

Headache: a prospective study

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Abstract

A prospective study was done to find out the epidemiology, presentation, type and cause of headache, its relationship with life events and the effects of drugs and relaxation therapy on tension type headache. It was noticed that headache was more common in the second decade of life (47.5%), and more in unmarried (65%) females (62%) and in the education level between matriculation and intermediate level (62.5%).

Mostly, the headache was insidious in onset (55%) and generalized throughout the scalp (62.5). It was described as a general sense of heaviness which started around mid-afternoon and progressed up to late evening. It was of moderate severity and aggravated by mental tension (42.5%) and relieved by rest (45%). There was no significant relation of headache with head position or movement. Most of these cases (87%) had no Eye or ENT problems.

In life events screening, a large bulk of the patients fell in moderate adjustment needed group with marriage, failure in exams, and change in town being the most frequently encountered event in the last 1 yr.

With the help of low-dose tricyclic antidepressants and supportive counseling, noticeable reduction in symptom started in the third week and by the end of sixth week complete symptom removal occurred in 53% of the patients and 33% were better.

Keywords: tension-type headache; relaxation therapy; headache; tricyclic antidepressants.

Introduction

The complaint of headache is frequently encountered in the emergency department, but most patients with cephalgia have a benign etiology for their pain. At least 90% of the patients presenting with a headache are diagnosed as suffering from benign vascular or muscle tension headache.¹

Tension-type headache is the term designated by the International Headache Society (IHS) to describe what was previously called tension headache, muscle contraction headache, psycho-myogenic headache, stress headache, ordinary headache and psychogenic headache. IHS defines tension-type headache more precisely, distinguishes between the episodic and chronic varieties, and divides these into two groups, those associated with a disorder of the pericranial muscles and those not associated with this type of disorder.²

This study was aimed at probing into one of the most common diagnosis made in our Health Post, namely HEADACHE. Headache as we see, is a complaint neglected by most patients in the initial stages. This maybe due to the fact that headache as such is not so severe as to persuade the patient to seek help immediately. But it does mean that many work - hours are lost or effectively of the patient as an active member of the household/society is decreased. Only after a long time spent in expecting a "Natural Cure" or 'Local' means of healing fails, does the patient come to medical attention. Another problem is that treating "Chronic Headache" is a headache to most of our colleagues. With this study we hope to shed some light into this complex problem.

Objectives

This study was divided into two stages, each having its own objectives:

1. To study the epidemiology, presentation, types and causes of headache.
2. To study the relationship of headache with life events.
3. To study the effectiveness of relaxation therapy and drugs on tension-type headache, and compare the results.

Limitations

This study was not able to gauge the overall prevalence of:

Headache in community.

Headache in general hospital diagnosis.

Headache in overall Psychiatric cases.

Methodology

This was a prospective study in two stages:

Stage one:

- a. Socio-demographic profile was obtained by a research assistant in a performed format.
- b. History taking was done by the investigator and the description of the headache was taken in a rigid performed format.
- c. Life events screening was done by the research assistant.
- d. All cases were screened by department of Eye & ENT.

Stage two:

- a. Half of the group was managed on supportive counseling and drugs (tricyclic compound - Doxepin - 10 mg OD or BD dose) and the other half was maintained on counseling and relaxation exercise (Jacobsons' relaxation technique)
- b. In both sub groups, progress was monitored by subjective assessment of the patient.
- c. Group II patients had their Hb, ESR, & X-ray Skull and EEG done.

I. Sample size & type

1. Cases were those coming to Headache Clinic of Psychiatry Department, TUTH, themselves or referred to it from other departments.
2. Age - All cases above 5 years of age were included.
3. Both sexes were included.
4. All cases coming as new patients were considered for Group I.
5. Group II was selected from Group I and constituted of those cases fulfilling criteria for Psychalgia - Tension Headache ICD 9 - 307.8, and DSM III criteria for Psychogenic pain Disorder, known to general physicians as Tension-Headache.
6. Group II included 30 patients and group I included all cases that came in until Group II reached 30 (i.e. 40 cases in the present study).

Observations

Group I

For the study, Group I consisted of 40 cases and Group II 30 cases.

Socio-demographic Profile:

A. Age - Though the study was to include 5 years old or more, the minimum age of pt. was 16 and max. age was 43 years. The major cluster was in group of 21-25.

<i>Age group</i>	<i>Number of patients (N=40)</i>	<i>Percentage</i>
16-20	6	15
21-25	10	25
26-30	9	22.5
31-35	6	15
36-40	8	20
41-45	1	2.5

B. Sex:

<i>Age group</i>	<i>Number</i>	<i>Percentage</i>
Male	15	37.5
Female	25	62.5

C. Marital Status

	<i>Marital Status</i>	<i>Number (N=40)</i>	<i>Percentage</i>
Total	Married	14	35
	Unmarried	26	65
Male	Married	7	46
	Unmarried	8	54
Female	Married	7	28
	Unmarried	18	72

The majority of the study samples were unmarried. On further sub classifying this group, it was found that among males M:UM ratio was almost equal but in females, M:UM ration was 1:25.

D. Occupation:

<i>Sex</i>	<i>Occupation</i>	<i>Number (N=40)</i>
	Service	5
Male	Student	7
	Self employed	3
	House wife	9
Female	Student	9
	Self employed	7

The majority of the patients were students - 40%. Married girls, who were still studying, have been included as 'Students'. In the female self-employed group, 4 were working as tailors and 3 were managing shops.

E. Education:

<i>Level</i>	<i>Number (N=40)</i>	<i>Percentage</i>
Graduate	4	10
Intermediate	12	31.0
Matriculation	13	32.5
6th to test pass	2	5
Literate to class 6	5	12.5
Illiterate	7	10

The bulk of the patients had not graduated but had passed the matriculation exams.

II. Description of Headache

A. Mode of onset.

<i>Type</i>	<i>Number (N=40)</i>	<i>Percentage</i>
Gradual	15	37.5
Insidious	22	55.0
Sudden	3	7.5

The majority of headaches were insidious in onset (taking more than 7 days to be established).

B. Site and Type

<i>Type</i>	<i>Site</i>	<i>Number (N=40)</i>	<i>Percentage</i>
Localised		15	37.5
	Frontal	7	46
	Temporal	8	54
Generalised		25	62

The majority of the patients had a generalized type of headache, involving the whole head. Those patients who said the headache started from one point, said that it spread quickly to the whole of the head, have been included in "generalized class". Among the patients who complained of localized type, the location was in frontal or temporal region.

C. Radiation:

All the patients whose pain was localized to frontal region said their pain radiated backwards to reach the occiput and in the patients with localized temporal pain, 4 of them said their pain radiated to frontal region and the remaining 4 said their pain remained localized without any radiation.

D. Duration:

Most of the patients said the duration of the headache was 7-8 hrs., starting at around mid-day and lasting up to 8-9 PM i.e. bed time. 4 patients said their headache lasted from early morning (on waking up) to bed time. 3 patients had short lasting 2-3 hrs. of headache, which could start anytime during the day.

E. Frequency:

Most patients had a continuous ongoing pattern and only 3 patients had a short lasting headache coming mostly twice per week.

F. Severity:

	Type	Number (N=40)	Percentage
	Mild	5	12.5
Subjective	Moderate	20	50
	Severe	15	37.5
	Mild	10	25
Objective	Moderate	22	55
	Severe	8	20

Subjectively half of the patients said that the headache was moderate and a low % said that it was only mild. Objectively 8 patients had severe headache, necessitating the patient to stop whatever they were doing. 22 patients had moderate headache during which they could forcefully manage to continue whatever they were doing. The remaining 25% of the patients had mild type of headache in which headache was always present as a nagging sensation but it was not obstructing their work.

G. Aggravating and Relieving factors

	Situation	Number (N=40)	Percentage
	Heat	9	22.5
Aggravating	Sunlight	8	20
factors	Studying	6	15
	Mental Tension	17	42.5
	Sleeping/	18	45
Relieving	lying down		
factors	Analgesic	9	22.5
	Not known	13	32.5

The majority of the patients reported that mental tension increased the severity of headache. Different types of mental tension cited were quarrel in the family and husbands' misbehaviours including his drunkenness, strained relations with in-laws and difficulty to adjust to city way of life for people who had recently moved from village in search of work or study. In around half of the patients, lying down and resting or falling asleep relieved the pain. In 22.5%, the pain was relieved by over-the-counter analgesic and the rest 32.5% did not know any relieving factor.

H. Relation of pain with head movement:

Change of position	Number (N=40)	Percentage
Increased pain	5	12.5
Decreased pain	2	5
No effect	33	82.5

There was no significant relation of pain with head position or movement.

I. Other associated features:

Condition	Number	Percentage
Nausea	9	22.5
Vomiting	5	12.5
Visual disturbance	3	7.5
None	23	57.5

More than half of the patients did not have any associated features whereas nausea was the most common (22.5%) feature.

III. Opinion from other departments

Department	Condition	Number
Eye	Error of accommodation	3
ENT	Recurrent sinusitis	2
Eye/ENT	No problem	35

IV. Provisional Diagnosis

Diagnosis	Number (N=40)	Percentage
Migraine	3	7.5
Mixed (T.H. & Migraine)	2	2.5
Eye cause	3	7.5
ENT cause	2	5
Tension Headache	30	75

V. Headache and its relation to life events

Score	Number (N=40)	Percentage
40-80	6	15
81-120	10	25
121-160	9	22.5
No response	15	37.5

A significant bulk of patients did not co-operate to do the questionnaire. Among those who did co-operate or on the average, the majority of the patients fell in the "moderate adjustment needed" group. 22.5% of the patients said that severe adjustment would be needed and 15% of them said only mild adjustment would be needed to combat stress brought about by life stress. The list of life events was in decreasing order of frequency as follows:

Life event	No. of positive responses
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Marriage	10
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Failure in exams	10
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Change of town/residence	8
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Husband-wife quarrel 5

Pregnancy 4

Childbirth 2

Death of a near friend 2

Among the 25 patients who cooperated, 21 of them had at least one life event occurring in the period of 1 year proceeding the day of contact. The maximum responses were obtained for 'marriage' and 'failure exams', which was followed by 'change of town'. Pregnancy and childbirth also featured in the list, so did husband and wife quarrel. 4 patients had no life event occurring in the last 1 yr., and 11 patients i.e. 44% had one life event occurring in the last one year. 28% had two events, 8% had 3 events and 1% had four life events occurring in the last 1 year.

VI. Progress of Response

Response on tricyclics and counseling

	1 wk	2 wk	3 wk	4 wk	5 wk	6 wk
0% better	12	10	5	-	-	-
25% better	3	5	5	3	-	-
50% better	-	-	5	7 (46%)	3 (20%)	2
75% better	-	-	-	5 (33%)	10 (66%)	5
100% better	-	-	-	-	2	8 (53%)
Defaulter	-	-	-	-	-	-

Response on relaxation exercise and counseling

	1 wk	2 wk	3 wk	4 wk	5 wk	6 wk
0% better	12	9	7	5	-	-
25% better	3	5	6	3	1	-
50% better	-	-	-	-	2	2
75% better	-	-	-	-	-	1
100% better	-	-	-	-	-	-
Defaulter	-	1	2	7	12	12

In the subgroup of patients who were managed on low dose tricyclic compound. (Doxepin 10 mg OD to BD dose), and supportive counseling, there was no appreciable change by the end of second week. By the end of four weeks, the majority (46%) said that 50% of the symptoms were still left and by the end of 6th week, the majority (53%) had no complaints left over. 33% of the patients still had 25% of the symptoms and 20% of them had 50% of the complaints.

In the subgroup of patients managed on relaxation therapy and supportive counseling, the response was not enthusiastic. Patients started dropping out by end of the second week and the drop out rate increased alarmingly so by the end of the 6th week, 80% of the patients had been lost. Of the remaining patients, 13% were in 50% symptom leftover group and only 1 patient (i.e. 7%) had 25% symptoms left over.

Discussions

It took the screening of only 40 consecutive cases being referred to Headache Clinic to screen out 30 cases of tension-type headache which was 75% of the total sample. This figure is less than that reported

from Zimbabwe where out of the total cases referred for psychiatric assessment and management in a primary care setting, 95.5% had tension-type headache and 4.5% had common migraine headache (without aura).³ In another study conducted among people with permanent residence above 4,300 meters and complaining of headache only 15.2% had tension-type headache.⁴ In the present study, 62.5% of the patients with tension-type headache were female which differed from that reported from Alabama, USA where there was a male preponderance.⁵

Though in the present study, the number of patients 'on relaxation training' was very low, it has been reported that when relaxation technique was administered by a school-based nurse, the headache activity was significantly lowered in the relaxation group in comparison to the 'no treatment' group. In the quoted study, at the post treatment time and at 6 months follow-up 69% and 73% of the pupils respectively treated with relaxation had a clinically significant headache improvement as compared to 8% and 27% in no treatment group.⁶

In the present study, 62% of the patients were symptom free by 6 weeks on low doses of tricyclics and counseling.

A meta-analytic review of treatment of recurrent tension headache involving 78 articles and 2,866 patients, revealed that cognitive therapy, relaxation, or electromyographic (EMG) biofeedback alone or in combination with relaxation



were superior to no treatment and to pseudo/placebo therapy. Pharmacological and other therapies were better than no treatment. These findings suggest that treatment outcome maybe affected more by patient characteristics than by the treatment characteristics.⁷

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