

# Classification of Migraine and Tension Type Headache in Southern Punjab

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## ABSTRACT

**Background:** Headache is one of the commonest neurological conditions which have huge impact on daily functioning. Little is known about the prevalence of primary headaches in out-patient clinics in Pakistan and especially southern Punjab.

**Aim:** To classify and estimate the frequency of patients with migraine and tension-type headache in an outpatient clinic where most of these patients present.

**Methods:** Outpatients who newly visited the Department of Neurology, Sheikh Zayed medical college/Hospital, Rahim Yar Khan during August 2013 to Jan 2014 were analyzed. Each parameter such as age, sex or diagnosis was analyzed. The ICHD-II criteria for headache diagnoses were used.

**Results:** 100 patients 73 women and 27 men of whom 63 had tension type headache and 37 had migraine were included. Tension type headache was most common diagnoses and the male to female ratio was around 1:3. The average age of patients was 28.2±10.4 years. Chronic daily headache was found in 36% of patients and tension type headache was the most common underlying cause.

**Conclusion:** All these results suggest that primary headache, especially TTH, is highly observed in an outpatient clinic where most patients first present in a teaching hospital. Follow-up studies to describe epidemiology and burden of headache in Pakistan are needed.

**Keywords:** Outpatient, headache, cross-sectional study, clinical feature, migraine

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## INTRODUCTION

Recurrent headache is a commonly experienced problem with a significant impact on public health. Also, it is the most common neurological syndrome presented by patients to general practitioners and neurologists<sup>1</sup>. World Health Organization has ranked it amongst the ten most disabling conditions. As a consequence of the headache, psychosocial functioning may be impaired in various areas including family, peer group, friends, leisure time activities and working capacity and productivity at school or at work<sup>2,3</sup>. In the global population, the prevalence of active headache disorder is 47%. Tension type headache & migraine are the two most common types affecting 38% and 10% adults respectively. About 3% are affected by chronic headache that lasts for more than 15 days a month<sup>4</sup>. Although headache has been an important cause of morbidity around the world, it has remained unrecognized in the developing world. No epidemiological data is available regarding headache disorders in Pakistan. A few cross-sectional studies have attempted to classify primary headache disorders<sup>5,6</sup>. Several international studies have shown varied rates of prevalence of primary headache

disorders<sup>7,8,9</sup>. Nevertheless, little is known about the distribution of different types of headache, including primary & secondary headache, in outpatient departments where most patients first present. Moreover, the estimated prevalence rates of migraine and tension type headaches vary between different studies. This discrepancy is most likely due to differences in classification, study methodology and population samples. The International Headache Society provides standardized definitions and classification of primary and secondary headaches in the form of International Classification of Headache Disorders (ICHD-II)<sup>10</sup>. Another important aspect is the assessment of headache diagnoses. Short questionnaire-based interviews where headache diagnoses are based on typical headache symptoms are considered to be an efficient and reliable way to identify headache sufferers.

## PATIENTS AND METHODS

This is a descriptive cross-sectional survey which was conducted in the Department of Neurology, at Sheikh Zayed Medical College/Hospital, Rahim Yar Khan. Study duration was six months from August 2013 to January 2014. Patients presenting to Neurology out-patients were included in the survey. Most of these patients belonged to lower socioeconomic class, were uneducated or minimally

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educated and mostly housewives and manual laborers. These patients usually seek medical treatment on irregular basis. For each patient, a routine clinic questionnaire was completed under direct supervision of a qualified and experienced specialist in headache neurology during the initial consultation. The questionnaire recorded biographical data, age, sex, family headache history, frequency and duration of headache as well as the location, quality, and intensity of pain, influence of physical activity, occurrence of nausea, vomiting, photo and phonophobia, and the occurrence and duration of neurological symptoms. The questionnaire incorporated all items required for diagnosing headache according to the ICHD-II<sup>10</sup>. Migraine with aura was defined as at least 2 episodes of migraine with typical aura. Patients who reported a frequency of greater than or equal to 15 episodes per month were assigned the additional diagnosis of chronic daily headache (CDH). The patients were interviewed alone or in the presence of an attendant. Those patients fulfilling criteria for secondary headaches were excluded from the survey. Only those patients fulfilling criteria for migraine and tension type headache or their sub-diagnoses were included in the survey.

At the end of the survey, frequencies were calculated for gender, final diagnoses and sub-diagnoses. Descriptive statistics were calculated for age, age of presentation, age of onset. Any relationships between gender and type of headache were also highlighted. The study protocol was approved by the Ethical Review Committee of the hospital. The questionnaires were filled after informed consent by the patients. SPSS version 15.0 was used for data entry, processing and statistical analysis at the end of the study period.

**RESULTS**

A total of 100 patients fulfilling the inclusion criteria were included in the survey. There were 73 women and 27 men (Table.1). The male to female ratio was around 1:3. The average age of patients was 28.2±10.4 years. No significant difference in age was found between men and women. About 85% of the patients were between 18 and 39 years of age. Distribution of type of primary headaches across gender is presented in Table 2.

Tension Type Headache (TTH) was the most commonly diagnosed primary headache in 63(63%) patients. 7% had infrequent episodic headache, 27% had frequent episodic headache and 29% had chronic headache. 48(48%) patients diagnosed were women and 15% were men. The median age at first presentation was 22 years.

Migraine was the second most commonly diagnosed primary headache found in 37(37%) patients. Out of these, 4% had migraine with aura and 28% had migraine without aura. 5% were diagnosed as having a complication of migraine; most commonly chronic migraine. 25% of migraineurs were women and 12% were men with a male to female ratio of almost 1:2. The average age at first presentation of migraineurs was 28.35±10.01 years. There were no significant differences in age at presentation and age at onset between men and women. The classification of migraine and tension-type headaches in this study is shown in Table.3

Chronic daily headache was seen in 36(36%) patients. 27% of these patients were women and 9% were men. 10% patients with chronic daily headache had migraine, 26% had tension-type headache. There was no significant difference in age of presentation and gender distribution in the group of patients with chronic daily headache as compared to the rest of our headache patients.

Table 1: Distribution of headache across Gender

	<b>n</b>	<b>%age</b>
Female	73	73
Male	27	27
Total	100	100

Table 2 Types of Headaches across Gender

<b>Gender</b>	<b>Migraine</b>	<b>Tension Type Headache</b>
Female	25	48
Male	12	15
%age	37%	63%

Table 3: Distribution of primary headache types by ICHD-II in this study (n=100)

<b>Headache type</b>	<b>Frequency</b>	<b>%age</b>
<b>Migraine (1)</b>	37	37
Migraine without aura (1.1)	28	28
Migraine with aura (1.2)	4	4
Chronic Migraine (1.5.1)	5	5
<b>Tension-type headache (2)</b>	63	63
Infrequent-episodic tension type headache (2.1)	7	7
Frequent-episodic tension type headache (2.2)	27	27
Chronic tension type headache (2.3)	29	29

**DISCUSSION**

This is the first attempt at classification of primary headache disorders in southern Punjab according to the ICHD-2 of the International Headache Society. More than 85% of the patients who sought treatment were between 18 and 39 years of age, the most productive age group and majority of these patients were women. The prevalence of migraine was

highest among 20-35-year-old women while there were no big differences in age groups among men and in TTH overall. The striking well-known female preponderance in patients with migraine which is also evident in our study is more consistent across studies than the overall prevalence<sup>11,12</sup>. Similar gender distributions have been reported previously. Jensen and Stovner reported male to female ratios of 1:3 and 4:5 in migraine and tension-type headache respectively and an earlier study from Pakistan reported that all types of headache are over three times more common in women<sup>13,14</sup>. Tension-type headache and Migraine were the two most common presentations classified in this clinical sample. Epidemiological evidence from around the world suggests TTH is the most common cause of primary headache<sup>1</sup>. Similarly, TTH was seen as the most common reason for presentation to a headache neurologist in our study and published clinical reports agree with this observation. Several possible explanations can be offered for this disparity including under-recognition of primary headache especially TTH as a “real disease” by patients and health practitioners, lower individual morbidity of TTH and the lack of a medical referral system in Pakistan. Also, the study population belonged to lower socioeconomic class where burden of poverty, delay and inadequate treatment can lead to chronicity of the disease. It can also be speculated that TTH presents more frequently than migraine because of increased psychiatric illnesses especially depression and somatoform disorders in the study population [15]. While local epidemiological data is needed to test these explanations, patients with TTH who sought medical care suffered from more frequent episodes of headache than those with migraine in our study. Literature reports suggest that amount of disability associated with TTH on a societal level is much higher than that with migraine especially when measured as absence from work<sup>16</sup>.

Chronic daily headache was reported by 36% of the patients. TTH was the most common condition, followed by migraine. Only 5% were defined to have chronic migraine (CM). Similar clinical results were reported in a study from Pakistan<sup>14</sup>, while a study from India<sup>18</sup> found that CM was more common than CTTH. Two clinical studies in the South Asian population found a similar or higher prevalence amongst headache patients but the proportions of migraine and tension-type headache differed between the two. Ravi et al reported 37% patients suffered from CDH and tension-type headache was the most prevalent within this group<sup>17</sup>. In an earlier study, Chakravarty reported that almost 50% of headache clinic patients were diagnosed with CDH

and 82% of them suffered from chronic migraine followed by 16% from chronic TTH<sup>18</sup>.

This study characterizes patients with headache disorders who sought medical treatment with a headache neurology specialist. Therefore, it is inappropriate to generalize the results of this study to headache disorders in the community. The absence of specialist headache clinics with lack of an established medical referral system in Pakistan, most patients who suffer from headaches are unaware of diagnostic and therapeutic options. In addition, patients who had physical access to the out-patients of this hospital were included in this study, they may not be entirely representative of the general population in the catchment area and less so of the country.

Nevertheless, this study highlights classification and frequency estimates of patients who seek medical treatment and presents factors that predict headache associated morbidity. It is one of the first clinical reports of headache disorders from southern Punjab. Local population-based surveys are required to guide public health and research policies. Increasing awareness and improving the capability of primary care physicians to manage TTH and migraine is likely to help decrease the associated burden.

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