



ORIGINAL ARTICLE

Migraine behavior in physical therapy students at the Pontifical Catholic University of Ecuador

Comportamiento de la migraña en estudiantes de la carrera de fisioterapia de la Pontifica Universidad Católica del Ecuador

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ABSTRACT

Introduction: migraine is multifactorial, influenced by genetic, hormonal and environmental factors, with a biopsychosocial impact that is not yet fully understood.

Objective: to evaluate the behavior of migraine in students of the physiotherapy career.

Methods: a mixed, observational, and correlational study was conducted with physical therapy students from the Pontifical Catholic University of Ecuador. A sample of 104 students was selected using simple random probability sampling, meeting the selection criteria. Surveys and observations were used to obtain the information that led to the variables analyzed. Descriptive statistical methods were used, respecting medical ethics.

Results: the majority of students were female (58,5 %), who worked all week (43,2 %), and had no children (63,1 %). A high percentage (93,3 %) reported having previously suffered from headaches. Among the 97 students who experienced them, 51,6 % reported difficulties that did not prevent them from carrying out their daily activities. The most frequent clinical manifestation associated with headaches was photophobia (26,8 %), followed by misophonia, nausea, and vomiting (23,7 % each). Regarding psychosocial factors, 41,3 % presented normal stress levels, and 40,4 % normal anxiety levels.

Conclusions: migraine is a common disorder that affects physical and mental functioning. Its origin is multifactorial, involving genetic, hormonal, and environmental factors. Although there is evidence of the influence of biopsychosocial factors, limitations persist that hinder a complete understanding of their relationship with migraine.

Keywords: Headache; Migraine; Risk Factors; Psychology.

RESUMEN

Introducción: la migraña es multifactorial, influida por factores genéticos, hormonales y ambientales, con impacto biopsicosocial aún no completamente comprendido.

Objetivo: evaluar el comportamiento de la migraña en estudiantes de la carrera de fisioterapia.

Métodos: estudio mixto, observacional y correlacional desarrollado en estudiantes de Fisioterapia de la Pontificia Universidad Católica del Ecuador. Mediante un muestreo probabilístico aleatorio simple fue seleccionada una muestra de 104 estudiantes, quienes cumplieron los criterios de selección. Se aplicaron encuestas y observación para obtener la información que dio salida a las variables analizadas. Se emplearon métodos de estadística descriptiva, respetándose la ética médica.

Resultados: predominaron los estudiantes del sexo femenino (58,5 %), que trabajan durante toda la semana (43,2 %) y no tienen hijos (63,1 %). Un alto porcentaje (93,3 %) refirió haber padecido cefalea previamente. Entre los 97 estudiantes que la presentaron, el 51,6 % reportó dificultades que no les impidieron realizar sus actividades diarias. La manifestación clínica más frecuente asociada a la cefalea fue la fotofobia (26,8 %), seguida por misofonía, náuseas y vómitos (23,7 % cada uno). En cuanto a los factores psicosociales, el 41,3 % presentó niveles normales de estrés, el 40,4 % niveles normales de ansiedad.

Conclusiones: la migraña es un trastorno frecuente que afecta el funcionamiento físico y mental. Su origen es multifactorial, involucrando factores genéticos, hormonales y ambientales. Aunque existen indicios sobre la influencia de factores biopsicosociales, aún persisten limitaciones que dificultan una comprensión completa de su relación con la migraña.

Palabras clave: Cefalea; Migraña; Factores de Riesgo; Factores Psicosociales.

INTRODUCTION

Migraines are caused by several factors that can be perfectly controlled, so in this study we will understand some of the main factors and once identified, we will be able to advise patients on how to prevent rare attacks and thus contribute to the improvement of mental health, because for many patients, migraines affect the patient's psychological area. In this context, the university student population suffers from headaches caused by stress, as a result of academic pressure.⁽¹⁾

This common disorder, associated with reduced physical and mental functioning, has a global prevalence of 11 %, with the highest incidence in middle age. Susceptibility to migraine is thought to be multifactorial, involving genetic, hormonal, and environmental factors. Although existing research provides some preliminary evidence for the role of many biopsychosocial factors as potential comorbidities or predictors of migraine, several obstacles prevent a comprehensive understanding of the association of these factors with migraine.⁽²⁾

The studies published to date have different predictor and control variables, making direct comparison difficult. However, most ignore the potential moderating effects of some variables that increased or decreased the association between the predictors and migraine. All of these factors could explain the different estimates of the association between the analyzed variable and migraine.⁽³⁾

This diseaseIt is related to hormonal and hereditary factors, as well as environmental factors (climate change), with the consumption of food, alcoholic beverages, stress, sleep disorders and physical activity, situations commonly seen in university students.^(1,4) Taking this into account, the present investigation was carried out, which aimed to evaluate the behavior of migraine in students of the physiotherapy career, assigned to thePontifical Catholic University of Ecuador, Santo Domingo campus, in 2023.

METHODS

A mixed, observational study with a correlational approach was carried out inA universe made up of students of the physiotherapy career at the Pontifical Catholic University of Ecuador "PUCE" Santo Domingo de los Tsáchilas campus, in a probabilistic, simple random manner, a sample of 104 was selected, who agreed to participate in the study.

Participants were administered several instruments, which were combined with observation, allowing for the observation of information that led to the variables analyzed (sex, employment, parental status, history of headache, impact of headache on daily activities, clinical manifestations associated with headache, level of stress, anxiety and depression, weekly consumption of animal fats and alcoholic beverages).

To collect psychosocial factors, the DASS-21 test was applied,⁽⁵⁾ which consists of 21 items with several answers on a Likert scale, with values from 0 for "None" to 3 for "A long time." It can be used in adults to determine symptoms, but it is not considered a definitive diagnosis. In general, the instrument provides the state of depression, anxiety and stress in 3 dimensions. Each item consists of 7 units. For dietary factors, the type of consumption was considered and the frequency was measured, including whether fats, dairy products, canned products, wine or alcohol were consumed.

Ethical Considerations

Written informed consent was obtained from all participants before the start of the study, in full compliance with the ethical principles established in the Declaration of Helsinki. It is important to note that the protection of the information collected was communicated in advance, preserving the anonymity of the respondents and avoiding the collection of personally identifiable information.

RESULTS

The study noted a predominance of female students (58,5 %), those who work all week (43,2 %), and those who do not have children (63,1 %). Of these, 93,3 % had previously suffered from headaches. Of the 97 students who did, as shown in Chart 1, the predominance of those who experienced difficulties, but who were not prevented from performing daily activities, was 51,6 %.

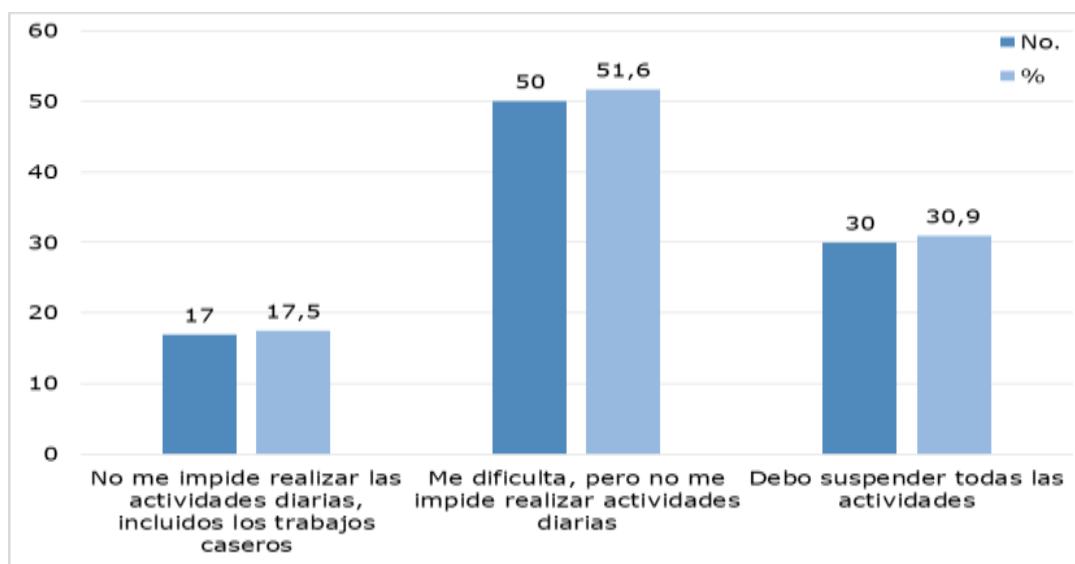


Chart 1. Impact of headaches on daily work.

It is observed in graph 2 that the main clinical manifestation associated with headache was photophobia (26,8 %), followed by misophonia, nausea and vomiting (23,7 % in both cases).

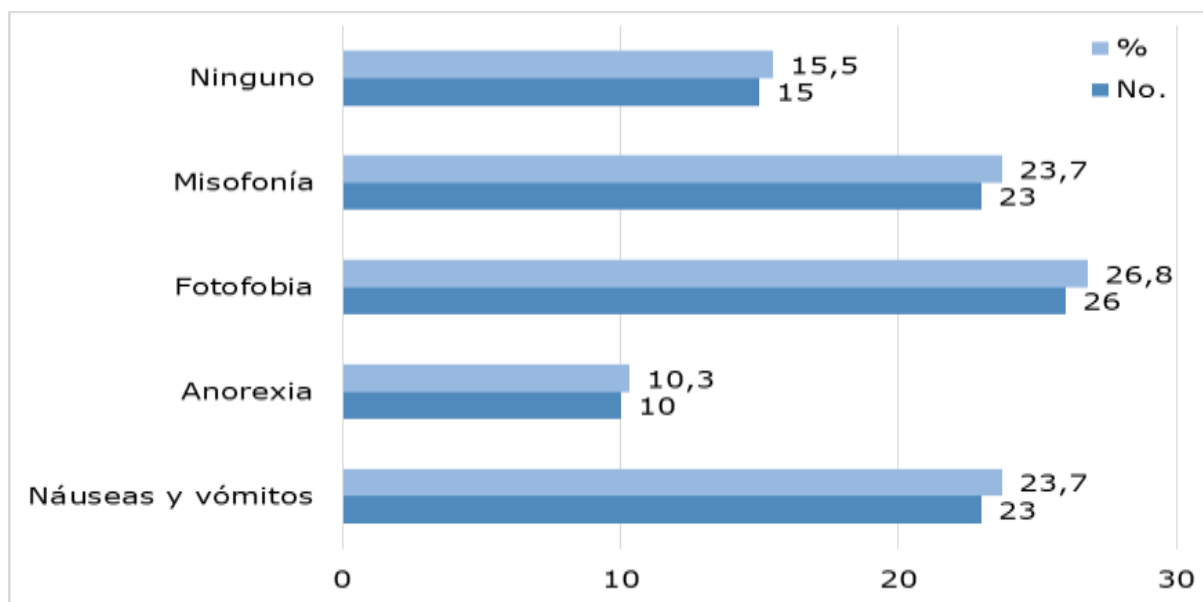


Chart 2. Clinical manifestations associated with headache.

Table 1 shows the distribution of patients according to the presence of psychosocial factors. 41,3 % had normal stress levels, 40,4 % had normal anxiety levels, and 48,1 % had normal anxiety levels.

Table 1. Sample distribution according to the presence of psychosocial factors.

Psychosocial factors		No.	%
Stress level	Normal	43	41,3
	Mild	17	16,3
	Moderate	36	34,6
	Serious	8	7,7
Anxiety level	Normal	42	40,4
	Mild	17	16,3
	Moderate	29	27,9
	Serious	7	6,7
	Very serious	9	8,7
Level of depression	Normal	50	48,1
	Mild	17	16,3
	Moderate	11	10,6
	Serious	21	20,2
	Very serious	5	4,8

Regarding dietary factors, 31,3 % reported weekly consumption of animal fats; while 35,9 % consumed alcoholic beverages at least once a week, followed by those who drank five-seven times a week (18,8 %).

DISCUSSION

The results of this study show a predominance of females (58,5 %) in the sample analyzed. This trend is consistent with previous research indicating a higher prevalence of headaches in women, both in the general population and in specific groups such as students, which could be related to hormonal, emotional, and social factors specific to this sex.^(6,7)

A significant proportion of students (43,2 %) reported working all week, indicating a double burden of academic and work responsibilities. This finding is relevant, since several studies have indicated that occupational and academic stress is an important trigger of headaches in young people.⁽⁸⁾ Furthermore, the fact that the majority of students do not have children (63,1 %) could reflect a life stage focused on professional and academic development, although this does not necessarily imply lower levels of stress.

It is noteworthy that 93,3 % of students reported having suffered from headaches in the past, a considerably higher figure compared to the general population. This finding may be explained by the university academic context, characterized by high cognitive demand, sleep disturbances, and prolonged exposure to screens, all of which have been widely linked to the onset of headaches.^(9,10)

Regarding the functional impact of headaches, more than half of those affected (51,6 %) experienced difficulties that did not prevent them from performing their daily activities. This pattern suggests a moderate form of headache, possibly of the tension type, which is the most common type in the student population.⁽¹¹⁾

Regarding the associated clinical manifestations, photophobia was the most common symptom (26,8 %), followed by misophonia and nausea and vomiting (23,7 % in both cases). These symptoms are characteristic of migraine headaches, indicating that, although tension-type headache may be the most common, a significant percentage of students could be experiencing migraine episodes.⁽¹²⁾ This data underscores the need for an adequate differential diagnosis in this population group.

Regarding psychosocial factors, approximately 41,3 % of respondents presented normal levels of stress and 40,4 % normal levels of anxiety. However, it is inferred that approximately 60 % may have some degree of emotional distress, which is consistent with recent studies showing an increase in mental health disorders among university students, especially following the COVID-19 pandemic.^(13,14)

Finally, dietary factors revealed that 31,3 % of students consumed animal fats weekly, and 35,9 % consumed alcoholic beverages at least once a week. This pattern of dietary and substance use can aggravate or precipitate headache episodes, especially when combined with other factors such as stress, anxiety, and irregular sleep.^(15,16) Frequent alcohol intake (five-seven times a week in 18,8 % of cases) is particularly worrying, given that it has been identified as a common trigger of headaches in young people.⁽¹⁷⁾

CONCLUSIONS

The main factors associated with migraines in physiotherapy students include high levels of stress, derived from academic and workload, as well as high-fat eating habits. The majority of respondents are women, many of them work daily, and a significant proportion have children. At the psychosocial level, moderate levels of stress and anxiety are observed, in addition to severe cases of depression, which directly influence the onset of migraines. Regarding diet, frequent consumption of fats and alcohol is reported, which also contributes to the development of this condition.

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