Relationship between stress and fatigue in university students with headache

Relação entre o estresse e a fadiga em estudantes universitários com cefaleia

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Abstract

Introduction: Considered one of the most common neurovascular disorders among university students, headache has an impact on quality of life. In addition, stress and fatigue can trigger and/or intensify headaches. **Objective:** To investigate the relationship between fatigue and stress in university students with headache. **Methods:** One hundred and forty-seven students aged between 18 and 44 years, regardless of gender, and regularly enrolled at the Universidade de Fortaleza participated in the study. Data were collected through a questionnaire developed by the researchers and through validated instruments for the diagnosis of headache, the impact being measured by the HIT-6 (Headache Impact Test), the assessment of fatigue using the Fatigue Severity Scale (FGS), and quality of life through the SF-36. Data were analyzed using the SPSS 20.0 program, using the chi-square test to analyze the association between the variables. A significance level of 5% was adopted. **Results:** Headache complaints were present in 70.7% of the sample (n = 104), with secondary headache being more predominant (63.5%, n = 66), in females (79.8%, n = 83), with a mean age of 21.7 ± 4.0 years. The moderate intensity of the headache was reported by 60.6% (n = 63), highlighting the impact of this pain as very severe in 68.3% (n = 71) of the participants. Students with headache had more symptoms of stress (30.5 ± 7.6; $p < 0.004$) and fatigue (4.0 ± 1.4; $p < 0.040$). **Conclusion:** An expressive number of headache cases was found, mainly in females, related to symptoms of stress and fatigue, impacting the quality of life of these university students.

Keywords: Headache. Fatigue. Physiotherapy. Psychological stress.

Resumo

Introdução: *Considerada um dos distúrbios neurovasculares mais comuns entre estudantes universitários, a cefaleia gera impacto na qualidade de vida. Além disso, o estresse e a fadiga podem desencadear e/ou intensificar as dores de cabeça.* ***Objetivo:*** *Investigar a relação entre fadiga e estresse em estudantes universitários com cefaleia.* ***Métodos:*** *Participaram 147 discentes, na faixa etária de 18 a 44 anos, independente do sexo, regularmente matriculados na Universidade de Fortaleza. Os dados foram coletados por meio de questionário elaborado pelos pesquisadores e por instrumentos validados para o diagnóstico de cefaleia, sendo o impacto mensurado pelo HIT-6 (*Headache Impact Test*), a avaliação da fadiga por meio da Escala de gravidade da fadiga (EGF) e a qualidade de vida através do SF-36. Os dados foram analisados pelo programa SPSS 20.0, utilizando-se o teste de qui-quadrado para analisar a associação entre as variáveis. Adotou-se nível de significância de 5%.* ***Resultados:*** *A queixa de dor de cabeça esteve presente em 70,7% da amostra (n = 104), sendo mais predominante a cefaleia secundária (63,5%, n = 66), no sexo feminino (79,8%, n = 83), com média de idade de 21,7 ± 4,0 anos. A intensidade moderada da dor de cabeça foi relatada por 60,6% (n = 63), destacando-se o impacto desta dor como muito grave em 68,3% (n = 71) dos participantes. Constatou-se que os estudantes com cefaleia apresentaram mais sintomas de estresse (30,5 ± 7,6; p < 0,004) e fadiga (4,0 ± 1,4; p < 0,040).* ***Conclusão:*** *Encontrou-se um número expressivo de casos de cefaleia, principalmente no sexo feminino, relacionados a sintomas de estresse e fadiga, gerando impacto na qualidade de vida desses universitários.*

Palavras-chave: *Cefaleia. Fadiga. Fisioterapia. Estresse psicológico.*

Introduction

Headache is one of the most common neurovascular disorders and despite being disabling, it is still underestimated. Indicated as a disease with a high prevalence rate, headache impairs the individual's functionality and living in society, in addition to affecting productivity, individual concentration and interactions with the environment. In this way, it is considered a public health problem, due to its debilitating properties.[1]

Considering its etiology, the headache can be classified as primary or secondary, where the primary has no known cause, with migraine and tension-type headache being the most prevalent of this kind.[2] Secondary headache occurs when the headache is a consequence of some type of disease or clinical situation that occurs in the individual, such as a cranial lesion, infections of different types or orofacial pain.[3]

Migraine is a type of headache that is characterized by unilateral pain, with moderate to severe intensity and can be pulsating. This type of headache can be triggered by several causes, such as sensory stimuli and the ones originated from the environment, and the symptoms are commonly associated with nausea, vomiting and sensitivity to light and sounds.[4]

Therefore, tension-type headache can be triggered by situations of stress, emotional tension and muscle pain. It can be located bilaterally or in specific regions of the skull, with mild to moderate intensity. Its duration can vary according to each person and does not present associated symptoms as apparent as migraine.[5]

Several surveys are carried out to verify the prevalence of headache in the population. Among these, the high prevalence in university students stands out, whose academic activities require significant effort. A study carried out in a teaching institution in the state of Paraná, Brazil, showed a prevalence of headache in 75% of students.[6] Another study carried out with medical students in São Paulo in 2015 revealed that 99% of these students had headache, also highlighting that stress was the main cause related to the onset of headache in the population studied.[7]

The World Health Organization defines quality of life (QoL) as the perception of an individual and how they see their position in life, in the cultural contexts and values in which they live and are inserted, related to goals, concerns, standards and expectations. Despite these definitions, QoL goes through a construction, with indicators in the most diverse ways, whether emotional, financial and spiritual.[8]

Several factors affect QoL, but one of the most important is stress. This can be understood as a result of the interpretations of the organism that generate regulatory mechanisms, such as emotional, behavioral and physiological, causing an adaptation response that can change the person's state of well-being, bringing bad sensations, discomfort, malaise and suffering, being transient or lasting a long time.[9]

Some factors that are believed to cause this stress can be anxiety, increased responsibility, difficulties in maintaining a healthy financial life and greater responsibility for the increase in tasks, whether related to study routine and academic experiences or professional choices. Such factors affect almost a third of the so-called economically active population.[10]

Along with these factors that hinder the activities and well-being of students, fatigue is highlighted, which is generated after a period of great effort, whether physical or mental, causing a state of exhaustion, leading to a decrease in the ability to function, responding to stimuli, and reducing efficiency in work and activities of daily living.[11]

A study carried out in Campinas, Brazil, pointed out that a working day associated to daily studies causes a stressful overload, being commonly present in university students.[12] The study also highlights that this population presents an intense level of fatigue, consequently generating difficulties in studies due to stress and fatigue.[12] In addition, headache impacts individuals and their activities of daily living, which generates and increases a lack of commitment or attendance at work, studies or other obligations.[7]

As it generates negative implications, impairs QOL, concentration, learning, interpersonal relationships and daily activities, headache represents a challenge for students, since it is necessary to reconcile academic life, working hours and social life. In addition, the association with stress and fatigue causes greater emotional damage, contributing to a worse QOL. Thus, the objective of this study was to investigate the relationship between fatigue and stress in university students with headache.

Methods

This is a quantitative, observational, cross-sectional and analytical study with students from the University of Fortaleza (UNIFOR), developed in March 2020, twenty-seven days after the beginning of the academic semester. This research was approved by the UNIFOR Ethics Committee under opinion No. 3,849,140.

The study sample was non-probabilistic and for convenience, consisting of 147 students regularly enrolled at UNIFOR, aged over 18 years, regardless of gender, who authorized the use of their data by signing the free and informed consent form. The exclusion criteria adopted verboten those who did not respond correctly and completely the questionnaire. Data collection was performed when the students were in the break between classes, lasting approximately 15 minutes.

A questionnaire developed by the researchers was applied, containing sociodemographic data, health conditions and lifestyle. To establish the diagnosis of headache, a questionnaire according to the International Headache Society was used, with questions regarding the pain characterization, location, type, intensity and triggering factors.

To assess QoL, the Medical Outcomes Study 36 Item Short-Form Health Survey (SF-36) was used. It is a multidimensional instrument, originally developed in English, easy to administer and understand, and the gold standard to assess the quality of life, being one of the most used in the health context. This instrument consists of 36 questions covering eight domains.

For the assessment of stress, the Perceived Stress Scale (PSS), an instrument with 14 questions, with response options ranging from 0 to 4, was applied. The total scale is the sum of the scores for these 14 questions, and the scores can range from 0 to 56.

Fatigue assessment was performed using the Fatigue Severity Scale (FSS). It is a self-administered scale made up of nine statements that describe the severity and influence of fatigue on individuals' daily activities for two weeks. After adding the scores of the nine items, the total score is divided by nine, yielding values from 0 to 7.

For the assessment of impact, the Headache Impact Test (HIT-6) was applied. It is a tool used to measure the impact that headaches have on normal daily life and functioning at work, school, at home and in social situations. The scale is scored from 36 to 78 points, being classified into four groups: little or no impact (≤ 49 points); some impact (between 50 and 55 points); moderate impact (between 56 and 59 points); and severe impact (≥ 60 points).

The Excel software was used to enter the data. Subsequently, the data were analyzed using the SPSS Statistic 20.0 program (SPSS Inc. Chicago, IL). The results were presented as absolute and realtive frequency, mean and standard deviation. To compare the groups studied, the independent T-Student test was used for continuous variables, and the chi-square test or Fisher's exact test for categorical variables, after the Shapiro Wilk normality test. Values of $p < 0.05$ were considered statistically significant.

Results

The sample consisted of 147 participants, with a mean age of 21.7 years, ranging from 18 to 44 years of age, 73.5% (n = 108) were female and 26.7% (n = 39) were male. Regarding the race, 52.4% (n = 77) of the participants classified themselves as Caucasian, followed by browns with 39.5% (n = 58). Assessing marital status, 95.2% (n = 140) were single and 4.1% (n = 6) were married (Table 1).

With regard to the academic characteristics, there was a predominance of students from the Health Sciences Center with 82.7% (n = 121), followed by 11.6% (n =17) from the Technological Sciences Center. When investigating whether the population studied and worked, we identified that 18.4% (n = 27) of the participants worked and studied concomitantly and 14.3 % (n = 21) reported a workload between four and eight hours a day (Table 1).

When asked about the presence of anxiety, 73.5% (n = 108) of respondents mentioned not having this disorder, but 26.5% (n = 39) reported having it. As for symptoms of depression, 5.4% (n = 8) of university students said they suffered from this problem (Table 1).

Regarding lifestyle habits, 5.4% (n = 8) reported being smokers, 64.6% (n = 95) consumed some type of alcoholic beverage, and 66.7% (n = 98) did physical activity (Table 1).

Regarding study hours, 49.7% (n = 73) of the participants studied between one and four hours and 31.3% (n = 46) reported studying between four and six hours. Regarding electronic equipment, used by 100% (n = 147) of the sample, the longest time of use was between five and six hours (36.1%; n = 53) and between seven and eight hours (23.8% ; n = 35). Concerning sleep, 51.7% (n = 76) reported having good sleep, while 48.3% (n = 71) reported the opposite, with the most cited amount of sleep being between five and seven hours (59.9%; n = 88) (Table 1).

When comparing the sociodemographic characteristics of both groups, there was a predominance of females in the headache group (p = 0.007), with no difference in the other variables studied. Anxiety and depression also did not differ between university students with and without headache, despite being more prevalent in the group of students with headache (Table 1).

Regarding lifestyle, the habit of smoking, consuming alcohol and practicing physical activity was not associated with headache, with no significant difference between participants with and without headache. When investigating the study time, however, we observed that headache was more prevalent in those who studied between six and ten hours or more (Table 1).

The prevalence of headache in the study population was 70.7% (n = 104), with the secondary type being the most prevalent, representing 63.5% (n = 66) (Table 2). Regarding secondary headache, 45.2% (n = 47) attributed it to problems with the face (eyes, ears and nose), temporomandibular disorders and problems in the sinuses and neck, and 15.4% (n = 16) mentioned that headache was related to the abuse of analgesics. In students who had primary headaches, migraine was the most prevalent (73.3%; n = 28), followed by tension headache (26.3%; n = 10) (Table 2).

Considering the characteristics of headaches, 50% (n = 52) of university students had a headache for less than six months, 60.6% (n = 63) reported moderate pain, and in 65.4 % (n = 68) the pain started mild and increased in intensity. The most frequent associated symptoms were photophobia (70.2%; n = 73), phonophobia (50%; n = 52) and motion sickness (38.5%; n = 40) (Table 2).

Regarding the duration of pain, 36.5% (n = 38) of the participants reported approximately two hours of pain even with the use of medication, and 55.8% (n = 58) reported that pain predominates in the afternoon, as shown in Table 3.

In investigating the impact caused by headache in the lives of these students, we found that 68.3% (n = 71) reported very severe impact, 17.3% (n =18) reported severe impact and 14.4% (n = 15), moderate impact (Table 4).

As for the levels of stress and fatigue, a higher score was observed in the group with headache ($p < 0.004$) (Table 4). This difference was also observed in the SF-36 domains, which were more compromised in the headache group: functional capacity, physical aspects and pain ($p < 0.001$), social aspects and mental health ($p < 0.001$), and emotional aspects ($p < 0.04$). In the domains of general health and vitality, the p-value was not significant when the groups were compared (Table 4).

Table 1 - Sociodemographic/economic characteristics, health conditions and lifestyle of study participants

Variables	Total group (n = 147)	Headache group (n = 104)	Non-headache group (n = 43)	p-value
Age (years)*	21.7 ± 4.0	21.9 ± 4.0	21.0 ± 3.6	0.200
Sex				
Male	39 (26.5)	21 (20.2)	18 (41.9)	0.007
Female	108 (73.5)	83 (79.8)	25 (58.1)	
Marital status				
Single	140 (95.2)	98 (94.2)	42 (97.7)	
Married	6 (4.1)	5 (4.8)	1 (2.3)	0.600
Divorced	1 (0.7)	1 (1.1)	0 (0.0)	
Race				
Yellow	6 (4.1)	2 (1.9)	4 (9.3)	
White	77 (52.2)	50 (48.1)	27 (62.8)	
Indigenous	1 (0.7)	1 (1.0)	0 (0.0)	0.064
Black	5 (3.4)	4 (3.8)	1 (2.3)	
Brown	58 (39.5)	47 (45.2)	11 (25.6)	
Study center				
Helth	121 (82.3)	86 (82.7)	35 (81.4)	
Technology	17 (11.6)	11 (10.6)	6 (14.0)	0.200
Law	8 (5.4)	7 (6.7)	1 (2.3)	
Management and Communication	1 (0.7)	0 (0.0)	1 (2.3)	
Currently working	27 (18.4)	19 (18.3)	8 (18.6)	0.900
Health conditions and lifestyle				
History of depression	8 (5.4)	7 (6.7)	1 (2.3)	0.200
History of anxiety symptoms	39 (26.5)	31 (29.8)	8 (18.6)	0.100
Current smoking	8 (5.4)	5 (4.8)	3 (7.0)	0.500
Previous smoking	36 (24.5)	26 (25.0)	10 (23.3)	0.800
Drinking	95 (64.6)	70 (67.3)	25 (58.1)	0.200
Regular physical activity	98 (66.7)	69 (66.3)	29 (67.4)	0.800
Weekly period of physical activity (min)*	524.0 ± 367.7	521.8 ± 371.9	530.8 ± 361.3	0.800
Weekly period of study				0.400
1 - 4 hours	73 (49.7)	52 (50.0)	21 (48.8)	
4 - 6 hours	46 (31.3)	27 (26.0)	19 (44.2)	0.200
6 - 10 hours	23 (15.3)	20 (19.2)	3 (7.0)	
> 12 hours	5 (3.4)	5 (4.8)	0 (0.0)	
Use of electronic devices	147 (100)	104 (100)	43 (100)	1.000
Use of cellphone	146 (99.3)	103 (99.0)	43 (100)	1.000
Use of tablet	23 (15.6)	17 (16.3)	6 (14.0)	0.900
Use of computer	129 (87.8)	92 (88.5)	37 (86.0)	0.700
Period of use of electronic devices				
3 - 4 hours	27 (18.4)	16 (15.4)	11 (25.6)	
5 - 6 hours	53 (36.1)	40 (38.5)	13 (30.2)	
7 - 8 hours	35 (23.8)	23 (22.1)	12 (27.9)	0.300
8 - 9 hours	22 (15.0)	16 (15.4)	6 (14.0)	
> 10 hours	10 (6.8)	9 (8.7)	1 (2.3)	
Good sleeping history report	76 (51.7)	51 (49.0)	25 (58.0)	0.300
Hours of sleep per night				
3 - 5 hours	29 (19.7)	19 (18.3)	10 (23.3)	
5 - 7 hours	88 (59.9)	64 (61.5)	24 (55.8)	0.700
7 - 9 hours	29 (19.7)	20 (19.2)	9 (20.9)	
> 10 hours	1 (0.7)	1 (1.0)	0 (0.0)	
Means of transportation				
Car	77 (52.4)	51 (49.0)	26 (60.5)	
Bus	63 (42.9)	48 (46.2)	15 (34.9)	0,546
Cab/Uber	6 (4.1)	4 (3.8)	2 (4.7)	
Others	1 (0.7)	1 (1.0)	0 (0.0)	

Note: Data expressed in relative and absolute frequency: n (%). *Data expressed as mean ± standard deviation.

Table 2 - Characteristics of clinical outcomes related to study participants' headache (n = 104)

Variables	**Headache group** n (%)
Type of headache	
Primary	38 (36.5)
Secondary	66 (63.5)
Type of primary headache	
Tension type	10 (26.3)
Migraine	28 (73.7)
Causes of headache	
Skull or neck trauma	4 (3.8)
Diseases that affect brain circulation	1 (1.0)
Brain tumors	1 (1.0)
Ingestion/exposure to harmful or toxic chemical products	15 (14.4)
Excessive use of painkiller or withdraw of opioid substances and caffeine	16 (15.4)
Infections	13 (12.5)
Pericranial structures	47 (45.2)
Time with headache	
< 6 months	17 (16.3)
6 months to 1 year	16 (15.4)
1 to 3 years	25 (24.0)
> 3 years	31 (29.8)
> 10 years	15 (14.4)
Characteristic and/or location of pain	
Pulsating	77 (74.0)
Pressure	38 (36.5)
Shock	1 (1.0)
Unilateral	36 (34.6)
Bilateral	62 (59.6)
Neck	25 (24.0)
Eyes	7 (6.7)
Temporal	13 (12.5)
Frontal	15 (14.4)
Occipital	9 (8.7)
Headache intensity	
Mild	14 (3.5)
Moderate	63 (60.6)
Strong	26 (25.0)
Very strong	1 (1.0)
Headache sensation	
Starts mild and increases	68 (65.4)
Starts strong and decreases	11 (10.6)
Remains the same from the start	25 (24.0)
Followed by nausea	40 (38.5)
Followed by vomit	14 (13.5)
Followed by photophobia	73 (70.2)
Followed by phonophobia	52 (50.0)
Followed by bright spots	20 (19.2)
Followed by numbness	4 (3.8)
Followed by nasal congestion	22 (21.1)

Table 3 - Characteristics of clinical outcomes related to study participants' headache (n = 104) and Headache Impact Test 6 questionnaire ´s results

Variables	Headache group
Headache duration	
Until 2 hours	38 (36.5)
Until 4 hours	35 (33.7)
Until 6 hours	16 (15.4)
Between 6 e 10 hours	8 (7.7)
> 12 hours	1 (1.0)
> 24 hours	6 (5.8)
Days of the month with headache*	9.6 ± 5.3
Use of medication	76 (73.1)
Time of day with the most symptoms	
Morning	14 (13.5)
Afternoon	58 (55.8)
Evening	25 (24.0)
Wakes up in the middle of the night, even when lying down without pain	1 (1.0)
Wakes up in the morning, even when lying down without pain	6 (5.8)
Headache impact – HIT6	
Moderate	15 (14.4)
Severe	18 (17.3)
Very severe	71 (68.3)

Note: Data expressed in relative and absolute frequency: n (%). *Data expressed as mean ± standard deviation.

Table 4 - Comparison of levels of stress, fatigue and quality of life between individuals with and without headache

Variables	Headache group (n = 104)	Non-headache group (n = 43)	p-value
Stress			
PSS (escores)	30.5 ± 7.6	26.4 ± 7.0	< 0.004
Fatigue			
FSS (escores)	4.0 ± 1.4	3.0 ± 1.0	< 0.040
QOL - SF36 domains (%)			
Functional capacity	70.0 ± 19.9	90.7 ± 12.2	< 0.001
Physical aspects	56.0 ± 31.2	76.7 ± 28.5	< 0.001
Pain	49.9 ± 22.1	75.8 ± 17.3	< 0.001
Overall health condition	49.6 ± 21.1	56.3 ± 21.5	0.080
Vitality	51.6 ± 17.0	54.3 ± 17.3	0.300
Social aspects	57.8 ± 23.4	73.8 ± 20.9	0.001
Emotional aspects	48.7 ± 39.0	63.5 ± 40.3	0.040
Mental health	55.6 ± 18.5	68.0 ± 15.2	0.001

Note: Data expressed as mean ± standard deviation. PSS = Perceived Stress Scale; FSS = Fatigue Severity Scale; QOL = quality of life; SF-36 = Short Form Health Survey.

Discussion

The prevalence of headache in this study was 70.7%, of which 63.5% were secondary. Secondary headache related to problems in the face (eyes, ears and nose), temporomandibular disorders and problems in the sinuses and neck was mentioned by 45.2% of the students. This result is opposite to that found in a study carried out with students in medical school, in which 76.5% of the sample was self-medicated, with a significant prevalence of headache due to abuse in the use of analgesics.[13]

As for sociodemographic issues, there was a higher prevalence of headache in females, corroborating the results presented in a study carried out in 2019, in the state of Alagoas, Brazil, indicating that 53.6% of students with headache were female.[13] Complementing these results, another study identified that 71.8% of university students who had migraine headaches were also women.[4] This can be explained by factors such as continuous hormonal changes, contraceptive use, stress response, psychosocial factors, menopause and work.[14]

Research shows that the age group most affected by headache is from 20 to 50 years old, with the initial average age being approximately 20 years old, due to being the group with the highest productivity, increased responsibility related to studies and financial life.[3,10,15] In the present study, the mean age of participants with headache was 21.7 years, ranging from 18 to 44 years, which is in agreement with the findings in the literature.[3,10,15]

Lifestyle, including factors such as smoking, use of alcoholic beverages, lack of regular physical activity, excessive use of electronic devices and sleep disorders are usually associated with the onset of headache.[10] In the present study, however, there were no associations of these variables with headache.

Anxiety and depression often cause headaches because of the emotional reasons these conditions entail. Emotional conflicts and psychosocial stress are factors manifested by those who suffer from any of these psychological disorders.[16] Although the current study has not shown a significant association of these conditions with headache, we observed that students with headache had a higher percentage of this condition (Table 1).

Stress is also a risk factor for the onset of headache, in view of the neurophysiological changes that occur due to annoyances during routine, mood swings and unpleasant events,[17] a fact that can be complemented by a survey carried out in 2019[13] where it was found that 78.7% of the population studied indicated stress as a factor for the onset of headache. In the present study, there was a strong association between headache and stress, with a value of $p < 0.004$ in the comparison of groups with and without headache, showing that students in the headache group have a higher score found on the perceived stress scale, being thus a significant factor for the occurrence of headache.

A survey conducted in Korea in 2016 highlighted fatigue as one of the triggers for the onset of headache in 48.5% of participants, and highlighted that fatigue is the third biggest trigger for headache, which confirms the possible interrelationship.[18] In the present study, a higher index of fatigue was found in the group of university students with headache, which is justified by the connection with stress and fatigue generated by a work routine and studies associated with poor sleep.

With regards to QoL, the decrease in individuals with headache is associated with the frequency and intensity of pain. In agreement with the data of the present study, a survey carried out in 2017 showed that headache lasting longer than 4 hours and with a frequency greater than 15 days a month is associated with impaired QoL.[19] The presence of headache significantly decreases the score in the domains observed through the SF-36 questionnaire, in which physical aspects and capacity together with pain had their scores significantly lower because it is a disabling disorder that leads to impairments in functionality.[1]

Regarding social, emotional and mental health aspects, a study carried out in 2019 with 40 individuals of both genders, selected by spontaneous demand and diagnosed with headache, shows that feelings such as anguish and sadness were often referred to at the time of pain.[20] Some participants reported being irritated or impatient, others sought to sleep or stay in isolation, pointing out a limiting aspect, associating the condition to a burden.[20]

Observing the results obtained through the HIT-6 on the impact of headache, 68.3% of the participants considered it very severe. Findings corroborate a study carried out by Laurentino et al.,[15] which indicates a significant relationship between headache and HIT-6 in 51% of the population studied.

The limitation of the present study was the short number of participants due to the COVID-19 pandemic, which led to the interruption of data collection, with the authors having to continue the study with the data already collected until the stoppage of activities.

Conclusion

Stress and fatigue are directly related to headache disorders present in university students, factors that can be triggered by poor lifestyle habits and intense and stressful routines, which directly interfere with quality of life. Headache is one of the major neurological disorders present in the world population and there is no uniform treatment. Considering the negative effects caused on the population's quality of life and health, there is a need for further studies on this subject in order to deepen their knowledge and help the population against this disease.

Authors' contributions

ATO was responsible for the investigation, data collection and manuscript editing. AOT supported the editing of the article according to the journal's guidelines. TMOF was responsible for structuring and reviewing the article, as well as writing the results. MOVR was responsible for the writing adjustments not observed by the other authors and helped with the results and discussions.

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