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PREVALENCE AND FACTORS ASSOCIATED WITH MIGRAINE AMONG A GROUP OF BAGHDADI PEOPLE

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ABSTRACT

Background: Headache affects practically every medical and surgical speciality. Migraine, the second most frequent main headache, is a significant medical illness that can bring financial and personal damages to sufferers. Migraine causes 27% of strokes in those under 45. The study aims to measure migraine prevalence in the study group and their relatives. Studying migraine-related issues. **Method:** The present study was carried out to determine the prevalence of known cases of migraine among a group of Baghdadi people. Thus 1500 person (756 males and 744 females, their ages were ranging from 10 – 60 years) taken from AL – Nahrain University college of Medicine. **Results:** The prevalence of diagnosed migraines was recorded at 8.2%, with a prevalence of 9.7% among females and 6.7% among males. The age group of 30 to 39 years exhibited the maximum prevalence, recorded at 18.4%. Migraine without aura was observed in 65.9% of cases, while migraine with aura was identified in 34.1%. Among the classic migraine types, visual aura was the most prevalent form of aura. This study demonstrated that 43.9% of participants experienced headaches characterised by a pulsating quality. Furthermore, physical activity and tension emerged as the predominant precipitating factors, whereas sleep was identified as the most prevalent alleviating factor. A positive family history was observed in 46.4% of cases. **Conclusion:** In Baghdad, 8.2% of persons have been diagnosed with migraine. Age (30–39), female sex, free employment (in-door), good socioeconomic level, and positive family history were connected with migraine.

KEYWORDS: Prevalence, Factors, Migraine, Baghdadi People.

INTRODUCTION

Headache is among the most common neurological complaints, with severe, disabling headache affecting 40% of individuals annually worldwide. Headaches are classified as primary or secondary. Primary headaches, such as tension-type headaches (90% of all headaches) and neurovascular headaches, include migraines and cluster headaches. Secondary headaches result from other medical conditions like sinusitis or stroke[1,2,3] Migraine is the second most common primary headache, presenting as a benign and recurring syndrome characterized by headache, nausea, vomiting, and neurologic dysfunction. It has been documented in medical literature for over 2,000 years. The term "migraine" originates from Galen's "hemicrania," later modified to "migraine" in the 18th century.[2,4] Migraines affect approximately 10% of adults, with a female predominance (3:1 ratio). They often begin in childhood or early adulthood, though onset during menopause is reported in 16% of women. Pregnancy may alleviate migraines, while oral contraceptives and menstruation may exacerbate symptoms. One in seven women experiences migraines exclusively during menses. Family history is a notable risk factor, particularly for migraines with aura.[2,5] In the U.S., migraines impact over 28 million individuals, causing significant societal costs due to healthcare utilization and lost productivity. Prevalence rates are 17.6% in females and 5.7% in males, based on a large-scale survey. Black males have lower prevalence rates compared to white males, though this disparity is not observed in females.[6,7] In Iraq, studies reveal clinical patterns of migraines, with a female-to-male ratio of 2.1:1. Among 200 patients studied in 1998, 79% had migraines without aura, 16% had migraines with aura, and 5% had other types.[8] Types of migraines include:

1. Common migraine: No aura or warning symptoms.
2. Classic migraine: Aura with visual disturbances precedes the headache.

3. Mixed tension migraine: Features of both migraines and tension headaches.[9]

Typical migraine attacks may involve prodromal symptoms, aura, severe throbbing headache, photophobia, and vomiting. Diagnosis requires unilateral pain, pulsating quality, moderate-to-severe intensity, and exacerbation by activity, accompanied by nausea, vomiting, photophobia, or phonophobia. Triggers include emotional stress, menstruation, and certain foods rich in tyramine or tryptophan.[5,10] The pathophysiology of migraines involves blood vessel constriction in the brain, leading to neurological symptoms, followed by vasodilation and severe headache.[9] Aims of the study: Measuring prevalence of migraine among the study group and their families. Studying some factors that might be associated with the migraine.

METHOD

This cross-sectional survey was conducted over five months, from February to July 2005, involving 1,500 participants from Al-Nahrain University College of Medicine. The study included students, employees, teaching staff, and their families. Data collection was conducted through interviews using a structured questionnaire designed by the investigator. The questionnaire gathered information on demographic and socioeconomic factors such as age, gender, years of education, occupation, and residency. Socioeconomic status was categorized into three classes: high, middle, and low, based on the occupation of the family head. Additionally, participants were asked about smoking exposure, headache complaints, family history of migraines, past medical history, age of migraine onset, type and frequency of migraines, precipitating and relieving factors, presence and type of aura, and associated symptoms.

Inclusion Criteria: Participants aged 10 years and above, both male and female.

Exclusion Criteria: Individuals residing outside Baghdad.

Migraine Diagnosis: The case definition required at least two of the following features: unilateral location, pulsating quality, moderate to severe intensity, and exacerbation by physical activity. Additionally, at least one accompanying symptom such as nausea, vomiting, photophobia, or phonophobia was required, with the diagnosis confirmed by a physician.

Statistical Analysis: Data was entered and analyzed using SPSS. The t-test and chi-squared test were applied where appropriate, with a p-value < 0.05 considered statistically significant. Comparative analysis was performed to differentiate individuals with migraines from those without migraines within the study population. This study provided insight into the prevalence and characteristics of migraines in a sample population, offering valuable data for understanding the socioeconomic and demographic factors influencing migraine incidence.

RESULTS

A total of 1500 persons were studied; their mean age (±s.d.) was 33±13 years. The results showed that the prevalence of headache among the studied sample was 91.1%; while prevalence of migraine was 8.2%. The prevalence of migraine (18.4%) was significantly higher in the age group 30-40 years than other age groups ($p<0.05$). For migraineurs the mean age was 36 ±8 years and their age ranging from 21-50 years. The prevalence of migraine decline in both men and women after age 40 years. The table shows that there is a female preponderance with a female to male ratio of 1.4:1 (72 females and 51 males). So there's a significant difference between gender regarding migraine prevalence ($P < 0.05$) the highest prevalence (9.7%) was in females. There's a significant difference between the types of occupation regarding migraine prevalence ($P < 0.001$).

The highest prevalence (19.6%) was for free work (in-door) followed by office worker (11.20%). The table showed that there is no significant difference between urban and rural area regarding migraine prevalence ($P > 0.05$). The table showed that the highest prevalence was in the 1st class (13.20%). So there's a significant difference between different socio – economic class and migraine prevalence ($P < 0.05$). The table showed that the higher prevalence of migraine was in those who were exposed to smoking (11.50%). There is a significant difference between exposed to smoke and non-exposed regarding migraine prevalence ($P < 0.05$). The prevalence (46.4%) among those with positive family history was significantly higher than the prevalence (3.4%) among those with negative family history ($P < 0.001$).

Table (2): showed that the most common cause for headache was tension (86.10%), followed by sinusitis (18.28%). While migraine was the 5th cause (8.99%) for headache and the last cause was Glaucoma (1.09%).

Table (3) showed that: Migraine of the common type (migraine without aura) was found in 81 patients (65.90%), classic type (migraine with aura) was found in 42 patients (34.10%). Visual aura was the commonest type and found in 55 patients (44.70%) followed by motor (29.30%) then sensory aura (26.0%). The headache was throbbing in nature in 54 patients (43.90%) and squeezing in 22%, 17% dull ache while the other types like penetrating or just discomfort was 16.30%. Migraines described situations that precipitate or affect their headache, these precipitants include mainly: physical activity (fatigue) (84/60%), stress (67.5%), for female's patients in the reproductive period migraines headache was aggravated by menses in 41.6% of them. The headache was abolished by sleep in 76 of our patients (61.8%), 40 patients (32.5%) were using drugs to relief their attack while 7 only (5.7%) comforted

by massage. The pain frequency was more than one per week in 42 patients (34.1%) and 36 patients (29.3%) frequency was one every 3 months. The lowest frequency was found in 7 of our patients (5.7%) which was more than one attack per 6 months. The most common associated symptoms with the headache were: Lacrimation (70.7%), photophobia (56.1%), vomiting (68.3%) loss of appetite (53.7%) and limb numbness (65.00%). The most common associated signs were imbalance (67.50%) followed by tension (26.00%). The mean age at onset of first attack of migraine was 27.5 ± 6.17 years, the range of age at onset was 17-40 years, the median age at onset of migraine was 29 years.

Table 1: Distribution of the sample by some factors.

Factor	Presence of migraine						X^2	P value
	Yes		No		Total			
	N	%	N	%	N	%		
Age								
10 – 19	0	0.00	162	100.0	162	100.0	75.3	0.000
20 – 29	37	5.90	588	94.10	625	100.0		
30 – 39	51	18.40	226	81.60	277	100.0		
40 – 49	25	14.60	146	85.40	171	100.0		
50 – 59	10	5.30	177	94.70	187	100.0		
≥ 60	0	0.00	78	100.0	78	100.0		
Gender								
Male	51	6.70	705	93.30	756	100.00	4.28	0.0038
Female	72	9.70	672	90.30	744	100.00		
Occupation								
Housewife	0	0.00	192	100.00	192	100.00		
Student	50	7.20	646	92.80	696	100.00	34.28	0.0000
Office worker	62	11.20	494	88.80	556	100.00		
Free work (in door)	11	19.60	45	80.40	56	100.00		
Residency								
Urban	118	8.10	1347	91.90	1465	100.00		* 0.15
Rural	5	14.30	30	85.70	35	100.00		
Occupation of Family head								
First class	9	13.20	59	86.80	68	100.00		
Second class	56	6.40	818	93.60	874	100.00	9.59	0.008
Third class	58	10.40	500	89.60	558	100.00		
Smokers in the family								
Yes	72	11.50	552	88.50	624	100.00	15.8	0.00006
No	51	5.80	825	94.20	876	100.00		
Family history of migraine								
Yes	78	46.40	90	53.60	168	100.00	367.3	0.0000
No	45	3.40	1287	96.60	1332	100.00		

*** by using fisher exact test.**

Table 2: Causes of headache as expressed by sample members.

Causes	No.	% (n = 1367)
Tension	1177	86.10
Sinusitis	250	18.28
Cervical spondylitis	218	15.94
Acute viral infection	152	11.11
Migraine	123	8.99
Drugs	90	6.58
Others → General weakness	88	6.43
→Anemia	85	6.21
Hypertension	82	5.99
Glaucoma	15	1.09

Note: there may be more than one cause for headache for some patients.

Table 3: Character of patients affected with migraine (n = 123).

Type of headache	No.	%
Throbbing	54	43.90%
Squeezing	27	22.00%
Dull ache	22	17.90%
Others	20	16.30%
Type of migraine (presence of aura)	No.	%
Yes	42	34.10%
No	81	65.90%
Precipitating factors	No.	%
Fatigue	104	84.60%
Family problem	83	67.50%
Noise	80	65.04%
Sleep deprivation	70	56.90%
Anxiety	67	54.50%
Hunger	58	47.20%
Food	55	44.70%
Menstruation	30	*41.66%
Contraceptive pills	13	*18.05%
Relieving factors	No.	%
Sleep	76	61.80%
Drugs	40	32.50%
Massage	7	5.70%
Aura type	No.	%
Visual	55	44.70%
Sensory	32	26.00%
Motor	36	29.30%
Frequency	No.	%
One / week	19	15.40%
> one / week	42	34.10%
One / month	8	6.50%
> one / month	11	8.90%
One / 3 months	36	29.30%
> one / 3 months	7	5.70%
Associated symptoms	No.	%
Lacrimation	87	70.70%
Vomiting	84	68.30%
Limb numbness	80	65.00%
Photophobia	69	56.10%
Loss of appetite	66	53.70%
Visual disturbances	55	44.70%
Nausea	22	17.90%
Associated signs	No.	%
Visual disturbances	8	6.50%
Imbalance	83	67.50%
Tension	32	26.00%
Age of onset mean ± SD 27.5 ± 6.17		

*** Note: this percent for females only so 30 out of 72 females who suffer from migraine.**

DISCUSSION

The sampling method used in this study, though not ideal, included a broad spectrum of participants from Al-Nahrain University College of Medicine, covering diverse socio-economic statuses. Despite limitations, the findings can somewhat be generalized to the Baghdad community. The prevalence of migraine in this study was 8.2%, aligning with findings from Saudi Arabia (8.7%)[10], the U.S. (8.8%)[11], Peru (8.5%)[12], and France (8.1%).[13] However, discrepancies were noted in Ethiopia (3.1%)[14] and Switzerland (24%)[15], likely due to genetic and environmental factors. The highest prevalence was observed in the 30-39 age group, consistent with other studies showing prevalence peaks in the late thirties to early forties.[16] Earlier onset and underdiagnosis in younger groups were noted, as seen in

studies from Turkey[17] and Canada.[18] Females showed a higher prevalence (9.7%) compared to males (6.7%), consistent with global patterns where post-pubertal migraines are 2.5 to 3 times more common in women due to hormonal influences.[16] Similar findings were observed in U.S. (18% in women, 6% in men)[19], Turkey (22.1% in women, 10.4% in men)[20], and Germany (15% in women, 7% in men).[21]

This study found no significant difference between urban and rural prevalence. Globally, migraine prevalence is higher in North America and Europe compared to Asia and Africa, likely due to genetic variations.[3] Studies in the U.S. indicated higher prevalence in Caucasians compared to African Americans and Asians.[22,23] A strong association with family history was observed, in agreement with studies emphasizing genetic factors in migraine etiology.[3,24] Higher prevalence was noted in high-income groups, contrary to studies linking migraines to lower socio-economic status due to stress and limited healthcare access.[25,26] Exposure to smoking was associated with a higher migraine prevalence, aligning with studies suggesting smoking as a migraine trigger.[9] Common migraine (65.9%) was more prevalent than classic migraine (34.1%), with visual aura being the most common type. Fatigue was a key trigger, while sleep was the primary relieving factor.[27] The mean age of onset was 27.5 years, later than global averages, which report earlier onset for migraines with aura.[28]

CONCLUSION

The prevalence of known migraine (previously diagnosed) among a group of Baghdad people was 8.2%. Factors found to be associated with migraine were: age (30-39 years), female sex, free work (in-door), high socio-economic status, and positive family history of migraine.

REFERENCES

1. Lipton RB, Bigal ME, Steiner TJ, Silberstein SD, Olesen J. Classification of primary headache. Neurology, 2004; 63: 427-435.
2. Raskin NH. Headache In: Kasper DL, Fauci AS, Longo DL, Braunwald E, Hauser SL, Jamson JL, editors. Harrison's principles of internal medicine. 16th edition. McGraw-Hill companies, 2005; 85-93.
3. Friedman AP. Migraine. Med. Clinical of North America, 1978; 62(3): 481-490.
4. Pruitt AA. Approach to the patient with headache. In: Goroll AH, Mulley AG, editors. Primary care medicine. 4th edition, Lippincott Williams and Wilkins, 2000; 931-940.
5. Fagarty JP. Headache. In: Sloane PD, Slatt LM, Ebell MH, Jacques LB, editors. Essentials of family medicine. 4th edition. Lippincott Williams and Wilkins, 2002; 547-560.
6. Stewart WF, Liptone RB, Celentano DD, Reed ML. prevalence of migraine headache in U.S. Relation to age and other sociodemographic factors. JAMA, 1992; 261: 64-69.
7. Sulyman A. N. Migraine. A clinical study of 200 patients A thesis submitted to the scientific council of neurology, 1998 P1.
8. The national library of medicine's consumer health site, medline plus internet site. www.nlm.nih.gov/medlineplus.htm
9. Allen C.M.C., Lueck C.J. Neurological disease. In: Chilvers ER, Boon NA, Colledge NR; editors, International editor Hunter JAA. Davidson's principles and practice of medicine. 19th edition. Churchill Livingstone, 2002; 1118-1119.
10. Abdul Jabbar M, Ogunniye A. Sociodemographic factors and primary headache syndromes in a Saudi community. Neuroepidemiology, 1997; 16: 48-52.
11. Carson AL, Rose KM, Sandford CP, Ephross SA, Stang PE, Hunt KJ et al. Life time prevalence of migraine and other headache lasting 4 or more hours: the Atherosclerosis risk in communities study. Headache, 2004 Jan; 44(1): 20-8.
12. Arregui A, Cabrera J, Leon-Velarde F, Paredes S, Viscarra D, Arbaiza D. High prevalence of migraine in a high altitude population. Neurology, 1991; 41: 1668-9.
13. Henry P, Michel P, Brochet B, Dartigues JF, Tison S, Salamon R. A nationwide survey of migraine in France. Cephalalgia, 1992; 12: 229-37.
14. Tekle Haimanat R, Seraus B, Fersgren L, Ekbom K, Eksted TJ. Migraine. Chronic tension type headache. Cephalalgia, 1995; 15: 482-8.
15. Merikangas KR, Whitaker AE, Angst J. Validation of diagnostic criteria for migraine in the Zurich longitudinal. Cephalalgia, 1993, 13 suppl 12: 47-53.
16. Lipton RB, Stewart WF, Scher AI. Epidemiology and economic impact of migraine. Curr Med Res Opin, 2001; 17(15): 54-512.
17. Zenccir M, Ergin H, Sahiner T, Kilic I, Alkis E, Ozdel L et al. Epidemiology and symptomatology of migraine among school children: Denizli urban area in Turkey. Headache, 2004 Sep; 44(8): 780-5.
18. Lambert J, Cordies GW, Meloche JP et al. Impact of migraine symptoms on health care use and work loss in Canada in Patients randomly assigned in a phase III clinical trial. Can J Clin Pharmocol, 2002; 9: 158-164.
19. Lawrence EC. Diagnosis and treatment of migraine headache. South Med J., 2004 Nov; 97(11): 1096-77.
20. Kececi H, Dener S, Analan E. Co-morbidity of migraine and major depression in the Turkish population. Cephalalgia, 2003; 23: 271-275.
21. Gobel H, Peterson-Braun M, Soyka D. The epidemiology of headache in Germany. Cephalalgia, 1994; 14: 320-25.
22. Stewart WF, Lipton R, Celentano DD. Prevalence of migraine headache in the US. JAMA, 1998; 767: 64-69.
23. Stewart WF, Lipton RB, Liberman J. Variation in migraine prevalence by race. Neurology, 1996; 47: 52-9.

24. Russell MB, Olesen J. Increaed familial risk and evidence of genetic factor in migraine. BMJ, 1995; 311: 541-4.
25. Kryst S, Scherl E. A population based survey of the social and personal impact of headache. Headache, June. 1999; 44(9): 460-462.
26. Abu-Arefeh I, Russell G. Prevalence of headache, and migraine in school children. Br Med J., 1994; 309: 765-767.
27. Takeshima T, Ishizaki K, Fukuhara Y, Ijiri T, Kusumi M, Wakutani Y et al. Population based door to door survey of migraine in Japan. The Daisen study. Headache, Jan. 2004; 44(1): 8-19.
28. Stewart WF, Linet MS, Celentano DD, Van NM, Ziegler D. Age and sex-specific incidence rates of migraine. Am J Epidemiol, 1991; 134: 1111-20.