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Childhood trauma and dissociation in tertiary care patients with migraine and tension type headache: A controlled study

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ABSTRACT

Objective: The aims of this study were: i) to compare the severity of somatoform and psychoform dissociation and childhood trauma among migraine patients, tension-type headache patients (TTH), and healthy controls; and, ii) to identify any relationships between headache characteristics and dissociative symptoms and traumatic childhood experiences among tertiary care patients with headache.
Methods: The study sample consisted of 79 patients with migraine, 49 patients with TTH and 40 healthy controls. They completed the socio-demographic form, Childhood Trauma Questionnaire (CTQ), Dissociative Experiences Scale (DES), and the Somatoform Dissociation Questionnaire (SDQ).
Results: The average score for childhood emotional abuse was significantly higher in the TTH and migraine patients than in healthy controls; mean scores for emotional neglect and physical abuse were higher in TTH patients than healthy controls; and the total CTQ score was higher in TTH patients than in either migraine patients or healthy controls. Average DES scores were significantly higher in TTH patients versus migraine patients and controls; and SDQ scores were higher in both headache groups than in controls. Headache duration and severity were found to be significantly related to childhood abuse scores among migraine but not TTH patients.
Conclusion: Our findings support the evidence of a relationship between childhood trauma and migraines, and suggest that childhood traumatic events are common and deleteriously effect migraine characteristics. Also our study suggests that childhood trauma may have a role in TTH. Significant differences in the DES and SDQ scores between groups may be explained by the differences in childhood trauma experiences.

Introduction

Primary headaches are among the most common medical complaints, and 90% of all primary headaches are either migraine, cluster, or tension-type headaches (TTH) [1]. Tension-type headaches comprise the most widely reported headache type, affecting 30–80% of the population [2]. In comparison, the prevalence of migraines varies between 3% and 35%, with both tension-type and migraine headaches most typically observed between the ages of 30 and 50 [3,4].

Both epidemiological and clinical studies have revealed a relationship between childhood abuse and headaches [5–19]. Population-based studies have demonstrated that a history of childhood abuse (O.R.: 2.2 to 2.7) [7,20], a history of childhood sexual abuse (O.R.: 1.3 to 1.4) [18,21] and a history of childhood physical abuse (O.R.: 1.7) [8] all increase the risk of migraine. In a cross-national community survey study conducted with 16,555 participants, Lee et al. [19] reported that childhood neglect, sexual and physical abuse were significantly associated with adult-onset headaches. These findings have been confirmed in clinical studies conducted on migraine patients. In one such study, which involved 949 female migraine patients, 24% of the subjects reported having been a victim of physical abuse at some point over the course of their lifetime, while 25% reported past sexual abuse [22]. In a survey conducted on 1348 migraine patients by Tietjen et al. [6], 58% of migraine patients reported a history of childhood trauma (physical abuse 21%, sexual abuse 25%, emotional abuse 38%, physical neglect 22%, and emotional neglect 38%). In the study sample, researchers found childhood physical abuse, emotional neglect, and emotional abuse to be significantly associated with both chronic migraines and transformed migraines [11].

In addition to these findings, it has been shown that past childhood trauma increases headache frequency [8–10], severity [8], and chronicity [10,11]. Research further suggests that traumatic childhood experiences may lead to functional and structural consequences affecting neurological systems, and that these consequences play an important role in both physical (e.g., headaches) and psychological symptoms (e.g., dissociation) during adulthood [5].

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Other research has demonstrated that traumatic experiences during childhood are strongly associated with dissociative symptoms [23,24]. Phenomenologically, dissociative symptoms that involve the body are called *somatoform dissociation* (e.g., anesthesia, analgesia, pain symptoms), while dissociative symptoms that involve the mind are called psychoform dissociation (e.g., amnesia, depersonalization, derealization) [25]. Both somatoform and psychoform dissociations appear to be more frequent among patients with pain from chronic pain conditions like fibromyalgia syndrome, chronic back pain, and sexual pain disorders [26–29]. Despite research on the relationship between childhood trauma and pain, there is limited published research on headache disorders evaluating the influence of past somatoform and psychoform dissociations [30,31]. In one study conducted on headache patients, headache patients frequently reported childhood trauma (34.4% childhood neglect; 24.7% physical abuse; 22.6% emotional abuse; 10.8% sexual abuse) and 34.4% of headache patients were diagnosed as having any type of dissociative disorders [30]. In a comparison study involving female patients with either chronic headaches or low back pain, no significant difference was identified between the two groups, in terms of dissociative experiences or childhood trauma [31]. On the other hand, some authors have suggested that headache is one of the most severe somatic symptoms among dissociative disorder [32–34]. In line with this argument, Tutkun et al. [32] reported that 85% of dissociative disorder patients have severe headache complaints.

Most studies which have investigated the relationship between childhood trauma and headaches were limited to one abuse type or conducted only in women [5]. Furthermore, clinical studies which evaluated a history of childhood trauma were largely performed on migraine patients. To our knowledge, no study has been done in this field incorporating TTH patients, even though TTH is the most common headache type. Also, as noted above, we have limited knowledge about the relationship between somatoform and psychoform dissociations and headaches. For the present study, we sought to compare somatoform and psychoform dissociations and past childhood trauma among migraine patients, TTH patients, and healthy controls. The second aim of our study was to identify any associations between headache characteristics (e.g. frequency, pain severity, duration) and somatoform and psychoform dissociative symptoms and traumatic childhood experiences among headache patients.

Methods

Subject recruitment

Our study sample consisted of migraine and TTH patients (episodic and chronic) who had been referred for headache complaints to the Bakırkoy Dr. Sadi Konuk Research and Training Hospital. Migraines and TTH were diagnosed by a neurologist (M.C.) in accordance with the International Headache Society (IHS) criteria [35]. Patients with a history of other medical disorders (heart or liver disease, epilepsy, etc.), neurological disorders (epilepsy, cerebrovascular disease, etc.), neurological symptoms (paresthesia, weakness, tremor, etc.), chronic pain (chronic back pain, post-herpetic neuralgia, etc.), conversion disorders or a record of illicit drug or prescription medicine abuse were excluded. A control group of 40 subjects was recruited from hospital healthcare personnel. Exclusion criteria included headaches, chronic physical or psychiatric illness, or chronic pain conditions, and participants were matched by demographic characteristics, including age, gender and education levels, such that the patient and control groups would be comparable.

A total of 185 headache patients were consecutively recruited. Eleven patients (6 migraine, 5 TTH patients) refused the second interview with the psychiatrist, and 6 (2 migraine, 4 TTH patients) failed to complete the evaluation form. Analyses were therefore conducted using the scores from the remaining 168 individuals (79 with migraines, 49 TTH and 40 controls). The final sample consisted of 135 females (80.4%) and 33 males (19.6%), and the mean age of the sample was 32.90 ± 8.24 years.

Survey instruments

Socio-demographic questionnaire

All participants were asked to complete a semi-structured form that had been prepared by the investigators. This form included questions on age, marital status, education level, occupation, etc.

Visual analog scale (VAS)

A 100 mm visual analog scale (VAS) was used for subjects to rate their level of headache pain over the preceding 30 days [36].

Dissociative experiences scale (DES)

The DES is a widely-used, 28-item self-rating screening tool for dissociative symptoms. The DES has adequate validity and reliability in both normal and clinical samples [37]. The Turkish version of the scale has satisfactory reliability and validity, with indices comparable to its original form [38].

Childhood trauma questionnaire (CTQ)

The CTQ is a self-report screening tool that measures the severity of five different types of childhood trauma: emotional abuse, emotional neglect, physical abuse, physical neglect, and sexual abuse. Each item is scored on a five-point scale, with higher scores indicating more significant traumatic experiences [39]. The Turkish version of the CTQ has been shown to be both reliable and valid [40].

Somatoform dissociation questionnaire (SDQ)

The SDQ is a 20-item self-report instrument that uses 5-point Likert scales to rate the severity of somatoform dissociation symptoms [41]. The Turkish form of the SDQ was adapted by Sar et al. [42].

Statistical analysis

The statistical package SPSS 19 for Mac was used for all analyses. Pearson chi-square analysis and Fisher's exact tests were utilized for all categorical variables. Student t-tests were used to compare continuous variables between the three study groups. One-way analysis of variance (ANOVA) with Bonferroni post hoc HSD was used to compare continuous variables across the three groups. Pearson correlation analyses were used to examine the relationship between somatoform and psychoform dissociative symptoms, traumatic childhood experiences and headache characteristics.

Results

The mean ages for the three groups were 33.18 ± 8.33 years for migraine patients; 33.22 ± 9.16 years in TTH patients; and 33.17 ± 6.91 years in controls, with no statistically significant difference noted between the three groups ($F_{(2,165)} = 0.234$, $p > 0.05$). The groups had a similar gender distribution (female ratios: migraine 81.0%, TTH 77.6%, controls 82.5%; $\chi^2 = 0.382$, $df = 2$, $p > 0.05$). Similarly, there was no significant difference between the groups in terms of education status (12 years of education rates: migraine 70.9%, TTH 57.1%, controls 57.3%; 12 to 15 years of education rates: migraine 24.1%, TTH 36.7%, controls 35%; more than 15 years of education: migraine 5.1%, TTH 6.1%, controls 7.5%) ($\chi^2 = 3.457$, $df = 4$, $p > 0.05$) (For detailed socio-demographical information see S.Table 1).

Migraine patients reported a longer duration of pain than those with tension-type headaches. Conversely, those with tension-type headaches averaged more headaches per month than those with migraines. There was no inter-group difference in headache severity between the migraine and TTH groups (Table 1).

Comparisons of the clinical measures across the three groups are summarized in Table 2. A statistically-significant difference was observed between the groups in the average scores for the childhood emotional neglect ($F_{(2,165)} = 3.966$, $p < 0.05$), emotional abuse ($F_{(2,165)} = 5.966$, $p < 0.05$) and physical abuse ($F_{(2,165)} = 3.839$, $p < 0.05$) sub-