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RESEARCH ARTICLE
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COMPARATIVE ANALYSIS OF WORK DIFFICULTIES IN OFFICE WORKERS WITH MIGRAINE AND CERVICOGENIC HEADACHE

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ABSTRACT

Migraine and cervicogenic headaches are common neurological conditions that can significantly affect an individual's quality of life and work productivity

Aim and objective : To determine comparative analysis of work difficulties in office workers with migraine and cervicogenic headache

Material and Methods : This observational cross-sectional study was conducted on office workers.The sample size was 120 . Non-Probability purposive sampling technique was used. Ages 16-30, both genders, with migraine or cervicogenic headache symptoms lasting at least three months were included . HIT-6 used as assessment tool.Statistical analysis was conducted using SPSS version 25.

Results : Revealed 53.3% of cervicogenic headache patients reported "Always" experiencing severe pain compared to only 13.3% of migraine sufferers, which is consistent with studies highlighting the chronic and persistent nature of cervicogenic headaches, which are often associated with neck issues and can be more consistently severe than migraine.30.0% of those with cervicogenic headaches always wish to lie down during a headache, compared to 10.0% of migraine sufferers. A significant 41.7% of cervicogenic headache sufferers reported very frequent concentration issues, compared to 18.3% of migraine sufferers. The crosstabulation shows a significant association ($\chi^2 = 0.001$) between headache type and impact severity. Cervicogenic Headache sufferers mainly reported severe impact, while Migraine sufferers had a more balanced distribution between substantial and severe effects.

Conclusion : The study concluded that cervicogenic headaches are considerably more debilitating and longer-lasting than migraine headaches, which, while acute, result in significant fatigue and emotional upset

Keywords: Cervicogenic headache Migraine, Headache, Office workers, Work difficulties

INTRODUCTION

Office workers who experience migraines commonly work under severely episodic conditions. The overall intensity of pain and concomitant symptoms can leave individuals unable to focus while at work, especially on computer screens and often office lighting. Migraines can also lead to regular missed workdays due to the intense pain requiring people to stay out of the office until the migraine has passed. This unpredictability strains the workplace relationship with concerns for reliability and productivity. The difference in the symptoms of cervicogenic headaches is that, while painful, they are generally not as intense and can be relatively mild and continuous, thus possibly affecting work performance over the day. The dull, continuous pain makes adhering to a work routine challenging and results in a decline in performance (1).

Both types of headaches need different accommodations at work to manage and reduce the impact. On the other hand, for migraine sufferers, this might involve a reduction of exposure to bright lights, noisy environments, or flexibility of work hours to manage popping attacks. Remote work possibilities contribute to the avoidance of stressful traffic jams and other poor traffic conditions, which can trigger migraines (2).

An assessment of workstation ergonomics and adjustment for cervicogenic headache sufferers with supportive chairs, adjustable desks, or encouragement to take regular breaks that include stretching and moving significantly reduces headache frequency and intensity. Another good remedy is the promotion of a physical wellness culture facilitated through physiotherapy and fitness programs to bring real remedial change in the root causes of cervicogenic headaches (3).

Cervicogenic headache, a prevalent and recurring condition, is often mistaken for other primary headache disorders like migraines or tension headaches. Typically, unilateral and more common in females, it originates from the neck and extends to the oculofrontotemporal region. Characterized by moderate to severe pain exacerbated by neck movement, it poses challenges for sufferers (4).
Headache is a general and impactful disorder, ranked as the second leading cause of years lived with disability globally and the top cause among people under 50. Nearly 90% of individuals experience headaches in their lifetime. Tension-type headaches affect 38% of adults, while 12% suffer from migraines, the most disabling form (5). In response, the Global Campaign to Reduce the Burden of Headache was started by the World Health Organisation. According to the International Classification of Headache Disorders-III (ICHD-III), there are three types of headache disorders: primary headaches, which include tension-type headaches and migraines, secondary headaches, which can result from infections or head injuries, and other headaches, which include excruciating cranial neuropathies. (5).
Office workers encounter numerous challenges in their professional lives, with headaches emerging as a prevalent and disruptive issue. Migraines, characterized by intense pain, nausea, and sensitivity to light and sound, and cervicogenic headaches, stemming from cervical spine dysfunction, both profoundly impact work performance and well-being. Migraines often lead to frequent absences and reduced productivity, while cervicogenic headaches manifest as persistent neck pain exacerbated by office conditions (6).

Cervicogenic headaches develop from physical stress and poor working postures. It is a big problem among workers, especially when dealing with office work. This is because office workers are exposed to possible tension in the neck and shoulders due to long sitting hours and computer work. This could further aggravate the problem and culminate in a cycle of pain and discomfort related to cervicogenic headaches (7). Unlike migraines, which can be handled with medication and rest, relief from cervicogenic headaches may need to be adjusted in the long term, possibly by improved ergonomic setups, regular physical therapy, and exercises to strengthen the neck muscles. Relief means to reduce the causative effects of the headache problem (8).

Chronic neck pain (CNP) affects a significant proportion, ranging from 20% to 42%, of office workers. Despite efforts to diagnose and classify neck pain. Idiopathic disorders like myalgia and persistent primary cervical pain are included in the major International Classification of Diseases-11 (ICD-11) codes, and they may be contributing factors to neck pain. Widespread hyperalgesia and poor descending pain regulation are common symptoms among office workers with CNP, which may indicate possible sensitisation of central pain pathways.

Similar to widespread hyperalgesia, chronic trapezius myalgia is not significantly different from healthy persons in terms of muscle morphology or physiology, according to research. Furthermore, among office workers, there is a high association between felt muscle sensitivity in the upper trapezius area and the severity of discomfort. Nevertheless, there is still a dearth of studies evaluating a wide variety of office workers with different neck pain conditions and investigating the connection between pain severity and central pain pathways. (9).

Headaches resulting from structures in the cervical spine that are made worse by extended neck flexion or extension include tension-type headaches, cervicogenic headaches, or a mix of the two. Peripheral and cerebral mechanisms are responsible for these "postural induced headaches (PHA)". The trigeminal nucleus caudalis, which is part of the trigeminal-cervical complex, may become sensitised to prolonged nociceptive input from the upper cervical nerves innervating peri-cranial tissues. Pain referral occurs in the parietal, frontal, and orbital areas as a result of the convergence of the cervical and trigeminal afferents. The causes of neck discomfort and related headaches include habitual postures and prolonged static loads. The stress on supporting structures is increased dramatically by even small changes in head position. To avoid overload, proper motor control of head position and movement is necessary. On the other hand, those who have tension-type headaches or postural neck discomfort often have impaired awareness of neutral head position (10).

MATERIALS AND METHODS

The study employs an observational cross-sectional design and was conducted at different offices in Lahore, with a six-month post-approval of the synopsis. The sample size was 120, and a non-probability convenient sampling technique was utilised. Inclusive criteria for participants include ages 16-30, both genders, migraine or cervicogenic headache with symptoms lasting at least three months. The outcome measurement tool, HIT-6, assesses various factors contributing to headache burden, including pain, social and role functioning, vitality, cognitive functioning, and psychological distress. Statistical analysis was conducted using SPSS version 25 was used.

RESULTS

53.3% of cervicogenic headache patients reported "Always" experiencing severe pain compared to only 13.3% of migraine sufferers, which is consistent with studies highlighting the chronic and persistent nature of cervicogenic headaches, which are often associated with neck issues and can be more consistently severe than migraine.30.0% of those with cervicogenic headaches always wish to lie down during a headache, compared to 10.0% of migraine sufferers. In contrast, 38.3% of migraine sufferers want to lie down sometimes, which is higher than the 20.0% of cervicogenic headache cardiogenic headaches and 28.3% of migraine sufferers always experience limitations in concentration. A significant 41.7% of cervicogenic headache sufferers reported very frequent concentration issues, compared to 18.3% of migraine sufferers. The crosstabulation shows a significant association ($\chi^2 = 0.001$) between headache type and impact severity. Cervicogenic Headache sufferers mainly reported severe impact, while Migraine sufferers had a more balanced distribution between substantial and severe effects**.**

Graph 1: Histogram of Quantitative Demographic Variable

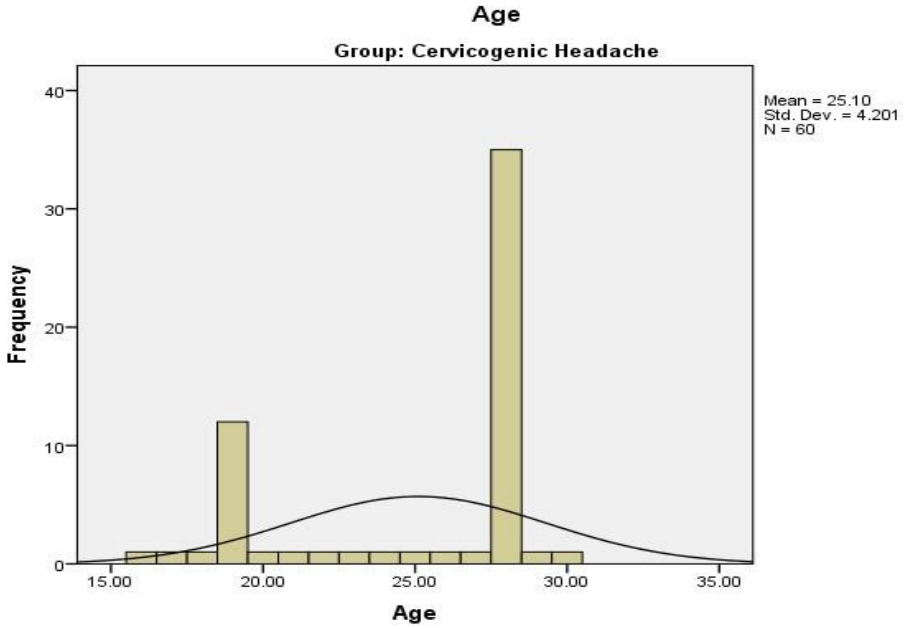

Table 1: Frequency/Percentage of HIT-6

When you have headaches, how often is the pain severe?				
Variable	**Cervicogenic Headache**		**Migraine**	
	Frequency	**Percentage**	**Frequency**	**Percentage**
Never	7	11.7	12	20.0
Rarely	7	11.7	25	41.7
Sometimes	13	21.7	11	18.3
Very Often	1	1.7	4	6.7
Always	32	53.3	8	13.3

How often do headaches limit your ability to do usual daily activities, including household work, work, school, or social activities?				
Variable	**Cervicogenic Headache**		**Migraine**	
	Frequency	**Percentage**	**Frequency**	**Percentage**
Never	5	8.3	11	18.3
Rarely	7	11.7	5	8.3
Sometimes	6	10.0	7	11.7
Very Often	11	18.3	14	23.3
Always	31	51.7	23	38.3

When you have a headache, how often do you wish you could lie down?				
Variable	**Cervicogenic Headache**		**Migraine**	
	Frequency	**Percentage**	**Frequency**	**Percentage**
Never	5	8.3	6	10.0
Rarely	13	21.7	13	21.7
Sometimes	12	20.0	23	38.3
Very Often	12	20.0	18	30.0
Always	18	30.0	6	10.0

In the past 4 weeks, how often have you felt too tired to do work or daily activities because of your headaches?				
Variable	**Cervicogenic Headache**		**Migraine**	
	Frequency	**Percentage**	**Frequency**	**Percentage**
Never	19	31.7	28	46.7
Rarely	10	16.7	4	6.7
Sometimes	13	21.7	10	16.7
Very Often	7	11.7	3	5.0
Always	11	18.3	15	25.0

In the past 4 weeks, how often have you felt fed up or irritated because of your headaches?				
Variable	**Cervicogenic Headache**		**Migraine**	
	Frequency	**Percentage**	**Frequency**	**Percentage**
Never	7	11.7	3	5.0
Rarely	7	11.7	4	6.7
Sometimes	7	11.7	1	1.7
Very Often	15	25.0	27	45.0
Always	24	40.0	25	41.7

In the past 4 weeks, how often did headaches limit your ability to concentrate on work or daily activates?				
Variable	**Cervicogenic Headache**		**Migraine**	
	Frequency	**Percentage**	**Frequency**	**Percentage**
Never	10	16.7	3	5.0
Rarely	6	10.0	5	8.3
Sometimes	6	10.0	24	40.0
Very Often	25	41.7	11	18.3
Always	13	21.7	17	28.3

HIT-6 Impact Category				
Variable	**Cervicogenic Headache**		**Mi graine**	
	Frequency	**Percentage**	**Frequency**	**Percentage**
Little or No Impact	1	1.7	6	10.0
Some Impact	8	13.3	13	21.7
Substantial Impact	12	20.0	14	23.3
Severe Impact	39	65.0	27	45.0

Gr	**oup * HIT-6 Impact Category Crosstabulation**			
Variable	HIT-6 Impact Category		Total	x^2
	Cervicogenic Headache	Migraine		
Little or No Impact	1	6	7	0.001
Some Impact	8	13	21	
Substantial Impact	12	14	26	
Severe Impact	39	27	66	
Total	60	60	120	

DISCUSSION

This current study can be of interest in terms of the demographic characteristics between cervicogenic headaches and migraine. The Cervical Headache group in the current study has a mean age of 25.1 ± 4.2 years, which is younger than the 37.5 years reported by. observed that in patients with cervicogenic headaches, the average age of the subjects was 37. The mean age was 36 years, SD ± 10 years, which is considerably older than the population in the current study. (12) also revealed that migraine patients were with a mean age of 34 years, different from the young people in this study. This variation in age range could be attributed to the regional, genetic or lifestyle habits that may determine the incidences

of headaches in different populations. The lower age observed in the current study could also mean that the two types of headaches are more prevalent among the young working population contrary to the conventional notion that migraines and cervicogenic headaches are relatively more frequent in middle-aged persons these results were accordance to current study(11).

Regarding the gender distribution, the present study was characterised by a higher predominance of male subjects in the migraine group 76.7 % which is in contrast to most reported observations. Works like suggest that women sample about 75% of patients with migraine thus underlining the fact that this current study targets a male-dominated migraine populace. This could be due to the sample of the study being office workers only or other contextual factors comprising environmental stressors and hormones that may vary in this population. In the case of cervicogenic headaches, the current study has a 50:50 gender distribution while noted that cervicogenic headaches affect females more than males. Such variance might indicate that the current sample is special about gender ratios and this may well be due to experiencing stress or ergonomics related to operating a keyboard and computer for prolonged periods as is the case with male and female office workers these results were accordance to current study(13).

In the current study, 53.3% of Cervicogenic headache have 'Always' severe pain vs 13.3% of migraine and TTH patients of migraine sufferers. This is by literature which found Cervicogenic headaches to be more chronic and severe because of their genesis from cervical Spine dysfunctioning. According to another study by (14), cervicogenic headaches are longlasting and recurrent and originate from musculoskeletal disorders in the neck leading to severe pain. This is supported by the findings of the current study since cervicogenic headache patients were found to have indicated they frequently have severe pain. The present research showed that cervicogenic headaches lead more often to restrictions of cognitive function, including concentration. In the study, 41.7% of cervicogenic headache sufferers stated that they "Very Often" have Concentration problems while 18. 3% of migraine sufferers. This result is not congruent with much of the literature which illustrates migraines as being a major cause of cognitive disabilities during attacks. According to (15, 16)., migraines produce a negative impact on cognitive functions and can be most expressed during the aura phase of the migraine, when the patient has for example bilateral visual disturbances, inability to focus, as well as other neurological signs.

Specifically, the present study led to an assumption that cervicogenic headaches may be as or even more interfering with concentration as other known types of headaches. It was also evident from the impact category of the HIT-6 that 65% of cervicogenic headache patients reported a "Severe Impact" on their lives, while only 45.0% percent of the migraine and tension-type headache patients did so. This implies that cervicogenic headaches were perhaps more devastating than migraine, perhaps owing to their continuity and severity on people's health. (17) identified the fact that both, migraine and cervicogenic headaches can have a deterring effect on the quality of life, though migraineurs may get relief in between the attacks as migraine is episodic in many cases. On the other hand, the longer duration of pain characterized by cervicogenic headaches might have something to do with the generalized higher percentage rate of respondents in the current study who reported severe impacts.

CONCLUSION

The study concluded that cervicogenic headaches are considerably more debilitating and longer-lasting than migraine headaches, which, while acute, result in significant fatigue and emotional upset. However, cervicogenic headaches cause more chronic pain and lead to consistent limitations of activities performed in the subjects' daily lives.

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