

# Acceptance or rejection of prophylactic medicine in patients with migraine: a cross-sectional study

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## ABSTRACT

Most patients with two or more migraine attacks per month do not use prophylactic medication. The aim of this study is to investigate how many patients use prophylaxis or would like to use them, and which aspects of migraine contribute to the choice to use prophylactic treatment. In a cross-sectional survey in three general practices, patients were selected who were diagnosed with migraine or had prescriptions for migraine medication. A questionnaire was sent to 283 patients and completed by 166 patients, of whom 15 were excluded. A total of 129 females and 22 males were included (median age 41 years). Most patients had two or more attacks per month (66.2%). Fifty-five per cent of patients with two or more attacks per month wanted to use prophylaxis; only 8% actually used this treatment. To get more insight into the ideas for or against prophylactic use, qualitative research is indicated.

### Keywords

headache; migraine; preventive therapy; prophylaxis; quality of life.

## INTRODUCTION

Migraine is a common episodic headache disorder affecting about 6% of men and 15–18% of women in the general population,<sup>1,2</sup> and is often associated with significant disability and reduced quality of life.<sup>3</sup>

Guidelines on migraine prophylaxis differ internationally, with prophylactic treatment recommended for patients with two attacks per month up to twice a week. According to guidance from the Dutch College of General Practitioners, patients with migraine attack frequency of more than two times per month should be offered prophylaxis.<sup>4</sup> In the US, 50% of patients with migraine meet the criteria for use of prophylactic treatment, but only 5–12% actually use it.<sup>3</sup> In the Netherlands, 12% of all patients with migraine use prophylactic treatment.<sup>5</sup>

The first study aim was to investigate how many and which patients use prophylaxis, and how many patients would like to use this form of treatment. The second aim was to investigate how frequency, duration, severity, and impact of migraine attacks relate to the wish to use prophylactic treatment.

## METHOD

### Study design and setting

This was a cross-sectional survey conducted in three general practices with five GPs (approximately 10 000 registered patients).

### Patient recruitment

Patients aged 18 to 65 years diagnosed with migraine who were treated by their GP and recorded in the electronic patient register, were selected using the International Classification of Primary Care (ICPC).<sup>6</sup> To identify patients with migraine who were not given a diagnosis according to the ICPC code, the database was searched for patients who had been prescribed migraine medication. Diagnostic codes were applied by the GP at any time from patient registration and after establishing the diagnosis.

### Data collection

Data on patients' age, sex, number of visits, and the medication prescribed were collected from the

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electronic patient register. Data regarding frequency and duration of migraine attacks, migraine medication, and additional symptoms were self-reported using a mailed questionnaire.

The disease-specific quality of life of patients was measured with the Headache Impact Test (HIT-6), which is used to determine personal disease burden.<sup>7</sup> The scores are categorised into four grades: representing 'minimal' (score of 49 or less), 'mild' (50–55 points), 'moderate' (56–59 points), or 'severe' (60 points or more).<sup>8</sup>

The questionnaire explored reasons for and against using prophylaxis, and whether patients preferred to ask their GP for information about prophylaxis, or preferred the GP to raise the issue. Explanations were presented in a simplified manner to make the information understandable to patients. The questionnaire asked the following:

*'Consider a medicine which reduces your migraine symptoms by 50%. This medicine would need to be taken every day. Ten per cent of patients have mild side-effects, such as dizziness, feeling cold, and fatigue. Would you be prepared to take this medicine?'*

A reduction of more than 50% in disease burden is estimated to occur in over 50% of patients taking prophylactic therapy.<sup>9</sup> For the remaining 50% of patients, the efficacy of prophylactic therapy is slightly less: for  $\beta$ -blockers an average reduction of 44% in migraine activity was shown.<sup>10</sup>

### Statistical analysis

Associations between accepting prophylaxis and frequency, duration, and severity of migraine attacks, HIT-6 score, and consulting the GP were calculated using odds ratios with 95% confidence intervals. A logistic regression model was used to analyse associations between these variables and the willingness to consider prophylaxis independently from each other.

## RESULTS

### Population description

The questionnaire was sent to 283 patients, and completed by 166 patients (response rate 58.7%). Thirteen patients stated in the questionnaire that they did not have migraine or had not experienced an attack for more than a year, and two patients did not answer the questions on prophylactic treatment. The study population consisted of 129 females (85.4%) and 22 males (14.6%). Median age was 41 years (interquartile range = 32–48 years). Median HIT-6 score was 64 points (interquartile range =

## How this fits in

Despite recommendations to offer prophylactic medication to patients with frequent migraine attacks, studies indicate that only around 12% of patients with migraine who meet criteria for prophylactic medication actually use this form of treatment. It is unknown whether patients with migraine consulting their GP are interested in using prophylaxis. This study shows that only 8% of patients with two or more migraine attacks per month use prophylactic medication. However, more than half of patients eligible for prophylaxis due to their headache frequency are interested in using prophylactic medication and should be actively informed by their GP.

60–68 points). Ten patients were already using prophylactic treatment.

### Response analysis

Patients who completed the questionnaire visited their GP slightly more often in the previous year (56.6% versus 46.2%,  $P = 0.082$ ), and received medication for migraine more often than those who did not complete the questionnaire (69.3% versus 55.6%,  $P = 0.003$ ).

### Preference for prophylaxis

Of the patients with two or more attacks per month, 7.9% already used prophylaxis. Most patients with migraine (78.0%) with a low attack frequency (less than two times per month) did not want to consider using prophylaxis. However, the remaining 22.0% of patients with migraine with a low attack frequency also reported that they would be interested in trying prophylaxis. In the group of patients with two or more attacks each month, 55.4% reported that they would like to consider prophylactic treatment, whereas 80.0% of the patients with more than five attacks each month were interested.

Apart from the duration of migraine attack, the HIT-6 score, GP consultation during the year prior to this study, and use of migraine medication were associated with the willingness to consider using prophylaxis (Table 1). Most patients (60.9%) felt sufficiently confident to ask their GPs about prophylaxis, rather than expecting the physician to initiate discussions. However, a substantial group of patients with migraine with an indication for prophylaxis expressed a wish to be informed by their GP about preventive treatment for migraine (39.1%).

A logistic regression model showed that only frequency of migraine attacks was a strong independent determinant of desire for prophylaxis.

Patients who were against use of prophylaxis ( $n = 84$ ) gave the following reasons (more than one

**Table 1. Participant characteristics and preference for prophylactic treatment.**

Questionnaire	Total (n = 151)	Yes to prophylaxis	No to prophylaxis	Odds ratio (95% CI)
<b>Migraine frequency</b>				
<2x per month	50 (33.1)	11 (22.0)	39 (78.0)	
≥2x per month	101 (66.2)	56 (55.4)	45 (44.6)	4.4 (2.0 to 9.6)
<5x per month	111 (73.5)	35 (31.5)	76 (68.5)	
≥5x per month	40 (26.5)	32 (80.0)	8 (20.0)	8.7 (3.6 to 20.8)
<b>Migraine duration<sup>a</sup></b>				
<24 hours	58 (38.9)	23 (39.7)	35 (60.3)	
≥24 hours	91 (61.1)	43 (47.3)	48 (52.7)	1.4 (0.7 to 2.7)
<36 hours	111 (74.5)	45 (40.5)	66 (59.5)	
≥36 hours	38 (25.5)	21 (55.3)	17 (44.7)	1.8 (0.9 to 3.8)
<b>Additional symptoms</b>				
Not sensitive to light/sound	32 (21.2)	11 (34.4)	21 (65.6)	
Sensitive to light/sound	119 (78.8)	56 (47.1)	63 (52.9)	1.7 (0.8 to 3.8)
Nausea/vomiting absent	41 (27.2)	16 (39.0)	25 (61.0)	
Nausea/vomiting	110 (72.8)	51 (46.4)	59 (53.6)	1.4 (0.7 to 2.8)
Other	49 (32.5)	28 (57.1)	21 (42.9)	
<b>HIT-6 score<sup>b</sup></b>				
<60	31 (20.7)	9 (29.0)	22 (71.0)	
≥60	119 (79.3)	58 (48.7)	61 (51.3)	2.3 (1.0 to 5.5)
<b>Electronic patient register</b>				
<b>Medication</b>				
No triptan use	72 (47.7)	21 (29.2)	51 (70.8)	
Triptan use	79 (52.3)	46 (58.2)	33 (41.8)	3.4 (1.7 to 6.7)
No medication	41 (27.2)	11 (26.8)	30 (73.2)	
Analgesic use (excluding triptan use)	31 (20.5)	10 (32.3)	21 (67.7)	1.3 (0.5 to 3.6)
<b>Consultation frequency</b>				
Never	86 (57.0)	29 (33.7)	57 (66.3)	
≥1 in the previous year	165 (43.0)	38 (58.5)	27 (41.5)	2.8 (1.4 to 5.4)

<sup>a</sup>Two participants did not fill in this question. <sup>b</sup>One participant did not fill in this question.

answer was possible): fear of side-effects (38.1%), experiencing minimal attacks (44.0%), feeling as if by using daily medication they had a chronic disease (23.8%), and 'other' (31.0%).

## DISCUSSION

### Summary of main findings

In this study, most patients with migraine attacks of five or more per month, and about half of patients with two or more attacks per month, would like to consider prophylaxis. Even in the group of patients with fewer than two attacks per month, one in five would like to consider prophylactic treatment. Most patients felt sufficiently confident to approach their GP themselves for prophylaxis. However, a substantial subgroup preferred an active approach by their physician. This finding is confirmed in a British study which reports that patients often do not consult their GP for their headache symptoms but still would like more help.<sup>11</sup>

### Strengths and limitations of the study

A weakness of this study is that the question used to inquire about the wish for prophylaxis is rather

theoretical and does not adequately address individual patient motivations and situations influencing their needs. However, the findings indicate that further qualitative research into the different motivations of patients and doctors is required.

Patients in this study visited their GPs slightly more often and were prescribed triptans more than those who did not fill in the questionnaire. It is likely that those completed the questionnaire had a higher disease burden than those who did not fill it in. This might have caused a slight overestimation of the percentage of patients with migraine in general practice who wish to use prophylaxis.

### Comparison with existing literature

In a recent study in the UK it was found that patients who were referred to neurologists more often consulted their GP and had more concerns about their headache symptoms.<sup>12</sup> The current study's finding that patients who had seen their GP in the previous year were more likely to report an interest in prophylactic therapy, could also be explained by an increased concern about their symptoms.

### Implications for clinical practice

The present findings suggest that physicians can play a more active role in optimising migraine therapy for their patients. Many patients with migraine experience disability and absence from work.<sup>13</sup> Better management by GPs could reduce individual suffering and have considerable gains for society.

### Competing interests

The authors have stated that there are none

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