STUDENT`S CORNER

Frequency And Factors Associated With Headache Among People Of Various Occupations

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ABSTRACT:

Objective: To find out the frequency and factors associated with headache among people of various occupations.

Materials andMethods: This cross sectional study with purposive sampling was carried out in four cities, Karachi, Rawalpindi, Rahim Yar Khan andMuzafarabad from June 2011 to September 2011. Data was collected on a specially designed questionnaire with 21 questions both open and closed ended variety. After a written consent 250 individuals working as doctors, engineers, businessmen, bankers, executives, drivers, teachers, armed officers, laborers and household servants aged between 18 and 60 years were enrolled. Individuals suffering from any acute illness like common cold and gastroenteritis etc and chronic debilitating disease like diabetes, cancers were excluded.

Results: Two hundred and fifty subjects participated in this study. 82.4 % were males while 17.6% were females. Their age range was 18-60 years Majority of subjects 80.8% were married. Overall frequency of headache was 62.8%. Highest frequency of headache was found in bankers & teachers (80%) and lowest was among doctors (48%).Age, anxiety and work place showed statistically highly significant association with headache. Family history, physical activity, high and low blood pressure and daily working hours were significantly associated with headache.

Conclusion: Frequency of headache is found to be high whereas age, family history, physical activity, both high & low blood pressure ,anxiety, daily working hours and work place are found to be associated with headache among people of various professions.

KEY WORDS: Headache, Frequency, Associated factors, Occupation

INTRODUCTION:

Headache or cephalalgia is pain anywhere in the region of the head or neck.The brain tissue itself is not sensitive to pain as it lacks pain receptors. Nevertheless, the pain is caused by disturbance of the pain-sensitive structures around the brain. Nine areas of the head and neck have these pain-sensitive structures, which are the cranium (the periosteum of the skull), muscles, nerves, arteries and veins, subcutaneous tissues, eyes, ears, sinuses and mucous membranes.[1] Headache often results from traction to or irritation of the meninges and blood vessels. The nociceptors may also be stimulated by other factors than head trauma or tumors and cause headaches.[2] Headache is not only painful but sometimes disabling also.The long term effort of coping with a chronic headache disorder may also predispose individuals to other illnesses, for example depression is three times more common in people with migraine or severe headaches than in healthy individuals.[3] There are over 200 types of headaches, and the causes range from harmless to life-threatening. The description of the headache, together with findings on neurological examination, determines the need for any further investigations and the most appropriate treatment.[4] Headache disorders are classified aseither primary or secondary. Primary headaches include those in which intrinsic dysfunction of the nervous system, often genetic in origin, predisposes to increased vulnerability to headache attacks. Various studies have shown that there are many factors.Particular individuals are vulnerable to provocation (triggering) by certain extrinsic and intrinsic events, including hormonal fluctuations, use of oral contraceptives, weather changes, certain foods, skipped meals, fasting, extra sleeping time and stress.According to International Headache Society (IHS) classification, the primary headacheentities include,migraine with aura, without aura, chronic, cluster headaches, tension type headaches.Secondary headaches are those in which the headache is secondary to an organic or physiologic process, intracranial or extra cranially[5].

Headache has a significant impact on public health in terms of quality of life and economic consequences, but in primary care, needs often remain unmet in terms of recognition, diagnosis and treatment [6] Although the epidemiology of headache disorders is only partly documented, taken together, headache disorders are extraordinarily common. Population-based studies have mostly focused on migraine which, although the most frequently studied, is not the most common headache disorder.Other types of headache, such as the more prevalent Tension Type Headaches (TTH) and sub-types of the more disabling chronic daily headache, have received less attention.Statistics show that 16.5% people of USA suffer from headache [7]. Worldwide, according to the World Health Organization (WHO) overall prevalence of headache is 47% & migraine alone is 19th among all causes of years lived with disability (YLDs)[8]. Headache disorders impose recognizable burden on sufferers including sometimes substantial personal suffering, impaired quality of life and financial cost. Repeated headache attacks, and often the constant fear of the next one, damage family life, social life and employment[9]. Since headache is a cause of low productivity in professionals therefore present study was designed to find out its frequency and associated factors among people of various occupations.

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MATERIALS AND METHODS:

This cross sectional study was approved by ethical committee of Community Health sciences department of Bahria University Medical & Dental College.It was carried out with purposive samplingat different hospitals, schools, colleges and institutes of four cities, Karachi, Rawalpindi and Rahim Yar Khan and Muzafarabad from June 2011 to September 2011.The places in Karachi were Pakistan Naval Services (PNS) Shifa,Liaquat National Hospital, The City School Darakhshan Campusi and Tri-Pack Films.

The places in Rahim Yar Khan were Sheikh Zaid Hospital Medical centre,Fauji Fertilizers Company limited Goth Machi, Fauji Fertilizer Company Grammar School Goth Machi andFaujiFertilizers.The places in Rawalpindi were Combined Military Hospital, Army Public School Humayun Road,Pivato engineers,Army Public College of Management Science (APCOMS), Global Academy andAslam Academy.Two hundred and fifty individuals between 18 to 60 years of age after a written consent working as doctors, engineers, executives, businessmen, bankers, drivers, teachers, armed officers, laborers and household servants were enrolled for the study. Individuals suffering from any acute illness like common cold, gastroenteritis etcand chronic debilitating disease like diabetes, cancers were excluded.

Sample Size:[10]

Using the formula:

$$1.962x\ p\ x\ q/e2$$

Where Z=1.96, p=prevalence, q=100-p and e=5.

The sample size came out to be 212 but it was increased to 250.

Data Collection Procedure:

A questionnaire comprising of 21 questions with open & close ended questions was used for data collection. Written consent was obtained from all the subjects and they were asked to fill the questionnaire. Those who were not able to read or understand the questionnaire a face to face interview was conducted.Data was analyzed using SPSS version 15.

RESULTS:

Two hundred and fifty subjects participated in this study. 82.4 % were males while 17.6% were females. Their age range was 18-60 years. Maximum and minimum number of subjects were 84 (33.6%) with age range of 31-40 years and 8(3.2%) with age range of18-20 years respectively Majority of subjects 80.8% were married. (Table 1)

Overall frequency of headache was 62.8% as 157 subjects out of 250 suffered from this painful condition. Highest frequency of headache was found in bankers & teachers (80%) followed by laborers & drivers(64%),household servants, businessman & armed forces personnel (60%), executives and engineers (56%) and doctors (48%). (Table2)

Age, anxiety and work place showed statistically highly significant association with headache.Family history,physical activity, high and low blood pressure and daily working hours were significantly associated with headache. Headache was predominantly present in subjects who were less than 40 years of age, had anxiety and worked at noisy,crowded and unventilated places. Headache was more common in individuals with a positive family history, who were physically inactive, had high / or low blood pressure and who worked for less than 8 hours per day. (Table 3)

Table 1: Demographical features

Sex	**Frequency**	Percentage
Male	206	82.4
Female	44	17.6
Age groups		
18 --- 20 Yrs.	8	3.2
21 --- 30 Yrs.	73	29.2
31 --- 40 Yrs.	84	33.6
41 --- 50 Yrs.	53	21.2
51 --- 60 Yrs.	32	12.8
Marital status		
Married	202	80.8
Unmarried	48	19.2

DISCUSSION:

Headache is an extremely common complaint causing more patients visits to primary care practitioners than respiratory diagnoses such as bronchitis or gastrointestinal illnesses such as peptic ulcer disease.[11]and it is the fourth most common complaint seen in emergency department.[12] In terms of cost productivity the cost of migraine type of headache alone in the United States is estimated to be between dollar 5.6 billion and 17.2 billion annually [13] and during a given year, 90% of people suffer from headaches. Various precipitating factors may cause headaches in susceptible individuals.Stress that usually occurs in the afternoon after long stressful work hours or after an exam, sleep deprivation, uncomfortable stressful position and/or bad posture, irregular meal time (hunger),eyestrain ,depression, anxiety ,clenching one's jaw are some of these factors.[14]Although disabling, headaches remain under-recognized and under-treated throughout the world.[15]

Overall frequency of headache in our study is 62% with

Table 2: Frequency of Headache And Its Breakup Profession Wise.

Overall	**Headache**		**Total**
	Yes	**NO**	
	157 (62.8%)	93 (37.2)	250 (100%)
Profession wise breakup			
Doctors	12 (48%)	13 (52%)	25
Household servants	15 (60%)	10 (40%)	25
Bankers	20 (80%)	05 (20%)	25
Executives	14 (56%)	11 (44%)	25
Engineers	14 (56%)	11 (44%)	25
Business men	15 (60%)	10 (40%)	25
Drivers	16 (64%)	9 (36%)	25
Labourers	16 (64%)	9 (36%)	25
Teachers	20 (80%)	5 (20%)	25
Armed forces personals	15 (60%)	10 (40%)	25
Total	**157**	**93**	**250**

Table 3: Cross Tabulation of Headache with Associated Factors

S. No.	**Factor**	**Category**	**Headache**		
			YES	NO	P - value
1.	Age	< 40 years	117	48	
		> 40 years	40	45	0.000**
2.	Gender	Males	126	80	
		Females	31	13	0.247
3.	Marital status	Married	128	74	
		Unmarried	29	19	0.704
4.	Family History	Yes	39	12	
	of Headache	No	118	81	0.024*
5.	Smokers	Yes	58	32	
		No	99	61	0.687
6.	Daily sleepy	< 8 hours	134	73	
	hours	? 8hours	23	20	0.165
7.	Skip meal	Yes	101	55	
		No	56	38	0.413
8.	Caffeine intake	Yes	153	87	
		No	4	6	0.181
9.	Physical Activity	Yes	75	60	
		No	82	33	0.013*
10.	Blood Pressure	Normal	122	83	
		High + Low	35	10	0.022*
11.	Anxiety	Yes	115	42	
		No	42	51	0.000**
12.	Daily working	? 8 hours	82	35	
	hours	> 8 hours	75	58	0.025*
13.	Work place	QPV	95	75	
		NCnV	62	18	0.001**
14.	Public dealing	Yes	126	75	
		No	31	18	0.940
15.	Work in	Yes	118	65	
	Vacations	No	39	28	0.363

*Significant, **Highly Significant, QPV= Quite, Peaceful & Ventilated, NCnV = Noisy, Crowded &Non Ventilated.

highest frequency (80%)among bankers & teachers & lowest frequency(48%) in doctors.Other researchers have mentioned estimated lifetime prevalence rate of 61%.[16,17,18] and headache severity related to job type, with legislators, senior officials and managers being most affected 19. We had 157 out of 250 subjects with headache which is similar to the findings of Rhee 16 where 144 out of 237 had headache.It is documented that about 80% of the patients were below 55 years of age in 1995 and 2008 Ethiopian and 2009 Pakistani studies which is coinciding with our results. The age specific frequency of headaches in this study 70.91% is in age group less than 40 years .This is indicative of young population and reproductive years.

We have found statistically non significant but more preponderance of headache in females70.45% versus males 61.17% which is coinciding with the findings of Castillo[20] A Brazilian study has estimated one year prevalence of any headache as 65.4%, more prevalence in females and less prevalence in the elderly and divorcee.[21] These findings are coinciding with our result.A positive family history of headache has also been documented as a major influential factor[22]. This is in agreement with our study as 76.47% of subjects with headache had a positive family history for headache. Strong and significant association of headache is mentioned in literature with specification that both smoking status and the nicotine content of the preferred cigarette adversely affects headache activity.[23,24] Recent epidemiologic research has confirmed the long-recognized interdependence of sleep and headache, and it has associated headache with a wide range of sleep disorders.. Among individuals with a predisposition to headache, episodes may be provoked by the dysregulation of normal sleep (eg, sleep loss, alterations in sleep/wake schedule) & sleep disorders.[25] Our findings indicate that less than 8 hours of sleep are associated with headache attacks. The frequency of migraine was observed in patients reporting fasting as a trigger and ranges from 40% to 82%.[26,27]A positive association between fasting and severe migraine was found by Chakravarty[28] however, a recent study has contradicted this association.[29] We had headache reported on skipping of meals with a frequency of 64.74%.Skipped meals operate by producing hypoglycemia & hypotension and may predispose to headache.Statistical analysis have identified alcohol and coffee consumption, smoking, neck pain, stress and physical inactivity as risk factors for headache.[30] This is in accordance to our findings.However caffeine intake was associated with headache non significantly while anxiety/ stress and physical inactivity significantly. Castillo20 have identified both female gender and increase intake of caffeine as factors associated with headache. Norwegian researchers have also documented that individuals who drink large amounts of caffeine tend to get more headaches than those with low consumption or people who never drink coffee and tea.[31]

A survey of 2673 patients enrolled in seven double blind, placebo-controlled studies of the effectiveness of irbesartan, an angiotensin receptor blocker, found that in the placebo group, there was a weak correlation between the prevalence of headache and the diastolic pressure, but no correlation with the systolic pressure. Also, active drug treatment was associated with a significantly lower incidence of headache (17% of treated patients vs. 22% of those receiving placebo). The authors concluded that headache is a feature of mild hypertension and that the aggressive reduction of blood pressure can reduce this symptom. It is stated thatabout 1 in 30 treated persons is benefited by having headache prevented.32 Low blood pressure also produces headache.[33]Among workers in the general population, long working hours were associated with the prevalence of headaches, and the association may depend on a lack of physical activity also.[34]We have found that equal to or less than 8 hours of daily working predisposed our subjects to headache. This could probably be because of more workload exposure in short period of time.In a nonspecific and unrecognized way, noise, crowdness& ventilation can generate an unsettling level of stress with profound influence on general health & can produce irritability, anger; headaches etc.[35]Our view was that occupations involving direct public dealing and making people work at vacations accounts for stress and anxiety. This has provenalthough non-significantly by our findings. Thus frequent and severe headache have a major impact on academic performance and quality of life, and may bring about limitation in daily activities and work.

CONCLUSION:

Frequency of headache is found to be high. Bankers and teachers were the most affected professionals. Age, family history, physical activity, both high & low blood pressure ,anxiety, daily working hours and work place are found to be associated with headache among people of various professions. Further studies are required with large sample size to evaluate and authenticate these associations in our population.

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