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Comparitative Study of Triggers and Relieving Factors of Migraine and Tension Type Headache

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I. INTRODUCTION

Headache is the commonest neurological condition in terms of number of people affected [1]. A number of studies have reported that headache sufferers claim factors precipitating or triggering their headache and list is not a short one (stress, emotion, flickering light, noise, fatigue, food, season etc.) [2,3]. Attention to trigger factors plays a prominent role in the clinical management of headaches.

But studies devoted to specific triggers related to migraine and tension type headache (TTH) are rare. Henry et al. [4] evaluated these triggers among migraineurs. Rasmussen [5] used an unique structured headache interview method. Robbins [6] gathered information on triggers at first visit to headache clinic. Peatfield[7] studied the relation of food with headache. Only Larmande et al [8] evaluated the climate as a possible precipitating factor. Martin et al [9] grouped these precipitators into two major classes; the negative effect (stress, anxiety, depression) and the visual disturbance (flicker, glare, eyestrain)

Most of the people with headache disorders practice many nonpharmacological measures &maneuvers to get the relief of the pain. Martins and Prarreira[11,12] identified six maneuver tried by the patients, most commonly the migraineurs to improve the headache during and attack.

Skaer[10] states that "migraine prevention is best achieved by avoidance of known migraine triggers". The logic of this advice is very clear and, of course, if individuals could avoid any factor that could trigger a headache then they would not get a headache.

In this study we compare triggers of Migraine and TTH along with we relate trigger type & severity of headache. So that patients can avoid triggers which can be the best method of prevention.

AIMS & OBJECTIVES OF THE STUDY

1)To compare triggers of Migraine and TTH along with trigger type & severity of headache.

2)To compare relieving factors of Migraine and TTH.

II. METHODOLOGY

This study is a hospital based observational cross sectional study conducted in a tertiary care centre,Tirunelveli.Patients attending Headache OP clinic of Neurology, TVMC from 2020 to 2021 , 100 patients fitting into migraine and TTH were taken based on criteria according to ICHD II criteria. For all patients clinical history and neurological examination was done along with required blood investigations and brain imaging as needed.

They were all interviewed for triggers and their frequency of association with headache according to the checklists prepared.Relieving factors were also marked according to checklists and additions to checklists were also made based on the patients recall. Two groups one with migraine and one with TTH were taken and observed for trigger types, frequencies & their modification with treatment.

INCLUSION CRITERIA

- Patients fitting into Migraine & TTH criteria according to ICHD 2 criteria
- Age 20-60 years
- Both males& females were included

EXCLUSION CRITERIA

- Headaches other than Migraine & TTH.
- Patients already under prophylaxis for headache.
- Coexisting Migraine & TTH
- Co-morbid illness.

III. RESULTS

In 100 migraine & TTH patients of our study all listed precipitating & relieving factors were looked for. Females (63%) predominated in our study .Most of patients were in age group 25-35 yrs(59%) & Most of them reported multiple precipitating & relieving factors.

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The common precipitating factors like stress (32, 38), anxiety (27, 20), activity (34, 24), journey (23, 18), reading (4, 5), cold (9, 12) and warmth (6, 9) were well distributed among both the migraine and TTH patients. But significant difference was demonstrated for fatigue ($p<0.05$), sleep deprivation ($p < 0.05$), sunlight ($p < 0.01$) and food ($p < 0.05$). Significant difference were observed for both drug (61, 50) and massage (7, 2.4) ($p < 0.05$), which relieved migraine headache. But factors like sleep (58, 52), rest (25, 21) and posture (4, 1) were well distributed within both groups.

Comparison of common precipitating factors among migraine and TTH

Precipitating factors	Migraine %	TTH%	P value
Sunlight	34	28	<0.01
Fatigue	13	7	<0.05
Sleep deprivation	20	14	<0.05
Stress	32	38	>0.05
Anxiety	27	20	>0.05
Cold	9	12	>0.05
Warm	6	9	>0.05
Activity	14	9	>0.05
Journey	23	18	>0.05
Food	2.8	0.4	<0.05
Reading	4	5	>0.05

Comparison of common relieving factors among migraine and TTH

Relieving factors	Migraine%	TTH%	P value
Medications	61	50	<0.05
Sleep	58	52	>0.05
Massage	7	2.4	<0.05
Rest	10	8.4	>0.05
Posture	1.6	0.4	>0.05

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IV. STATISTICAL ANALYSIS

Statistical analysis was done using SPSS vs.16 software. All quantitative measures were treated with parametric statistical analysis such as student's t test. P values were calculated for all variables. P values<0.05 taken as significant

V. DISCUSSION

Different precipitating factors for headache that we studied had been described by several authors previously[3,4]. In this study we have observed that several precipitating factors were identical among both migraineursand TTH patients. Factors related to endogenous psychogenic mechanism like stress, anxiety were well distributed among both groups as precipitator.

Rasmussen [5]also reported stress and mental tension as most frequent precipitants for both migraine and tension type of headache. Stress/ anxiety does so by central mechanism through direct activation of the ascending reticular pathway. Other factors like journey, physical activity, exposure to cold/warm, reading were also common in both group of patients and did not show any significant difference.

Contrary to this finding, in a population based study in Croatia Zivadinov R [14] et al. showed that stress was associated with migraine whereas physical activitywas related to TTH. Journey, change in weather and temperature were also associated among patient ofmigraine with aura in his study. The difference might accounton the social and environmental variation amongpopulation.

Similar to Spierings ELH et al. [15] we didn'tfind any precipitating factor that was significantly reportedfrequently by TTH patients than the migraineurs. Insteadfatigue, deprivation from sleep, sunlight and food weremore frequently indicated significantly by migraineursthan the TTH patients ($p < 0.05$ in all of the factors). Ourfinding is also supported by the report of

Chabriat H et al.[16] who showed that fatigue, sleep difficulty and foodor drinks more frequently precipitate headache amongmigraineurs than the nonmigraneurs.Deprivation of sleepresults in fatigue which in turn, activates the sympatheticoutflow to boost metabolic process for availability of energy.The sympathetic activation subsequently thought toprecipitate headache.

Most of the people with headache disorders practicemany nonpharmacological measures to get the relief of thepain. However, it is not known whether behaviour during theattack is headache-type-specific or a general response tohead pain. Martins and Prarreira[11] identified six maneuverstried by the patients, most commonly the migraineursto improve the headache during and attack. It is acommon observation, by clinicians involved in the headachefield that many patients use some instinctive manoeuvres,of their own accord that tend to alleviate theirsuffering.

In our quest to identify the relieving factors wealso observed that the rates of use of each maneuver weremore frequent for the migraineurs, though the differencewas not significant except for drug and massage. Other factorslike sleep, rest and posture were well used by bothgroups. Both use of drug and massage was associated withrelieve of pain in migraneurs.Unlike our observation, they alsoshowed sleep, rest, change in posture were also significantlyrelieved pain with migraine patients.

VI. CONCLUSION

Most of the precipitating and relieving factors are common and similar in both migraine and TTH patients. Though some of them (fatigue, sleep deprivation, sunlight and food) are indicated significantly among migraineurs, there is no factor associated significantly with TTH. This difference is also true for relieving factors (drug and massage relieved migraine headache).Careful monitoring of the precipitating factors of headache could also provide a clue to the etio-pathogenesis of headache so efforts to be continued in future.

VII. LIMITATIONS

We had some limitations in this study. We could not match the age and sex among the two groups ofpatients due to wide variation of age and sex specific prevalence of headache and the retrospective nature ofthe study.But the chance of recall bias was minimized by the check list of precipitating and relieving factors & the chance of observer biasness in diagnosis of headache was also minimized by following international headache society criteria (ICHD-II 2004) .

DISCLOSURES

The authors declare no conflict of interest. Ethical Approval for this study was taken from the institutional ethical committee in December 2020.

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