BRIEF ARTICLE

An evaluation of the first six months of activity of the Headache Day Hospital at the Vall d’Hebron

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KEYWORDS
Medical day care; Headache; Nursing; Patient satisfaction

Abstract
Introduction: Headache is one of the main reasons for neurological consultation. Day care hospitals help reduce the costs of admitting patients to hospital. The headache unit in Vall d’Hebron hospital has started day care.
Objective: To evaluate the first six months of activity of a Headache Day Hospital (HDH).
Method: This is a descriptive cross-sectional study. All patients that were attended at the HDH between March and September 2019 were included. Demographic variables, headache diagnosis, reason for admission and type of treatment administered were recorded. Patients completed a patient satisfaction survey and the Patient Global Impression of Improvement scale. Data was collected on an anonymized database. Statistical analyses were performed.
Results: We included 71 patients: 66.7% female, with a mean age of 48.4 (±11.3) years. The most frequent diagnosis was migraine (76.7%). The main reasons for admission were for intravenous treatment (51%). The overall satisfaction score relative to the care received was 9.1 out of 10.
Conclusions: After the first six months of HDH functioning, we observe that the majority of patients admitted are diagnosed with migraine and, they are mostly admitted for intravenous treatment. Patients treated at HDHs report a high degree of satisfaction.
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Evaluation of the first six months of activity of the Headache Hospital of the Vall d’Hebron

Introduction

Headache is one of the main reasons for a neurological consultation. It can be a symptom of another pathology (secondary headache) or, in most cases, the presence of headache constitutes the illness itself (primary headache). In the latter case, according to the clinical characteristics of the primary headache, it is classified as migraine, tension headache, trigeminal-autonomic cephalalgia and other primary headaches.¹

Patients with primary headaches usually present crises (recurrent episodes of pain with associated neurological symptoms) and periods between attacks (with no headache or only mild symptoms). During the crisis, there is severe disability with an extreme limitation in daily activities, which can even require bedrest. This affects various areas of life (professional, family and social) and leads to a reduction in quality of life.²

Headache also produces an economic impact on society stemming from direct costs, those related to healthcare attention (hospitalisation, medical consultations, emergency treatment, drug costs, etc.). There are also indirect costs, related to decreased productivity, work incapacity and intangible costs on which it is hard to assign a value as costs added to the family unit.³

It has been shown that implementing specific day care hospitals for patients that need to be admitted or to be attended in emergency treatment leads to a decrease in healthcare costs; this is true for both staffing costs and costs derived from patient stays, and for emergency care and hospitalisation.⁴,⁵

The role of the specialist nurse in headache is vital. These nurses have to give support, offer empathy and give advice on healthy living habits and adhering to drug treatment.⁵ There are few studies on the involvement of nursing staff in headache units. Interventions by nurses specialised in headaches have been shown to produce greater therapy adherence in patients with this condition.⁶ Such interventions also have a direct impact on reducing both direct and indirect costs.⁷ They lead to fewer referrals to the neurologist and fewer days of migraine per month.⁸ These nurse specialist interventions also serve to improve patient education on and understanding of migraines.⁹

Nursing staff functions are extremely varied. These functions range from providing healthcare education sessions on the illness and both drug and non-drug therapy; advising on life habits; administering intravenous, subcutaneous and intramuscular drugs; performing and giving support in diagnostic testing, such as spinal taps and analytical tests; overall nursing assessment; and active listening to the patient. These functions are useful, practical and provide added value in a headache unit. Consequently, the Day-Care Hospital of the Headache Unit at the Vall d’Hebron Hospital was created in March 2019; this Headache Day-Care Hospital has specialised nursing staff and a specific space for the care and treatment of patients with headache.¹⁰

In accordance with the standards and recommendations of the Ministry of Health,¹¹ carrying out user surveys is a good idea in order to ascertain and evaluate the level of user satisfaction, as well as to establish a diagnosis of shortcomings and weak points in the service. The objective of our study was consequently to evaluate the activity of and patient satisfaction with treatment during the first 6 months that the Headache Day-Care Hospital (HDCH) was functioning.
Methods

This was a descriptive, cross-sectional study.

Criteria for inclusion

All the patients seen in the HDCH at the Vall d’Hebron University Teaching Hospital from March through September 2019 were included.

Data collection

The data was gathered using the electronic patient registry of the HDCH and from the satisfaction questionnaires12 that were filled in using the patients’ e-mails once the hospital care and stay had finished. The study was evaluated and approved by the Ethics and Clinical Research Committee at the Vall d’Hebron University Teaching Hospital. All the patients gave their consent for the data collection.

Study variables

For this study, we gathered sociodemographic variables (age and sex), the headache diagnosis, reason for admission, symptomatology associated with the disease, comorbidities, length of stay in the Unit, treatments administered and complications stemming from treatment administration. In the satisfaction survey, items on subjective patient satisfaction, healthcare quality, perception of how the staff treated the patient and the comfort of the facilities were assessed by 5 possible responses: extremely poor, poor, regular, good and very good. The patients evaluated each item using 4 ordinal response variables. After that, the scores were gathered in the Patient Global Impression of Improvement (PGI-I) scale.13 This is a validated, Likert-type scale translated to Spanish, with 7 response options: quite a lot better, much better, a bit better, no change, a bit worse, much worse or very much worse.

The data were stored digitally and made anonymous using REDCap® software. The descriptive statistical analysis was performed using the SPSS® statistical package (IBM Corp. Released 2013; IBM SPSS Statistics for Windows, Version 22.0; Armonk, NY: IBM Corp.).

Data analysis

Once the analyses were performed, the relative frequency (%) and absolute frequency (number of patients) tables were prepared for the qualitative variables. For the quantitative variables, the results were described using the mean as the measure of central tendency and the standard deviation (SD) as the dispersion measure (mean ± SD). The score on the PGI-I scale was compared with sex, reason for admission and treatment performed using the Pearson χ² test of linear tendency. A value of P < .05 was considered statistically significant, due to the fact that the confidence level used was 95%.

Results

In the analysis, 71 patients (66.7% females, 48.4 years old [±11.3 years]) were included. The most frequent diagnoses were chronic migraine (76.7%) and headache from medicine abuse (8.7%) (Table 1). The techniques performed in the HDCH were intravenous treatment (51.0%), administration of subcutaneous monoclonal antibodies (43.1%) and diagnostic tests (5.9%).

As for the impression of change after admission, according to the PGI-I scale, 30.8% of the patients evaluated their status as “quite a lot better”; 30.8%, as “much better”; 23.1%, “a bit better”; 11.5% reported no finding any change; and 3.8% were “much worse”. No statistically-significant differences (P = .893) were found in the impression of change (PGI-I) after admission when compared by patient sex (Table 2).

Table 1 Sociodemographic, diagnostic and clinical variables of the patients seen at the Headache Day-Care Hospital.

<table>
<thead>
<tr>
<th>Variables</th>
<th>n = 71 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>47 (66.7%)</td>
</tr>
<tr>
<td>Male</td>
<td>24 (33.3%)</td>
</tr>
<tr>
<td>Age (years)</td>
<td>48.4 ± 11.3</td>
</tr>
<tr>
<td>Diagnosis</td>
<td></td>
</tr>
<tr>
<td>Chronic migraine</td>
<td>55 (76.7%)</td>
</tr>
<tr>
<td>Episodic migraine</td>
<td>1 (1.6%)</td>
</tr>
<tr>
<td>Analgesic abuse cephalalgia</td>
<td>7 (8.7%)</td>
</tr>
<tr>
<td>Cluster headache</td>
<td>4 (6.5%)</td>
</tr>
<tr>
<td>Neuralgia</td>
<td>4 (6.5%)</td>
</tr>
<tr>
<td>Reason for admission</td>
<td></td>
</tr>
<tr>
<td>Intravenous treatment</td>
<td>38 (53.5%)</td>
</tr>
<tr>
<td>MAB administration</td>
<td>31 (43.6%)</td>
</tr>
<tr>
<td>Diagnostic tests</td>
<td>2 (2.8%)</td>
</tr>
</tbody>
</table>

MAB: monoclonal antibody.

Table 2 Patient Global Impression of Improvement (PGI-I) scale by sex.

<table>
<thead>
<tr>
<th>Variable</th>
<th>n = 71 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quite a lot better</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>15 (21.1%)</td>
</tr>
<tr>
<td>Male</td>
<td>7 (9.8%)</td>
</tr>
<tr>
<td>Much better</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>14 (19.7%)</td>
</tr>
<tr>
<td>Male</td>
<td>8 (11.2%)</td>
</tr>
<tr>
<td>A bit better</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>12 (16.9%)</td>
</tr>
<tr>
<td>Male</td>
<td>4 (5.6%)</td>
</tr>
<tr>
<td>No change</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>3 (4.2%)</td>
</tr>
<tr>
<td>Male</td>
<td>5 (7.0%)</td>
</tr>
<tr>
<td>Much worse</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>2 (2.8%)</td>
</tr>
<tr>
<td>Male</td>
<td>1 (1.3%)</td>
</tr>
</tbody>
</table>
the healthcare staff. The quality of the healthcare received was assessed as very good by 92.3% of the patients responding. Personal hospital treatment was evaluated as very good by 96.2% of the patients that completed the survey. The confidence that healthcare staff transmitted was evaluated as very good or good by 100% of the survey respondents. None of the categories was evaluated as poor or very poor with the qualitative variables.

The categories that received the worst scores were comfort (evaluated as very good by only 19.3% of the survey respondents) and hospital cleanliness (evaluated as very good by only 38.5%). The overall score for the healthcare received was 9.1 out of 10.

**Discussion**

After analysing the data, we saw that in the first 6 months after the opening of the HDCH of the Vall d’Hebron University Teaching Hospital, the majority of patients admitted received the diagnosis of migraine. This can be explained by the fact that migraine is the most prevalent primary headache. The second most frequent pathology for admission was headache from abuse of complementary and alternative medicine (CAM). This is one of the incapacitating secondary headaches that is difficult to manage on an out-patient basis, especially in patients that relapse following at-home withdrawal treatment.

As is expected, the majority of the patients are admitted for administering intravenous or subcutaneous treatments because of intractability to the at-home preventative and acute oral therapy options. In other previously-published studies, intravenous drug treatment was shown to be effective for migraine, producing clinically significant pain relief. We believe that it is important to emphasise the number of patients that receive subcutaneous treatment due to a recent incorporation in the therapy arsenal: monoclonal antibodies against calcitonin gene-related peptide (CGRP) as preventative treatment for refractory migraine.

The patients seen at the HDCH of the Vall d’Hebron Hospital reported that they were satisfied with the service received and the healthcare quality. There are currently few data available on functioning of and satisfaction with day-care hospitals specialising in headache. A previous study carried out at the Hospital Clínic in Valladolid analysed the profitability of the day-care hospital there; and the results there also showed high levels of satisfaction with how the staff (both physicians and nurses) treated the patients.

Creating new HDCHs is important for various reasons. For one thing, direct healthcare costs (those associated with emergency care attention for and hospitalisation of patients) are reduced. Having staff specialised in a pathology also contributes to more personalised patient care, taking into consideration all the symptoms that can be present (pain, nausea, vomiting, photophobia, phonophobia, etc.) and the factors that can provoke a worsening of the patient’s headache (light, sounds, movement, etc.).
In a study carried out in a cardiology day-care hospital in Salamanca, the activities, cost-effectiveness improvement and satisfaction were analysed in the first year after its launch. A reduction of hospital admissions was seen in the patients monitored in the day-care hospital. The majority of patients surveyed considered the care that they received in the day hospital to be good or very good. In addition, the economic savings that the day-care hospital represented in the first year of functioning were notable.  

Implementing specific day-care hospitals for patients with headaches might benefit the patients. This setting is better adapted to their needs and the nurses are specialists in the healthcare required. In a previously-published study, the potential role of the nurses in educating patients with headache was pointed out, while the benefit that specialised nursing staff provide centres that have Headache Units available was emphasised. A limitation of this study is the number of patients included, which could be considered low. However, given that the study focused on only the first months of operation, we feel that our work indicates the need for a Day-Care Hospital, for precisely that reason. We believe that it would be a good idea to re-assess the data from patients seen, satisfaction and quality of the unit after more months in operation.

Conclusions

Implementing this HDCH has produced an improvement in the healthcare given to the patients that come to the neurology consultations. The patients that come to the HDCH report a high level of satisfaction. The patients have received the intervention of nursing staff experts in the HDCH very favourably, evaluating the healthcare received positively.

Funding

This study has not received funding of any type.

Conflict of interests

The authors have no conflicts of interest to declare.

References