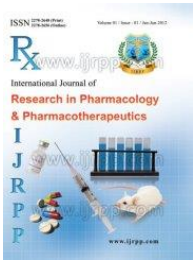
International Journal of Research in Pharmacology & Pharmacotherapeutics



ISSN Print: 2278-2648 ***IJRPP |Vol.8 | Issue 2 | Apr - Jun - 2019***
ISSN Online: 2278-2656 ***Journal Home page: www.ijrpp.com***

Research article ***Open Access***

Evaluation of therapeutic outcomes and non pharmacological therapy in patients with chronic tension-type headache presenting to a secondary care hospital

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ABSTRACT

Chronic tension-type headache (CTTH) is defined as severe and persisting pain in the head with the pain being above the eyes behind the head and undoubtedly one of the most frustrating symptoms that physicians encounter it is one of the most commonly experienced of all physical discomforts by the people &are one of the most neglected headaches. It occurs as (a tight band like pressure or non- pulsating like pain). There is also an increased risk of depression in CTTH. The pathogenesis of TTH is multifactorial and varies between forms and individuals. Peripheral mechanisms (myofascial, nociception) and central mechanisms (sensitization & inadequate endogenous pain control) are intermingled .combination of drug therapies and non-drug therapies (such as progressive muscle relaxation techniques) is recommended. This work is needed to improve the management of patients who are disabled by headache, knowledge on CTTH and discusses some of its more problematic features.

Keywords: Tension-type headache, Chronic tension-type headache, Peripheral mechanism, Central mechanism, depression, Frequency, Management**.**

INTRODUCTION

Headache is defined as a pain in the head with the pain above the eyes or the ears, behind the head (occipital), or in the upper neck. [1] of all painful states that afflict humans, headache is undoubtedly one of the most frustrating symptoms that physicians encounter.

The tension type of headache have very frequent episodes of headache, bilateral, pressing, non-pulsating or tightening in nature with mild to moderate intensity, lasting hours to days, or unremitting. The pain may not worsen with routine physical activity, but may be associated with mild nausea, photophobia or phonophobia. [1]

If untreated may become chronic tension-type headache which is persistent headache the most neglected headaches occurring in about three-quarters of the general population.[2, 3]

Tension-type headaches also known by various names over the years, including

Tension headache, muscle contraction headache, psycho myogenic headache, stress induced headache, ordinary headache, essential headaches, idiopathics headache, and psychogenic headache. Only "tension headaches" this is still fairly frequently used. [4]

Types of Tension-type headache

Tension-type headache is further divided into 3 types

1. Infrequent episodic type tension-type headache: one or fewer episodes per month.
2. Frequent episodic type tension-type headache: more than one, but less than 15 episodes per month for three or more months.
3. Chronic tension-type headache: chronic tension-type headache refers to a severe persistent headache these is generally defined as headaches occurring more than 15 days in a month for at least three or more months, There may be mild nausea, Phonophobia/photophobia
   It may cause a significant discomfort with substantial impact on the quality of life of an individuals & huge economic cost to the society through the occupational disability and healthcare consultations. [5, 6]

ICHD-III diagnostic criteria for CTTH

a. Headache occurring more than 15 days per month on average for >3 months i.e. (180 days per year),as fulfilling criteria B-D
b. Lasting for hours to days, or constant
c. At least two of the following four characteristics:
   - It is bilateral in location
   - It is pressing or tightening (non-pulsating) in quality
   - Mild or moderate intensity It is not aggravated by routine physical activity such as walking, jumping or climbing stairs
d. Both of the following:
   - It should not have more than one of photophobia, phonophobia or mild nausea
   - Neither moderate or severe nausea or vomiting
e. It is not better accounted for by other ICHD-3 diagnosis.[7]

Epidemiology

According to data from the various source of literature, they are wide variations in estimated prevalence of TTH

- Chronic Tension-type headache (TTH) is the second-most prevalent disorder in the world. The presentation of a TTH attack is that of a mild - moderate intensity, with bilateral, non-throbbing headache without other associated features.[8]
- In older adults TTH is common type of primary headache, with a 1-year prevalence of 25% to 35%. The frequency & the severity declines with increasing age, and so TTH is generally not reported to clinicians as a significant problem.[9]
- Fewer studies from the Europe and United States had showed that absenteeism resulting from CTTH is considerable & can be as high as three times more than in migraine. Indirectly costs of non-migraine headaches (of which TTH is the utmost contributor) are higher than other headaches. The distress is higher in patients with psychiatric comorbidities.
- In a Danish studies the annual incidence for TTH was 14.2 per 1000 person-years for frequent TTH (female-to-male 3:1), declines with age.[10] The lifetime prevalence of TTH was as high as 78% in a population-based study in Denmark.[11]

Precipetating factors of chronic tension type headache include [12]

- Work stress
- Alcohol
- Eye strain
- Fatigue
- Smoking
- A cold or flu
- Excess of Caffeine/ tea intake
- Poor posture
- Emotional stress
- Family conflicts
- Depression
- Anxiety
- Decrease water intake
- Junk, too many sweet dishes, spicy food intake
- Decrease water intake
- Disturbed/decreased sleep
- Medication over use.

- Skipping of meals
- Cold water bath

Physical Examination of chronic tension type headache includes

- ✓ Screening neurological examination
- ✓ Neck examination
- ✓ Blood pressure measurement
- ✓ A focused neurological examination, if indicated.

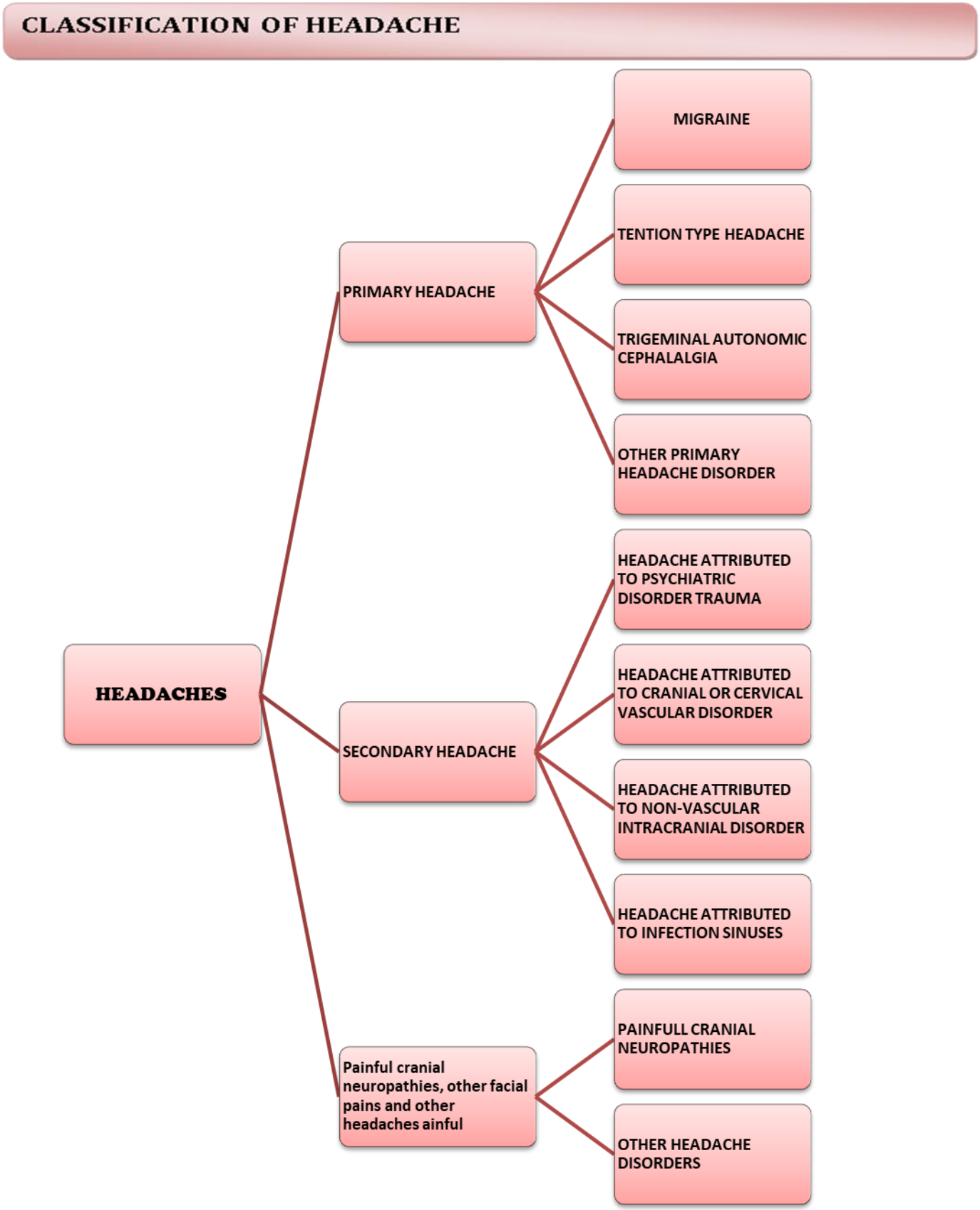
CLINICAL PRESENTATION

- ❖ Pain is generally mild to moderate, with bilateral, non-pulsatile, and in the frontal and temporal areas, but occipital and parietal areas can also be affected
- ❖ Dull headache, upset, pain should be more than 15 days.
- ❖ Symptoms like aura are absent.
- ❖ Mild photophobia or phonophobia may occur. Pericranial or cervical muscles may have tender spots or localized nodules in some patients or tenderness around the forehead and scalp
- ❖ The pressure circling (around) the forehead.[13, 14]

Pathophysiology

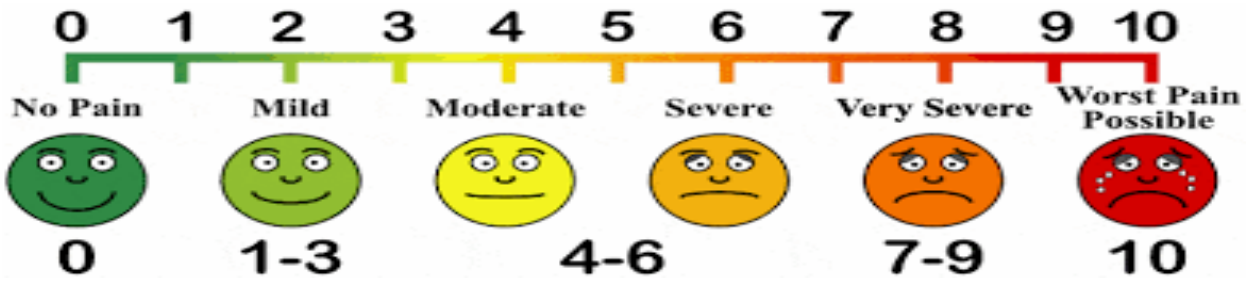
The model for pathophysiology of Chronic tension type headache shows The nociceptive input from pericranialmyofascial tissues (red lines) is increased for a unknown reasons, which will results in plastic changes (sensitization of nociceptive second-order neurons) in a spinal dorsal horn (second and third cervical segments) and the trigeminal nucleus. The nociceptive input to the supraspinal structures will, therefore, get increased, which may result in increased excitability of the supraspinal neurons and decreased inhibition or increased nociceptive transmission in the spinal dorsal horn and trigeminal nucleus (green lines). The central neuroplastic changes may also increase the drive to motor neurons, both at the supraspinal and segmental levels, which results in slightly increased muscle activity and in increased the muscle hardness.

PMT=pericranialmyofascial tissue. BI=brainstem interneurons. MN=motor nuclei. SH/TNC=spinal horn and trigeminal nucleus caudalis


CLASSIFICATION OF HEADACHE
HEADACHES
PRIMARY HEADACHE
MIGRAINE
TENTION TYPE HEADACHE
TRIGEMINAL AUTONOMIC CEPHALALGIA
OTHER PRIMARY HEADACHE DISORDER
SECONDARY HEADACHE
HEADACHE ATTRIBUTED TO PSYCHIATRIC DISORDER TRAUMA
HEADACHE ATTRIBUTED TO CRANIAL OR CERVICAL VASCULAR DISORDER
HEADACHE ATTRIBUTED TO NON-VASCULAR INTRACRANIAL DISORDER
HEADACHE ATTRIBUTED TO INFECTION SINUSES
Painful cranial neuropathies, other facial pains and other headaches ainful
PAINFULL CRANIAL NEUROPATHIES
OTHER HEADACHE DISORDERS

[15]

Visual analogue scale of CTTH [16]



Treatment

Opioid analgesic

A drug that selectively relieves pain by acting in the CNS or a peripheral pain mechanism without significantly altering consciousness.

Analgesic reliefs pain symptoms, without affecting its cause they are used when the noxious stimulus may not be removed or as adjuvants the causative approach to pain.

Examples

Acetaminophen, aspirin, ibuprofen, naproxen, ketoprofen, indomethacin, and ketorolac are effective as adoptive therapy.

Antidepressants

Major depression and mania are two extremes of effective disorder which refer to a pathological change in mood state. Major depression is characterized by symptoms like sad mood, loss of interest and pleasure, low energy, worthlessness, guilt, psychomotor retardation, or agitation, change in appetite, sleep, suicidal thoughts

CLASSIFICATION OF DRUGS

I.Reversible inhibitors of MAO-A(RIMAS)	Ex: Moclobemide, clorgyline
II.Tricyclic Antidepressants(TCAs) (A) NA +5HT reuptakeinhibitors	Ex: Imipramine , Amitriptyline, Trimipramine, Doxepin, clomipramine
(B) Predominantly NA reuptake inhibitors	Ex: Nortriptyline, Desipramine, Amoxapine, Reboxetine
II.Selective serotonin reuptake inhibitors (SSRIs)	Ex: Sertraline,Citalopram, Escitalopram,Dapoxetine Ex: Venlafaxine,Duloxetine[17]

ANTI-ANXIETY

Anxiety is a normal, and healthy emotion which protective, psychological response to an unpleasant or threatening situation. Mild to moderate anxiety can improve performance and safeguard appropriate action is taken. The term anxiety disorders encompass a variety of complaints which can either exist on their own or in conjugation with another psychiatric or physical illness.

1	Benzodiazepines	EX : Diazepam, chlordiazepoxide, oxazepam, lorazepam, alprazolam,
2	Azapirones	EX: Buspirone, Gepirone, Ipsapirone
3	Sedatives antihistaminic	EX: Hydroxyzine
4	Beta-blocker	EX: Propanolol[18]

Non-pharmacologic treatment of chronic headaches to be considered

- **Avoid over-use** of the short acting agents such as ibuprofen, narcotics and other over the-counter (OTC) medications. unless until it is prescribed by the physician
- **Sleep** – good sleep hygiene with consistent bedtime of and amount sleep
- **Dietary Supplements/Vitamins:** B2 (riboflavin), magnesium, coenzyme Q10, melatonin
- Herbs: feverfew, butterbur
- **Counseling/Therapy** – relaxation technique will help in the stress as well as pain management
- **Meditation** aslo keeps the mind relax, attention , awareness, and achieve a mentally clear and emotionally calm and stable state
- **Exercise** – goal to low the resting heart rate over time, minimum 30 minutes 3 times a week breaking a sweat or at least increasing heart rate.
- **Avoid** smoking, drinking and illicit drugs
- **Hydration** – avoid dehydration
- **Lifestyle Changes:** Diet – 3 meals a day, avoid caffeine, avoid any known food triggers, try to maintain a healthy weight
- Once the diagnosis is made, the specific type of headache have been determined and other possible conditions have been ruled out, outcomes shall be discussed The outcome is good. While once the headaches develop they remains a risk of recurrence throughout life, they can be controlled quite well with motivation from the patient and family. The majority of methods for prevention are the responsibility of the individual or family.
- By avoiding triggers, and along with the treatments (especially the non-pharmacological) listed above, most of the patients will overcome their headaches and prevent them. When headache
- Reoccur the patient will be able to work through them and overcome them over time as they learn how to self treat.

Guidelines

- Onset of headache, previous attacks (worsening of symptoms), duration of headache attacks (under 3 hours, over 4 hours, continuous), and days per month or week.
- Pain location may be (unilateral, bilateral, frontal, periorbital, occipital; associated neck pain).
- Relationship of headache to these possible precipitating factors (stress, posture, cough, exertion, straining, neck movement, jaw pain, etc.)
- Headache severity and effect of the headaches on distracting from work and family activities.
- Presence of co-existent conditions that may influence treatment choice (insomnia, depression, anxiety, hypertension, asthma, and history of heart disease or stroke).[19]

AIMS AND OBJECTIVES

The aim of the present prospective study is to evaluate the therapeutic outcome and Non-pharmacological response in patient with chronic tension-type headache.

The objectives of the study are to discuss the prevalence, diagnosis, workup, management of chronic tension-type headache

The main objectives of the studies are as follows

Demographics

To study the demographics of the patients associated with CTTH and comorbidity conditions

Compare outcomes

To compare the differences in outcomes inpatients treated with antidepressant, anti anxiety drugs, or of nonpharmacologic treatment

Therapeuti c response

To evaluate therapeutic outcome in patients chronic tension-type according to IHS-III

Nonpharmacologicaltreatment

To show nonpharmacological treatment in the form of (relaxation training) can be benefit in CTTH.

MATERIAL AND METHODOLOGY

Study site

This study conducted in both inpatients and out-patients in the General, Neurology and psychiatry

departments of Thumbay Hospital, New Life, Hyderabad.

Study design

A hospital-based prospective, observational study.

Study period

The study is carried out for a period of 6 months from October 2018 to March 2019.

Study sampling

The study sample collected from both out-patient and in-patients in the hospital.

Criteria of the study

Inclusion criteria

- Patients either sex age 14-60
- Prescriptions of patients visiting inpatient and outpatients of neurology psychiatry and general department.
- Patients with the only tight band-like around the head, lots of stress, generalized headache more than 15 days

Exclusion criteria

- Pediatrics
- Pregnant and lactating females.
- Patients with Other neurological conditions and comorbidities

Source of data

The data for this study is taken by interviewing patients, past medical history, patient prescription, treatment chart, laboratory reports, and discharge cards

Forms used in the study

The study procedure involved the use of some forms for data collection, documentation and analysis of data. Forms used in the study are patient profile forms/ headache questionnaires form.

Methodology

- The study was to be conducted by reviewing and collecting the300 patients satisfying the criteria of TTH as per International Headache Society (IHS) were selected and evaluated using, visual analog scale (VAS) and headache questionnaire forms in the hospital.
- Patient demographic details such as name, age, sex were collected. Common and uncommon sign and symptoms observed in patients were noted.
- Patient will be interviewed to determine the chief complaints, history of present illness past medication history and other social habits.
- Therapeutic data such as the name of drug, dose, frequency, and duration of therapy was collected from prescription, and follow up of all patients were done in the hospital
- Then the data will be analyzed for therapeutic outcomes and Non-pharmacological response in patients with chronic tension-type headache.
- The in-patient and out-patient data were collected and created separately in a computer based format, stored and retrieved whenever required in MS Office access format.
- Does the study require any investigations to be conducted on Patients or other human or animals? If so please describe briefly.

  No. The study does not require any investigations to be conducted on patients or other humans or animals.
- Has ethical clearance been obtained from your institution..?

  Yes applicable

RESULTS

Prevalence of CTTH and age distribution

There are wide variations in the estimated prevalence of CTTH.

- For the majority of individuals, the peak prevalence of CTTH is 27% between the ages of (30-39) years (n=81),
- In young adulthood, (20-29) years individuals are in the process of establishing their careers, social networks, and health practices. Due to these stress factors prevalence of CTTH is 25.66% (n=77)
- Followed by 20.33% between the age group (40-49) years (n=61)
- Increasing with age. Risk factors for developing CTTH are poor 14%for the age group (50-59)years (n=42)
- For many individuals, CTTH is a persistent problem throughout young teens between the age group (10-19) years is 8.33 (n=25)

- Further the prevalence of CTTH is decreasing more 2.33% (n=07) for the age groups (6069)
- 2% (n=1) for the age group (70-79) years,2% (n=06),followed by 0.33%(n=1)for 80-89 age-group

Prevalence of CTTH and gender differentiation

GENDER DIFFERENCIATION			
S.NO	GENDER	NO OF INDIVIDUAL	PERCENTAGE%
1	**MALE**	**109**	**36.33%**
2	**FEMALE**	**191**	**63.66%**

In our studies we have found that females are almost double than that of males for getting chronic headaches, male n=109 female n=191, M= 36.33%, F= 63.66%

Females are twice that of males, consistent with the female-to-male ratio

Prevalence of CTTH and marital status

The incident rate of CTTH in married individuals are 73% (n=219) is much more then unmarried 27% (n=81)

Prevalence of CTTTH and occupation

We have found that occupational stress is directly proportional to a chronic tension-type headache which includes

- Data from our studies showed that out of 300 individuals up to 38.33% of participants diagnosed with CTTH are house wife's (n=115)
- followed by 34% are employees (n=102), students counts for 19% (n=57) and other business are 8.33% (n=25) , unemployed are 0.33% (n=1)

Prevalence of CTTH and types

Sample characteristics regarding the types of chronic headaches are more 32% for pressure like headache (n=96) ,31.64% for a tight band like headache (n=95) around the forehead 16.64% for the heavy feeling which counts for (n=50) heavy feeling may be associated with tiredness dizziness and pressure in the face and head 11.64% (n=35) for aching dull persistent (moderately intense pain),(n=26) for throbbing which makesupto8.67% , Stabbing counts for (n=15) 5%, Compressing, burning and squeezing all counts for 4.34% type of chronic headaches makes up to (n=13), non-pulsating makes up to 3.34 (n=3.34).

Prevalence of CTTH and pain location

Sample characteristics regarding the location of headaches are more (n=82) on a front temporal region out of 300 individuals which make 27.34%, Followed by generalized headache (all over the head) counts for (n=62) 20.67 %, frontal region around forehead counts for (n=54) 18% Temporal region counts for (n=38)12.67% followed by occipital region (behind the head) makes up to (n=32) 10.67% Behind the eyes, ocular region make up to (n=21) 7% Headache both the sides but comparingly more on one side (n=11) Hemi cranial location which makes up to 3.67%

Prevalence of CTTH and duration in months

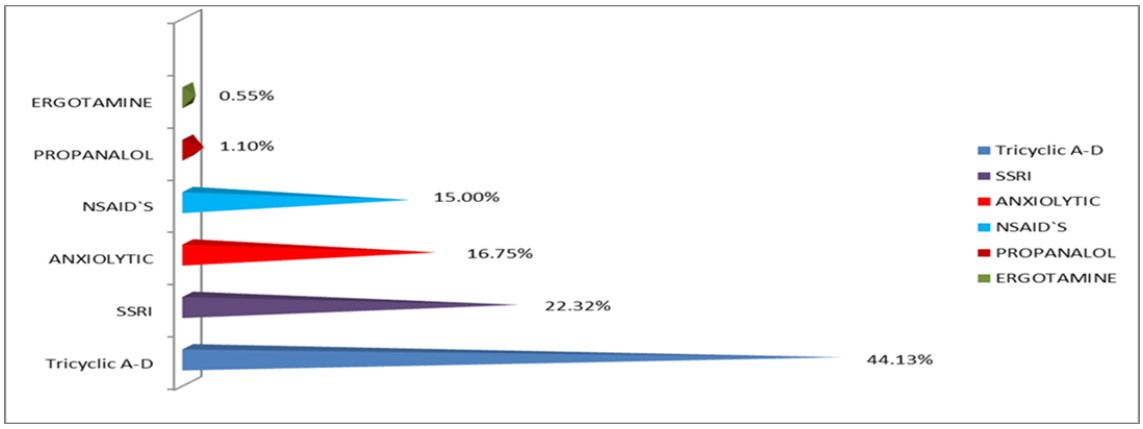
- CTTH leads to be considerable more with up to 63.67% for intermittent 1-3M-(n=191)
- Often quite reducing the percentage within the duration of months 4-6M-(n=35) is 11.67% and 11-15M (n=26)8.67%,
- Pain is persistent among the 21-25M (n=15)5%,AND 7-10M (n=13) 4.34%
- duration in 16-20M(n=5)1.67% ,26-36 M is (n=6) which counts for 2.67%

Intensity of pain

NUMBER OF INDIVIDUAL PERCENTAGE MILD (n=97) 32.34%, MODERATE (n=130) 43.34, SEVERE PERSISTENT (n=65) 21.67, SEVERE NON-PERSISTENT (n=08) 2.67
NAUSEA-02 (2%)
PHOTOPHOBIA-04 PHONOPHOBIA -01
VOMITINGS-8 (8%) INCIDENCE OF
INCIDENCE OF
PHONOPHOBIA IS 4 % PHOTOPHOBIA IS 1 %

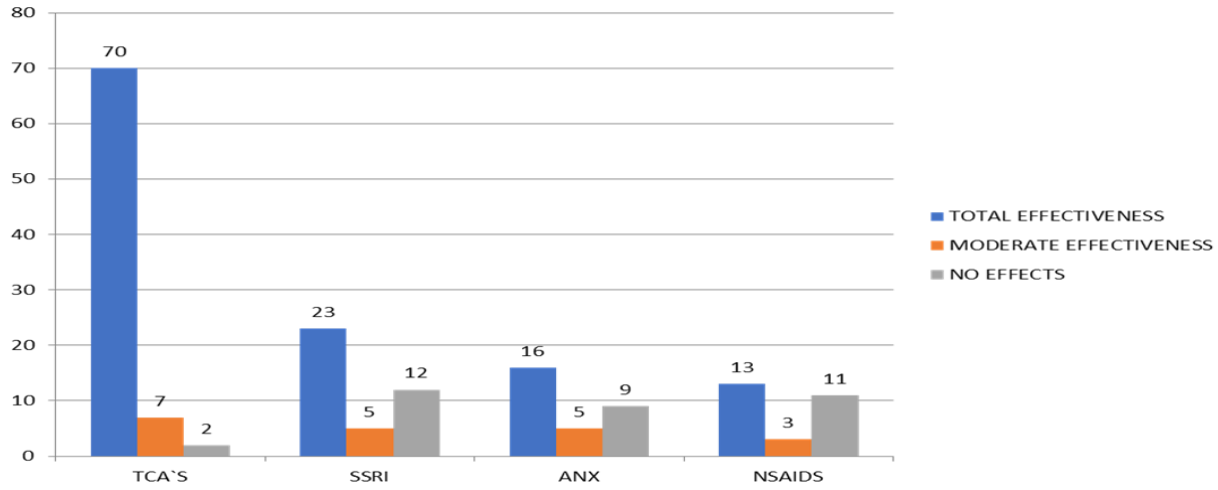
Chronic tension -type headache pharmacotherapy in patients

Patients receiving mono therapy shows Amitriptyline (n=79) 44.13%, SSRI (n= 40) 22.34%, Escitalopram (anxiolytic)(n= 30) 16.75%, Naproxen (n=27) 15%,Propranolol (n=2) 1.11%, Ergotamine (n=1) 0.55%.



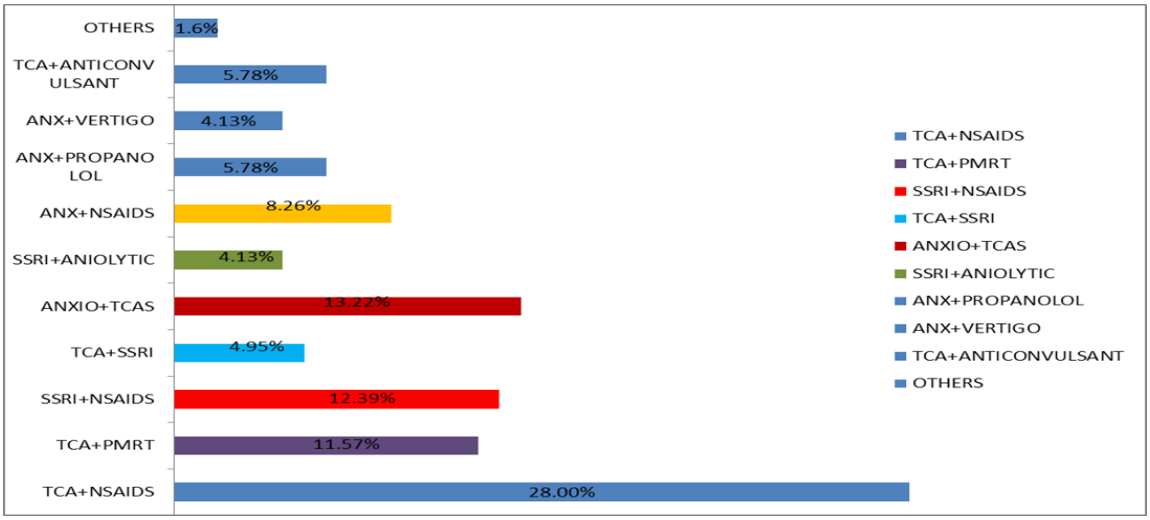
EFFECTIVENESS OF TCA AMONG 79 INDIVIDUALS IS 77%, EFFECTIVENESS OF SSRI AMONG 40 INDIVIDUAL IS 28%, EFFECTIVENESS OF ANX AMONG 30 INDIVIDUAL IS 21% EFFECTIVENESS OF NSAIDS AMONG 27 INDIVIDUAL IS 16%.

TCA`s >SSRI >ANX >NSAIDS.

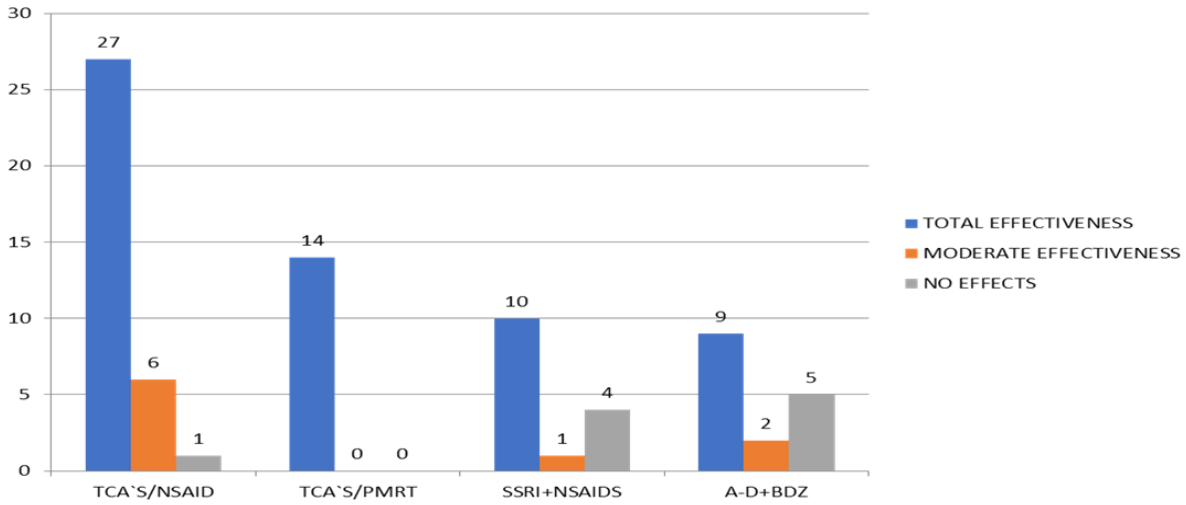


THERAPEUTIC RESPONSE OF AMITRIPTYLIN IS HIGHER THAN SELECTIVE SEROTININ REUPTAKE INHIBITORS (SSRI)

Amitriptyline +Naproxen (n=34) 28%, Amitriptyline +PMRT(n= 14) 11.57%, SSRI+ naproxen (n=15) 12.39%, Amitriptyline +SSRI(n= 6) 4.95%, Amitriptyline+Benzodiazepine (n=16) 13.22%, SSRI + Benzodiazepines (n=5) 4.13%, Benzodiazepine +NSAID`S (n=10) 8.26%, Benzodiazepine+ propanolol (n=7) 5.78%, Benzodiazepam +Anti vertigo (n=5) 4.13% Amitriptyline +anti-convulsant (n=7) 5.78% Others (n=2) 1.65%.



EFFECTIVENESS OF TCA AMONG 34 INDIVIDUALS IS 33%, EFFECTIVENESS OF TCA +PMRT AMONG 14 INDIVIDUALS IS 14%, EFFECTIVENESS OF SSRI+NSAIDS AMONG 15 INDIVIDUALS IS 11%, EFFECTIVENESS OF A-D+BDZ AMONG 16 INDIVIDUALS IS 11%



THIS STUDIES SHOWS THAT TRICYCLIC ANTIDEPRESSANT (TCA`S) + NSAIDS, AND COMBINATION THERAPY (TCA`S+ PMRT) SHOWS VERY GOOD THERAPEUTIC RESPONSE.

Pharmacotherapy	No. Of patients	% of Patients
Monotherapy	179	59.67%
Dual Therapy	121	40.33%
TOTAL	300	100%

The degree of precipitating factors or triggering factors remain constant with the severity of chronic headaches

Stress plays an important role in causing CTTH it counts for n=95 followed by both anxiety n=46 and depression n=30

Giddiness counts for n=21, Patient often complaints of factors such as nervousness n=17, Panic disorder n=15

Back pain and severe anemia both counts for n=08 followed by changes in behavior such as anger and aggression both counts for n=04, severe alcoholic counts for n=03, smoking=10

Depression and anxiety may directly proportional to CTTH and both counts for (n=30) (n=46) each but when it comes to the other medical conditions such as HTN which counts for (n=35), anemia (n=08), thyroid (n=10) and dm (n=19) are the comorbid conditions which may be a cause of CTTH in few patients

Loss of efficiency counts for (n=241) 80.34% on the other hand CTTH leads to considerable reduced loss of productivity or efficiency among individuals is (n=59) 19%.

Water intake REDUCED WATER INTAKE: (n=191), NORMAL WATER INTAKE (n=109)

NOT DRINKING ENOUGH WATER MAY LEADS TO CHRONIC HEADACHES AND DEHYDRATION

Normal sleep-(n=109) 7-8 hours/day, Reduced sleep (n=190) less than 6 hours/day, Increased sleep (n=1) >10 hours /day.

STUDENT T-TEST

Paired (or) Dependentt-test

Pre test	Post test	∑D (X)	∑D2 (Y)
8 hours	3 hours	5	25
7 hours	1 hours	6	36
6 hours	1 hours	5	25
8 hours	0.5 hours	7.5	56.25
2 hours	0 hours	2	4
12 hours	2 hours	10	100
4 hours	0.5 hours	3.5	12.25
5 hours	1 hours	4	16
3 hours	0.5 hours	2.5	6.25
6 hours	2 hours	4	16
4 hours	1 hours	3	9
9 hours	2 hours	7	49
10 hours	4 hours	6	36
11 hours	3 hours	8	64
		∑D=73.5	∑D2=454.75

Hypothesis being tested

- The dependent T-test is testing the null hypothesis that there are no differences between the means of two related group.
  Null hypothesis-H°-$\mu 1 = \mu 2$
- If we get statistically significant result we can reject null hypothesis
- That there are differences between the means of population accept alternative hypothesis.

HA:$\mu 1 \neq \mu 2 -$ *Alternative hypothesis*

Dependent t-test

- ✓ Dependent t test is for within subject or repeated measures in a statistical test.

- ✓ This indicates that the same participant are tested more than once(same participant present in 2 different condition)

$$t = \frac{\sum D}{\sqrt{n\sum D2 - \sum D2}}$$

n-1

Where probability value =0.05

Degree of freedom=13

∑D=73.5

∑D2=454.75

$$t = \frac{73.5}{\sqrt{14 \times 454.75 - (454.75)2}}$$

14-1

$$t = \frac{73.5}{\sqrt{6366.5 - (454.75)2}}$$

13

$$t = \frac{73.5}{\sqrt{6366.5 - 206797.57}}$$

13

$$t = \frac{73.5}{\sqrt{-1571.63}}$$

$$t = \frac{7315}{39.16}$$

$$= 1.86$$

Need a critical value to compare this test statistics so, look up a set of t -tables.

The student's t-distribution.

- ➢ Determine 2 things here

1. Degree of freedom-13
2. probability value α-0.05

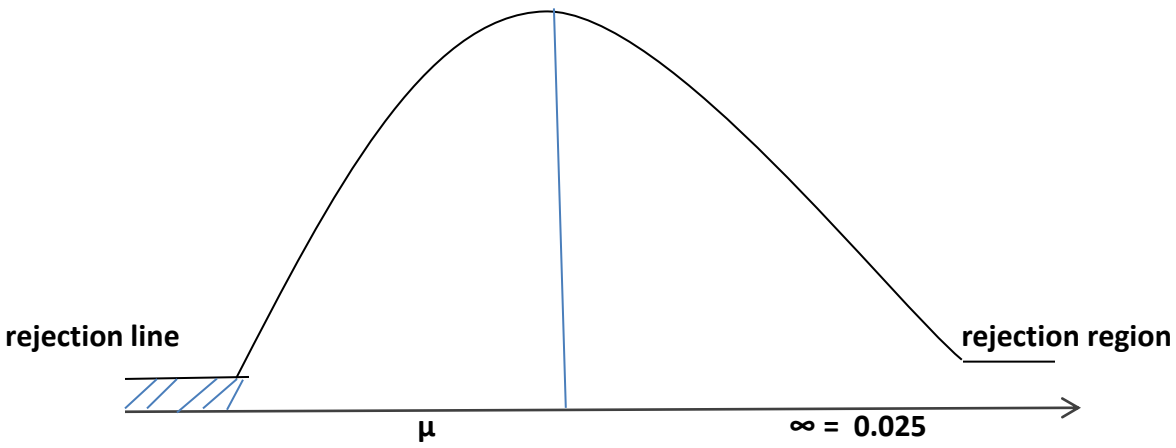
Because it is two tailed test we have to divide by two columns using here 0.05

Across the line-13 degree of freedom 0.025 which is in middle column

tchrist>t statistical

Reject H°

T-Distribution here want to be working in a right tail so my T- christ positive sign.



So there is a significant difference between both the values, so this mean the people with pre-test which are only using meications for CTTH before has significant differences when they use medication along with relaxation therapy and life style modifications after.

The student's t-distribution:- T stat-1.86<t christ-2.160

with ratio of 1:2

- **Out of 300 patients only 14 patients needed and accepted to participate in the non-pharmacological (progressive muscle relaxation technique**).

EVALUATION OF THERAPEUTIC OUTCOMES

- Patients should be monitored for frequency, intensity, and duration of headaches and for any change in the headache pattern.
- Patterns of abortive medication use may be documented to establish the need for the prophylactic therapy. Prophylactic therapies should be monitored closely for adverse reactions, abortive therapy needs, adequate dosing, and compliance
- The pattern of drug regimen prescribed for chronic tension-type headache patients in secondary care hospital
- Use of pain relievers more than twice weekly places patients at risk for progression to chronic daily headache
- The TCAs are used most often for prophylaxis of tension headache
- Identification of trigger factors should be performed, as coping with triggers may be of value. The most frequently reported triggers for TTH are stress (mental or physical), irregular or inappropriate meals, high intake or withdrawal of coffee and other caffeine-containing drinks, dehydration, sleep disorders, too little sleep, reduced or improper physical exercise, psycho behavioral problems as well as variations during the female menstrual cycle and hormonal.

DISCUSSION

- ✓ In this study the most common triggering factors are reduced water intake 63% ,reduced sleep 66% , fear panic disorder 6%, anaemia-4% ,neck pain ,back pain -3% , increased sleep-2% .
- ✓ Based on etiology of CTTH maximum incidence is seen in between age group 30-39 is (27%), 20-29 is (25.6%), and 40-49 is (20.3%) CTTH will decreases with increase in age 70-79 is (2%), 60-69 is (2.3%),
- ✓ Based on the gender the CTTH maximum incidence is seen in females 63.6% (n-191) than males 36.3% (n-109).
- ✓ The incidence of CTTH in married individuals is 73% much more than unmarried-27%.
- ✓ Also we observe that severity of CTTH mild-32.34% , moderate -43.34% , severe-24%

- ✓ the most common co-morbid condition we have found is depression-30% anxiety-46% , HTN - 35% ,daibetic-19% , thyroid-10%
- ✓ QOL affects the chronic tension-type headache patients with depression or anxiety has a significant diminish quality of life and absenteeism from work, reduce earning, and less success in their career.
- ✓ The drug regimen in this study is Antidepressants (A-D) TRICYCLICS – 44%, SSRI -22.34%, Escitalopram (anxiolytic)-16.75%, Naproxen -15%, Amitriptyline +Naproxen-28%, Amitriptyline +PMRT-11.57%,SSRI+ naproxen- 12.39%, Amitriptyline +SSRI- 4.95%, Benzodiazepine +NSAID`S-8.26%, Benzodiazepine+ propranolol - 5.78%, Benzodiazepam +Anti vertigo - 4.13%, Amitriptyline +anti-convulsant - 5.78%, Others-8.65%.

Only tricyclic antidepressant|(amitriptyline)77%(among n= 79 INDIVIDUALS)and amitriptyline+ progressive muscle relaxtion14% (among n=14 INDIVIDUALS)show good therapeutic response in individuals with chronic tension type headache.

- Patients are informed that this is an antidepressant agent OR anxiolytic agents but has an independent action on pain. A significant effect of amitriptyline was observed at the end off 8 week on the therapeutic dose. The side effects of amitriptyline include dry mouth, drowsiness, dizziness and weight gain which were observed in few patients
- The percentage of patients receiving BOTH amitriptyline and progressive muscle relation technique is -14%.
- A significant effect was observed at the end off 8 week. Therefore better response is noted in this combination therapy could be attributed to the varied mechanism of action of PMR &amitriptyline. PMR improves coping skills reduces stress & helps in muscle relaxation by peripheral mechanisms, whereas amitriptyline has central nociceptive action sedative anxiolytic and muscle relaxation effect thereby relieving headache
- Earlier studies showed that Tricyclic antidepressant medication and stress management therapy each produced larger reductions in headache activity, analgesic medication use, and headache-related disability than placebo, but antidepressant medication yielded more rapid improvements in headache activity. Combined therapy (was more likely to produce clinically significant (>/=50%) reductions in headache index scores (64% of participants) than antidepressant medication (38% of participants; P =.006), stress management therapy (35%; P =.003), or placebo (29%; P =.001). On other measures the combined therapy and its 2 component therapies produced similar outcomes
- The most significant finding of this study is the continued improvement shown by patients given both AMITRIPTYLINE and PROGRESSIVE MUSCLE RELAXATION TECHNIQUE.

CONCLUSION

Amitriptyline has a clinically relevant prophylactic effect in patients with chronic TTH and should be the drug of the first choice; Amitriptyline should be started at low dosages (10 mg/day) and maintained by 10–25 mg weekly until the patient has good therapeutic effect.

"**For prevention of CTTH (AMITRYPTYLINE) is the best proven solution along with non- pharmacological therapy and life style modifications."**

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