

Quality of Life Assessment in Primary Headache Patients with Headaches Related to Abuse Using Scales and Questionnaires

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Abstract. This study, conducted between 2022 and 2024 in Tashkent, Uzbekistan, assessed 100 patients with abuse headaches (AH), split into two groups: those with migraine-induced AH and those with tension-type headache (TTH)-induced AH. Using standardized tools such as the VASH scale, HALT-90 index, LDQ scale, and McGill Pain Questionnaire, the study measured pain intensity, drug dependence, and functional impairment. Results revealed that migraine-induced AH caused more severe pain (VASH: 8.6 ± 1.47) and greater productivity loss (HALT-90: 23.35 ± 14.82) compared to TTH-induced AH. Women, especially of working age, were predominantly affected. Both groups showed moderate drug dependence, with higher levels in TTH patients. These findings highlight the need for integrated pain management strategies to reduce medication overuse and improve patient quality of life. Future research should explore lifestyle and psychosocial factors, with long-term studies needed to evaluate alternative treatment approaches for both migraine- and TTH-induced AH.

Keywords: scales, questionnaires, abuse headache, tension-type headache, and migraine.

1 Introduction

Abuse-related headaches, particularly in patients suffering from primary headaches, pose a significant challenge due to their debilitating impact on quality of life and work efficiency. Studies have indicated that approximately 3 billion people worldwide experience headaches of various types, with a considerable number suffering from abuse-related headaches as a result of painkiller misuse [1-3]. The transition from primary to chronic headaches is a leading cause of these conditions, with overuse of analgesics being a common factor [4,5]. Research shows that nearly three-quarters of individuals with chronic migraines overmedicate, often without proper medical supervision, exacerbating the problem [6]. Additionally, the prevalence of abuse-related headaches is notably higher in middle-aged women, affecting up to 52% of children with chronic headaches and 35% of older adults. The International Classification of Headache Disorders (ICHD-3) criteria remain the standard for diagnosis, emphasizing the need for accurate record-keeping and symptom tracking [6]. The

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proposed solution, which includes the comprehensive assessment of pain intensity, drug dependence, and work efficiency using standardized scales and questionnaires, aims to offer valuable insights and improve patient outcomes, significantly contributing to the field of medical sciences.

2 Materials and Methodology

The study conducted from 2022 to 2024 in Tashkent, Uzbekistan, included 100 outpatient patients diagnosed with abuse headaches. The participants were divided into two groups: 50 patients aged 18-45 with abuse headaches from migraines, and 50 patients aged 18-45 with abuse headaches caused by tension-type headaches. Exclusion criteria included pregnant or nursing women, individuals with severe somatic illnesses, epilepsy, substance abuse, and mental health disorders. The study excluded participants with organic brain disorders to maintain focus on primary headaches.

The methods employed in this study involved diagnosing abuse headaches based on the 2013 International Headache Society criteria (ICHD-3). MRI or CT scans were performed on each patient, and clinical and neurological examinations were conducted. Pain intensity and drug dependency were assessed using standardized tools, including the LDQ scale, VASh scale (for headache intensity), HALT-90 index, and the McGill questionnaire. These scales provided a comprehensive evaluation of the patients' pain levels and impact on daily functioning. The study spanned two years to observe any long-term changes in symptoms and treatment efficacy.

While the study effectively assessed pain and treatment outcomes, additional parameters such as sleep patterns, lifestyle factors, and psychosocial variables could have provided further insights into the impact of abuse headaches on patients' overall well-being.

3 Results

The statistical analysis of the study was performed using GraphPad Prism 7 and Microsoft Excel. Results were expressed in percentages, standard deviations, and mean values, with significance thresholds set at $*r < 0.05$, $**r < 0.01$, $***r < 0.001$, and $****r < 0.0001$.

3.1 Demographic Data

The study included 100 patients, equally divided into two groups: those with abuse headaches (AH) caused by migraines ($n=50$) and those with AH caused by tension-type headaches (TTH) ($n=50$). The average age for men with migraines was 25.25 ± 3.2 , while for women, it was 36.28 ± 7.25 . In the TTH group, men averaged 29.41 ± 8.33 years, and women 33.89 ± 5.08 years. Table 1 presents a detailed demographic breakdown, showing that women predominated in the migraine group (92%), while men accounted for a larger portion of the TTH group (44%).

Table 1. Demographics Data.

Demographics of Patients	% of Patients with AH due to Migraine (n=50)	% of Patients with AH due to Tension Headache (n=50)
Sex		
Women (%)	92% (46)	56% (28)
Men (%)	8% (4)	44% (22)
Age at Time of Examination		
Men (mean age \pm SD)	25.25 ± 3.2	29.41 ± 8.33
Women (mean age \pm SD)	36.28 ± 7.25	33.89 ± 5.08

3.2 Pain Intensity and Disability

Pain intensity, measured on the VASH scale, was higher in the migraine group (8.6 ± 1.47) compared to the TTH group (7.625 ± 1.13). Both groups experienced significant disability, as assessed by the HALT-90 scale, with migraine patients scoring an average of 23.35 ± 14.82 , indicating a higher loss of productivity compared to 18.45 ± 4.8 in the TTH group. The LDQ scale revealed moderate drug dependency in both groups, with higher dependency observed in TTH patients (17.06 ± 5) compared to migraine patients (13.0 ± 7.6). These results are shown in Table 2.

Table 2. Outcome Measures.

Outcome Measures	Patients with Migraine-Induced AH (n=50)	Patients with TTH-Induced AH (n=50)
VASH Scale (Pain Intensity)	8.6 ± 1.47	7.625 ± 1.13
HALT-90 Scale (Time Lost Due to Headache)	23.35 ± 14.82	18.45 ± 4.8
LDQ Scale (Drug Dependence)	13.0 ± 7.6	17.06 ± 5

3.3 Pain Assessment Using McGill Questionnaire

The McGill Pain Intensity Questionnaire highlighted significant differences between the groups. Migraine patients had higher affective and sensory pain scores compared to TTH patients. The migraine group had an affective index of 5.1 ± 0.4 and an evaluative pain score of 4.5 ± 0.1 , while the TTH group scored lower, with an affective index of 4.8 ± 0.1 and an evaluative pain score of 3.1 ± 0.1 . These differences are statistically significant ($p < 0.05$) (Table 3).

Table 3. McGill Pain Questionnaire.

McGill Pain Questionnaire	Migraine-Induced AH (n=50)	TTH-Induced AH (n=50)
Sensory Index	7.5 ± 0.5	6.4 ± 0.3
Affective Index	$5.1 \pm 0.4^{**}$	$4.8 \pm 0.1^{**}$
Evaluative Scale	4.5 ± 0.1	3.1 ± 0.1
Total Pain Index	12.6 ± 0.9	11.2 ± 0.4

The demographic data, outcome measures (VASH, HALT-90, LDQ scales), and the McGill Pain Questionnaire results are given below in Figures 1,2&3.

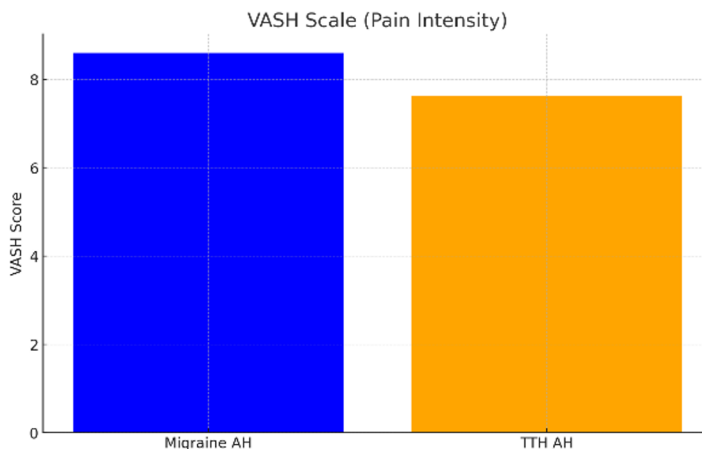


Fig. 1. Pain intensity (VASH scale).

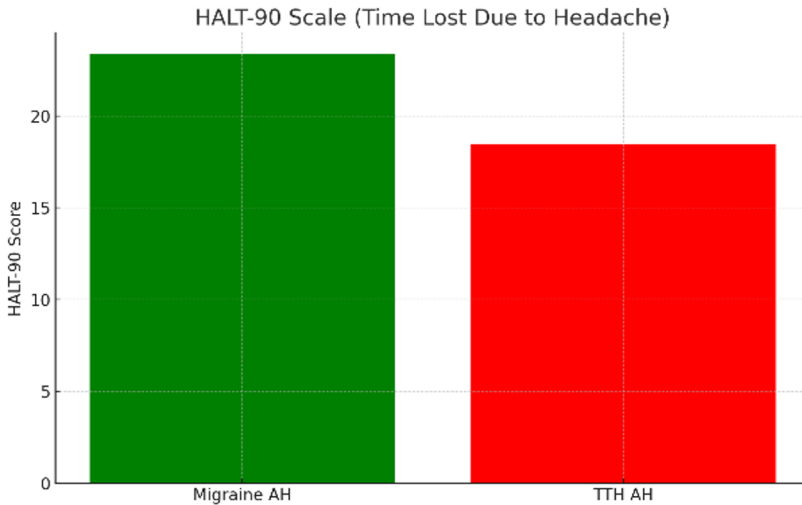


Fig. 2. HALT-90 Scale (Time Lost Due to Headache).

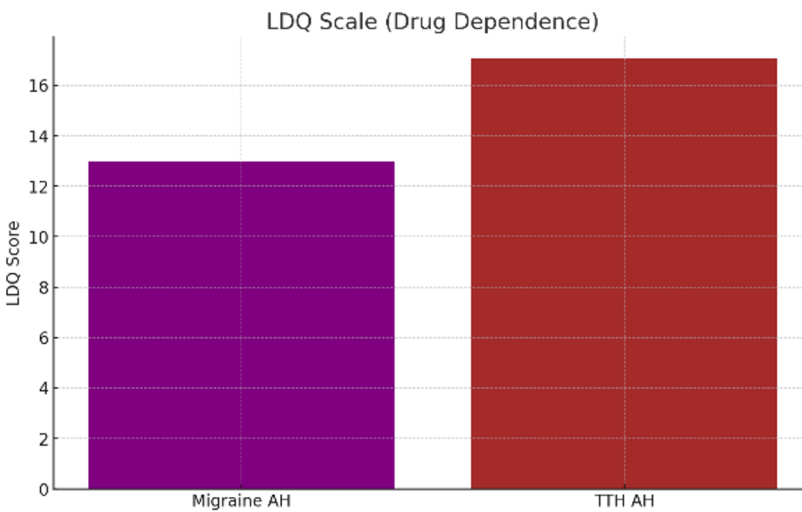


Fig. 3. LDQ Scale (Drug Dependence).

4 Discussion

The study demonstrated that abuse headaches, especially those caused by migraines, are associated with severe pain and a high degree of functional impairment. The VASH and HALT-90 scales revealed that migraine-induced AH patients suffered from more intense pain and greater productivity loss compared to TTH-induced AH patients. Specifically, migraine patients reported higher VASH scores (8.6 ± 1.47) and greater loss of productivity on the HALT-90 scale (23.35 ± 14.82) than TTH patients, who scored lower on both scales (7.625 ± 1.13 and 18.45 ± 4.8 , respectively). This highlights the more profound impact of migraine-induced AH on daily functioning. The McGill questionnaire confirmed that migraines are associated with higher affective and sensory pain scores, indicating the complex nature of migraine-related pain. Migraine-induced AH patients showed a higher affective pain index (5.1 ± 0.4) and total pain index (12.6 ± 0.9) compared to TTH patients

(4.8 ± 0.1 and 11.2 ± 0.4), illustrating the emotional and physical severity of migraine-related pain.

The results align with previous studies highlighting the role of chronic medication overuse in exacerbating headache symptoms [7,8]. Despite the absence of specific biomarkers for diagnosing abuse headaches, the study utilized comprehensive diagnostic tools such as MRI, CT scans, and pain assessment scales, which were effective in capturing the multidimensional impact of the condition. Both groups displayed moderate drug dependence, with slightly higher dependency observed in TTH patients (LDQ score 17.06 ± 5) compared to migraine patients (13.0 ± 7.6), suggesting the need for careful management of medication use in both populations.

Further research should explore additional parameters such as lifestyle factors, sleep patterns, and stress levels, which could provide deeper insights into the underlying mechanisms of abuse headaches. Given the chronic nature of abuse headaches, longer-term studies may be necessary to evaluate the effectiveness of different interventions and treatment strategies. The findings suggest that a more integrated approach to pain management is needed to reduce reliance on medication, particularly in migraine-induced AH patients, who exhibit higher levels of drug dependency and severe pain symptoms. Addressing these factors holistically could significantly improve patient outcomes and quality of life.

In conclusion, migraines are a common source of abuse headaches, particularly in women of working age, with non-mental laborers being more affected. Patients with migraine-induced AH experience more intense pain and greater impairment in daily work performance compared to those with tension-type headaches.

5 Conclusion

In conclusion, this study demonstrated that abuse headaches, particularly those induced by migraines, result in more severe pain and significant functional impairment compared to tension-type headaches (TTH). Migraine-induced AH patients had higher pain intensity (VASH: 8.6 ± 1.47) and greater productivity loss (HALT-90: 23.35 ± 14.82), with women of working age being more frequently affected. Both groups exhibited moderate levels of drug dependence, with higher dependency noted in TTH patients. These findings suggest the need for an integrated approach to pain management, focusing on reducing medication dependency while improving patient quality of life. Future research should incorporate additional factors, such as lifestyle, sleep patterns, and stress levels, to provide a more comprehensive understanding of the underlying mechanisms of abuse headaches. Long-term studies are also necessary to assess the effectiveness of alternative treatment strategies and to explore more targeted interventions for migraine-induced and TTH-induced abuse headaches.

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