

Primary Headache among Elderly People of Lahore

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ABSTRACT

Background: Headache is a most common complaint seen among patients visiting neurologist and general physicians. The incidence of headache was reported between 12–50 percent among elderly people. Headache has ability to affect adversely the life quality of patients, limits community and domestic activities and hence, carries a significant disability burden.

Objective: The objective of the study is to investigate the primary headache among elderly people of Lahore.

Material and Methods: It was a prospective cross-sectional study conducted in Lahore General Hospital, Lahore. Patients aged 18 years and above referred to Neurology Outpatient Department of LGH for headache were included. The participants were divided into 2 groups: aged 18 to 64 years (younger patients) and aged >65 years (elderly patients).

Results: Among 90 younger respondents the mean age was 28.7±5.3 years while among 75 elderly respondents the mean age was 75.6±8.7 years. In younger and elderly groups, 8.9% & 38.7% patients had mild headache, 47.8% & 21.28.0% had moderate headache and 43.3% & 25.33.3% patients had severe headache, respectively. In younger and elderly groups, 54.5% & 10.7% patients had migraine without aura, 14.5% & 6.6% had migraine with aura, 11.1% & 4.0% had chronic migraine, 10.0% & 20.0% patients had infrequent and frequent episodic tension-type headache, 3.3% & 22.7% patients had chronic tension-type headache, 1.1% & 2.7% patients had cluster headache, 1.1% & 8.0% had trigeminal neuralgia, 0.0% & 2.7% had glossopharyngeal neuralgia and 4.4% & 22.6% patients had unspecified headache, respectively.

Conclusion: Study concluded that among elderly patients, headache was started any time while mild headache, chronic tension-type headache, unspecified headache, throbbing/pulsating and <15 headache days per month were more prevalent among elderly patients.

Keywords: Primary headache, elderly, people, intensity

INTRODUCTION

Headache is a most common complaint seen among patients visiting neurologist and general physicians. According to WHO (World Health Organization) headache is ranked among top ten disabling conditions worldwide^[3,4] and affects population of all age groups, socioeconomic status, races and is more prevalent among females.^[5] It has been estimated that almost half (46%) of the adult population have had a headache at least once within the year^[2,6] with the life-time prevalence of 66%.^[7] The prevalence of headache is found high in Eastern Mediterranean region while in Pakistan the prevalence of headache is 78.8%.^[8]

Headaches can be divided into primary and secondary causes.^[9,10] Primary type of headaches are comprised of several entities that lead to persistent and episodic headache without a significant pathologic process, traumatic injury or disease.^[11,12] The most frequent primary headaches constitute tension-type headaches, cluster headaches and migraine headaches.^[13] Secondary headaches are defined by their suspected etiology.^[14]

Globally, the primary type of headaches are much common than secondary headaches.^[15] The primary headache is responsible for 90% cases while secondary headache for just 10% cases.^[16]

Among elderly people, the incidence of headache was reported between 12–50 percent, with repeated headaches (>2 times/month) happening among <17 percent of people aged above 65 years.^[17] Although, primary headaches normally decrease their incidence in lifetime, 13 percent females and 7 percent males aged above 65 years reported headache complaint. However, headache is tenth warning sign mostly reported by female aged above 65 years while it is fourteenth symptom reported by males. Primary headaches are also noticed by physician among elderly patients utilizing ICHD-II.^[18] Among elderly patients aged above 65 years, the incidence of migraine reduces while symptoms of headaches get more peculiar and more frequently accompanied by aura.^[19] Headache has ability to affect adversely the life quality of patients, limits community and domestic activities and hence, carries a significant disability burden.^[20]

Among elderly people, identifying and treating the headache complaints can be difficult. Also the elderly population is more probable to have critical etiologies regarding onset of new headaches, requiring the brain imaging like a primary step in workup. In addition, medication treatment needs meticulous evaluation regarding comorbid conditions, decreased medicine tolerance and medicine overuse.^[21]

Primary headache is underestimated, underdiagnosed and undertreated in many developing countries^[22] due to numerous reasons such as lack of education, self-medications and inadequate knowledge of patients regarding effect of headache on their life quality.^[3] To the best of our knowledge, primary headache has been insufficiently investigated in Pakistan. Therefore, current study aims to investigate the primary headache among elderly people of Lahore.

MATERIAL AND METHODS

It was a prospective cross-sectional study conducted in Lahore General Hospital, Lahore after approval of hospital ethical committee. Patients aged 18 years and above referred to Neurology Outpatient Department of LGH for headache were included. All newcomers were interviewed regarding presence of the headache. In study population, patients with 3 month headache were assessed. Patients who had headache secondary to intracranial mass lesions were not included. From all patients, informed written consent was obtained. The participants were divided into 2 groups: aged 18 to 64 years (younger patients) and aged >65 years (elderly patients).

Study utilized a structured headache questionnaire. The IHS (Int'l Headache Society) classification and ICHD-II (Int'l Headache Criteria II) were utilized to categorize the subtypes of headache. Neuro-imaging examinations of brain and/or cervical spine were carried out, when required. All patients were followed up in neurology department after one to five months. Among patients, 11 were unable to reach the hospital owing to numerous issues were interviewed by telephone.

Information was collected regarding demographic

characteristics, marital status, significant previous medical history and several questions about headache profile. Specific data collected regarding headache included onset time, site, number, character and intensity. The CDH (chronic daily headache) was defined like a headache frequency >15 days per month. The diagnosis of chronic daily headache and its subtypes was done during initial interview.

The diagnosis of different subtypes of headache was based on IHS Criteria (ICHD II). In brief, the much common kinds of headache were: chronic migraine, migraine with aura (typical aura along with migraine headache), migraine with no aura, uncommon episodic tension-type headache, frequent episodic tension type headache, cluster headache, chronic tension-type headache, unspecified headache and trigeminal neuralgia.

All descriptive statistics were performed utilizing SPSS (Statistical Package for Social Sciences) version 24.0. For categorical data, Chi-square test or Fisher's test was used. Continuous variables were expressed as means and analyzed with Student's t test. A P-value <0.05 was taken as significant.

RESULTS

Table-1 describes the demographic characteristics of the patients and found among 90 younger respondents the mean age was 28.7+5.3 years while among 75 elderly respondents the mean age was 75.6+8.7 years. The results were found statistically significant (P<0.05).

Out of 90 younger patients, 28 (31.1%) were male and 62 (68.9%) were female. Likewise out of 75 elderly patients, 27 (36.0%) were male and 48 (64.0%) were females while the results were found statistically insignificant (P>0.05).

Result shows that mean BMI of the younger and elderly patients was 24.23+4.91 and 26.93+5.79, respectively. The results were found statistically insignificant.

Among younger and elderly patients, 49 (54.4%) and 28 (37.3%) were single while 41 (45.6%) and 47 (62.7%) patients were married, respectively. The results were found statistically significant.

Figure-1 describes that among younger patients, 21 (23.3%) were 18-25 years old, 27 (30.0%) were 26-35 years old, 12 (13.4%) were 36-45 years old and 11 (12.2%) were 46-55 years old while 19 (21.1%) patients were 56-64 years old. Among elderly patients, almost half 37 (49.4%) were 65-75 years old and 31 (41.3%) were 76-85 years old while only 7 (9.3%) patients were above 85 years old.

Table-2 demonstrates the time of onset of headache among patients and found the most of the younger patients 51 (56.7%) said that headache starts any time, followed by, afternoon/evening 20 (22.2%), on waking up 13 (14.4%) and night 6 (6.7%). Similarly, majority of the elderly patients 29 (38.7%) said that headache starts any time, followed by, on waking up 27 (36.0%), afternoon/evening 16 (21.3%) and night 3 (4.0%). The results were found statistically significant (P<0.05) for on waking up and night.

Result shows that among younger and adult patients, 67 (74.4%) and 39 (52.0%) had headache for <15 days while 23 (25.6%) and 36 (48.0%) patients had headache for >15 days, respectively. The results were found statistically significant.

Among younger patients, majority 46 (51.1%) had temporal headache, followed by, occipital 15 (16.7%), frontal 11 (12.2%), vertex 10 (11.1%), whole head 5 (5.6%), migrating 1 (1.1%), face 1 (1.1%) and back of neck 1 (1.1%). Likewise among elderly patients, mainstream 21 (28.0%) had occipital headache, followed by temporal 19 (25.4%), frontal 10 (13.3%), vertex 8 (10.7%), whole head 6 (8.0%), face 6 (8.0%), back of neck 4 (5.3%) and migrating headache 1 (1.3%). But the results were found statistically significant only for temporal headache and face pain.

Among 59 (65.6%) younger patients, the type of headache was throbbing/pulsating, followed by, sharp/stabbing 18 (20.0%) and tightness/pressing 13 (14.4%). Similarly, among 39 (45.4%) elderly patients, the type headache was throbbing/pulsating, followed by, tightness/pressing 19 (25.3%), sharp/stabbing 13

(17.3%) and not specific 9 (12.0%). The results were found statistically for throbbing/pulsating and not specific.

In younger and elderly groups, 8 (8.9%) & 29 (38.7%) patients had mild headache, 43 (47.8%) & 21 (28.0%) had moderate headache and 39 (43.3%) & 25 (33.3%) patients had severe headache, respectively. The results were found statistically significant except the severe headache.

Table-1: Demographic characteristics

	Young (n=90)	Elderly (n=75)	p-value
Age (mean+SD)	28.7+5.3	75.6+8.7	0.002
Gender (n, %)			
Male	28 (31.1%)	27 (36.0%)	0.6
Female	62 (68.9%)	48 (64.0%)	
BMI (mean+SD)	24.23+4.91	26.93+5.79	0.43
Marital status (n, %)			
Single	49 (54.4%)	28 (37.3%)	0.001
Married	41 (45.6%)	47 (62.7%)	0.002

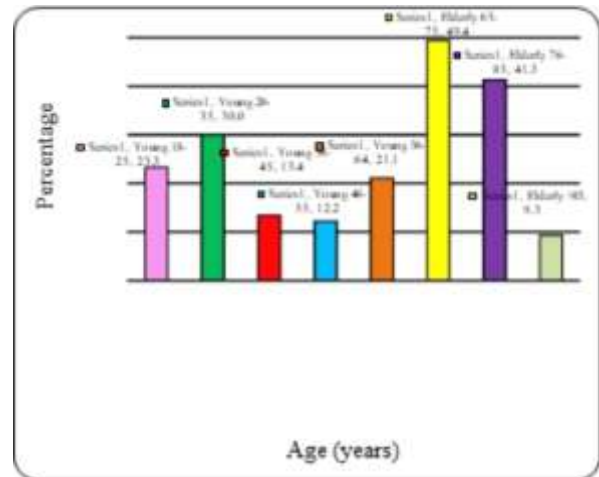


Figure-1: Distribution of patients according to age

Table-2: Headache characteristics

	Young (n=90)	Elderly (n=75)	p-value
Time of onset (n, %)			
On waking up	13 (14.4%)	27 (36.0%)	0.004
Afternoon/evening	20 (22.2%)	16 (21.3%)	1.001
Night	6 (6.7%)	3 (4.0%)	0.3
Any time	51 (56.7%)	29 (38.7%)	0.07
Number (n, %)			
<15days/month	67 (74.4%)	39 (52.0%)	0.016
>15days/month	23 (25.6%)	36 (48.0%)	0.014
Site (n, %)			
Frontal	11 (12.2%)	10 (13.3%)	1.1
Temporal	46 (51.1%)	19 (25.4%)	0.001
Occipital	15 (16.7%)	21 (28.0%)	0.08
Vertex	10 (11.1%)	8 (10.7%)	0.7
Whole head	5 (5.6%)	6 (8.0%)	1.2
Migrating	1 (1.1%)	1 (1.3%)	1.2
Face	1 (1.1%)	6 (8.0%)	0.02
Back of neck	1 (1.1%)	4 (5.3%)	0.32
Character (n, %)			
Throbbing/ pulsating	59 (65.6%)	34 (45.4%)	0.03
Sharp/stabbing	18 (20.0%)	13 (17.3%)	0.68
Tightness/pressing	13 (14.4%)	19 (25.3%)	0.12
Not specific	0 (0.0%)	9 (12.0%)	0.004
Intensity (n, %)			
Mild	8 (8.9%)	29 (38.7%)	0.001
Moderate	43 (47.8%)	21 (28.0%)	0.02
Severe	39 (43.3%)	25 (33.3%)	0.18

Table-3 indicates that in younger and elderly groups, 49 (54.5%) & 8 (10.7%) patients had migraine without aura, 13 (14.5%) & 5 (6.6%) had migraine with aura, 10 (11.1%) & 3 (4.0%)

had chronic migraine, 9 (10.0%) & 15 (20.0%) patients had infrequent and frequent episodic tension-type headache, 3 (3.3%) & 17 (22.7%) had chronic tension-type headache, 1 (1.1%) & 2 (2.7%) patients had cluster headache, 1 (1.1%) & 6 (8.0%) had trigeminal neuralgia, 0 (0.0%) & 2 (2.7%) had glossopharyngeal neuralgia and 4 (4.4%) & 17 (22.6%) patients had unspecified headache, respectively. The results were found statistically significant for migraine with & without aura, chronic tension-type headache and unspecified headache.

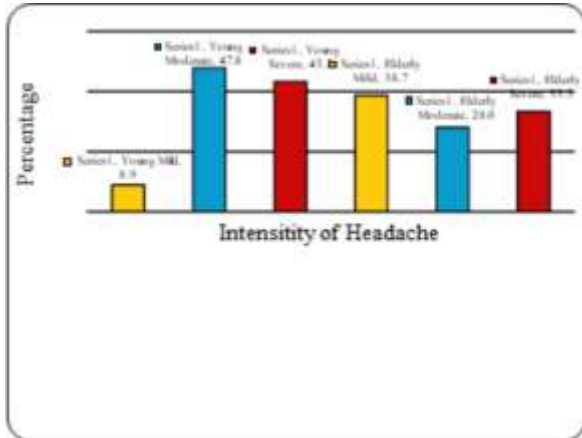


Figure-2: Distribution of patients according to intensity of headache

Table-3: Headache classification

	Young (n=90)	Elderly (n=75)	p-value
Migraine without aura	49 (54.5%)	8 (10.7%)	0.001
Migraine with aura	13 (14.5%)	5 (6.6%)	0.02
Chronic migraine	10 (11.1%)	3 (4.0%)	0.18
Infrequent and frequent episodic tension-type headache	9 (10.0%)	15 (20.0%)	0.07
Chronic tension-type headache	3 (3.3%)	17 (22.7%)	0.003
Cluster headache	1 (1.1%)	2 (2.7%)	1.1
Trigeminal neuralgia	1 (1.1%)	6 (8.0%)	0.09
Glossopharyngeal neuralgia	0 (0.0%)	2 (2.7%)	0.4
Unspecified headache	4 (4.4%)	17 (22.6%)	0.005

DISCUSSION

Headache is a most common complaint seen among patients visiting neurologist and general physicians. The current study was carried out to investigate the primary headache among elderly people visiting Lahore General Hospital, Lahore. To acquire adequate results, 165 patients were included in the study and divided in two groups (90 in younger group and 75 in elderly group).

Study revealed that mean age of the young patients was 28.7+5.3 years while the mean age of elderly patients was 75.6+8.7 years (P=0.002). The findings of a study carried out by Tai and teammates (2012) showed that mean age of the younger patients was 29.8+6.4 years and 64.6+7.6 years for elderly patients (P<0.0001).^[2] But the study performed by Song and associates (2016) indicated that increased age was observed in both groups. The mean age of the younger and elderly patients was 70.1+5.2 and 72.6+5.8 years, respectively.^[23]

It was found during study that majority of the patients in both groups were females (68.9% in younger and 64.0% in elderly) while remaining proportion in both groups was of male patients. Similar result were reported by a study performed by Song and associates (2016) who stated that in younger group 67.5% and in elderly group 69.7% patients were females while insignificant remaining proportion was of male patients.^[23]

Obesity increases the risk of headache among patients. Study showed encouraging results that patients in younger groups had normal BMI, however, elderly patients were overweight (P=0.43). The findings of our study are better than the study conducted by Tai and teammates (2012) who confirmed that patients in both groups were overweight (mean BMI: in younger 25.24+5.92 and in elderly 25.92+4.78) (P=0.44).^[2]

The findings of the study highlighted that among younger patients, more than half (54.4%) were single while among elderly patients majority (62.7%) of the patients were married. The results of the most recent studies performed by Li et al. (2020)^[22] and Mohamed (2021) showed that most of the patients 69.6% and 71.4% were married, respectively.^[3] But another similar study carried out by Tai and teammates (2012) asserted that among younger patients, 55.8% were single and among elderly patients 65.7% were married.^[2]

When the time of onset of headache among patients was evaluated, study disclosed that among most of the younger patients (56.7%) headache was started any time, followed by, afternoon/evening (22.2%), on waking up (14.4%) and night (6.7%). Similarly, among majority of the elderly patients (38.7%) headache was started any time, followed by, on waking up (36.0%), afternoon/evening (21.3%) and night (4.0%). The findings of a study conducted by Tai and teammates (2012) exhibited almost similar scenario who confirmed that among majority of younger patients (55.8%) headache was started any time, followed by, afternoon/evening (22.1%), on waking up (14.7%) and night (7.4%). Likewise, among majority of the elderly patients (40.0%) headache was started any time, followed by, on waking up (35.7%), afternoon/evening (21.4%) and night (2.9%).^[2] A study carried out by Spiering and fellows (1997) highlighted that among 33.8% patients, headache occurred during night, followed by, during morning (27.9%), during afternoon (23.6%) and during evening (14.7%).^[24] In our study 74.4% patients in younger group and 52.0% patients in elderly group had <15 headache days/month and remaining proportion in both groups had >15 headache days/month. The findings of our study are comparable with a study done by Tai and teammates (2012) who also asserted that majority of the patients (71.6%) in younger group and 52.9% patients in elderly group had <15 headache days/month while rest of the patients in both groups had >15 headache days/month.^[2] Another recent study performed by Irimia and comrades (2021) reported that 38.5% patients had ≥15 headache days/month.^[25]

Study further disclosed that among younger patients, majority (51.1%) had temporal headache, followed by, occipital (16.7%), frontal (12.2%), vertex (11.1%), whole head (5.6%), migrating (1.1%), face (1.1%) and back of neck (1.1%) while among elderly patients, mainstream (28.0%) had occipital headache, followed by temporal (25.4%), frontal (13.3%), vertex (10.7%), whole head (8.0%), face (8.0%), back of neck (5.3%) and migrating headache (1.3%). Virtually the similar results were also reported by a study carried out by Tai and teammates (2012) who elucidated that among younger group, most of the patients (49.5%) had temporal headache, followed by, occipital (16.8%), frontal (12.6%), vertex (11.6%), whole head (6.3%) and 1.1% each for migrating, face and back of neck while among elderly patients, mainstream (28.6%) had occipital headache, followed by temporal (25.7%), frontal (12.9%), vertex (10.0%), face (10.0%), whole head (7.1%), back of neck (4.3%) and migrating headache (1.4%).^[2] A study carried out by Noor and collaborators (2016) reported that most of the patients (33.4%) had frontal headache, followed by, right temporal (20.3%), left temporal (18.0%), parietal (33.4%), occipital (9.1%), face jaw (3.1%) and cervical (3.0%).^[4]

The findings of our study demonstrated that the type of headache among mainstream (65.6%) of younger patients was throbbing/pulsating, followed by, sharp/stabbing (20.0%) and tightness/pressing (14.4%) while among 45.4% elderly patients, the type headache was throbbing/pulsating, followed by, tightness/pressing (25.3%), sharp/stabbing (17.3%) and not specific (12.0%). The results of a study undertaken by Noor and

collaborators (2016) confirmed that the type of headache among majority (31.7%) of the patients was dull, followed by, throbbing (26.2%), aching (19.8%), tight band (12.4%) and sharp (9.9%).^[4] Another comparable study reported that the type of headache among major proportion (64.2%) of younger patients was throbbing/pulsating, followed by, sharp/stabbing (20.0%) and tightness/pressing (14.7%) while among 45.7% elderly patients, the type headache was throbbing/pulsating, followed by, tightness/pressing (25.7%), sharp/stabbing (17.1%) and not specific (11.4%).^[2]

During study intensity of headache was also assessed and found that among younger patients, majority (47.8%) had moderate headache, followed by severe (43.3%) and mild (8.9%) while among elderly patients, mainstream (38.7%) had mild headache, followed by, severe (33.3%) and moderate (28.0%). In a study Tai and teammates (2012) also confirmed that among younger group, most of the patients (47.4%) had moderate headache, followed by severe (43.2%) and mild (9.5%) while among elderly group, mainstream (40.0%) of patients had mild headache, followed by, severe (32.9%) and moderate headache (27.1%).^[2] Another study carried out in 2019 by Desouky and assistants highlighted that most of the patients (50.0%) had moderate headaches, followed by severe headaches (44.7%) and mild headache (5.3%).^[26]

When the headache was categorized, study indicated that among younger patients, majority (54.5%) had migraine without aura and 14.5% patients had migraine with aura but among elderly patients majority (22.7%) had chronic tension-type headache and 22.6% patients had unspecified type of headache while remaining insignificant proportion in both groups had chronic migraine, infrequent and frequent episodic tension-type headache, cluster headache, trigeminal neuralgia and glossopharyngeal neuralgia etc. The findings of a study undertaken by Caratozzolo and companion (2017) described that 17.2% younger patients had migraine without aura, followed by, chronic migraine (6.4%), tension type headache (5.5%), migraine with aura (3.1%) and cluster type headache (2.1%) while 15.6% elderly patients had migraine without aura, followed by, tension type headache (10.5%), chronic migraine (6.3%), migraine with aura (1.4%) and cluster headache (0.8%).^[18] However, a study done by Song and associates (2016) elucidated that most of the patients (46.6%) in younger group had tension type headache, followed by, migraine (36.2%), other primary headache disorders (8.6%) and cluster headache (1.7%) while among elderly patients, 46.1% had tension type headache, followed by, migraine (11.2%) and other primary headache disorders (25.7%).^[23]

CONCLUSION

Study concluded that among elderly patients, headache was started any time while mild headache, chronic tension-type headache, unspecified headache, throbbing/pulsating and <15 headache days per month were more prevalent among elderly patients.

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