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FREQUENCY OF TENSION-TYPE HEADACHE IN PATIENTS WITH MIGRAINE: A SINGLE-CENTER CROSS-SECTIONAL STUDY

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ABSTRACT

Background and objective:
Migraine is a common headache disorder characterized by recurrent episodes of moderate to severe headaches which are usually unilateral. Migraine is the second most common headache disorder after tension-type headache. The objective of this study was to determine the frequency of tension-type headache in patients with migraine.

Methods:
This cross-sectional study was carried out at Pakistan Institute of Medical Sciences, Islamabad for a period of six months between 1st July 2018 and 31st December 2018. This study enrolled patients above the age of 12 years that were diagnosed with "Migraine without aura" or "Migraine with aura". The patients were subsequently asked for presence of features of tension-type headache. The criteria published by International Headache Society, ICHD-3 was used for making the diagnosis of migraine and tension-type headache. The data was analyzed using SPSS version 17. In the case of numerical variables, the mean and standard deviation were calculated. In the case of categorical variables, the frequency and percentage were calculated. All data were presented in tables and figures.

Results:
One-hundred-forty-two patients participated in the study. The age range was between 14 and 72 years. The mean age was 30.12 years. Female patients were 76.1 percent. Eighty patients were married, and 15.5 percent patients did not receive education; 72.5 percent patients were from urban background. Seventy-five (52.8%) patients had migraine with aura while 67 (47.2%) patients had migraine without aura. Twenty-nine (20.4%) patients of migraine had coexistent tension-type headache while 113 (79.6%) patients of migraine did not have tension-type headache.

Conclusion:
Tension type headache was an infrequent finding in our study population of migraine patients.

KEY WORDS: Migraine with aura, migraine without aura, tension-type headache.

INTRODUCTION

Migraine is a common headache disorder characterized by recurrent episodic headaches. These are of moderate to severe intensity and are usually unilateral. Migraine headaches typically last for more than four hours. Visual or sensory symptoms collectively referred to as an aura are sometimes associated with migraines. Migraine aura starts before the onset of headache but may occur during or afterwards.[1]

Migraine is a relatively common disorder affecting approximately 12% of population.[2]

Migraine is more common in females and has a strong genetic component.[3] It is considered to be a major contributor to disability-adjusted life-years (DALYs) lost.[4]

Tension-type headache (TTH) is a pressing or tightening (non-pulsatile) type with frontal- occipital location and of mild to moderate intensity with no worsening with daily activity. TTH lasts from 30 minutes to 7 days.[1] TTH is the most common headache type, followed by migraine.[5] TTH is also associated with reduction in

health-related quality of life.[6]

There have been several studies published on migraine and TTH from Pakistan. These include hospital based studies and population based surveys.[7-9] Several headache surveys conducted amongst students have also been published.[10-12] Reported prevalence of migraine and TTH from Pakistan was 22.5% and 44.6% respectively.[8] There is paucity of local data as regards the coexistence of migraine and TTH in the Pakistani population.

The aim of our study was to determine the frequency of tension-type headache amongst patients who were diagnosed as a case of migraine, using the classification developed by International society of headache disorders.[1]

METHODS

Study design: Prospective cross-sectional study.

Place and duration of study: The study was a single-center study, conducted at Pakistan Institute of Medical Sciences, Islamabad over a period of six months from 1st July 2018 to 31st December 2018.

Sample size: Total 142 patients fulfilled the inclusion criteria during the study period and were therefore included in the study.

Sampling technique: Non-probability consecutive sampling.

Inclusion criteria: The study enrolled outpatients of both genders aged 12 or more, who were diagnosed as case of migraine without aura or migraine with aura. The International Classification of Headache Disorders 3rd edition, (ICHD-3) criteria was used for the purpose of diagnosing migraine.[1]

Exclusion criteria: The patients who could not give a detailed history or the ones who didn't consent to be included in the study were excluded.

Data collection: After confirming the diagnosis of migraine according to the ICHD-3, the patients were then screened for symptoms of TTH. Subsequently the patients were then labelled as either having TTH or not having TTH, which was also based on the ICHD-3 criteria.[1] The data was collected using a standardized pro forma. Patients' demographic information was also recorded.

Data analysis: Data analysis was performed using SPSS version 17. Numerical variables such as age were described as mean and standard deviation. For categorical variables such as migraine types, presence or absence of TTH, gender, marital status, locality and education status, frequencies and percentages were calculated.

Ethical considerations: The study was approved by the hospital's Ethical Review Committee.

RESULTS

The study included 142 patients diagnosed with migraine who fulfilled the inclusion criteria. The demographics of the study population are shown in Table 1.

Table 1: Patient demographics

VARIABLE		FREQUENCY	PERCENT
Gender	Male	34	23.9
	Female	108	76.1
Marital status	Single	62	43.7
	Married	80	56.3
	Divorced/separated	0	0
Education	Uneducated	22	15.5
	Primary	28	19.7
	Intermediate	34	23.9
	Graduate	42	29.6
	Post graduate	16	11.3
Habitation	Rural	39	27.5
	Urban	103	72.5

As far as type of headache was concerned, 67(47.2%) patients had migraine without aura while 75(52.8%) patients had migraine with aura.

The frequency of TTH with migraine is illustrated in Table 2.

Table 2: Migraine variants and Tension-type Headache

HEADACHE TYPE	FREQUENCY	PERCENT
No TTH (total number)	113	79.6
TTH (total number)	29	20.4
Migraine without aura and TTH	18	12.67
Migraine with aura and TTH	11	7.74

Out of 67 patients who had migraine without aura, 49 (87.33%) had no symptoms of TTH while 18 (12.67%) patients also suffered from TTH. Out of 75 patients who had migraine with aura, 64 (92.26%) patients did not show symptoms of TTH while 11 (7.74%) patients had both migraine with aura and TTH.

DISCUSSION

Headache is one of the commonest disorders presenting to outpatient clinics. A survey of family physicians from different provinces of Pakistan found that there is significant burden of the various headache disorders in their clinics.[14]

Our study was performed to determine the frequency of tension type headache (TTH) in patients having migraine. Previously no such study has been done in Pakistan. Either Migraine and TTH are a continuum of same disease, or different entities has been a topic of discussion in the past.[15] This study enrolled cases of migraine headache who qualified the International Headache Society classification and further quantified the cases who fulfilled the criteria for TTH too.

The age range in our study was quite wide, and the mean age of 30.12 was consistent with the published regional data.8 Herekar et al in their cross sectional national survey showed that migraine was predominant in females (76.1%).[8] This is consistent with our results of 76% and with other local and global age prevalence data.[4,16]

The frequency of migraine with aura of 52.8% is in contrast to the generally recognized 25% frequency.[17] Possible reason can include that frequency of patients seeking medical attention is much higher in migraine with aura patients. Most participants of our study were married (56.3%) and majority had received formal education. Our study showed that out of 142 cases of migraine, 29 (20.4%) also had TTH symptomatology. Further classification into migraine without aura and migraine with aura demonstrated that among 67 patients who had no aura, 18 had symptoms of TTH. Out of 75 patients who suffered from migraine with aura, 11 had tension-type headache too. The overall frequency of tension-type headache in migraineurs was quite less (20.4%). Further studies can be done at other centers to support our findings. The concept of continuum between migraine and TTH was not found consistently in our study.

CONCLUSION

Tension type headache was an infrequent finding in our study population of migraine patients. More studies are required in different centers to determine the true coexistence of the disorders.

REFERENCES

1. Headache Classification Committee of the International Headache Society (IHS) The International Classification of Headache Disorders, 3rd edition. Cephalalgia. 2018;38(1):1-211.
2. Burch RC, Buse DC, Lipton RB. Migraine: Epidemiology, Burden, and Comorbidity. Neurol Clin. 2019;37(4):631-649.
3. Lipton RB, Bigal ME, Diamond M, Freitag F, Reed ML, Stewart WF. Migraine prevalence, disease burden, and the need for preventive therapy. Neurology. 2007;68(5):343-9
4. Amiri P, Kazeminasab S, Nejadghaderi SA, Mohammadinasab R, Pourfathi H, ArajKhodaei M, et al. Migraine: A Review on Its History, Global Epidemiology, Risk Factors, and Comorbidities. Front Neurol. 2022;12:800605.
5. Jensen RH. Tension-Type Headache - The Normal and Most Prevalent Headache. Headache. 2018;58(2):339-345.
6. Ashina S, Buse DC, Bjorner JB, Bendtsen L, Lyngberg AC, Jensen RH, et al. Health-related quality of life in tension-type headache: a population-based study. Scand J Pain. 2021;21(4):778-787.
7. Shabbir D, Rajput M, Jan D. Cutaneous allodynia in migraine. Pak J Neurol Sci. 2020;15(1):5-8.
8. Herekar AA, Ahmad A, Uqaili UL, Ahmed B, Effendi J, Alvi SZ, et al. Primary headache disorders in the adult general population of Pakistan - a cross sectional nationwide prevalence survey. J Headache Pain. 2017;18(1):28.
9. Murtaza M, Kisat M, Daniel H, Sonawalla AB. Classification and clinical features of headache disorders in Pakistan: a retrospective review of clinical data. PLoS One. 2009;4(6):e5827.
10. Noor T, Sajjad A, Asma A. Frequency, character and predisposing factor of headache among students of medical college of Karachi. J Pak Med Assoc. 2016;66(2):159-64
11. Bakhshi SK, Naim H, Salman A, Imran M, Ashraf J. The frequency, classification and characteristics of headache among medical students of Karachi, Pakistan. J Pioneer Med Sci. 2016;6:78-83.
12. Javaid Q. Prevalence, triggers and presentation of migraine among the college and university students: Review of the available literature. J Pak Med Assoc. 2021;71(11):2617-2622.
13. Malik A, Awan S, Sonawalla A, Ahmed F, Wasay M. Awareness and approach to headache: a survey of family physicians in Pakistan. Pak J Neurol Sci. 2018;13(4):5-10.
14. Turner DP, Smitherman TA, Black AK, Penzien DB, Porter JAH, Lofland KR, et al. Are migraine and tension-type headache diagnostic types or points on a severity continuum? An exploration of the latent taxometric structure of headache. Pain. 2015;156(7):1200-1207.
15. Athar F, Zahid A, Farooq M, Ayyan M, Ashraf M, Farooq M, et al. Frequency of migraine according to the ICHD-3 criteria and its association with sociodemographic and triggering factors in Pakistan: A cross-sectional study. Ann Med Surg (Lond). 2022;82:104589.
16. Shankar Kikkeri N, Nagalli S. Migraine with Aura. [Updated 2022 Dec 6]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2023 Jan. (Accessed on March 2, 2023). Available from: https://www.ncbi.nlm.nih.gov/books/NBK554611/

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Haris Majid Rajput; Concept, data analysis and interpretation, manuscript writing, manuscript revision
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Muhammad Fateen Rashed; Data collection, manuscript writing, manuscript revision
Fiza Batool Almosvi; Data analysis and interpretation, manuscript writing
Mazhar Badshah; Concept and design, manuscript revision
All the authors have approved the final version of the article, and agree to be accountable for all aspects of the work.