Pakistan Journal of Neurological Sciences (PJNS)

Volume 18 | Issue 3 Article 4

9-2023

Factors Influencing the Headaches and Their Impact On Daily Life of Medical Students

Saba Zaidi
Liaquat National Hospital, Karachi

Ayesha Abdul Samad
Liaquat National Hospital, Karachi

https://doi.org/10.56310/pjns.v18i03.305

FACTORS INFLUENCING THE HEADACHES AND THEIR IMPACT ON DAILY LIFE OF MEDICAL STUDENTS

Saba Zaidi[1], Ayesha Abdul Samad[1]
[1]Liaquat National Hospital, Karachi

Correspondence author: Saba Zaidi Liaquat National Hospital, Karachi **Email:** drsabazaidi@gmail.com

Date of submission: May 15, 2023 **Date of revision:** September 21, 2023 **Date of acceptance:** September 28, 2023

ABSTRACT

Background and Objective:

Medical students are considered high risk for headaches due to various triggers in their daily routine. The objective of this study was to assess the factors influencing headaches and their impact on the daily life of medical students.

Methods:

This cross-sectional study utilized a sample of 242 participants who were selected through a convenient method of sampling. Data was collected from medical students of Liaquat National Medical College for a period of six months (January to June 2021). Data was gathered using pre-designed questionnaires that assessed demographic information, lifestyle factors (such as consumption of tea, coffee, and soft drinks), sleep patterns, meal habits, stress levels, and headache characteristics (including frequency, duration, intensity, associated symptoms, aura symptoms, and triggers). An analysis using a chi-square test was conducted to investigate the potential relationships between these factors and the occurrence of headaches.

Results:

Age and gender were not significant predictors of headaches in this particular sample. Instead, factors such as missed days due to headaches ($p=0.020$) and problems staying asleep ($p=0.044$) were more closely linked to headache occurrence. Headaches lead to a minor reduction in the ability to function for a large proportion of individuals (58.1%). A high percentage of participants had a family history of headaches (41%).

Conclusion:

These findings highlight the importance of addressing sleep quality as a potential avenue for mitigating the burden of headaches in individuals. However, further research is necessary to establish causation and generalizability of these results to broader populations.

Keywords: Lifestyle, Headache, Students.

INTRODUCTION

Headache is one of the most common neurological disorders with the estimated global prevalence in adults being around 50%.[1] It can affect people irrespective of age, sex, education, socioeconomic status and occupation.[2] Headache usually occurs due to peripheral nociceptor stimulation in response to tissue injury, damage or inappropriate activation of the pain-producing pathway of the central or peripheral nervous system, visceral distension, or other factors.[3] Broadly, all headaches fall under two subtypes: primary headache and secondary headache. Primary headache includes cluster headache, migraine and tension-type headache and some other rare kinds of trigeminal autonomic cephalgias. Secondary headache includes all those subtypes that result from underlying pathologies. A primary headache is, however, more common than a secondary headache.[4]

The migraine headache is characterized by unilateral pulsatile or throbbing pain of moderate to severe intensity associated with nausea, vomiting,

photophobia and phonophobia and lasting for about four to 72 hours if left untreated.[5] Similarly, tension-type headache is characterized by pain which is often described as "a band around the head", pressing or tightening quality, mild to moderate in intensity, bilateral not affected by routine activity, and not associated with nausea and vomiting. Women are found to be at a greater risk of developing migraine and tension-type headaches. This could be because of the effect of female hormone levels, particularly estrogen.[6] Another subtype, cluster headache is defined by attacks of severe, unilateral pain which is orbital, supraorbital, temporal or in any combination of these sites, lasting 15–180 minutes and occurring from once every other day to eight times a day. The pain is associated with ipsilateral conjunctival injection, lacrimation, nasal congestion, forehead and facial sweating, rhinorrhea, ptosis and/or eyelid oedema, restlessness or agitation. 4 The lifetime prevalence of cluster headache is 124 per 100,000 and 1-year prevalence is 53 per 100,000.[7]

Medical students are among the vulnerable groups to headache disorders.[8] It is highly prevalent among undergraduate medical students. In past studies, stress was found to be the most common cause of headaches with sleep being reported as the most common relieving factor. The academic performance, reasoning capacities, mental functioning and overall quality of life of medical students can be severely impaired due to headaches.[9]

There are very few studies conducted on headache disorders in medical students in developing countries like Pakistan. There have been studies in developed nations which cannot be generalized to developing nations such as ours. Medical students are subjected to a higher level of stress, performance pressure, longer duration of education and a strong responsibility towards their career. So, our main objective was to find out the factors influencing the presence of headaches and their impact on the daily lives of medical students. We also have studied the factors associated with headache occurrence, the frequency distribution of different characteristics of headaches and the frequency distribution of different signs and symptoms of patients with headaches. Furthermore, the impact on the quality of life of students due to headaches has also been discussed.

METHODS

In this descriptive, cross-sectional study, conducted at Liaquat National Medical College, the research protocol received approval from the Ethical Committee. Study period was six months, from January to June 2021. A total of 242 participants were selected through convenient sampling from undergraduate students at the college.

A screening tool was used to identify medical students experiencing headaches, focusing on self-reported occurrences. Detailed information about headache characteristics, including type, location, frequency, severity, aggravating and relieving factors, associated symptoms, and the impact on daily activities, was collected through a questionnaire. Additionally, the second part of the questionnaire assessed participants' quality of life through a pre-defined validated tool.
The data was analyzed using SPSS version 25. Quantitative variables were summarized using descriptive statistics, including means and standard deviations, while qualitative variables were presented as frequencies and percentages. For statistical significance, the post-stratification chi-square test was applied, with a significance level set at $p \leq 0.05$.

RESULTS

There was no statistically significant difference in age between participants who reported having headaches and those who did not. Individuals experiencing headaches reported significantly more missed days of activities compared to those without headaches, indicating a potential negative impact on daily life. Regarding lifestyle habits, the study found that the number of tea and coffee cups consumed per day did not show a statistically significant association with headaches. Similarly, there was no significant relationship between soft drink consumption and headaches. Gender also did not seem to play a role in headache occurrence, as there was no noteworthy difference in headache prevalence between males and females. Participants who reported having problems staying asleep were more likely to experience headaches compared to those without such issues. Table 1 describes the detailed data in this regard.

Table 1: Factors associated with headache occurrence

Factors	Total n=242	Headache		P-value
		Present 105(43.4)	Absent 137(56.6)	
Age	22.03±1.81	21.99±1.954	22.07±1.69	0.749
Missed days	2.06±5.82	1.07±2.26	2.82±7.40	0.020*
No. of tea per day	1.78±1.38	1.66±1.39	1.87±1.38	0.263
No, of coffee per day	1.25±0.50	1.00±0.00	1.33±0.57	0.667
No. of soft drinks per day	1.67±1.15	2.00±1.41	1.00±0.00	0.667
Gender				
Male	78(32.2)	30(28.6)	48(35)	0.286
Female	164(67.8)	75(71.4)	89(65)	
Problem falling asleep				
Yes	60(24.8)	26(24.8)	34(24.8)	0.99
No	182(75.2)	79(75.2)	103(75.2)	
Problem staying asleep				
Yes	80(33.1)	42(40)	38(27.7)	0.044*
No	162(66.9)	63(60)	99(72.3)	
Breakfast each morning				
Yes	147(60.7)	65(61.9)	82(59.9)	0.746
No	95(39.3)	40(38.1)	55(40.1)	
Lunch each day				
Yes	204(84.3)	92(87.6)	112(81.8)	0.214
No	38(15.7)	13(12.4)	25(18.2)	
Current smoker				
Yes	1(0.4)	0(0)	1(0.7)	1.000
No	241(99.6)	105(100)	136(99.3)	
Stress at work				
Mild	52(21.5)	20(19)	32(23.4)	0.711
Moderate	119(49.2)	53(50.5)	66(48.2)	
High	52(21.5)	25(23.8)	27(19.7)	
Very High	19(7.9)	7(6.7)	12(8.8)	
Do you manage stress well?				
Yes	129(53.3)	49(46.7)	80(58.4)	0.070
No	113(46.7)	56(53.3)	57(41.6)	
How do you manage stress?				
Prayers	82(33.9)	31(29.5)	51(37.2)	0.636
Social Activities	52(21.5)	22(21)	30(21.9)	
Relaxation Techniques	42(17.4)	19(18.1)	23(16.8)	
Family relationship	36(14.9)	17(16.2)	19(13.9)	
Exercise	30(12.4)	16(15.2)	14(10.2)	
Student t-test is applied for mean differences.				
The chi-square test is applied to the association.				
*Significant at p-value <0.05				

Table 2 reveals several noteworthy findings regarding headache characteristics and their impact on individuals. The onset of headaches varies, and most individuals experience moderate intensity (46.7%) headaches. The afternoon is a common time for headache onset (35.2%), and they typically affect either side of the head (29.5%) or occur in the forehead (20%) and temples (10.5%). Headaches are relatively short-lasting, lasting minutes (48.6%) to hours (51.4%). The most frequently reported alleviating factors include lying down and being in a dark, quiet room (53.3%). Headaches may lead to a minor reduction in the ability to function for a large proportion of individuals (58.1%). It's worth noting that a high percentage of participants have a family history of headaches (41%).

Table: 02 Frequency distribution of different characteristics of headache

Frequency of Headache	
Weekends	66(62.9)
Weekdays	35(33.3)
Summer	3(2.9)
Spring	1(1)
Onset of headache	
Gradually	21(20)
Suddenly	36(34.3)
Varies	48(45.7)
Headache begins in	
Morning	23(21.9)
Afternoon	37(35.2)
Evening	36(34.3)
Night	9(8.6)
How long to reach maximum intensity	
Minutes	45(42.9)
Hours	60(57.1)
Duration of headache	
Minutes	51(48.6)
Hours	54(51.4)
Days	0(0)
Intensity	
Mild	19(18.1)
Moderate	49(46.7)
Severe	33(31.4)
Incapacitating	4(3.8)
Headache prevent activities	
School	24(22.9)
Work	59(56.2)
Household chores	22(21)

Headache when young	
Child	3(2.9)
Teenager	102(97.1)
Frequency of Headaches when the child	
<1 day/month	59(56.2)
1-14 days/month	41(39)
>15 days/month	5(4.8)
Duration of Attack	
< 4 hours	77(73.3)
4-72 hours	23(21.9)
>72 hours	5(4.8)
Location of headache	
Left side	17(16.2)
Right side	2(1.9)
Either side	31(29.5)
Forehead	21(20)
Temple	11(10.5)
Behind eyes	15(14.3)
Back of head	7(6.7)
Others	1(1)
Type of pain	
Pressure	28(26.9)
Stabbing	17(16.3)
Throbbing	18(17.3)
Tight band	20(19.2)
Burning	2(1.9)
Dull ache	18(17.3)
Alleviating Factors	
Lying down	56(53.3)
Being in a dark quiet room	28(26.7)
Keeping physically active	2(1.9)
Pacing back and forth	0(0)
Massage	15(14.3)
Tying something around the head	4(3.8)
Ability to function	
I can function normally	36(34.3)
My ability to function is slightly decreased	61(58.1)
My ability to function is severely decreased	8(7.6)

I am bedridden	0(0)
Doctor's visits	
Family physician	0(0)
Walk-in-clinic	99(94.3)
Emergency department	6(5.7)
Family History	
Yes	43(41)
No	62(59)

Table 3 displays the frequency distribution of various signs, symptoms, and triggers associated with headaches among the surveyed patients. Approximately 43.4% of participants reported experiencing headaches. Among those with headaches, a small percentage reported aura symptoms such as bright light/flashes, dizziness, stomach upset, and vision-related issues. However, the majority, 68.6% of headache sufferers, reported not having these aura symptoms. Nausea, vomiting, sensitivity to bright lights and loud sounds, eye tears, and difficulty concentrating were some of the commonly reported associated symptoms. Furthermore, the table provides information on triggers for headaches. Some common triggers included hunger (11.4%), too little sleep (26.7%), and stress (24.8%). Other reported triggers were alcohol, fatigue, too much sleep, stressful times, menstruation, exercise, coughing, prolonged computer work, bright light, and loud sounds.

Table 3: Signs and symptoms in patients with headache

Aura Symptoms	
Bright light/flashes/multicolour	8(7.6)
Dizziness or vertigo	7(6.7)
Stomach upset	6(5.7)
Partial loss of vision/blurry vision/blindness	9(8.6)
Zig-zag lines	2(1.9)
Numbness/tingling	1(1)
No, I don't have these	72(68.6)
Associated Symptoms	
Nausea	13(12.4)
Vomiting	8(7.6)
Bright lights	10(9.5)
Loud sounds	16(15.2)
Strong smells	0(0)
Dizziness/lightheadedness	1(1)
Numbness	0(0)
Increased sensitivity of scalp, hair, and ears	1(1)
Eye tears	5(4.8)
Runny or stuffy nose	3(2.9)
Difficulty concentrating	24(22.9)
Mood changes/irritability	24(22.9)
Triggers	
Food	0(0)
Hunger	12(11.4)
Alcohol	1(1)
Fatigue	8(7.6)
Too little sleep	28(26.7)
Too much sleep	13(12.4)
Stressful times	4(3.8)
Stress	26(24.8)
Menstruation	1(1)
Exercise	1(1)
Coughing	1(1)
Prolonged computer work	2(1.9)
Weather changes	0(0)
Bright light	6(5.7)
Loud sounds	2(1.9)

DISCUSSION

The current study aims to investigate the factors associated with headaches in medical students. The findings contribute to the existing body of literature and are consistent with previous studies that have examined similar factors in various populations. Our study revealed a significant association between missed days and headaches among medical students. This reflects that symptoms of headaches are bothering students to the extent of disability to show their university presence. Previous literature highlighted the association of particular headache disorders that show approximately 40%of university students fall under the category of severe disability. A worldwide investigation on the association between headaches and school absenteeism reveals that over four weeks, approximately 20% of students experiencing headaches are absent from school for a full day, and another 20% depart early on at least one occasion, indicating a partial day's absence and nearly 50% are unable to participate in various school activities.[10, 11]Academic stress and workload were some of the predictors of headache occurrence in college students.[12, 13] Although we did not find a significant association of stress with headache.

Sleep disturbances have been recognized as a contributing factor to headaches in various studies. In our study, the problem of staying asleep was significantly associated with headaches among medical students. This finding is in line with research conducted by Thompson et al., who reported that sleep quality and duration were significantly related to headache occurrence in a sample of young adults.[14, 15] These studies collectively emphasize the importance of addressing sleep-related factors in the prevention and management of headaches. From our perspective, this finding opens a diversity of thought processing which should be part of future research. Sleep and headaches are linked together for centuries. This young generation needs detailed evaluation regarding their sleep cycle. Lack of sleep and oversleeping are well-known migraine triggers. Similarly, sleep disturbances are common in patients with tension-type headaches or those with psychiatric co-morbidities. Then, a group of headaches like cluster, hypnic and paroxysmal hemicrania are linked to disruptions in sleep patterns. The mechanism underlying these headaches is that during rapid-eye-movement (REM) or paradoxical sleep, the brain undergoes various changes, including alterations in neural activity in different regions. One important aspect of REM sleep is the suppression of certain neural circuits, such as the anti-nociceptive (pain-inhibiting) network located in specific regions of the brain, namely the periaqueductal grey, dorsal raphe nucleus and locus ceruleus. They play crucial roles in inhibiting pain signals and producing analgesia in the waking state. However, during REM sleep, these structures undergo a silencing or reduction in their activity.[16]

In our study, we investigated the association between headaches and age, gender, and caffeine intake. However, we did not find a significant relationship between these factors and headaches in our specific sample. Nevertheless, previous research has explored these factors and provided interesting insights. For instance, Hernandez-Martinez et al. found that older age was associated with a higher incidence of headaches in adolescents, while Wang et al. reported that females were more likely to experience headaches compared to males. Moreover, excessive caffeine consumption or sudden withdrawal has been identified as a potential trigger for headaches in some studies.[17-19]

The characteristics of headache found in our cohort of students showed that headache occured more frequently on weekends. Weekends often provide a break from work-related stress, and relaxation during weekends may trigger headaches in susceptible individuals. A study conducted on psychological aspects of weekend headache sufferers confirms the role of psychic tension as a leading cause in the pathogenesis of headaches in these patients. They named it a variant of migraine “weekend headache”.[20] The slight differences in the headache occurrence between summer and spring could be influenced by various factors such as changes in the weather, temperature or allergens.

Weather influences migraineurs significantly because of the involvement of the hypothalamic-pituitary pathway. On the other hand, studies found that low barometric pressure is also associated with stress headaches.[21] The distribution of headaches in our study corresponds to the classic patterns observed in tension headaches and migraines.

Additionally, headaches being more common during teenage years could be linked to hormonal changes and lifestyle factors during adolescence.[22] A considerable number of participants reported a family history of headaches which is consistent with the

hereditary nature of some primary headache disorders like migraine. Overall, the findings from this study are valuable in providing a snapshot of headache characteristics in the surveyed population.

Aura symptoms are typically sensory disturbances that can precede or accompany headaches, especially migraine. In this study, a small proportion of headache sufferers reported experiencing aura. This finding may be attributed to the fact that aura is typically a preceding feature of migraine headaches only. Studies have shown that the frequency of migraine with aura among migraineurs is approximately 20%. Among the associated symptoms of headaches, nausea, vomiting, sensitivity to bright lights and loud sounds, eye tears, and difficulty concentrating were commonly reported. These findings align with the prior research on the typical symptoms experienced during headache attacks, particularly in the case of migraines and tension-type headaches. The survey revealed that common triggers for headaches included hunger, lack of sleep, and stress as supported by previous studies.[23]

Headaches not only affect physical well-being but also have notable consequences on social and emotional aspects. The interference with relationships and leisure activities could lead to decreased quality time spent with family and friends and reduced engagement in enjoyable pursuits, potentially contributing to feelings of isolation and frustration.[24] The difficulties faced in carrying out work or daily tasks due to headache symptoms might lead to decreased productivity and absenteeism as discussed earlier, affecting individuals both personally and professionally. The presence of fatigue and reduced energy levels can further exacerbate the challenges of daily life and may hinder individuals from participating in social activities, as indicated by a majority experiencing limitations in this regard. These findings align with previous research that has highlighted the substantial effect of headaches on the physical and social performance of affected individuals.[25]

Limitations of the study include potential recall bias and self-reporting of symptoms, as well as the lack of a control group for comparison. Additionally, the cross-sectional design of the study does not enable the establishment of causal relationships between headaches and triggers. Further longitudinal research with larger sample sizes and control groups would be beneficial in corroborating these findings and establishing a more comprehensive understanding of headache characteristics and triggers.

CONCLUSION

This study adds to the existing literature on the factors associated with headaches in medical students. The findings highlight the impact of academic workload, missed days, and sleep disturbances on headache prevalence. Interventions targeting these factors, such as stress management techniques, workload optimization, and sleep hygiene education, may help reduce the burden of headaches among medical students. Further research should continue to explore additional factors and their interactions to develop comprehensive strategies for headache prevention and management in this population.

REFERENCES

1. Qazi T, Saleem S, Khan M. Perceived cause and characteristics of headache among undergradu ate medical students of Government Medical College, Srinagar: A cross-sectional study. Curr Med Issues. 2020;18:285. 10.4103/c mi.cmi_71_20.
2. Raju S, Geetha S. Prevalence of migraine among medical students of a tertiary care teaching medical college and hospital in South India—A cross-sectional study. Natl J Physiol Pharm Pharmacol. 2018;8:1377. 10.5455/njp pp.2018.8.0620111062018.
3. Fauci AS. Harrison's principles of internal medicine. McGraw-Hill Education; 2015.
4. Vincent M, Wang S. Headache Classification Committee of the International Headache Society (IHS). Cephalalgia. 2018;38:5.
5. Lipton RB, Pavlovic JM, Haut SR, Grosberg BM, Buse DC. Methodological issues in studying trigger factors and premonitory features of migraine. Headache 2014;54:1661–9. doi 10.1111/head.12464.
6. Desouky DE, Zaid HA, Taha AA. Migraine, tension-type headache, and depression among Saudi female students in Taif University. J Egypt Public Health Assoc. 2019;94:1–9. 10.1186/s42506-019-0008-7.
7. Fischera M, Marziniak M, Gralow I, Evers S. The incidence and prevalence of cluster headache: A meta-analysis of population-based studies. Cephalalgia. 2008;28:614–8. doi: 10.1111/ j.1468-2982.2008.01592.x
8. Dyrbye LN, Thomas MR, Shanafelt TD. A systemat ic review of depression, anxiety, and other indicators of psychological distress among U.S. and Canadian medical students. Acad Med. 2006;81:354–73. doi:

10.1097/00001888-200604000-00009
9. Smitherman TA, McDermott MJ, Buchanan EM. The negative impact of episodic migraine on a university population: Quality of life, functional impairment, and comorbid psychiatric symptoms. Headache. 2011;51:581–9. doi: 10.1111/j.1526-4610.2011.01857.x
10. Wöber-Bingöl Ç, Wöber C, Uluduz D, Uygunoğlu U, Aslan TS, Kernmayer M, et al. The global burden of headache in children and adolescents—devel oping a questionnaire and methodology for a global study. J Headache Pain. 2014;15:86.
11. Demirkirkan MK, Ellidokuz H, Boluk A. Prevalence and clinical characteristics of migraine in universi ty students in Turkey. Tohoku J Experimental Med. 2006;208(1):87-92.
12. Al-Hashel JY, Ahmed SF, Alroughani R. Prevalence and Burden of Primary Headache Disorders in Kuwaiti Children and Adolescents: A Communi ty-Based Study. Front Neurol. 2019;10.
13. Smitherman TA, McDermott MJ, Buchanan EM. The negative impact of episodic migraine on a university population: quality of life, functional impairment, and comorbid psychiatric symptoms. Headache J Head Face Pain. 2011 Apr;51(4):581-9.
14. Balaban H, Semiz M, Şentürk İA, Kavakçı Ö, Cınar Z, Dikici A, et al. Migraine prevalence, alexithymia, and post-traumatic stress disorder among medical students in Turkey. The journal of headache and pain. 2012 Aug;13(6):459.
15. Bicakci S, Bozdemir N, Over F, Saatci E, Sarica Y. Prevalence of migraine diagnosis using ID Migraine among university students in southern Turkey. J Headache Pain. 2008. Jun;9(3):159.
16. Singh NN, Sahota P. Sleep-related headache and its management. Curr Treat Options Neurol. 2013 Dec;15(6):704-22. doi 10.1007/s11940-013-0258-1. PMID: 24132786.
17. Bicakci S, Over F, Aslan K, Bozdemir N, Saatci E, Sarica Y. Headache characteristics in senior medical students in Turkey. Tohoku J Experimental Med. 2007;213(3):277-82.
18. Ojini FI, Okubadejo NU, Danesi MA. Prevalence and clinical characteristics of headache in medical students of the University of Lagos, Nigeria. Cephalalgia. 2009;29(4):472-7.
19. Deleu D, Khan MA, Humaidan H, Al Mantheri Z, Al Hashami S. Prevalence and clinical characteris tics of headache in medical students in Oman. Headache: J Head Face Pain. 2001 Sep 4;41(8):798-804.
20. Natter G, De Lorenzo C, Biale L, Allais G, Torre E, Ancona M. Psychological aspects of weekend headache sufferers in comparison with migraine patients. Headache J Head Face Pain. 1989;29(2):93-9.
21. Ozeki K, Noda T, Nakamura M, Ojima T. Weather and headache onset: a large-scale study of headache medicine purchases. Inte J Biometeorol ogy. 2015 Apr;59:447-51.
22. Szperka C. Headache in Children and Adoles cents. Continuum (Minneap Minn). 2021 Jun 1;27(3):703-731. doi: 10.1212/CON.0000000000000993. PMID: 34048400; PMCID: PMC9455826.
23. Smitherman TA, Kuka AJ, Buse DC, Penzien DB. Recurrent headache disorder. A Practitioner's Handbook. 2018;3:377.
24. Lanteri-Minet M. Economic burden and costs of chronic migraine. Curr Pain Headache Rep. 2014;18(1):385. doi 10.1007/s11916-013-0385-0. PMID: 24338699.
25. Smitherman TA, Burch R, Sheikh H, Loder E. The prevalence, impact, and treatment of migraine and severe headaches in the United States: a review of statistics from national surveillance studies. Headache. 2013;53(3):427-36. doi 10.1111/head.12074. Epub 2013 Mar 7. PMID: 23470015.

Acknowledgement:
We want to acknowledge, Dr Muhammad Mairaj Khan, Dr Jai Shankar, Dr Haya Tahir, Dr Anees Mazhar and Dr Samiullah Khurho. They all are working as house officers at Liaquat National Hospital and have contributed to data collection.

Conflict of interest: Authors declare no conflict of interest.
Funding disclosure: Nil

Authors' contribution:
Saba Zaidi; Concept, data analysis, manuscript writing, manuscript revision
Ayesha Abdul Samad; data collection, data analysis, manuscript writing,
All the authors have approved the final version of the article and agree to be accountable for all aspects of the work.