of Minas Gerais (AmbCef-UFMG) is a tertiary reference headache center in the state. For this study, all patients assisted from February to March 2011 by the AmbCef-UFMG were consecutively evaluated by the same team of neurologists involved in community data collection.
Socio-demographic data and frequency of migraine and tension headache were compared between the sample of residents of the census micro-region and the sample of patients assisted by AmbCef-UFMG.

Statistical analysis

Demographic data and frequency of headaches were compared between groups. Data were transferred to Epi-info 200 by the coordinator of the study and were analyzed with the SPSS 12.0 program.
Headache frequency is presented as headache diagnosis, which was calculated together with the confidence interval, established as 5%.
Non parametric data were compared between groups with Chi-square test or Fisher Exact test (when expected values were low). Mann-Whitney test was used for continuous variables.
This study has followed the regulatory standards of the National Health Council (Resolution 196/1996).
The protocol and all forms were reviewed and approved by the Investigation Review Committee, Federal Fluminense University, in 08/17/2005, under registration 123/2005, and then by the Ethics Committee, Federal University of Minas Gerais, in 01/13/2011, under registration 0500.0.203.000.10.

RESULTS

Participated in this study 1605 residents across the city and 258 inhabitants in the census micro-region representing the sample. From these, 76 have reported headache in the year before the study and were evaluated by the team of neurologists. In the specialized center, 289 consecutive patients were evaluated.
Females represented the majority of studied individuals, both in the community (71.1%) and in the specialized center (86.9%), but proportionately, there have been more males with headache in the community as compared to the outpatient setting ($p < 0.05$). There has been no statistical differ-

Table 1 – Socio-demographic characteristics of patients treated in the UFMG Headaches Outpatient Setting and in the population.

	Headaches Outpatient Setting (n = 289)	Population (n = 76)	p value
Gender			
Female	251 (86.9%)	54 (71.1%)	0.001*
Male	38 (13.1%)	22 (28.9%)	
Education (years)			
Less than 8	136 (52.3%)	57 (75.0%)	0.002*
8 – 11	91 (35.0%)	14 (18.4%)	
11 or more	33 (12.7%)	5 (6.6%)	
Age			
Mean	42.6	40.3	0.246**
Standard deviation	15.0	15.2	
Minimum	14.0	11.0	
Maximum	88.0	76.0	

*Chi-square test ** Mann-Whitney test.

ence in age. Education level was significantly lower among the population. Table 1 compares demographic data between groups.

Among patients with headache, the relative frequency of both types of headache has significantly varied in the population as compared to the specialized center (Table 2). In the population, THA was the most frequent type of headache, affecting 77.6% of residents [95% confidence interval (CI) = 68.0% - 87.2%], and just 30.4% of specialized care patients (CI = 15.7% - 25.0). Conversely, in the specialized center, the vast majority of individuals had migraine (79.8%, CI = 74.1 – 83.6), while in the population this rate was 61.8% (CI = 50.6 – 73.0). It has to be mentioned that there has been more diagnostic overlapping between migraine and THA in the community as compared to the center, as shown in table 2.

The presence of other types of headaches, both primary and secondary, as well as daily chronic headache was also studied both in the population-based sample and in outpatient cases. But these data were presented in other publications[5-8].

DISCUSSION

When primary headaches were compared in the population and in the headaches outpatient setting, differences were found for gender and education level, but not for age. With regard to education, the difference was expected since the region studied is primarily rural, while headache patients from the center came from the metropolitan area where the access to education is easier. As to gender comparative analysis, although females were predominant in all groups, the female/male ratio was lower in the population, suggesting that males are less likely to look for medical assistance as compared to females. Maybe this is because headache in males tends to be less debilitating[8]. In fact, previous studies suggest that the impact of headaches is higher in females as compared to males[9]. It has been discussed that females are more attentive to their health and more likely to look for medical assistance regardless of the type of headache[10].

Our results are in line with previous studies, showing that THA is the most common type of headache in the population and that migraine is the most common reason for headache specialized assistance[11] and for visits to urgency services due to headache[12]. The relative frequency of migraine in the population (61.8%) was similar to THA (77.6%), but in the outpatient setting the frequency of migraine (79.8%) was much higher than THA, which was present in just one fifth of patients. Because migraine is more debilitating than THA, this finding was already expected[13].

The scenario may be extended because THA is less identified and diagnosed than migraine. Even in population-based studies, THA is described between 13% and 80% of the population, which is a huge discrepancy[14]. This might be due to the fact that THA phenotype is less marked than that of migraine. International Classification of Headache Disorders criteria, for example, admit pain attacks lasting from 30 minutes to 7 days for THA, as compared to 4 to 72 hours for migraine[15].

Anyway, this study advances in this field for exploring demographic and epidemiological differences between headaches found in general population as compared to a population of already screened patients. Parametric comparison of headaches frequency (and not prevalence) is original, but studies with more representative populations are still to be carried out.

CONCLUSION

Differences found in this study with regard to gender and frequency of migraine and THA, when comparing the community to a specialized center are significant.

Primary care services should understand such differences, including health community agents, so that they may adequately orient the population, being especially attentive to severe and recurrent headaches suggestive of migraine, so that such patients have early access to medical care.

On the other hand, specialized centers should also take into account the contrast of the reality of the community and of patients they treat. Knowing such differences may help both the clinical handling of primary headaches and the qualification of professionals not working in the most basic care levels.

Table 2 – Types of headache in the community and in the UFMG Headaches Outpatient Setting

	Headaches Outpatient Setting (n = 289)		Community (n = 76)		p value
	Percentage	95% CI	Percentage	95% CI	
Migraine	79.89%	[74.16; 83.63]	61.84%	[50.67; 73.02]	0.002*
THA	20.42%	[15.74; 25.09]	77.63%	[68.05; 87.22]	< 0.001*

*Chi-square test; CTT = tension headache

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