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Epidemiology of Chronic Daily Headache in the General Population

DR.A.Akila M.D., Dr.K.Sivakumar M.D.,
Associate Professor of Medicine, Government Thiruvarur Medical College
Associate Professor of Medicine,I.R.T Perundurai Medical college
Corresponding Author - Dr.K.Sivakumar M.D.,

Background and Objectives.-*Although chronic daily headache, mainly transformed migraine, is an important reason for consultation in headache clinics, its actual prevalence is unknown. This study analyzes the prevalence of the different types of chronic daily headache in an unselected population.*
Methods.-*A questionnaire exploring headache frequency was distributed to 300 unselected subjects. Those having headache 10 or more days per month were given a headache diary and were seen by a neurologist who classified their headaches. The study was conducted in IRT Perundurai Medical College Hospital between March 2019 to August 2019. It is a cross sectional study. The varieties of chronic daily headache were classified according to the second revision of IHS criteria proposed by Silberstein et al published in Neurology.*
Statistical analysis*: The collected data was analysed with SPSS 16.0 version. To describe about the data descriptive statistics, frequency analysis, percentage analysis, mean, SD were used. To find the significant difference between the individual samples and for multiple comparisons one way ANOVA and Tukey's Post Hoc test was used. In both the above statistical tools, the probability value P value of 0.05 was considered as statistically significant.*
Results.-*The questionnaire was returned by 230 subjects (76.5%). Chronic daily headache criteria were fulfilled by 89 individuals (38.6%). Eighty were women. Forty-two (47.2% of subjects with chronic daily headache and 18.2% of all subjects) had chronic tension-type headache. Analgesic overuse was found in 8 (17%). Transformed migraine was diagnosed in 45 (50.6% of subjects with chronic daily headache and 21.3% of all subjects). The remaining 2 cases in this series met the criteria of new daily persistent headache. No one was diagnosed as having hemicrania continua.*
Conclusions.-*Almost 5% of the general population (9% of women) suffers from chronic daily headache, the proportion of chronic tension-type headache and transformed migraine being quite similar. Less than one third overuse analgesics. The prevalence of chronic daily headache subtypes shown here differs from data obtained from headache clinics, emphasizing that caution is needed in extrapolating data from specialized units to the general population.*
Key words: *chronic daily headache, transformed migraine*

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I. Introduction

Headache is probably the most common neurological symptom in clinical practice. The I988 headache classification of the International Headache Society (IHS) has provided operational diagnostic criteria for all headache disorders and, thereby, new opportunities for valid epidemiological research.' In fact, after the appearance of the IHS classification, different groups have assessed the lifetime prevalence of headache disorders in the general population according to these criteria.

II. Classification Of Headaches

Migraine headaches : There are two main types of migraine headache:

- **Migraine without aura (common migraine).** Most people with migraines have common migraines. This type of migraine causes a throbbing pain on one side of the head. The pain is moderate to severe and gets worse with normal physical activity. You also may have nausea and vomiting and may feel worse around light and sound. The headache lasts 4 to 72 hours if it is not treated. A common migraine doesn't begin with an aura.
- **Migraine with aura (classic migraine).** Some people with migraines get an aura up to 30 minutes before they have a migraine. Symptoms of the aura include seeing wavy lines, flashing lights, or objects that look distorted. Other symptoms include tingling or a "pins-and-needles" feeling.

Other types of migraine headache include:

- **Menstrual migraine.** Many women have migraines around their menstrual cycle. These occur a few days before, during, or right after their period. The symptoms are the same as those of common or classic migraines.
- **Migraine equivalent.** Migraine equivalent is a migraine aura that is **not** followed by a headache. This form of migraine often happens after age 50 if you had migraines with aura when you were younger. The symptoms may include streaks or points of light moving across your field of vision.
- **Complicated migraine.** These are migraines that cause symptoms such as numbness and tingling, trouble speaking or understanding speech, or not being able to move an arm or leg. These symptoms go on after the headache goes away.
- **Abdominal migraine.** These migraines usually occur in children. The symptoms include vomiting or dizziness, without a throbbing headache. The symptoms may occur about once a month.

Cluster headaches are a series of relatively short but extremely painful headaches every day for weeks or months at a time. They tend to occur at the same time each year, such as the spring or fall. Because of their seasonal nature, people often mistake cluster headaches for symptoms of allergies or business stress. The cause of this type of headache is not exactly known, but there is some evidence which suggests that it occurs due to neurological involvement creating intense pain around one of your eyes. It's so bad that most people can't sit still and will often pace during an attack. Cluster headaches can be more severe than a migraine, but they usually don't last as long.These are the least common type of headaches, affecting less than 1 in 1,000 people. The prevalence is more common among men. The mean age of occurrence is around 30 years. Cluster headaches may disappear completely (go into remission) for months or years, but they can come back without any warning.

Ocular migraines cause vision loss or blindness in one eye that lasts less than an hour. It can occur along with or after a migraine headache. Experts sometimes call them visual, retinal, ophthalmic, or monocular (meaning one eye) migraines.This problem is rare. It affects about 1 out of every 200 people who have migraines. Some research suggests that in many cases, the symptoms are due to other problems.Regular migraines can also cause vision problems, called an aura, which can involve flashing lights and blind spots in your vision. But these symptoms usually appear in both eyes.The warning signs include **visionproblems that affect one eye,** such as flashing lights, blind spots in your field of vision, or blindness.

Tension headaches are dull pain, tightness, or pressure around your forehead or the back of your head and neck. Often called stress headaches, they're the most common type for adults.When it occurs for less than 15 days per month, it is called episodic tension headaches. If it happens more often, it is said to be chronic.Theseheadaches can last from 30 minutes to a few days. The episodic kind usually start gradually, often in the middle of the day.Chronic ones come and go over a longer period of time. The pain may get stronger or ease up throughout the day, but it's almost always there.

Sinus headache sinuses are air-filled spaces inside the forehead, cheekbones, and behind the bridge of the nose. When they get inflamed -- usually because of an allergic reaction or an infection -- they swell, make more mucus, and the channels that drain them can get blocked.The build-up of pressure in the sinuses causes pain that feels like a headache. Other kinds of recurring headaches, like migraines or tension headaches, are often mistaken for sinus headaches**.** There is a deep and constant pain in the cheekbones, forehead, or the bridge of the nose. The pain usually gets stronger on moving the head. The other symptoms include

- A runny nose
- Feeling of fullness in your ears
- Fever
- Swelling in your face

Hemicrania continua These attacks usually happen three to five times a day.Some people will have these headaches steadily for months or years. For others, the pain will go away for weeks or months, then come back.The headaches often have some of the same symptoms as other kinds. This overlap can make them tricky for doctors to diagnose. With the right treatment, though, most people can get nearly complete relief from the pain. People with hemicrania continua describe a dull ache or throb that's interrupted by pain that is:

- Jolting
- Sharp
- Stabbing

Like migraines, they can cause:

- Nausea or vomiting

- Sensitivity to noise or light
- Throbbing pain

III. Methodology

For the purpose of our study, a questionnaire was designed and was distributed to 300 unselected subjects who presented with headache in our medicine out patientdepartment. Out of 300 subjects, 230 subjects returned the questionnaires. The headaches were classified according to the second revision of IHS. The study was conducted among the subjects between the month of February 2019 to July 2019. All subjects answering yes to the two questions in the general questionnaire were selected.The survey included a standardized questionnaire concerning sociodemographic variables, personal medical antecedents, and a structured headache interview, as well as a genera1 physical examination. Blood sampling, neuroimaging, and ophthalmologic checkup were electively planned.

After this interview, in which no recommendation regarding headache management was offered, all subjects with no apparent history of secondary headache were given a headache diary in which they had to record for 1 complete month the number of days with headache, the duration of the headache episodes, and the symptomatic medications taken for headache. After filling in the headache diary, patients were interviewed and examined. This interview included an extensive review of the previous and present headaches including frequency, duration, location, pain quality and intensity, accompanying symptoms, precipitating and aggravating factors, and consumption of symptomatic medications. Based on all these data, subjects were classified or not into CDH subtypes according to the revised criteria of Silberstein et al. Previous headache disorders were classified according to the operational IHS criteria.

Statistical analysis: The collected data was analysed with SPSS 16.0 version. To describe about the data descriptive statistics, frequency analysis, percentage analysis, mean, SD were used. To find the significant difference between the individual samples and for multiple comparisons one way ANOVA and Tukey's Post Hoc test was used. In both the above statistical tools, the probability value P value of 0.05 was considered as statistically significant.

IV. Results

The questionnaire was answered by 230 subjects **(76.5%** of the total population sample). Nonresponders did not differ from responders in general sociodemographic variables. There were 80 (34.7%) women and 150 (63.3%)men. Headache 10 or more days per month was admitted to by 89 individuals(38.6%). Four had secondary daily headaches: headache associated with uncontrolled hypertension in 2 cases, 1 case of nitrite-induced headache, and1 with chronic posttraumatic headache. Once the diagnosis of secondary headaches was discarded and subjects had filled in the headache diary for 1 month,89 subjects (38.6% of the total series) fulfilled the CDH criteria (Figure 1)

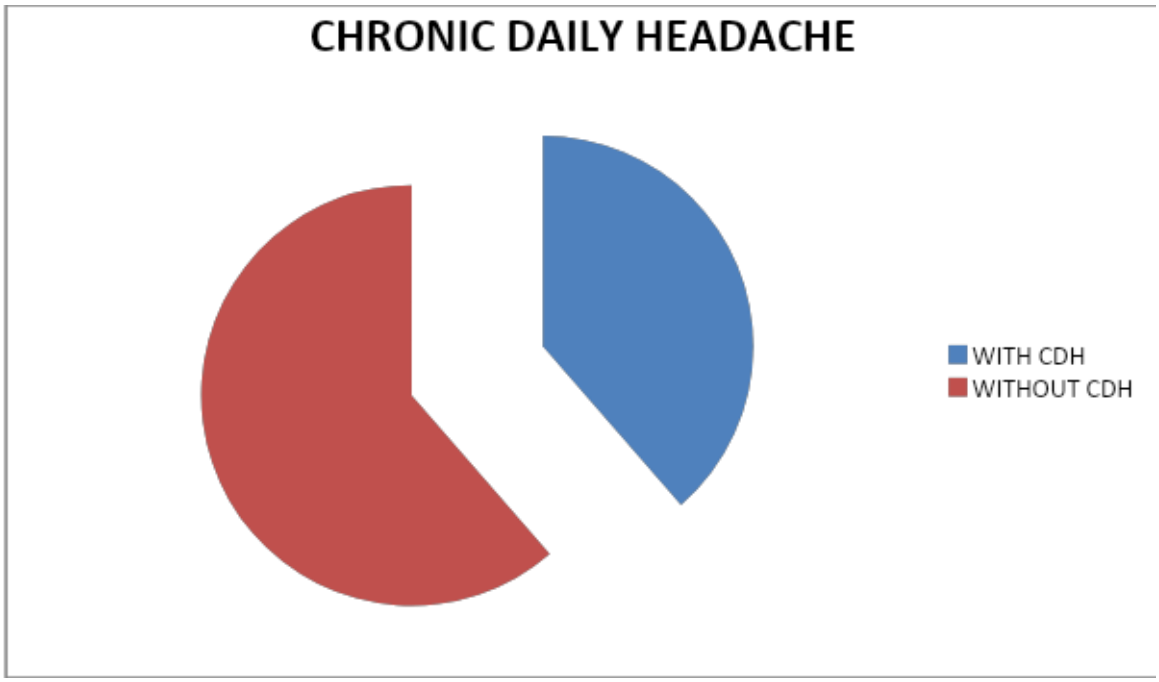

Figure 1

64 (71.9%) were women (prevalence in women 80%), and the remaining 25 (28.1%) were men (prevalence in men 16.6%) (figures 2 and 3). The mean age of SD of these subjects fulfilling CDH criteria was 17 years (range 18 to 89 years) (Table 1). The mean age at onset of SD of CDH was 18 years (range 9 to 84 years) (table 1).

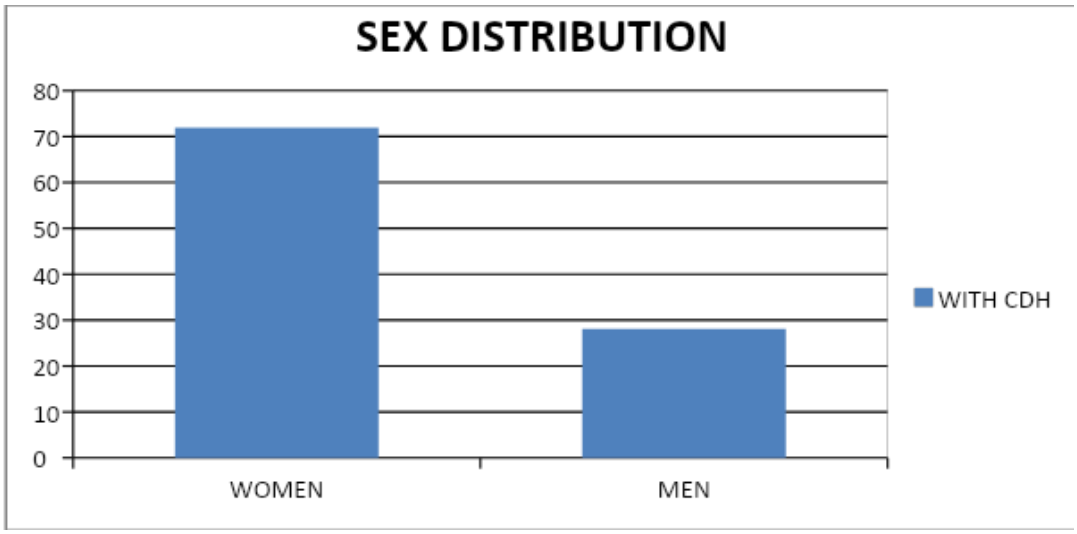

Figure 2

PREVALENCE OF CDH IN MALES AND FEMALES

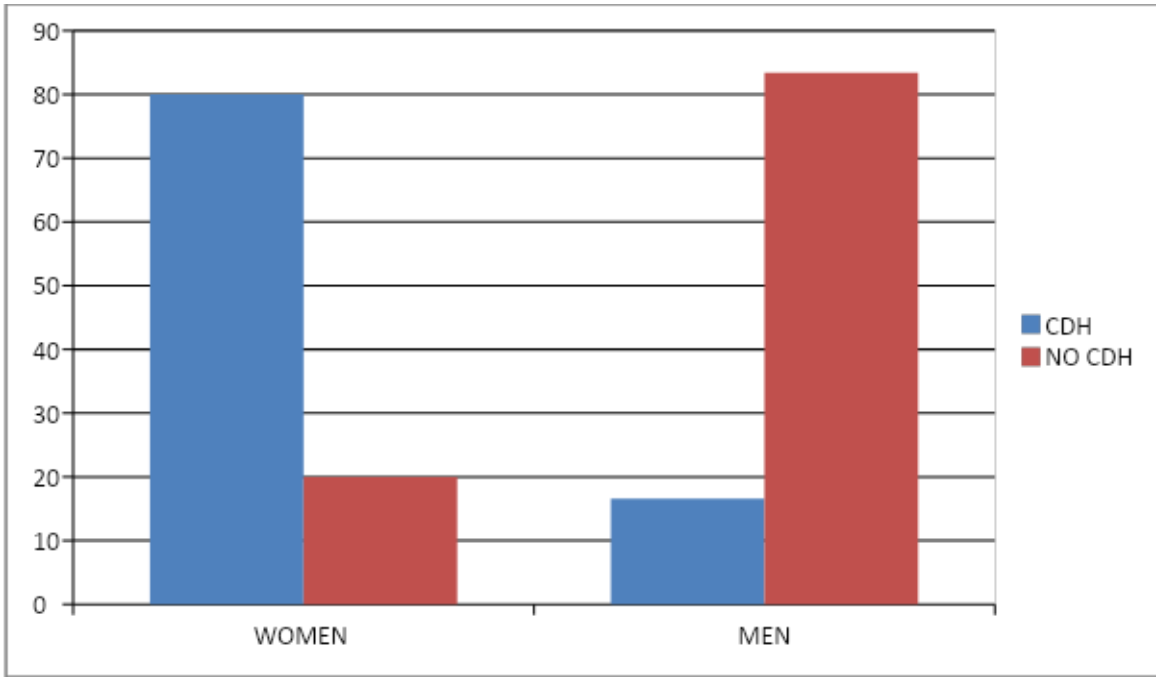

Figure 3

AGE GROUPS	WOMEN	MEN
<20	0.9(0.05-5.7)	0(0-3.6)
20-29	4.8(2.1-10.1)	0.6(0.03-4.0)
30-39	10.7(6.7-16.6)	1.8(0.5-5.5)
40-49	10.1(6.2-16.0)	1.7(0.5-5.4)
50-59	11.8(6.3-20.8)	1.0(0.1-6.4)
>60	11.3(7.6-16.2)	0.5(0.02-3.0)
ALL AGES	8.7(7.0-10.8)	1.0(0.5-1.9)

Table 1. Age distribution among study group

V. Discussion

The sample is adequate in size, especially given the face-to-face assessment, but not overwhelmingly large especially since CDH is relatively rare, although we would like to emphasize that the number of people included in this sample is very large for headache epidemiological studies. Also, the proportion of participants in the first phase of the study is remarkable. In our opinion, these numbers make the results of our study highly extrapolatable.. Another important point which must be taken into account when analyzing our results is that there was no upper age limit in this survey. With very few exceptions, 16-20 most studies on headacheof health campaigns to prevent the development of CDH, for instance by providing information about the risks of analgesic overuse and rebound headache. Such campaigns should be directed mainly towards women in their 30s and4Os, in whom the prevalence of CDH rises to 10%. One interesting point of the present work is the diagostic prevalence include patients aged younger than 60 or 65 years, which might bias the results, mainly regarding tension-type headache which still has a significant incidence in old age.

Reported overall prevalence figures regarding headache prevalence in general range from relatively low values of about 35% to values near lOO%. The prevalence of headache found in the present work, however, is in the low average lifetime prevalence percentages published in the studies performed in developed countries. The artifacts of forgetting and noncompliance in the elderly population are the most plausible explanations for the slightly lower percentages of headache prevalence found here and in the studies which included the elderly, as compared with other surveys analyzing this point and excluding older people.

The results show that almost 5% of the general population suffers from CDH, according to the criteria of Silberstein et al. Even though the revised CDH criteria of Silberstein et al have contributed much to the diagnosis ofdaily or near-daily headaches, these proposed criteria still have some possible drawbacks.28 In our experience, there were eight subjects with a clear previous history of migraine without aura who suffered from CDH having only the characteristics of tension-type headache.

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