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Migraine in the Emergency Department: a psychometric study of a migraine “repeaters” sample

Published online: 20 July 2005

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Abstract To evaluate the influence of psychometric variables on the “repeater” phenomenon in an emergency department, 15 “repeaters” and 27 outpatient migraineurs were recruited. All patients were submitted to the Beck Depression Inventory (BDI), State and Trait Anxiety Inventory, Toronto Alexithymia Scale-20 (TAS-20), Tridimensional Personality Questionnaire and Migraine Disability Assessment Scale (MIDAS). The “repeater” group showed higher MIDAS total scores ($p=0.02$) and higher scores in TAS-20 ($p=0.02$) than the outpatients. A

higher frequency of alexithymic trait ($p=0.02$) and higher BDI scores ($p=0.07$) have also been observed in the “repeater” group than the outpatients. Alexithymia and depressive mood associated with high disability may be a specific psychosocial pattern of “repeater” migraineurs. The psychometric evaluation of this population may be important to explain the “repeaters” phenomenon.

Key words Migraine • Repeaters • Emergency Department • Alexithymia • Disability

Introduction

Headache is one of the most common reported complaints in the general adult population, accounting for up to 2.5% of admissions to an Emergency Department (ED) [1]. According to the National Hospital Ambulatory Medical Care Survey, 2.4 million of the 90.3 million ED visits in 1999 were headache related. This 2.6% share of total visits made headache the fourth most common cause of ED utilisation [2]. In particular it has been shown that among patients with primary headache those with migraine use significantly more emergency services than do patients with other primary headache [3]. Any patient who made at least three visits to the ED

at least 1 week apart during the 6-month study period was identified as a “repeater” [4]. The repeater is characterised by a predominance of acute care for headache and high use of symptomatic medications as well as of medication overuse [4].

It has been claimed that among the main reasons of the repeater phenomenon is a lack of guidelines for diagnosis and treatment of primary headache in ED [5].

A higher prevalence of psychiatry comorbidity in repeater migraine patients than the general migraine population has only been hypothesised because of the lack of psychometric studies in this field [4]. On the other hand, it has been shown that some affective disorders increase the probability of seeking a physician for the treatment of physical sign and symptoms [6].

The present study aimed to evaluate the psychometric profile and social disability of migraine patients who repeatedly present to the ED for headache.

Subjects and methods

According to the IHS criteria [7], a consecutive series of repeater patients and migraineurs with a negative history for ED admission for migraine attacks were recruited. All patients of the study were submitted to the following psychometric scales: Beck Depression Inventory (BDI) [8], State and Trait Anxiety Inventory (STAI) [9], Toronto Alexithymia Scale-20 (TAS-20) [10, 11] and Tridimensional Personality Questionnaire (TPQ) [12]. For the evaluation of disability, each patient of the study completed the Migraine Disability Assessment Score (MIDAS) [13].

Statistical analysis

The statistical analyses were performed by means of *t*-test for independent samples and chi-square test with Fisher's correction. Where appropriate the statistical analysis was carried out using also the odds ratios (OR) with relative 95% confidence intervals (CI). The values of $p < 0.05$ were considered statistically significant. All analyses were performed using the Statistical Package for the Social Sciences (SPSS, version 12.0).

Results

The study was conducted in collaboration between the Headache section of the Pain Center "Enzo Borzomati" and the Emergency Department of Policlinico Umberto I.

According to the IHS criteria [7] we consecutively enrolled 42 patients with diagnosis of migraine. Out of them, 15 repeater patients (4M, 11F; 37±10) and 27 subjects (3M, 24F; 35±11) without a positive history for ED admissions were included.

No significant differences have been observed between the groups as regards age, gender and educational level as well as the disability scale when the MIDAS grades were considered. On the contrary we observed a higher MIDAS total score in the repeater group than the outpatient migraine group (26.8±46.8 vs. 153±172.8; $p=0.02$).

From a psychometric point of view, the repeater group showed higher scores in the TAS-20 than the outpatients group (47.9±10.8 vs. 56.9±13.9; $p=0.02$). When we considered the frequency of alexithymic trait (cut-off ≥61), we observed that 46.7% of the repeater population was alexithymic compared to 14.3% of the outpatients popula-

tion (OR=5.25, CI 95% 1.21–22.74; $p=0.02$). Although without a significant level, repeater patients showed higher scores in the BDI scale than the outpatient sample (18.2±13.4 vs. 11.7±8.2; $p=0.07$).

No significant differences in the STAI and TPQ dimensions of personality were observed between the two groups of patients.

Discussion

To our knowledge this is the first perspective psychometric work carried out on migraine patients in an ED environment. It has been shown that migraine patients use significantly more health resource than do controls and that headache symptoms account for up to 2.5% of all ED visits. In particular, 10% of this headache population is represented by repeaters; this population accounts for 50% of headache-related visits to the ED [4, 14]. To reduce this phenomenon and its socioeconomic impact, the importance of distinguishing repeaters from infrequent users has been emphasised. In view of this, it has been suggested that repeater migraineurs represent a peculiar subset of the migraine population who may benefit from a multidisciplinary approach [4]. Our preliminary psychometric data support this hypothesis, showing that the repeater sample is more alexithymic and depressive than the general migraine population.

A bidirectional relationship between migraine and depression has been confirmed in clinical settings and samples of the general population [15], whereas until now only two studies have been conducted and shown an association between alexithymia and migraine [16, 17]. In neither case are there data available for the ED environment.

Furthermore we observed an association between these psychological patterns and a high level of disability of the repeaters. The influence of psychological factors on headache severity and disability and *vice versa* has recently been discussed in the migraine general population [18], but no data are available regarding the repeater population. In view of this, it has been suggested that more frequent migraine attacks may be related to alexithymia [17] and that subjects with alexithymic traits may be associated with low pain tolerance [19].

In our repeater population we found the alexithymic trait in 46.7% of the repeaters against 14.3% of the migraine population without any experience of ED admissions for headache. This datum may be explained at least in part by the fact that alexithymic subjects have difficulties in distinguishing between emotions and often misinterpret their emotional arousal as symptoms of physical illness. As a result, people with alexithymia may have an

increased probability of seeking a physician for the treatment of physical sign and symptoms [6].

Indeed alexithymia is often associated with other affective disorders such as depression and anxiety, suggesting that a more complex psychological profile may predispose to the repeater phenomenon. In this regard the

limited number of cases does not allow us to obtain a psychological prototype of the migraine repeater patient, but we can conclude that the psychometric evaluation of migraine patients who referred to the ED for migraine attack may be an important step in explaining at least in part this epidemiological and clinical phenomenon.

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