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Original

Neuroart in Headache: visualizing the migraine experience through patient expression

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Abstract

Introduction

Migraine is a highly prevalent neurological disorder affecting individuals across all ages, often characterized by recurrent attacks of severe headache and associated symptoms that profoundly impact quality of life. Beyond clinical descriptions, the subjective experience of migraine remains difficult to convey. Years ago, we introduced a section entitled Neuroart in Headache to capture artistic expressions of patients and individuals engaged in the arts, illustrating how migraine is perceived and lived. Artistic depictions—found in literature, cinema, theater, and visual arts—frequently use headache as both a literal and metaphorical representation of suffering.

Objective

To present artistic representations of migraine created by patients and discuss their potential contribution to understanding the lived experience of the disease.

Methods

Eighteen patients with headache disorders were invited to illustrate their experience of pain through freehand drawings during the celebration of 20 years of physiotherapy in headache management. Clinical diagnoses were established according to the International Classification of Headache Disorders, 3rd edition (ICHD-3). The drawings were analyzed using a narrative descriptive approach and are presented as 18 illustrative images depicting different dimensions of headache.

Results

The drawings revealed recurring representations of progressive pain, pressure, pulsation, visual aura, emotional distress, sadness, disability, and the impact of headache on daily activities. Although each illustration reflected an individual experience, common themes emerged across patients, highlighting the multidimensional sensory, cognitive, emotional, and functional burden of headache disorders.

Conclusion

Neuroart emerges as a valuable complementary tool for understanding headache disorders by bridging the gap between clinical observation and patients' lived experiences. Artistic expression provides unique insights into the invisible burden of migraine and may contribute to more empathetic communication and patient-centered care.

Keywords:
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Introduction

Migraine is more than a headache. It is a complex neurological disorder that affects children, young adults, and the elderly, often disrupting daily life in unpredictable and disabling ways. Despite advances in diagnosis and treatment, many patients remain undertreated or misunderstood. The language of medicine, while precise, often fails to capture the depth of the suffering experienced during a migraine attack (1,2).

In response to this gap, we created a section in Headache Medicine entitled "Neuroart in Headache." The aim was not only to showcase artistic talent but to provide a platform where individuals could express, through visual language, what it means to experience headache—particularly migraine. Art allows the translation of subjective phenomena into tangible forms, making visible what is otherwise invisible (3,4).

Expressions of headache are ubiquitous in culture. In novels, films, and theater, characters frequently refer to headache or migraine, sometimes literally, sometimes metaphorically. Phrases such as "this gave me a headache" are used to describe distressing or overwhelming situations. While figurative, these expressions echo the real experience of migraine prolonged, incapacitating, and often resistant to treatment.

Methods

Participants and neuroart collection

During the celebration of the 20th anniversary of physiotherapy in headache management, led by Professor Daniella Oliveira, patients attending the event were invited to voluntarily illustrate their personal experience of headache through freehand drawings. Participants were instructed to represent, without technical or artistic restrictions, how they perceived or experienced their headache disorder. No predefined themes, colors, or drawing styles were imposed, allowing spontaneous visual expression.

Clinical diagnoses were established by headache specialists according to the International Classification of Headache Disorders, 3rd edition (ICHD-3) (5). Demographic information, including age and sex, together with the headache diagnosis, was recorded for descriptive purposes.

Narrative analysis

The drawings were analyzed using a narrative and descriptive approach, focusing on the visual elements spontaneously chosen by the participants and on the accompanying verbal descriptions provided by each patient. Rather than evaluating artistic quality, the analysis sought to identify recurring themes related to the sensory, emotional, cognitive, and functional dimensions of headache. Individual drawings were interpreted as visual narratives illustrating the lived experience of headache disorders.

Results

Eighteen patients contributed original drawings illustrating their personal experience of headache disorders (Figure 1). Participants ranged in age from 24 to 62 years, with a predominance of women (15/18, 83.3%), while three participants were men (16.7%). Diagnoses included nine patients with chronic migraine (50.0%), five with migraine with aura (27.8%), three with migraine without aura (16.7%), including one case of menstrually related migraine without aura, one patient with migraine (unspecified subtype) (5.6%), and one patient with headache attributed to an intracranial neoplasm (5.6%).

Although each drawing reflected an individual experience, common visual themes emerged across the collection. Patients frequently represented headache as a process of progressive pain escalation, pressure, weight, piercing pain, or pulsation, often using symbolic elements such as stones, spikes, monsters, dark clouds, concentric waves, and hammer blows. Visual disturbances suggestive of aura appeared in several illustrations as blurred areas, bright lights, or distorted visual fields.

Beyond pain itself, the drawings consistently revealed the emotional and functional burden of headache disorders. Feelings of sadness, frustration, helplessness, fear, embarrassment, and social misunderstanding were common. Many participants also illustrated the impact of headache on work performance, concentration, interpersonal relationships, and everyday activities, emphasizing that disability extends well beyond the painful episode.

Notably, no two drawings were identical. Even among patients sharing the same diagnosis, artistic representations differed substantially, reflecting the heterogeneous and deeply personal nature of headache disorders. Collectively, the drawings demonstrate that neuroart captures dimensions of the headache experience that are often difficult to communicate during routine clinical encounters.



Figure 1. Patient-generated neuroart illustrating the multidimensional experience of migraine and other headache disorders. Individual drawings portray the sensory, emotional, cognitive, and functional burden associated with headache disorders. (A) A 25-year-old woman with menstrually related migraine without aura portrayed the gradual progression of pain as concentric waves, resembling ripples created by a stone dropped into water, reflecting the escalation of a migraine attack. (B) A 24-year-old woman with migraine with aura expressed migraine as mental confusion and profound exhaustion. (C) A 35-year-old woman with migraine without aura translated the painful sensation into a symbolic visual representation. (D) A 46-year-old woman with chronic migraine portrayed migraine as a lurking monster, constantly waiting for an opportunity to attack, while vertical stripes symbolize tears shed during attacks. (E) A 25-year-old man with chronic migraine pictured himself carrying a small but extremely heavy stone on his head, emphasizing the invisible burden of pain that is frequently underestimated by others. (F) A 25-year-old woman with chronic migraine with aura produced a mirrored self-portrait highlighting predominant left-sided pain radiating to the neck, shoulder, and arm; blurred areas evoke the visual aura, whereas an "X" marks the emotional distress and reduced ability to perform daily activities. (G) A 39-year-old woman with migraine with aura combined throbbing ocular pain, tearing, scalp hypersensitivity, tinnitus, bright visual phenomena preceding severe attacks, and impaired concentration into a single composition. (H) A 49-year-old woman with chronic migraine associated headache with sadness, depression, and emotional suffering, represented by a sorrowful heart. (I) A 26-year-old woman with migraine without aura conveyed migraine as a whirlwind of thoughts, expressing mental overload and the coexistence of multiple symptoms. (J) A 35-year-old woman with headache attributed to intracranial neoplasm portrayed herself facing a mirror while emphasizing the unilateral location of pain. (K) A 27-year-old man with migraine highlighted the impact of headache on occupational performance and daily functioning, identifying prolonged sun exposure as a trigger. (L) A 25-year-old man with chronic migraine expressed pain as sharp spikes piercing the head. (M) A 50-year-old woman with chronic migraine incorporated tears into the drawing, emphasizing the emotional burden imposed by persistent pain. (N) A 51-year-old woman with chronic migraine associated severe pain with sadness, frustration, disability, and a dark cloud symbolizing both pain intensity and emotional suffering resulting from the lack of understanding by others. (O) A 57-year-old woman with migraine with aura illustrated migraine as a process that begins subtly and progressively intensifies until reaching a pulsating, constricting core representing the peak of pain. (P) A 32-year-old woman with chronic migraine conveyed the frustration, sadness, embarrassment, and emotional exhaustion associated with living with daily headache while continuing routine activities. (Q) A 62-year-old woman with chronic migraine expressed migraine as repeated hammer blows striking the head. (R) A 24-year-old patient with migraine with aura portrayed migraine as a recurring obstacle—a stone in the path—that diminishes daily functioning and productivity while demanding continuous adaptation.

Discussion

The drawings presented in this study reinforce that headache disorders are experienced as multidimensional conditions extending beyond pain intensity alone. Although each participant produced a unique artistic representation, several recurring visual motifs emerged across the collection, including pressure, pulsation, darkness, tears, stones, monsters, spikes, visual distortions, and the progressive escalation of pain. The spontaneous recurrence of these symbolic elements suggests that patients often rely on visual metaphors to communicate dimensions of headache that are difficult to express through conventional language (4,6).

Many drawings also emphasized the emotional and functional consequences of headache disorders. Feelings of sadness, frustration, helplessness, anxiety, and social misunderstanding frequently accompanied representations of pain, while several participants illustrated impaired concentration, reduced work capacity, and limitations in daily activities. These findings reinforce that migraine and other headache disorders impose a burden that extends beyond physical symptoms, affecting multiple domains of quality of life (7).

An important observation was the remarkable heterogeneity of artistic expression. Even among patients sharing the same diagnosis, drawings differed considerably in symbolism, composition, and emotional content, reflecting the highly individualized nature of headache experiences. At the same time, the emergence of common visual themes across different patients suggests the existence of shared experiential dimensions that transcend clinical classifications (8).

Neuroart offers a complementary perspective for understanding headache disorders by transforming subjective experiences into visual narratives. Rather than replacing conventional clinical assessment, these artistic expressions may enrich patient–physician communication, foster empathy, and provide educational material for clinicians, students, caregivers, and the general public. By making invisible symptoms visible, neuroart may facilitate a more patient-centered understanding of headache disorders (9).

Conclusion

Migraine is a multidimensional neurological disorder whose impact extends far beyond pain intensity alone. The patient-generated drawings presented in this study provide a unique window into the lived experience of migraine, revealing sensory, emotional, cognitive, and functional dimensions that are often difficult to capture through conventional clinical assessment. Artistic expression complements clinical evaluation by making visible the invisible burden of migraine and facilitating a deeper understanding of patients' experiences.

The recurring visual metaphors observed across independent drawings—including pressure, darkness, pulsation, isolation, and emotional distress—suggest that neuroart captures shared aspects of migraine while simultaneously highlighting the individuality of each patient's experience. These findings support the potential of neuroart as an innovative tool for enhancing patient–physician communication, promoting empathy, and contributing to medical education and patient-centered care.

This study has limitations. The sample was relatively small and derived from a single commemorative event, limiting the generalizability of the findings. The drawings represent subjective experiences and were analyzed using a qualitative narrative approach rather than standardized psychological or artistic assessment instruments. Furthermore, although the collection primarily consisted of individuals with migraine, one participant had headache attributed to an intracranial neoplasm. Therefore, the findings should be interpreted as exploratory observations intended to illustrate patients' lived experiences rather than establish universal representations of migraine.

Ultimately, neuroart reminds us that behind every diagnosis of migraine lies a unique human experience—complex, deeply personal, and deserving of careful attention from clinicians, researchers, and society.

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