



Primary headache in academics: a cross-sectional study

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Abstract

Headache is a frequent, long-standing and universal neurological disorder with high prevalence worldwide.

Objective

To verify the prevalence of headache and self-medication among healthcare academics

Methods

This was a cross-sectional, descriptive and quantitative study, carried out with 165 healthcare academics. A questionnaire was used as a methodological instrument to collect data.

Results

The academics were mostly female, aged between 18 and 54 years, from the State of Paraiba and single. The lifetime prevalence of headaches was 98.2%. Most volunteers (62.4%) have a probable diagnosis of primary headache. Of these, the most prevalent was migraine, especially with aura, and tension-type headache (TTH). Of the group under analysis, the majority have not had consultations because of the pain and therefore have no medical diagnosis and no treatment. Some treated the pain only in a crisis. Of these, most practiced self-medication, mainly with dipyrrone and paracetamol. Stress, worry and sleep deprivation were the most cited factors among those that usually cause pain.

Conclusion

Clarifications, preventive measures, correct diagnosis and appropriate treatment can reduce the emotional, socioeconomic and academic losses of this frequent neurological complaint among students.

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Introduction

Headache is a universal neurological disorder with worldwide prevalence and high potential to generate physical and psycho-emotional suffering, socio-economic, work and academic losses.^{1,2}

Headaches are classified into primary and secondary. Primary headache is the most common, it has no secondary cause and its aetiology is not identified in usual clinical or laboratory tests, in this way, the symptoms and characteristics of the pain define the disease. In this group are migraine and tension-type headache (TTH)^{2,3}, indicated among the eight chronic diseases that affected more than 10% of the world's population in 2015.

Among students, headache is a common complaint and impairs academic performance due to absenteeism, learning deficits and impacts on quality of life. Research shows the prevalence of headache and self-medication in the daily lives of health students at UFPB and other institutions.⁴⁻⁸

The literature reports the association between headache and temporomandibular disorders (TMD), emotional tension, stress, anxiety and depression, menstruation, sleep disorders, myofascial pain and trigger points, fibromyalgia, sudden discontinuation or abuse of analgesics, caffeine abuse^{7,9-11}, obesity^{12,13} and excessive computer use¹⁴ are common variables among many young people.

Considering that headache is a worldwide public health problem, most often without adequate diagnosis and treatment, it is necessary to know the prevalence of headache and its respective characteristics, because its understanding and diagnosis will allow correct management and improvement in the quality of life of those affected. This justifies the need to know the prevalence and diagnosis of headache among students, as well as the profile of self-medication.

In view of the above, it is important to evaluate the history of headache and make a diagnosis according to its phenotype, thus helping in the implementation of adequate prevention and treatment projects, thus avoiding self-medication and emotional distress. Therefore, the aim of the research was to verify the prevalence of headache and self-medication among healthcare academics.

Methods

The research followed an observational design of transversal and quantitative nature using a convenience sample. The data collection occurred between the months of November 2016 to May 2017 at the Centre for Health Sciences (CCS), Federal University of Paraíba (UFPB), João Pessoa-PB, Brazil.

The project was approved by the Research Ethics Committee (CEP) of the CCS/UFPB (protocol no. 1,757,878, CAAE 56777816.3.0000.5188). The volunteers were informed about the research objectives and the anonymity of the questionnaire, signing an Informed Consent Form (ICF) when they opted to participate.

The data were stored and analysed in the Epi Info programme. The statistical analysis consisted of: 1) description of the prevalence; 2) analysis of the relationship between the variables with the chi-square test or Fisher's exact test; 3) the Student t or ANOVA test was used in the comparison of the age means.

Population and Sample

The target population of the research consisted of healthcare academics regularly enrolled in the disciplines of Anatomy and Neuroanatomy, 1st and 2nd periods, of the Department of Morphology, CCS/UFPB (Table 1). The sample was composed of volunteer academics aged 18 years or over. Before signing the Informed Consent Form (ICF), the volunteers received clear instructions regarding the research.

Table 1. Distribution of the population and sample according to the course

Course	Academic Semester		Sample
	2016.1	2016.2	
1. Nursing (1 st and 2 nd periods)	79	79	30
2. Phonoaudiology (1 st and 2 nd periods)	67	57	35
3. Occupational Therapy (1 st and 2 nd periods)	52	58	33
4. Medicine	53	54	27
5. Pharmacy	48	58	11
6. Physical Education (Undergraduate)	28	38	13
7. Nutrition	30	34	16
TOTAL	357	378	165

Source: SIGAA (2017)

The questionnaire for data collection used the criteria proposed by the International Headache Society (IHS)²



and adapted questions from instruments used in other studies.¹⁵⁻¹⁷ The instrument prepared with 53 questions made it possible to collect socio-geographic and health data and information on the presence of headache, its semiological characteristics and the consumption of medication. The probable diagnosis of headache was made based on the criteria of the International Classification of Headaches.²

Results

A total of 165 voluntary male and female students from the seven courses assessed took part in the research. Data analysis showed a predominance of female subjects, aged between 18 and 54 years, average of 21.3 (± 4.9) years, and the men were a little older (22.3 ± 5.3 years) (Table 2).

The data revealed that the majority of volunteers are from Paraíba (64.8%), single (93.3%), without children (96.2%), with a preference for Christian religions, did not work (78.8%), did not practice physical activity (64.8%), did not smoke (87.9%) and did not know their blood pressure (53.9%). Table 1 presents the characterisation of the sample.

Table 2. Sample characterization of the volunteers (n=165)

Variables	Levels	N	%	Average age
Sex	Female	117	70.9	20.8±4.7
	Male	48	29.1	22.3±5.3
Self-declared colour/ race	Brown	77	46.7	21.7±5.8
	White/Caucasian	70	42.4	20.3±2.9
	Black	15	9.1	24.2±6.8
	Indian	1	0.6	18.0±00
	Asian/yellow	1	0.6	18.0±00
	Other	1	0.6	21.0±00
Course	Phonoaudiology	35	21.2	21.0±4.0
	Occupational Therapy	33	20.0	21.7±5.1
	Nursing	30	18.2	21.7±6.8
	Medicine	27	16.4	20.6±3.6
	Nutrition	16	9.7	20.1±4.1
	Physical Education	13	7.9	23.9±6.3
	Pharmacy	11	6.7	19.4±1.2
Academic semester	1 st	97	58.8	21.2±5.2
	2 nd	68	41.2	21.4±4.6

Source: Research data

In the medical history, there were self-reported diagnosis of allergy (55.3%), sinusitis (19.3%) and insomnia (5.3%) among the participants. The lifelong prevalence of headache in the academics was of 98.2%, that is, the academics, in the course of their lives, referred to some episodes of headache. The majority of the academics (71.0 %) stated that there are cases of headache in the personal, with maternal inheritance being the most prevalent (58.6%). In the present research, it was registered in the Medicine, Nursing, Occupational Therapy, Nutrition and Physical Education courses a 100% prevalence of headache throughout life.

The answers to the questionnaire associated with the ICHD-32 diagnostic criteria allowed the probable diagnosis of headache to be established. The distribution of the sample, according to the established criteria, will be presented in the following paragraphs and tables.

Classification and Characteristics of the Headache

When asked about how long they have had headaches, the majority (53.9%) have lived with the symptom for more than 2 years. As for the typical characteristics of pain, the volunteers qualified the headache as pulsatile (73.3%), located mainly in the supraorbital or temporal (80.7%) areas and variable laterality, with a tendency to the unilateral pattern (Table 2). Self-reported pulsatile pain was significantly higher among participants with a probable diagnosis of migraine ($p < 0.05$).

As for pain intensity, when not taking medication, most volunteers considered their pain as moderate (69.1%), while the others as mild pain (13.9%) or severe pain (11.5%). See table 3 for the distribution of typical headache features used for diagnosis.



Table 3. Distribution of volunteers as to typical headache characteristics (N=162).

Usual laterality of the headache	n	%
Variable	65	40.1
Bilateral	27	16.7
I am not able to inform	26	16.0
Alternately bilateral and unilateral	23	14.2
Unilateral	21	13.0
Duration of headache when not taking medication		
	n	%
From 30 minutes to 4 hours	71	43.8
Between 4 and 24 hours	41	25.3
Less than 30 minutes	23	14.2
Between 24 and 72 hours	9	5.6
Not applicable	4	2.5
Between 3 and 7 days	3	1.8
Ignored	3	1.8
Varies from less than 30 minutes to more than 7 days	3	1.8
More than 7 days	1	0.6
Days with headache in the last year		
	n	%
1 to 7 days	70	43.2
8 to 14 days	29	17.9
15 to 30 days	22	13.6
31 to 180 days	19	11.7
0 day	15	9.3
More than 180 days	7	4.3
Preference during the crisis		
	n	%
Staying still in a quiet place	139	85.8
Move around	2	1.2
Change activity	21	13.0
Physical effort during the crisis		
	n	%
Aggravates the pain	122	75.3
Does not aggravate the pain	40	24.7

Headache, according to the respondents, was accompanied by different phenomena, mainly phonophobia and photophobia. Symptoms were more prevalent among those with a probable diagnosis of migraine. Rotational dizziness and visual changes were the most reported among those preceding or accompanying headache lasting between 4 and 60 minutes. Table 4 presents all the signs and symptoms indicated by the volunteers.

Table 4. Distribution of signs and symptoms referred that precede or accompany headache (N=162).

Signs and symptoms accompanying headache	n	%
Phonophobia	130	80.3*
Photophobia	125	77.2*
Nausea	77	47.5
Feeling of restlessness or agitation	68	42.0
loss of appetite	59	36.4
Tears in the eyes	54	33.3*
Drooping eyes	48	29.6
Blocked nose	44	27.1*
Red eyes	37	22.8*
Sensation of ear fullness	31	19.1
Rhinorrhoea	31	19.1
Facial and frontal region flushing	29	17.9
Vomit	23	14.2
Swelling of the eyelid	13	8.0
Signs and symptoms preceding or accompanying the headache lasting between 4 and 60 minutes		
	n	%
Rotational dizziness	66	40.7
Visual alterations	51	31.5
Aggravation by movement	43	26.5*
Other changes in sensitivity	30	18.5
Tinnitus	25	15.4
Hearing loss (hypoacusis)	12	7.4
Local tingling sensation	12	7.4
Difficulty speaking	11	6.8
Diplopia	10	6.2
Other motor alterations	9	5.6
Alterations in consciousness	9	5.6
Local buffering	8	4.9
Motor incoordination	7	4.3
Loss of sight	5	3.1

*Significant in students with a probable diagnosis of migraine (p≤0.05)

The majority of students (62.4%), according to the data, have a probable diagnosis of primary headache. Of these, migraine, mainly with aura, and TTH were prevalent (Tables 5 and 6).



Table 5. Prevalence of headache, according to sex, among healthcare academics

Diagnosis	Sex		n	%
	Female	Male		
Migraine	50	11	61	37.0
Does not meet criteria for headache diagnosis	39	20	59	35.8
Tension-type headache (TTH)	22	13	35	21.2
Fulfills criteria for more than one type of headache	3	2	5	3.0
No complaints of headache	1	2	3	1.8
Trigeminal autonomic cephalgia	2	0	2	1.2
Total	117	48	165	100

Table 6. Distribution of probable headache diagnosis according to the international classification of headache disorders

Probable diagnosis		n	%
Migraine (n=66)	Migraine with aura	26	61.1
	Chronic migraine with aura	18	
	Migraine without aura	10	
	Probable migraine without aura	5	
	Chronic migraine without aura	5	
	Migraine with typical aura	1	
TTH(n=40)	Migraine without aura, probable	1	37.0
	Infrequent episodic tension-type headache	27	
	Frequent episodic tension-type headache	12	
	Chronic tension-type headache	1	
Trigeminal autonomic cephalgias (n=2)	Chronic cluster headache	1	1.9
	Episodic cluster headache	1	
TOTAL		108	100.0

Regarding the period, fact or event related to the onset of the headache, studies (41.4%) and adolescence (19.7%) were the most cited among the respondents (N=157).

As for the triggering factors, those that cause the headache, stress (77.6%), worry (67.3%), sleep deprivation (66.1%), fasting (55.2%), exam period (51.5%), nervousness (50.9%) and studying (44.2%) were the most frequent among the academics. Among the female participants (n=117) the majority (n=64; 54.7%) indicated menstruation as one of the triggering factors. Of these factors, fasting and nervousness were significant ($p < 0.05$) among those with a probable diagnosis of migraine.

Medical Diagnosis and Treatment of Headache

It was detected that headaches in the group studied, in general, do not have medical monitoring or diagnosis (88.9%). Thus, many participants (N=58; 35.8%) treated the pain only in crises and do not know the name or dose of the medicine. Others used dipyrone, paracetamol, cold

compresses on the head, teas (chamomile, holy grass, mint, lavender), acupuncture and herbal medicines.

A profile of self-medication was registered among the students, including among those who declared they did not undergo treatment, as only 12 academics administered medicine with a medical prescription, while 68 practiced self-medication. Therefore, considering the population that reported headache (N=162) 42.0% practiced self-medication in the treatment of headache, of these 48 (70.6%) were female.

Headache impaired mood (72.2%), ability to concentrate (71.6%), evaluations (44.4%) and social, recreational and family activities (40.7%).

As for absenteeism, 41 academics (25.8%) of the 159 who answered the item, missed classes at the university because of headache.

Discussion

In general, the data from this study showed similar results to those found in the literature regarding the prevalence of headache throughout life, in general, is above 90%.¹⁷⁻²⁰ Previous epidemiological studies have demonstrated a 34.5% prevalence of headache among nursing students at the Federal University of Goiás¹⁷ and 98.8% in medical and psychology students at the University of Taubaté.¹⁷

The occasional headache is considered by many to be a normal event, however, this "occasional" disturbance can, in the long term, result in socio-economic and psycho-emotional damage and are often incapacitating.²¹

Moderate or severe pain, pulsatility, unilaterality and aggravation by routine physical activity are typical features of migraine. The crisis may course with nausea, vomiting, photophobia and phonophobia^{2,22}, characteristics with high prevalence in the results presented. Therefore, the frequency of the aforementioned characteristics corroborates with the results obtained in the present research, in which migraine was more prevalent, especially in the female gender.

The TTH is typically bilateral, with mild or moderate intensity, in pressure or tightness, with or without pericranial tenderness on palpation and does not worsen with routine physical activity.²³ These characteristics were observed resulting in high prevalence of TTH among the assessed academics.



The results presented are similar to others found in the literature, in which psycho-emotional factors such as stress, are the most prevalent triggers in migraines.^{9,22,24}

Among the risk factors for migraine are female gender, white skin colour and hormonal changes.⁹ Recent research confirms the prevalence of cephalalgia in women^{9,10} and highlight among the associated factors: depression, stress, exhaustion, hormonal factors, social pressure and family demands.¹³ The data presented now showed a higher prevalence of migraine in the female gender, menstruation being one of the most cited triggering factors.

In the present study, self-medication in the treatment of headache was verified, dipyrone and paracetamol were the most used active principles, therefore, corroborates with the data from other institutions.^{9,25} It is important to highlight that self-medication in the present study is that related to the treatment of headache and, therefore, does not involve self-medication to treat other pathologies. In addition, the medicines used, mainly painkillers, do not require a medical prescription, are exempt from prescription and therefore available over-the-counter.

The prevalence of self-medication in Brazil was 16.1%, with a higher frequency of analgesics, mainly dipyrone.²⁴ Self-medication was reported by 88.3% of the students at the State University of Londrina, Paraná, with headache standing out among the signs/symptoms that led to the practice of self-medication.²⁴ Therefore, self-medication among UFPB students was higher than the national average and lower than that found in other educational institutions.^{24,25}

The inadequate use of medication to treat headache symptoms can result in secondary headache, attributed to occasional or prolonged use of medicines not indicated for headache or excessive use of analgesics.²⁵

The activities most affected by headache were mood, ability to concentrate and evaluations. Literature suggests that the different impairments arising from headache contribute to lower academic performance.²⁴

Most volunteers with a probable diagnosis of migraine stated the presence of headache in family members, and maternal inheritance was the most prevalent. This suggests a correlation between the prevalence of migraine in close relatives with the cases evaluated and therefore, the results presented now corroborate the genetic predisposition cited in the literature.^{24,25}

To provide a history of the headache through a questionnaire makes it possible to draw up a profile with a probable diagnosis of cephalgia, which is carried out considering a minimum number of episodes and previously established criteria.²⁶⁻²⁸

The results indicate a high prevalence of primary headache, mainly migraine, without adequate diagnosis and treatment. Clarifications, preventive measures, correct diagnosis and appropriate treatment can reduce the emotional, socioeconomic and academic damage of this frequent neurological complaint among young people.

The limits or disadvantages of the research were low adherence, the impossibility of verifying incidence or making a causal inference and recall bias.

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References

1. Freitas FL and Freitas TGd. **Cefaleia: eventos agudos na atenção básica.** 2013;



2. **Classificação Internacional de Cefaleias** Soc Port Cefaleia 2014;18(2):1-168
3. Carezzato NL and Hortense P. **Migrânea: etiologia, fatores de risco, desencadeantes, agravantes e manifestações clínicas.** *Rev Rene* 2014;15(2):334-342
4. Alves LB, Carneiro ALB, Ramos SCS, Melo MNA and Silva LAd. **Perceptions, Physical and Psycho-Emotional Complaints among Students: A Cross-Sectional Study before the Pandemic.** *Internat J Health Science* 2022;2(21):2-14 Doi:10.22533/at.ed.1592212220047
5. Carneiro ALB, Ramos SCS, Brasil AWL, Silva LA, Lima GG, Alves LB, . . . Melo CMB. **COVID-19 - The invisible enemy: impacts on students' mental health and coping strategies.** *Res Soc Develop* 2021;10(1):e59110112144 Doi:10.33448/rsd-v10i1.12144
6. Carneiro ALB, Brasil AWL, Silva LA, Lima GG, Alves LB, Melo MNAd, Melo CMB. **COVID-19: Impactos na saúde mental dos estudantes e estratégias de enfrentamento.** *Pesq Ciências Saúde* 2021;11
7. Maia HAA, Assunção ACS, Silva CS, Santos JLP, Menezes CJJ and Bessa Júnior J. **Prevalência de sintomas depressivos em estudantes de Medicina com currículo de aprendizagem baseada em problemas.** *Rev Bras Ed Med* 2020;44 Doi:10.1590/1981-5271v44.3-20200005
8. Alves TDA and Malafaia G. **Automedicação entre estudantes de uma instituição de ensino superior de Goiás.** *ABCS Health Sciences* 2014;39(3):Doi:10.7322/abcshs.v39i3.649
9. Krymchantowski AV. **Cefaléia, tipo tensional.** *Rev Bras Neurol* 2003;39(4):23-29
10. Silva ASM, Marco CO, Moura WS, Carvalho YVN, Irber FM, Oliveira VC and Castaldelli-Maia JM. **Prevalência internacional de cefaleia em transtorno depressivo: uma revisão sistemática.** *Headache Med* 2021;12(Supplement):34 Doi:10.48208/HeadacheMed.2021.Supplement.34
11. Fortes YML, Souza WPdO and Silva-Néto RP. **Fibromyalgia in patients with migraine: A literature review in the last 20 years.** *Headache Med* 2022;12(4):273-277 Doi:10.48208/HeadacheMed.2021.44
12. Nieri B and Bigal E. **Obesidade e cronificação da migrânea: evidências e associações.** *Migrêneas cefaleias* 2007;10(1):8-18
13. Barros Bentes LG, Lemos RS, Barreto RM, Carvalho RF and Brito CVB. **Os fatores associados à incidência da cefaleia em estudantes da educação superior em cursos da saúde: uma revisão sistemática.** *Pará Res Med J* 2020;4:e39 Doi:10.4322/prmj.2019.039
14. Saueressig IB, Xavier MKA, Oliveira VMA, Pitangui ACR and Araújo RCdJRD. **Primary headaches among adolescents and their association with excessive computer use.** *Rev Dor* 2015;16(4):244-248 Doi:10.5935/1806-0013.20150049
15. Franco AL. **Estudo da prevalência de cefaléias primárias e da sua associação com a dor orofacial em pacientes com disfunção temporomandibular crônica.** 2009;
16. Vasconcellos DC. **Impacto da cefaleia tensional e migrânea na vida de estudantes universitários e fatores associados.** 2008;
17. Braga PCV, Souza LAF, Evangelista RA and Pereira LV. **Ocorrência e prejuízos da cefaleia em estudantes universitárias de enfermagem.** *Rev Esc Enferm USP* 2012;46(1):138-144 Doi:10.1590/S0080-62342012000100019
18. Oliveira GSR, Aquino P and Ferrari RM. **Influência da cefaleia no cotidiano de estudantes universitários.** *Sem Estud Prod Acadêmica* 2016;15:321-328
19. Silva F, Sampaio M, Neto JC, Serva WD, Lima J and Valença MM. **Prevalência de cefaléia no transcórner da vida em uma amostra da população da região metropolitana de Recife.** *Migrêneas Cefaleias* 2005;8:104-106
20. Führer FM-EC, Lopes DCP and Aguiar PM. **Cefaleia e qualidade de vida na graduação de medicina.** *Rev Bras Neur Psiquiatr* 2015;19(2):84-95
21. Ferri-de-Barros JE, Alencar MJd, Berchielli LF and Castelhana Junior LC. **Cefaléia em estudantes de medicina e psicologia.** *Arq Bras Neuropsiquiatr* 2011;69(3):502-508 Doi:10.1590/S0004-282X2011000400018
22. Parreira E, Luzeiro I and Pereira Monteiro JM. **Enxaqueca Crônica e Refratária: Como Diagnosticar e Tratar.** *Acta Med Portug* 2020;33(11):Doi:10.20344/amp.12004
23. Stovner L, Hagen K, Jensen R, Katsarava Z, Lipton R, Scher A, . . . Zwart JA. **The global burden of headache: a documentation of headache prevalence and disability worldwide.** *Cephalalgia* 2007;27(3):193-210 Doi:10.1111/j.1468-2982.2007.01288.x
24. Ierusalimschy R and Moreira Filho PF. **Fatores desencadeantes de crises de migrânea em pacientes com migrânea sem aura.** *Arq Neuropsiquiatr* 2002;60:609-613 Doi:10.1590/S0004-282X2002000400017
25. Bernardi MT, Bussadori SK, Fernandes KPS and Ap Biasotto-Gonzalez D. **Correlação entre estresse e cefaléia tensional.** *Fisioter Mov* 2017;21(1):87-93
26. Silva LB, Piveta LN, Giroto E and Guidoni



- CM. **Consumo de medicamentos e prática da automedicação por acadêmicos da área de saúde da Universidade Estadual de Londrina.** *Espaço Saúde* 2015;16(2):27-36 Doi:10.22421/15177130-2015v16n2p27
27. Arrais PSD, Fernandes MEP, Pizzol TSD, Ramos LR, Mengue SS, Luiza VL, . . . Bertoldi ASP. **Prevalência da automedicação no Brasil e fatores associados.** *Rev Saúde Pública* 2016;50(suppl 2):13 Doi:10.1590/S1518-8787.2016050006117
28. Souza NE, Calumby ML, Oliveira Afonso E, Nogueira TZS and da Gama ABCN. **Cefaleia: migrânea e qualidade de vida.** *Rev Saúde* 2015;6(2):23-26 Doi:10.21727/rs.v6i2.55