

FREQUENCY OF HEADACHE WITH STRESS IN ADOLESCENT AND YOUNG ADULTS

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ABSTRACT

Objective: Objective of this study was to establish a link between stress as a cause of headache in young adults.

Study Design: Cross sectional study

Place and Duration of Study: Department of Neurology Military Hospital (MH) Rawalpindi from September 2009 to March 2010.

Patients and Methods: Thirty young patients, referred for the complaints of headache to the Neurology Out patient department, were included in this study. A detailed especially designed, pre tested headache questionnaire was devised which was filled for every patient individually included in the study.

Results: Twenty One (70%) of the patients in the study group did have the feeling of stress preceding the headache which sometimes persisted during the episode. Nine (30%) did not report any such feeling of stress before or during the episode. Out of the patients reporting stress 71 % (15) were female patients and 29 % (6) were males.

Conclusion: These key findings suggest that stress and headaches may be related for adolescents and young adults and that this relationship may be reinforced over time. Moreover female patients were far more susceptible to this stressful stimulus as compared to the males.

Keywords: Headache, neurology, stress.

INTRODUCTION

Stress and headache go hand in hand. Stress not only plays a role in initiating headache in predisposed individuals, it is known to trigger or worsen individual headache episodes and even exacerbate the progression of headache disorder. By doing so, it is believed to be a major factor in headache transformation from an episodic to chronic condition.¹⁻³

Forty-three percent of female and only 24% of male adolescents and young adults report headaches as their most common pain symptoms. Thirty-one percent of adolescent girls report weekly headaches.⁴ Reports of daily headaches are 5 times greater in female young adults (3.4%) than in males (0.7%).⁵ The headache prevalence rates for males remain stable during adolescence and young age; however, female headache prevalence rates significantly increase over time.⁶ Compared

with teens without headaches, teens with headaches have reported significantly more increased stress during adolescence and increased headaches in early adulthood.⁷ The increasing rate of female headaches during adolescence may be related to the experience of stress and depression. Adolescents and young adults with headaches report increased stress,⁸ anxiety,^{5,9} and miss more school and social obligations than those without headaches⁵.

Although the hypothesis that stress is a risk factor for headache progression has often been postulated^{10,11} only very limited direct supporting evidence is available. In a single unpublished examination of this hypothesis using patients from the Frequent Headache Epidemiology Study, cases with new onset chronic daily headache were more likely to have experienced a recent stressful life event (e.g., experience a move, a change in relationship, major problem with children) than similar controls who did not have headaches that became more frequent.¹² Although the nature of the stress-headache relationship is probably quite variable^{13,14}, this link is

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interesting and raises several questions concerning the possible mechanisms through which stress may lead to headache progression.

It is of great concern that an increased number of young patients are presenting with complaints of headache. Those already bearing the label of chronic headache e.g. migraine, are reporting an increase in frequency and severity of episodes. An important link is the increasing stresses in the lives of our young generation.

One study found that >90% of patients endorse that stress effects at least some of their headaches.¹⁵ Research examining the stress-headache relationship typically conceptualizes stress as consisting of 1 of 2 categories: daily hassles and major stressful life events. Daily hassles (e.g., traffic, deadlines) have been consistently shown to affect daily headache activity¹⁶⁻¹⁸. Individuals with headache report a greater number of daily life hassles than controls.^{19,20}

There is thus a need to establish and confirm this hypothesis. Only then can we correctly identify the cause for these headaches and correctly and appropriately treat them.

PATIENTS AND METHODS

Thirty young patients (ages 14-31) referred for the complaints of headache to the Neurology Out patient department of the Military Hospital were included. This study was approved by the research and ethics committee of the hospital. Written informed consent was obtained from the participating patients. Patients of migraine who had recently seen an increase in their symptoms, despite treatment, were also included in the study. Both genders were included in the study.

Exclusion criteria were patients with known depression and other co morbid illnesses like ischemic heart disease, hypertension, Stroke and Diabetes Mellitus.

A detailed specially designed, pre tested questionnaire was devised which was filled for every patient included in the study, Table 1. Emphasis was made on whether the patient's headache was linked with stress or not. If found

to be linked, the lag time, defined as the time between the start of the stressful condition to the initiation of headache, was noted. Finally the duration of headache was documented along with other characteristics of headache. Detailed clinical examination was done to rule out conditions given in exclusion criteria. Depression was ruled out by psychiatric evaluation using Beck Depression index. After informed consent the headache Questionnaire was filled by the attending Neurologist.

RESULTS

Thirty patients were inducted in the study. The mean age of the patient population was 24. Out of these 53% (16) were females and 47% (14) male.

Going over the data the following base line characteristics were established. Regarding the frequency of the headaches 26% (8) had one episode every 2-3 months. Another 26% (8) had 1-2 episodes every month, 26% (8) reported less than 1 episode monthly and 7% (2) claimed to have one episode daily. Three percent (1) had one per week and 3% (1) once every fortnightly. Sixty percent (18) had positive family history of similar headaches in the family.

Eleven (37%) patients had headache of 1-4 hours duration. Eight (27%) had one hour long headache, Seven (23%) had headache lasting up to 8 hours. Three (10%) patients had episodes lasting more than a day and only one (3%) had one that lasted many days.

During an episode of headache 53% (16) experienced loss of appetite, 66% (20) felt a tight band like sensation around the head, 33% (10) experienced dizziness, 26% (8) had problems with their vision. 46% (14) had nausea, 60% (18) felt mood alterations and 33% (10) experienced sleep disturbances. Sixty percent (18) had positive family history of similar headaches in the family. Out of the female patients 18% (3) felt their headache was related to menses.

Of the patients in the study group experiencing the feeling of stress preceding the headache, which sometimes persisted during the episode and of those not reporting any such feeling are depicted in Table-2. In 21 patients

stress was reported, 15 (71%) were female and 6 (29%) were male. The 52% (11) of those experiencing stress stated that the headache was almost instantaneous (few minutes to 1 hour) to the start of the stressful period. Nine (42%) had a stress lag delay of a few hours and only 4% (1) patients had a lag period of 1 day.

Table-1: Headache Questionnaire

Serial number	1	2	3	4	5
Name					
age					
sex					
Duration of symptoms					
Frequency of episodes					
1-2/yr					
1 every 2-3 month					
<1 per month					
1-2 /month					
1 / week					
1-2/week					
1/day					
>1/day					
Other					
Headache duration					
>1 hour					
1-4 hrs					
5-8 hrs					
Others					
Family history of headaches					
Stress during episode					
Stress lag					
instant					
Few hours					
days					
Tight band like sensation					
Loss of appetite					
Dizziness					
Others					
Vision problems					
Nausea, vomiting					
Mood change					
Association menses					
Others					

Table-2: Association with Stress (n=30)

Relation with Stress	Number of Patients (%)
Those reporting stress	21 (70%)
Those not having stress	9 (30%)
Stress Lag	
Instant Headache(minutes to 1 hour)	11 (52%)
Few Hours	9 (42%)
Days	1 (4%)

DISCUSSION

This study shows that there is a strong link between stress and headaches in young adults and there is an urgent need to address the issue.

In young adults and adolescents, stress and headache are known to be interlinked and in fact get reinforced over time. The result is a state which precipitates more headache episodes eventually resulting in daily chronic daily headache. The threshold for headache in these patients decreases over time, leaving them more prone to such attacks.

Review of literature shows that various studies in the past had shown a positive link between the two conditions. Our study has also addressed the same issue and confirmed the findings of earlier studies.

Our younger generation is being faced with an increasing number of challenges and stressful conditions in their daily lives. Multiple goals and targets and an increasing sense of competition adversely affects their health.

Though this study did not try to identify the stressors in the lives of such patients, there is a strong need to identify these markers of stress which are adversely affecting the health of our youth today. It is only after identifying such issues can we go about removing these stressors from their lives. Medication targeted towards stress will be then warranted and will have to be inducted in the treatment regimen of such patients.

Higher levels of depression have been previously reported in studies of young adults with headaches^{5,21}, specifically in young girls²².

Depression may exacerbate the stress-headache cycle and thereby increase the risk for future stress and headaches. It is also plausible that depression is a consequence for individuals caught in a stress-headache cycle and that the disability and reduction in quality of life experienced by headache sufferers contributes to increases in depression. Further exploration of depression as a possible moderator of the relationship between stress and headaches is warranted. Significantly decreased quality of life and increased disability has been found in adolescents with frequent headaches²³.

In addition, the strong associations between stress and head pain/headaches, suggest that stress-related intervention, management, and reduction would be a worthy research endeavor to determine strategies for reducing the negative emotional impacts of stress on this vulnerable population.

CONCLUSION

These key findings suggest that stress and headaches may be linked for adolescents and young adults and that this relationship may be reinforced over time. In our study, female patients were more likely to have headache owing to stress as compared to the male patients.

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