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HEADACHE ASSOCIATED DISABILITY IN MEDICAL STUDENTS AT THE KENYATTA NATIONAL HOSPITAL, NAIROBI

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ABSTRACT

Objective: To study headache associated disability in a group of medical students at the Kenyatta National Hospital.

Study design: Cross sectional survey.

Results: Between October 1994 and January 1995 we conducted a survey on headache characteristics on medical students at both the Kenya Medical Training Centre and the Medical School of the University of Nairobi. Six hundred and twenty-five (87%) of the 711 students surveyed admitted having had at least one episode of headache in the last six months. Using the International headache society (IHS) case criteria 314 students (50%) had tension type headache, 240 (38%) migraine headache and 71 (12%) unclassified headache. Eighty-six percent of the students with headache had their working ability disturbed to various degrees. Eighty-five percent of the students reported that their social activities were interfered with by headache. Migraine headaches had the greatest impact on both the working and social activities at a p-value of 0.0005 and 0.0004 respectively. One hundred and forty-one students (23.6%) had missed at least one day of work or school in the last one-year as a direct result of the headache. There was an association between headache severity with working ability and social effect. There was no association between the days students missed work or classes with the severity of the headache. No gender difference was found in the headache associated disability.

Conclusion: Headache is a prevalent condition with disability both in working and social activities.

INTRODUCTION

Headache has been estimated as a complaint in more than half patients who visit physicians(1,2). In Europe it is estimated that approximately 80% of the population will suffer from headache in any given year(1-3). Levy *et al.* in an urban population in Zimbabwe found 20.2% of the population to suffer from recurrent headaches(4). Headache is therefore an important public health problem.

Most of the studies on headache related disabilities have focused mainly on migraine headache. In a Glaxo survey of migraine sufferers in the United Kingdom, over three-quarters claimed that their lives were significantly affected by this condition, with disruption of family life, social relationships and work(5). The percentage of migraine sufferers reporting at least one day of absence from work or school in the last year ranges from 13% to 52% depending on the age structure and case definition of migraine(5-9).

Disability is not only limited to migraine as Pyrs-

Phillips *et al* found that 18% of patients with tension type of headache had to stop their normal activities while 26% had to cancel social activities due to headache(8). Migraine headache are generally much more disabling than the other types headache(6-8). Headaches and more so migraine affect individuals during their most productive period of their lives reducing their economic activities. Matuja *et al.* in a study of non-clinic based population in Dar es Salaam found a significant number of cases(175) had an average of 11.3 lost work days per year as compared to a control group of persons with an average of 5.7 for reasons other than headache(10). The aim of the study was to investigate headache-associated disability among medical students.

MATERIALS AND METHODS

The details of the study has been published elsewhere(11). In brief it was a cross sectional study. We used a close-ended questionnaire to obtain the data. Medical students of both the

Medical School University of Nairobi and Kenya Medical Training Centre (KMTC) were interviewed. The questionnaire contained detailed questions on the type of headache, frequency, relieving and aggravating factors, symptoms and the effect of headache on working ability and social activities.

Disability was determined as the effect of headache on working ability, the effect on social activities and the number of days missed in class or work in the last one year due to headache. The patient own rating of the pain as mild, moderate, severe was used to determine the headache severity. We used the International Headache Society (IHS) classification to classify the headache types(12).

Before the main survey a pilot study was done on 50 students to validate the questionnaire. From this pilot study very few changes were made and therefore this group of students were not re-surveyed.

Statistical Analysis

We used the SPSS PC for both the data entry and analysis. The data was summarised to frequency tables, means and standard deviations and confidence intervals for continuous variables. Frequency and contingency tables were used for the precoded data. Associations were investigated using the Students t test and the chi-square test with level of significance being taken as 0.05.

RESULTS

Six hundred and sixty-five (88%) of the 711 students admitted to having had a headache in the last six months and they form the basis of this study. The medical students of the University of Nairobi were in the 3rd to 5th years of their studies while in the Kenya Medical training college were all in the final years. The mean age was 22.5±4.5 years with a range of 19 to

32 years. There were 420 males and 245 females giving a male to female ratio of 1.7:1. Three hundred and fourteen patients (50%) satisfied the International Headache Society definition for tension type of headache, 240 (38%) migraine and 71 (12%) unclassified headache. The mean ages for the respective headache groups were 23.45 ± 4.753, 22.7 ± 4.5 and 23.36 ± 4.95 respectively with a p value of 0.228 there being no statistical significant difference. The male to female ratio was 1.1:1 for tension type headache and 1:1.3 for migraine headache and 1.1:1 for unclassified headache with a female predominance in the migraine type headache. The utilisation of health services and medication have been published elsewhere(11).

Two hundred and forty four (39%) of the students reported mild headache while 319 (51%) and 59 (9%) reported moderate and severe headaches respectively.

The frequency of headache episodes in one month are shown in Table 1. Majority of the students had an average of two to three episodes per month. There was no statistical significant difference in the headache frequency in the different types of headache p-value 0.30. The effect of the headache on working ability is shown in Table 2. Eighty six per cent of the students had headache affecting their working ability to various degrees. When the various types of headaches were compared, migraine was found to have the greatest effect on working ability at a p-value of 0.0004.

Eighty four point five per cent of the students had their social activities interfered with by the headache (Table). Migraine headache had a statistical significant effect on non-work activities as compared to tension and unclassified headache at a p value of 0.0005

Table 1

Mean frequency of headache episodes per month

Frequency per month	Migraine (%)	Tension (%)	Unclassified (%)	Total (%)
1	75(32)	129(43)	19(28.4)	223(37.2)
2-3	101(43)	109(36.3)	34(50.7)	244 (40.7)
4-5	26(11)	28(9.3)	2(3)	56(9.3)
> 5	27(11)	31(10.3)	11(16.4)	69(11.5)
daily	4(1.7)	3(1)	1(1.5)	8(1.2)

Table 2

Effects of headache on working ability

Effect on working ability	Migraine (%) N=238	Tension (%) N=312	Unclassified (%) N=59	Total (%) N=609
Able to work	15(6.3)	61(19.9)	9(13)	85(13.9)
Mildly affected	121(50.8)	164 (53.6)	37(53.6)	322(52.8)
Moderately affected	35(14.7)	21(6.9)	5(7.2)	61(10)
Bed rest required	67(28.2)	66(19.6)	8(26.1)	141(23.1)

Table 3*Effects of headache on non-work activities(Social activities)*

Effect on non-work activities	Migraine (%) N=238	Tension (%) N=294	Unclassified (%) N=70	Total (%) N=602
Not affected	20(8.4)	62(21.1)	10(14.3)	92(15.5)
Mildly affected	72(30.3)	145(49.3)	31(44.3)	248(41.9)
Moderate	102(43.4)	75(25.5)	23(32.9)	200(33.8)
Severe	44(18.4)	12(4.1)	6(8.6)	62(8.8)

One hundred and forty-one (22.6) of the students admitted having missed at least one day of class or work during the last one year due to headache. The percentage of those who missed classes or work according to the various headache types are shown in Table 4. There was no statistical significant differences p-value of 0.08. The mean duration of missed classes or work was 3.2.+3.4 with a range of 1 to 10 days.

There was an association between the headache severity with the working ability except for the unclassified headache type (Table 5). Similarly we found an association between the headache severity with the social activities except for the unclassified

headache type. There was no association between the headache severity with missing classes or work and the days that were missed.

Table 4*Missed classes/work in the last year*

Type of headache	Percentage who have missed classes/work
Migraine	72(31.3%)
Tension	46(15.5%)
Unclassified	23(32.4%)
Total	141(22.6%)

Table 5*Association between headache severity with working ability, missing classes/work, days missed and social effect*

Relationship between headache severity with	Migraine p-value	Tension type P-value	Unclassified P-value
Working ability	0.0002	0.008	0.39002
Missing classes	0.75834	0.0013	0.31565
Days missed classes	0.09617	0.34191	0.1741
Social effect	0.00001	0.00001	0.05548

Table 6*Association between, working ability, missing work and social effects between male and female students*

	Male (%) N= 420	Female (%) N=265	P-value
Working ability	344(82)	212(80)	0.54
Missing classes	93(22)	58(21)	0.53
Social effect	357(85)	220(83)	0.46

Table 7

Association between working ability, missing classes and social effect between males and females in the various headache types

	Migraine (P-value)	Tension (P-value)	Unclassified (P-value)
Working ability	0.93379	0.41833	0.26370
Missing work classes	0.40203	0.78153	0.93615
Social	0.60739	0.92217	0.21222

There was no male to female difference in the working ability, missing of work/classes and social effect (Table 7).

DISCUSSION

There are very few studies in Africa, which have investigated disability related to headaches. There are no studies, which have addressed the effect of headache on working ability and social activities. Matuja *et al.* studied the effect of headache in a non-clinical population in Dar es Salaam the main outcome of the study was absenteeism from work(11). To study headache related disability one must consider the setting of functional impairment (e.g. interference with work, chores or social functioning) the degree of impairment or interference and the frequency with which headaches occurs(13-15)

Eighty six per cent of our students had their working ability affected by headache with 23% requiring bed rest. These results are comparable to 27.2% by Nikiforow and 30% by Pyrse-Phillips(8,9). Like in most studies migraine caused greatest impact on working ability as compared to other types of headache. We found no gender difference on the effect of headache on working ability which is unlike most studies which report greater disabilities among the females(6,7,13). The reason for this could not be easily established.

One of the common ways of figuring out the impact of headache is the absence from work or classes. We found 22.5% of the students had missed classes or work in the last one year as a direct result of headache. Of the students with migraine 31.3% had missed class work which is in the range of 13% to 52% reported in literature(6-8,13-17). Matuja *et al* in Dar es salaam found 47.8% of their subjects had reported absenteeism from work in the last one year(10). This figure is much higher than in this study but one would consider the entry criteria in this study, which were subjects who had headache that required medication or required medical consultation. The other difference was the age structure where the subjects in our study were young with a mean age of 22 years. There was no association between the headache severity with missing of the classes in the various types of headaches. This would imply that there may be other factors apart

from headache severity that may account for the missed days at work or studies. The factors may range from the students underestimating the severity of their headaches, other associated symptoms such as nausea or photo phobia that may prevent them from attending classes or work(13). Photo phobia nausea and vomiting are part and parcel of migraine headache and these may have an effect on working ability than the severity of headache. The severity of these symptoms were not pursued in our study. Headache and more so migraine are often associated with other co-morbidities. Major co-morbidities are psychiatric disorders like major depression and anxiety disorders, epilepsy, stroke, asthma, menstrual disorders and chest pain(16-19). Tension type headache are often associated with neurotism, anxiety and even depression(20). Whether this cormorbid condition played a role in absence from work can only be speculated since it was not studied.

Missing classes or work does not account for all the associated disability since the students may continue with their activities but with considerably reduced effectiveness. In the American Migraine study the effectiveness at work during the attack was 40% in females and 50% for males(16,19). The reduced efficiency of sufferers who remain in classes or work during the headache episode is particularly important if the sufferer is a key person such as a nurse or doctor because the whole department's work may be disrupted(16). We were not able to establish like others that females had the greatest loss in work days.

The effect of headache was not only limited to working activities but also to social activities. We found that only 15.5% of the students with headache continued with their social activities when they had headaches. Pyrse-Phillips *et al.* showed that up to 30% of migrainers cancelled their social activities because of headache (8). Migraine headache had the greatest impact on the non-work related activities as compared to tension headache and the unclassified type of headache similar to other studies (6-8,14,16-18). In this study unlike the others we found no gender difference on the effect of headache on the non-work activities(10,13).

Though the sample of medical students may not necessarily represent the general population it does reflect the heavy burden that headache gives. Headache

and more so migraine is a distressing and prevalent condition with extensive social and economic consequences. It not only interferes with the daily life of the sufferer, but also adversely affects productivity through inefficiency during the headache episode and loss of working days. Proper diagnosis and management of headache is the only way to reduce this burden.

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