HEADACHE IN OFFICE WORKERS

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We have previously shown work-related headache to be a common feature of sick building syndrome (SBS). In order to investigate the nature of work-related headache we carried out a questionnaire survey of all workers on 5 consecutive floors of an air-conditioned office building. An overall response rate of 95/102 (93%) was obtained. Of the 95 workers 59 (62%) admitted to more than 2 episodes of headache in the previous 12 months. Headaches which improved on days away from the office (work-related) were common 49/59 (83%) and occurred frequently 22/49 (45%) being present most days or most weeks. The majority of work-related headaches had started since first starting working in the building 38/49 (78%) and 19/49 (39%) had headaches only at work. No cases of classical migraine were found in the work-related group where headaches were found to be predominantly of the "tension" type.

INTRODUCTION

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Headache is a dommon symptom in the general population which results in a significant amount of medical consultations and sickness absence and which is more common in highly industrialised communities (1). Headaches which improve on days away from work (work-related) have previously been found to be common in office workers, particularly those working in sealed air-conditioned office buildings (2,3). The cause of this symptom, as with most of sick building syndrome, is likely to be multi-factorial including personal, organisational and physical factors. Although a number of different factors' may be important in contributing to work-related headache such as VDU use (4), commuting (5), psychosocial (6) and psychological factors (7) it seems likely that the major determinant of overall prevalence is the indoor climate (building factor) (3,8). Work-related headache in office workers has not previously been characterised. The aim of the present study, therefore, was to further investigate the features of work-related headaches occurring in office workers and to compare the findings with headaches which were not related to the workplace.

METHOD AND POPULATION

The head-offices of a public organisation were selected for study. These occupied a high rise mir-conditioned building in the centre of Birmingham. The physical and environmental characteristics of this building have been described elsewhere (2). The Windows were sealed and the offices had a centrally conditioned ducted ventilation system including a cold water spray humidifier.

A total sample of all workers of all grades working on five consecutive floors were studied. A modified "sick building syndrome" questionnaire based on a



previously well validated questionnaire was interviewer administered (3). The questionnaire consisted of two sections. The first included a number of questions on personal factors such as age, sex and job. The second section included not only standard questions on a number of work related health symptoms but also included a detailed section on headache symptoms. Headache, if present , was subsequently classified as follows; classical migraine required the presence of head pain as well as vomiting, nausea, visual symptoms and unilateral focus. Common migraine was diagnosed if 2 or 3 of these symptoms were present. All other head pains not fulfilling these criteria were diagnosed as tension headache (9). A number of other headache descriptors were also enquired about.

RESULTS

Response rate for the questionnaire was 95/102 (93%). Within the population there were similar numbers of males (48) and females (47), males however occupied more senior grades(table 1).

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Table 1 DETAILS OF STUDY POPULATION BY SEX AND JOB CATEGORY

		Males (n=48)			×	Females (n=47)
Manager			27			14
Professional	1		6	(a) and a (a)		
Clerical/Secretaria	al		9	e		29
Other			6			4

Two or more episodes of headache in the previous 12 months occurred in 59/95 (62%). The majority of these were work-related headache (headaches which improved on days away from the office) 49/59 (83%). They also occurred frequently, 22/49 (45%) present most days or most weeks (table 2).

Females had a significantly higher prevalence of work-related headache than males (62% vs. 42% p=0.05). The lower down the office hierarchy so the prevalence of work-related headache increased, however the female predominance was maintained even within job category (Clerical; female 62% vs. male 33%).

The majority of work-related headaches had started since first starting working in the building 38/49 (78%) and 19/49 (39%) had headaches only at work. Headaches came on predominantly in the afternoon 32/49 (65%) and for those who specified time a mean of 3.8 hr. $(SD\pm1.9)$ after starting work and mean 1.7 hr. $(SD\pm1.7)$ to stop after leaving work.

244

Table 2 PREVALENCE	E OF HEADACH	HE BY SEX, J	OB CATEGORY AND	FREQUENCY
and the second	Work-rela	Headache ated	Not work-relate	d 📫 Not present
Females (47)	29 (6	62)	5 (11)	13 (28)
Males (48)	- 20 (4	42)	5 (12)	23 (48)
Professional	1 (:	17)	2 (33)	3 (50)
Manager	21 (5	51)	. 4 (10)	16 (39)
Clerical/Secretaria	1 21 (5	55)	3 (8)	14 (37)
VDU	2 (6	67)	0 (0)	1 (33)
Other	4 (!	57)	1 (14)	2 (29)
Frequency			1.65	- * × 5
Most Days	3 (6	6)	0	1.11281 1111
Most Weeks	. 19 (:	39)	5 (50)	
Most Months	18 (:	37)	3 (30)	n nest galler area - Short Vice and areas
Less Often	9(1	18)	2 (20)	La terre d'Altra de la
and the state of the		1.4	-56	29

The pain was rarely described as severe (fig 1) and there was no significant difference in reported severity between those with work-related headache and those with headache which was not work-related.



Figure 1 Prevalence of scores from a pain severity scale rating headache from 1 mild to 7 severe. Solid bars represent work-related headache and shaded bars other headache.

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Work-related headache could be either bilateral (53%) or unilateral (47%). Overall work-related headaches were predominantly tension headaches (table 3) There were no cases of classical migraine found in the work-related group. If anything common migraine appeared relatively more prevalent in the workrelated group however the numbers with headache not related to work were too small to draw a valid conclusion.

Table 3 FREQUENCY OF TYPES OF HEADACHE

Headache category

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	Migraine					
	Tension	Common	Classical			
Work-related headache	33	16	0			
Not Work-related headache	7	1	1			

DISCUSSION

We have found work-related headaches to be common (52%) and consistent with previous reported prevalences (3,8). Women also have a higher risk of developing headache even within job category. It has been well recognised that not only do women have consistently higher prevalences of all symptoms of building sickness but that they also tend to have higher prevalences of headache in general (10,11). So far there has been no good explanation for this difference, or that of the difference found between job categories however psychosocial factors may well be important (6). There was good evidence that the headaches were specifically building related in that the majority of those with work-related headache had only developed their headaches since first starting working in their current building and a significant number had headaches only occurring at work.

There was a delayed onset before headache would come on with most being present in the afternoon. Time to resolution on leaving the building was relatively short compared with headache sufferers in general (10).

Classical migraine was only found in one employee and this was not workrelated. Tension headache was the most common work-related headache however due the the small number of headaches which were not work-related an adequate comparison was not possible.

VDU use has been reported as a factor in work-related headaches(4) however our previous experience suggests that this is only in full time operators. There were not sufficient of these in the current study to draw a valid conclusion. Although there are a large number of well recognised aetiological factors in precipitating both migraine and tension headaches, an occupational history is clearly important. If possible this should include a description of the current office environment.

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247