



Prevalence of Primary Headache Disorders in a Population of Semi-Urbanized Area of South India: A Cross-Sectional Study

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ABSTRACT

Headache disorders are the most common neurological complaints worldwide, among all primary headache- tension type is common followed by migraine. It occurs independently and Changes in nerve cell activity which create inflammatory chemicals which are responsible for causing head pain. The study aims to assess the various headache disorders among people aged under 50. To assess the prevalence of various headache disorders. To identify the common triggering factors in association with age, gender, social activities. A Cross-sectional observational study was carried out in Neurocare hospital for a period of six months. Patient detailed information is collected by using specially designed data collection form. Statistical tool was used to analyse the data. The 6 months prevalence of primary headache disorders among the population was 0.72% overall migraine was 32.2%, Tension type headache was 31.46%, Cluster headache was 14.04%, Unclassified headache was 21.91%. The study concludes that 39.8% of patients have a migraine disorder. Primary headache disorders are more common in South India. The results in our study indicates that female population is more prone for primary headache than male. However, prevalence rate was recorded in tension headache yet, it is still the most common headache type in rural area.

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INTRODUCTION

Primary headaches occur independently and are not caused by any other medical condition. In the present scenario, the scale of burden of headache is underestimated. Headache disorders are worldwide under-recognized and under-treated. Global campaign took measures to reduce the burden of headache and to reduce the widespread of headache. The study aims to assess prevalence of various headache disorders among people aged under 50 and to assess the prevalence of various headache disorders and to identify the common triggering factors in association with age, gender, social

Table 1: Shows the Sex, Age, and Education of 6 months prevalence of headache type

Factors	Primary headache	Percentage (%)	Secondary headache	Percentage(%)
Gender				
Male	69	45.10%	33	36.26%
Female	84	54.90%	58	63.73%
Age				
18 – 25	31	20.26%	28	30.76%
26 – 33	37	24.18%	23	25.27%
34 – 41	41	26.79%	19	20.87%
42 – 50	44	28.75%	21	23.07%
Education				
Literate	74	48.36%	42	46.15%
Illiterate	79	51.63%	49	53.84%

activities. To prepare accurate early life prevention strategies for all types of patients who are having headache disorders. Multinational healthcare organizations collaborate with healthcare professionals to uplift awareness of primary headaches in general [1]. Events that affects nerves and blood vessels inside and outside the brain sends signals of pain to the brain. Changes in nerve cell activity which create inflammatory chemicals and brain chemicals are responsible for causing head pain [2].

Migraine, tension type headache and group of chronic headaches are occurring more than 15 days per month with or without medication use. These headache disorders affect up to 80% of general population [3]. The one-year prevalence of migraine is 10-18% and tension type headache are 31-39% in general [4]. In case of chronic migraine prevalence is 0.2-5.1% [3, 5]. CDH is the third most common primary headache in the population, with an overall prevalence ranging from 4% to 5% [6, 7]. Chronic headache is associated with more severe disability and lower health related quality of life (HRQoL) compared to episodic headaches [8]. In a World Health Organization (WHO) report of 2000, migraine is ranked 19 among disorders causing years lived with a disability for both sexes and the disability during a severe migraine attack is considered on level with that of active psychosis, tetraplegia and dementia [9]. Many factors influence the calculation of headache prevalence in addition to case details which includes time frame of the headache age and sex of the population, participation rate method of data collection, how the screening questions are asked [4]. A number of factors can increase the risk of migraine and trigger the headache process and Although migraine triggers differ from person to person, they includes sudden changes in the

weather or environment, too much enough sleep, strong odour and fumes, emotion, stress, overexertion, loud or sudden noises, motion sickness and low blood sugar, tobacco, depression, anxiety, head trauma, hangover effect, some medications, hormonal changes in women's, and bright or flashing lights. More using the analgesic medications or missing doses of preventive medications may also be cause migraine headaches [10].

MATERIALS AND METHODS

A Cross-sectional observation study was carried in Neurocore hospital located in South India. The study was carried out for a period of 6 months (June 2022– November 2022). The study was conducted after approval from the Institutional Review Board (RIPER/IRB/2022/022). The subjects who are attending for hospital visit under age 50 were included in the study and the subjects who are critically ill were excluded from the study. Suitable data collection form for patients was prepared which includes patient profile in detail as age, gender and complaints on admission, diagnosis, and medication therapy. Patient data was collected from general public who are attending for regular follow-up and from medical records including demographic data on the timing of hospital visit, clinical features, laboratory data, clinical and investigational parameters. By gathering all the information, we assessed, classified, and identified the actual risk of the patient and provided the counselling for all the patient with respect to disease for further prevention. The overall outcome of the study is to educate each patient regarding the prevalence factor of headache disorders.

Table 2: Comparison of variable factors with various subtypes of primary headache

Factors	Migraine	Tension-Type Headache	Clustered Headache	Unclassified Headache
Headache Characteristics				
Pulsating	28(31.11%)	26(36.61%)	19(50%)	14(31.11%)
Aching	25(27.77%)	27(38.02%)	12(31.57%)	13(28.88%)
Distending	37(41.11%)	18(25.35%)	07(18.42%)	18(40%)
Total	90(100%)	71(100%)	38(100%)	45(100%)
Attack Duration				
<30 Minutes	16(21.05%)	19(22.09%)	09(23.07%)	14(32.55%)
30 Min-4 Hrs	29(38.15%)	23(26.74%)	12(30.76%)	15(34.88%)
4 Hrs-72 Hrs	24(31.57%)	33(38.37%)	06(15.38%)	06(13.95%)
>72 Hrs	07(9.21%)	11(12.79%)	12(30.76)	08(18.60%)
Total	76(100%)	86(100%)	39(100%)	43(100%)
Associated Symptoms				
Nausea/Vomiting	32(43.24%)	28(38.35%)	18((41.86%)	28(51.85%)
Photophobia	29(39.18%)	19(26.02%)	09(20.93%)	17(31.48%)
Lacrimation	13(17.56%)	26(35.61%)	16(37.20%)	09(16.66%)
Total	74(100%)	73(100%)	43(100%)	54(100%)
Headache days				
Occasional	18(27.27%)	11(19.64%)	17(30.90%)	22(32.83%)
Episodic	14(21.21%)	16(28.57%)	14(25.45%)	15(22.38%)
Chronic	27(40.90%)	18(32.14%)	09(16.36%)	16(23.88%)
Attack everyday	07(10.60%)	11(19.64%)	15(27.27%)	14(20.89%)
Total	66(100%)	56(100%)	55(100%)	67(100%)
Headache aggregated by Physical activity				
Yes	35(61.40%)	37(52.85%)	32(56.14%)	26(43.33%)
No	22(38.59%)	33(47.14%)	25(43.85%)	34(56.66%)
Total	57(100%)	70(100%)	57(100%)	60(100%)
Effect of daily life				
Daily life was normal	18(26.86%)	20(29.41%)	25(41.66%)	13(26.53%)
Part of life was affected	29(43.28%)	27(39.70%)	17(28.33%)	15(30.61%)
Could not do anything	20(29.85%)	21(30.88%)	18(30%)	21(42.85%)
Total	67(100%)	68(100%)	60(100%)	49(100%)
Location of Headache				
Unilateral	26(42.62%)	14(25%)	15(25.86%)	22(31.88%)
Bilateral	14(22.95%)	18(32.14%)	24(41.37%)	18(26.08%)
Indeterminate	21(34.42%)	24(42.85%)	19(32.75%)	29(42.02%)
Total	61(100%)	56(100%)	58(100%)	69(100%)
Similar attack in family History				
Yes	28(49.12%)	35(57.37%)	27(45.76%)	35(52.23%)
No	29(50.87%)	26(42.62%)	32(54.23%)	32(47.76%)
Total	57(100%)	61(100%)	59(100%)	67(100%)

RESULTS

The study was on prevalence of primary headache disorders. A total of 244 subjects were included in the study. Out of which 153 patients were on primary headache and 91 were on secondary headache. Table 1 Shows the Sex, Age, and education of 6 months prevalence of Headache type. Female population is prone to headache than males. Most of the primary headache subjects were at the age group of (34-41) and the secondary headache at the age group (26-33). Illiterate people are higher than literate people.

Table 2 shows the Headache characteristics were observed which are pulsating, aching, distending, tightening, and tension type was more in migraine. Headache duration was observed in the study. In <30 min and >72hrs tension type headache is more whereas in 30min-4hrs, 4hrs-72hrs migraine is more. In addition to primary headache associated symptoms were observed in the study. Nausea and vomiting were observed in migraine and tension type, Photophobia and Lacrimation was more in migraine. Occasional headache was more in migraine and tension type. Episodic and chronic headache was more in migraine. Attack every day were observed in tension type headache. In this study we examined that whether headache was aggravated by physical activity or not. Effect of daily life was observed in all types of headache such as daily life was normal, part of life was affected and could not do anything. Out of all part of life was affected is observed more in migraine. Location of headache was examined in this study such as unilateral, bilateral, indeterminate. Out of all unilateral headache was more and it was observed in migraine.

DISCUSSION

The study was focused on the prevalence of primary headache in an adult population in rural area, Anantapuram, AP. While primary headache prevalence has been studied extensively limited data exist for this population. According to one study the prevalence primary headache disorders among this population was 0.72% [11]. The socio-economic burden includes both direct costs associated with health care utilization and costs associated with missed work due to sickness absence or reduced efficiency. The individual and socio-economic burden of headaches is substantial [12]. The six months prevalence of overall migraine was 32.2%, Tension type headache was 31.46%, Cluster headache was 14.04%, Unclassified headache was 21.91% which is comparable with the different literatures [13]. How-

ever, our data shown that improved the rate of diagnosis of migraine may be the main route to follow in order to achieve better acute migraine management. Many surveys report the prevalence only of definite migraine and exclude probable migraine [14]. We believe this approach to be incorrect and misleading, provided that diagnostic criteria are correctly applied. Only migraine and tension type occur in the general population as episodic headaches with high prevalence except in a small number of cases which can be ignored for epidemiological purposes, episodic headache are one or the other [15]. Although we observed in our survey, 39.8% of our participants were literates and 59.5% were illiterates. This imbalance in sampling was previously reported by Mbewe et al and they pointed to the difficulties facing interviews in reaching the rural sector [16]. Population based epidemiological studies showed that chronic headaches affect approximately 3-45 of the adults in western countries [17]. Most of the studies on headache prevalence so far stems from south India [18]. There are only few studies from north India. In addition, there are still relatively few studies on cluster headaches.

Cross sectional observational study is used by random sampling. According to our study the prevalence of primary headache disorders among this population was 0.72%. Six months prevalence of overall migraine was 32.2%, Tension type headache was 31.46%, Clustered headache was 14.04% and Unclassified headache was 21.91%. The prevalence rates are compared with other countries. In many studies, tension-type prevalence is more compare with other types. In our study migraine prevalence is more common.

CONCLUSION

The prevalence of primary headache in the present study indicates that 39.8% of patients have a migraine disorder. The prevalence rates are comparable to other countries regarding migraine and cluster headache, Primary headache disorders are common in south India. However, prevalence rate was recorded in tension headache yet, it is still the most common headache type in rural area. Headaches are prevalent in both gender and in all age groups but women between 26-33 are those who have the highest prevalence. In South India health care providers have to overcome many obstacles for better headache care, the most important of which is to increase of patient awareness of early symptoms to seek medical health.

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Conflict

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