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ORIGINAL ARTICLE

The impact of migraine on psychological well-being of young women and their communication with physicians about migraine: a multinational study

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ABSTRACT

Objective: To describe the impact of migraine on psychological well-being of young women and to evaluate their communication with physicians about migraine.

Research design and methods: This cross-sectional telephone survey was conducted in Israel and eight European countries (Finland, Germany, Greece, Italy, Norway, Spain, Sweden, and The Netherlands). Random-digit dialing was used to identify eligible study participants: women 18–35 years of age with migraine, who used medication to treat their migraine, and who were employed or full-time students.

Results: Of 1810 participants, 42% self-reported having a physician diagnosis of migraine. Eighty-six per cent believed that their life would be better if they did not suffer from migraines; and 58% of participants felt frustrated, 46% felt angry, and 44% felt depressed because of their migraines. Negative feelings related to migraine varied substantially from country to country. For example, feelings of frustration caused by migraine ranged from 32% in Italy to 84% in Finland; feelings of anxiety ranged from 21% in Norway to 57% in Italy; and feelings of confusion ranged from 13% in Greece to 61% in Italy. Overall, 81% of participants had visited a physician in the past year but only 50% of them had discussed their severe headaches or migraines with their physician within the year. While 68% of those who had visited a physician stated that they were comfortable speaking with their physician about migraine, 71% reported being the one who initiated the conversation about severe headaches or migraines. Of all participants, 39% did not feel that their physician understood how much severe headaches or migraines interfered with their life.

Conclusions: Migraines and severe headaches impose a substantial burden on the psychological well-being of young women with migraine in Europe and Israel. In general, communication between these women and their physicians about migraine is incomplete.

Introduction

Migraine is a neurovascular brain disorder characterized by recurrent episodes of often disabling headache[1]. Episodes last for 4–72 h, and pain intensity is usually moderate to severe[1,2]. The throbbing and pounding pain of migraine is typically accompanied by nausea, vomiting, photophobia, or phonophobia, or a combination of these[1]. Some migraine sufferers (about one third) experience aura symptoms that can include visual, sensory, motor, or speech-related disturbances preceding the headache[2].

One-year period prevalence estimates for migraine range from 12% to 14% among populations in Europe, North America, and Asia[3]. Migraine is more common among women – female-to-male ratios range from 2:1 to 3:1 – and tends to affect women later in life than men (peak prevalence 35–50 years versus 25–35 years, respectively)[3]. However, migraine remains undiagnosed for many migraine sufferers, approximately half in the United States and Europe[4,5], perhaps because of lack of knowledge regarding the disorder or lack of adequate health care[3].

Migraine has a negative effect on quality of life and emotional aspects of daily life[6]. Mood changes, such as increased depression and irritability, are reported by some patients as occurring in association with their migraine attacks[7]. Moreover, the general well-being of patients with migraine may be impaired, even between attacks[8]. Compared with control subjects without migraine, Swedish patients attending a migraine clinic perceived disturbed contentment, vitality, and sleep, more subjective symptoms, as well as greater emotional distress[8]. Furthermore, migraine may be correlated with anxiety and depression. Merikangas and coworkers[9] studied 27 and 28 year olds in Zurich and reported a strong association between migraine and depression (odds ratio [OR] 2.2; 95% confidence interval [CI] 1.1–4.8), with an even stronger association between migraine and anxiety disorders (OR 2.7; 95% CI 1.5–5.1).

Despite the association of migraine with detrimental psychological effects, communication by patients with physicians regarding this disorder is incomplete. For example, in a population-based mail survey of individuals with migraine in the United States (US), 68% of females and 57% of males reported ever having consulted a doctor for headache[10]. Consultation was more likely with increasing age and by women who were or had been married. Interestingly, 61% of women who had never consulted a physician reported severe or very severe pain with migraine, and 67% of these women reported severe disability or the need for bed rest with their headaches[10].

Our primary objective was to describe the impact of migraine on psychological well-being of young women and to evaluate their communication with physicians about migraine. Our assessments were made via telephone survey of a random sample of young women who were employed full- or part-time, or who were full-time students, in nine participating countries (Israel and eight European countries). Young women are an important population to study because the prevalence of migraine is high in this group. The impact of migraine on work, family, and leisure among survey participants has been reported previously[11]: we found substantial migraine-related impairment of productivity at work and school as well as of family and leisure time.

Patients and methods

Study design

This cross-sectional study was conducted in Israel and eight European countries chosen because they are among the largest in Europe and are geographically representative of the Pan-European region (Finland, Germany, Greece, Italy, Norway, Spain, Sweden, and The Netherlands). The study design, population, and survey instrument have been previously described in detail[11] and are summarized here.

Residential telephone lists were obtained from local telephone providers and random digit dialing was used to contact potential study participants. Data were collected by 15-min telephone interviews conducted by trained interviewers. This survey was designed to determine the impact of migraine on the lives of female individuals and included questions pertaining to psychological well-being and interaction with physicians. Type of physician was not specified. In addition, the survey collected background information about headache frequency, diagnosis, and medication use, as reported by participants. The items evaluated have not been previously used or validated and were developed specifically for this study; limited response options were used to facilitate ease of collecting information over the telephone. The survey was translated from English to the appropriate language and then back-translated to check for accuracy.

Participant characteristics

A total of 1810 eligible respondents from nine countries participated in the survey, including 200 from Finland, 200 from Germany, 200 from Greece, 200 from Israel, 201 from Italy, 208 from Norway, 200 from Spain, 201 from Sweden, and 200 from The Netherlands. The decision for the sample size for each country was based on the minimum number that would yield an acceptable margin of error.

Women who were from 18 to 35 years old and were full-time students or employed full- or part-time

were eligible for participation if they experienced headaches at least six times per year and treated their headaches with either prescription or over-the-counter medication. In addition, eligible participants were those who experienced headaches that, when untreated, were characterized by all of the following three criteria:

1. throbbing or unilateral pain;
2. inability to go to work/school or need to lie down for more than 2 h; and
3. at least one of five predefined symptoms, namely:
   (i) nausea or vomiting,
   (ii) phonophobia,
   (iii) photophobia,
   (iv) pain lasting for a few hours to a couple of days; or
   (v) a halo or aura in vision.

Those who experienced daily headache or fewer than six migraines or severe headaches in 1 year were excluded.

Statistical analysis

Basic analyses were conducted using SPSS (SPSS Inc., Chicago, IL, USA). We used descriptive statistics to summarize the data and χ^2 analysis to examine basic associations.

To examine more complex associations, we used Statistical Analysis Software, version 8.0 (SAS Inc., Cary, NC, USA). Ordinal logistic regression[12] was used to investigate associations between participants' psychological well-being and their comfort level in communicating with their physician about migraine. Psychological well-being was evaluated by assessing the presence of negative feelings related to migraine as well as with seven questions relating to psychological symptoms. A participants' feelings score was created based on the 12 questions relating to possible negative feelings that women experienced as a result of their migraines; this 13-point scale, ranging from 0 to 12, referred to the number of negative feelings out of 12 that a participant ascribed to migraine (abnormal or like an outcast, angry, anxious, confused, depressed, disabled, frightened, frustrated, isolated or alone, out of control, unaccepted, useless). Similarly, a psychological symptoms score was created based on seven true/false statements relating to psychological well-being. The 8-point scale, ranging from 0 to 7, referred to the number of questions out of seven to which a participant responded affirmatively (see Results section below for questions). Comfort level in communicating with physicians was collapsed from a five-level questionnaire item to a three-level response: comfortable (very comfortable or somewhat comfortable), neither (neither comfortable nor uncomfortable), or uncomfortable (somewhat uncomfortable or very uncomfortable). Comfort level was the dependent variable in the analysis. The proportional odds assumption was assessed using the Score test[13], whereby a value of $p < 0.05$ rejects the proportionality assumption.

Results

Participants

The mean age of participants in this telephone survey was 29 years. Half of participants (50%) were 30–35 years old. Forty-two per cent of participants had a self-reported physician's diagnosis of migraine. Approximately two thirds (62%) had experienced severe headache or migraine 12 or more times in the prior year. More than half (55%) did not use a prescription medication; 26% used nontriptan prescription medication; and 20% used triptans to treat their severe headache or migraine symptoms.

Demographic and migraine treatment information for participants is summarized by country in Table 1. The country means for migraine frequency ranged from 11.4 per year in Finland to 33.9 per year in Germany (Table 1). The medications used to treat migraine varied substantially between countries. Over-the-counter products were used by from 33% of participants in Finland to 75% in Italy; nontriptan prescription medications were used by from 13% in Sweden to 40% in Greece; and triptan use ranged from a low of 1% in Greece up to 50% in Sweden.

All 1810 respondents replied to all of the questions except for five of the physician communication questions to which from 341 to 346 responses were missing (see below) because not all patients had met with their doctor in the past year.

Psychological well-being

Information on psychological well-being as relates to migraine is summarized by country in Tables 2 and 3, with overall means for negative feelings depicted in Figure 1. A feeling of frustration because of migraine was the most common negative emotion experienced by participants; other common feelings related to migraine were anger, depression, disability, and anxiety (see Table 2; Figure 1). Overall, 86% of participants agreed with the statement, 'My life would be better if I did not suffer from migraine', (see Table 3). Almost half (45%) often worried about getting severe headache or migraine.

Negative feelings related to migraine varied substantially from country to country. For example, feelings

Table 1. Participant demographic and migraine characteristics by country

Characteristic	Country								Total
	Finland	Germany	Greece	Israel	Italy	Netherlands	Norway	Spain	Sweden	
	N = 200	*N* = 200	*N* = 200	*N* = 200	*N* = 201	*N* = 200	*N* = 208	*N* = 200	*N* = 201	*N* = 1810
Age, mean (SD)	29.2 (5.0)	30.2 (4.3)	29.5 (5.0)	26.7 (4.9)	28.8 (5.0)	28.4 (5.3)	28.4 (5.2)	27.4 (5.5)	28.9 (4.9)	28.6 (5.1)
Number of migraine/severe headaches in past year, mean (SD)	11.4 (4.8)	33.9 (42.9)	20.4 (23.1)	21.4 (19.3)	25.1 (30.9)	25.9 (59.0)	30.6 (39.8)	18.4 (16.9)	18.6 (15.2)	22.9 (32.8)
Treatment of migraine (%)										
Triptan	41.0	9.5	1.0	10.0	4.5	14.5	37.0	8.5	49.8	19.6
Non-triptan prescription medication	26.5	28.5	40.0	33.5	20.9	31.0	14.9	23.5	13.4	25.7
Over-the-counter medication	32.5	62.0	59.0	56.5	74.6	54.5	48.1	68.0	36.8	54.6

of frustration caused by migraine were reported by from 32% of participants in Italy to 84% in Finland, whereas feelings of anxiety ranged from 21% in Norway to 57% in Italy, and feelings of confusion ranged from 13% in Greece to 61% in Italy (see Table 2).

Communication with physician

During the prior year, 81% of participants had visited a physician, and 50% of them had discussed their severe headaches or migraines with their physician. Of those who had visited their physician within the year, 68% reported feeling comfortable (either very or somewhat comfortable) speaking with their physician about severe headache or migraine (Table 4). However, 71% reported being the one who initiated the conversation about severe headaches or migraines with their physician. Moreover, 39% of all patients, including those who had not visited their doctor in the prior year, disagreed with the statement that their doctor understood how much severe headaches or migraines interfered with their lives.

Over 80% of participants in each country reported having visited their physician during the prior year with the exception of Sweden, where the percentage was only 46% (Figure 2). For those who had visited their physician, the mean number of visits during the year ranged from 2.2 in Spain to 7.2 in Germany (Figure 3). Patterns of communication by survey participants with their physicians are summarized by country in Table 4. Approximately half of participants in each country had discussed their severe headaches or migraines with their physician, with the exception of Sweden, where the percentage was 21%, and Finland, where it was 74% (see Figure 2).

Of survey participants who had visited with their physician in the prior year, more than 78% in all but three countries (Israel, Norway, and Germany) reported feeling very or somewhat comfortable in speaking with their physician about severe headache or migraine (see Table 4). In Norway and Germany, large percentages were neutral on the topic (34% and 41%, respectively), while few felt uncomfortable speaking with their physician (10% and 9%, respectively). Instead in Israel, 3% were neutral and 90% reported feeling uncomfortable (somewhat or very) in speaking with their physician about severe headache or migraine. In all other countries, 10% or fewer participants reported feeling uncomfortable discussing migraine.

Association between physician gender and patient comfort level: χ^2 analysis

The gender of the physician was significantly associated ($p < 0.05$) with comfort in speaking about migraine. Of those who saw female physicians, 60% reported feeling very or somewhat comfortable discussing migraine; of

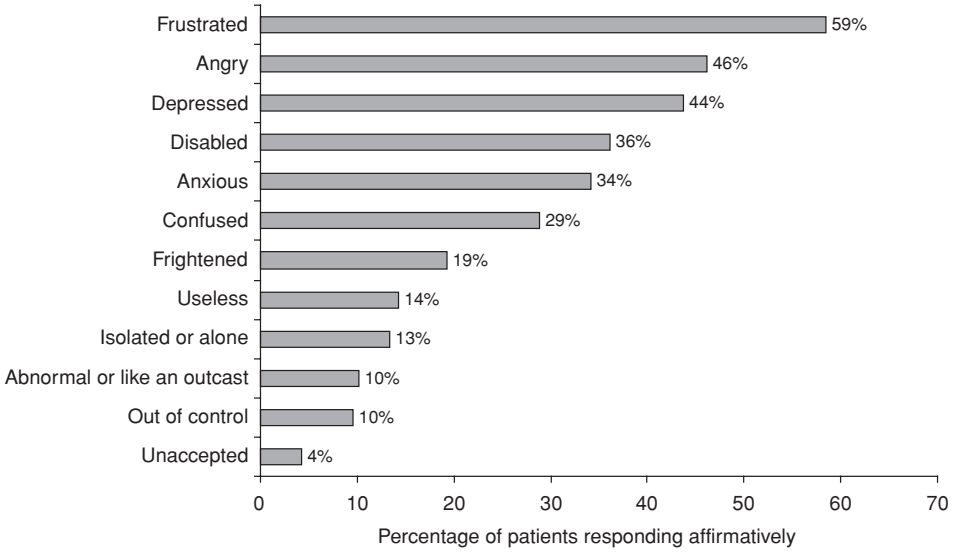

Figure 1. *Psychological well-being as relates to migraine: overall percentage of participants reporting negative feelings as result of migraine*

Table 2. *Psychological well-being as relates to migraine: percentage of participants in each country reporting negative feelings*

Migraine makes me feel (% yes)	Finland	Germany	Greece	Israel	Italy	Netherlands	Norway	Spain	Sweden
Abnormal or like an outcast	7.0	19.5	5.0	9.0	11.4	12.0	6.3	6.5	13.9
Angry	36.0	75.5	39.5	47.0	67.7	49.5	20.7	39.0	40.8
Anxious	32.5	37.0	32.0	25.0	56.7	41.5	20.7	22.0	40.8
Confused	16.0	25.0	12.5	34.5	61.2	33.5	27.9	22.0	26.9
Depressed	34.5	47.5	40.5	43.0	48.8	54.5	43.3	52.0	29.9
Disabled	33.0	44.5	24.5	56.5	38.3	25.0	37.0	43.5	22.4
Frightened	14.5	14.0	17.0	21.5	21.4	22.0	14.9	19.5	29.4
Frustrated	83.5	77.0	55.5	53.5	31.8	59.0	41.3	57.5	67.7
Isolated or alone	6.5	21.5	9.5	12.0	14.4	25.0	6.7	12.5	12.9
Out of control	1.5	11.5	5.0	14.5	14.4	16.0	11.1	7.0	5.5
Unaccepted	1.0	16.5	0.0	1.0	3.0	12.5	1.0	0.5	3.5
Useless	2.5	30.5	2.5	4.5	15.4	37.5	4.8	4.5	25.9

Table 3. *Percentage of participants responding affirmatively to true/false questions about their severe headache or migraine*

True/false statement (% true)	Finland	Germany	Greece	Israel	Italy	Netherlands	Norway	Spain	Sweden	Total
I often worry about getting severe headache or migraine	34.5	57.5	44.5	67.5	34.3	34.0	51.9	40.5	35.8	44.5
I am afraid to leave the house when I think I may get a severe headache or migraine	3.0	22.5	42.5	31.5	18.9	33.0	20.7	13.0	20.4	22.8
My life would be better if I did not suffer from migraine	73.5	90.0	92.5	84.5	91.0	66.5	87.5	92.0	96.5	86.0
I worry that severe headaches or migraine will prevent me from advancing in my career	18.5	17.0	34.5	13.0	12.4	18.0	14.9	29.5	7.0	18.3
I worry that severe headaches or migraine will spoil the good things in my life	21.5	43.0	48.5	29.0	42.8	25.0	36.5	42.5	14.4	33.7
I fear my next severe headache or migraine	21.0	53.5	33.0	45.5	45.3	35.0	37.0	42.5	24.9	37.5

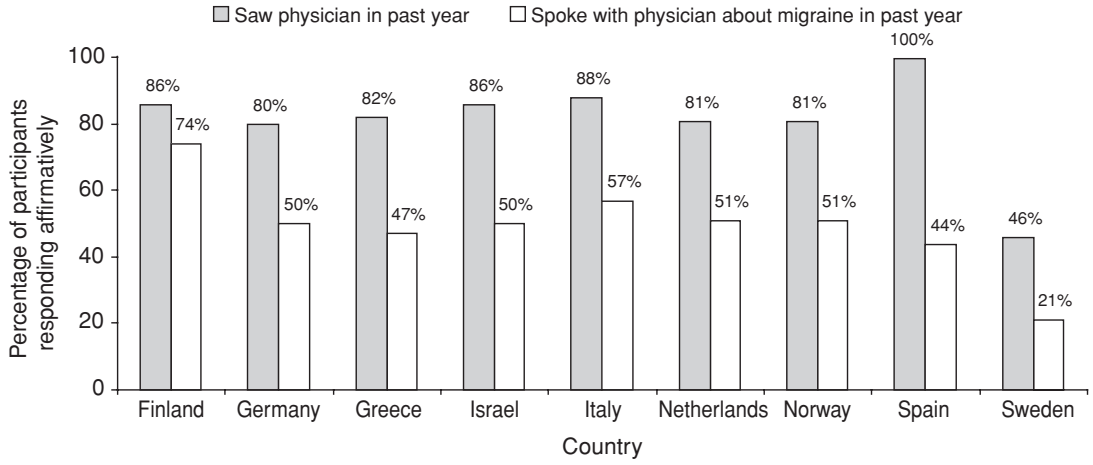

Figure 2. *Percentages of participants from each country who had seen their physician in the prior year and who had spoken with their physician about migraine in the prior year*

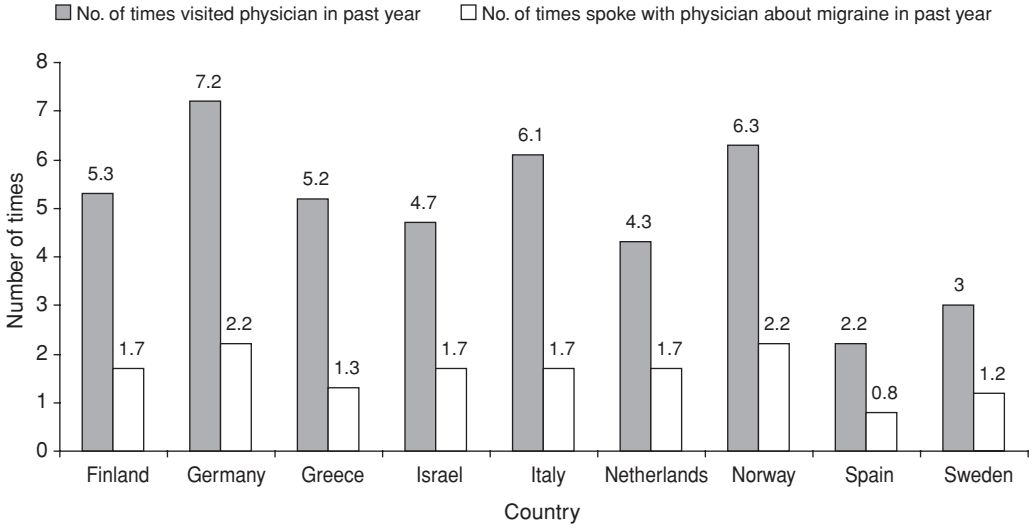

Figure 3. *Number of times participants from each country had seen their physician in the prior year and number of times they had spoken with their physician about migraine in the prior year (*n *= 1469; data only for those who had seen their physician in the prior year)*

those who saw male physicians, 68% reported feeling very or somewhat comfortable discussing migraine. No other variables assessing communication with the physician were associated with physician gender.

Association between patient feelings and psychological symptoms and patient comfort level: ordinal logistic regression analysis

The mean feelings score for participants was 3.2 (standard deviation, 2.2; range, 0–12), and the mean psychological symptoms score was 2.6 (SD, 1.8; range 0–7). The feelings score had no association ($p = 0.7$) with comfort level in communicating with physicians about migraine. However, each additional psychological symptom reported for the true–false questions was associated with 1.09 times the odds (95% confidence interval, 1.02–1.16; $p = 0.005$) of being in a lower comfort level relative to a higher comfort level in communicating with physicians about migraine.

Discussion

The results of this telephone survey indicate large differences across the nine countries studied with respect to patient characteristics, psychological well-being, and comfort level of these young women in communicating with their physicians about migraine. The women surveyed were 18–35 years old; half were 30–35 years old. Approximately two thirds of participants had experienced severe headache or migraine 12 or more times in the past year, with those in Finland experiencing the least (mean, 11) and those in Germany and Norway experiencing

Table 4. *Summary of participant communication with physicians, by country*

	Finland	Germany	Greece	Israel	Italy	Netherlands	Norway	Spain	Sweden	Total
Comfort level speaking with physician*										
Very comfortable	26.9	18.0	60.6	2.3	37.3	66.0	23.1	68.5	69.7	40.2
Somewhat comfortable	51.5	31.7	27.3	4.7	46.3	22.8	33.1	11.0	13.5	27.4
Neither comfortable nor uncomfortable	21.6	41.0	8.5	2.9	10.7	6.2	33.7	17.5	13.5	17.4
Somewhat uncomfortable	0.0	8.1	1.2	21.5	4.5	2.5	8.3	2.5	3.4	5.9
Very uncomfortable	0.0	1.2	2.4	68.6	1.1	2.5	1.8	0.5	0.0	9.1
Who starts the conversation†										
Patient	86.0	62.1	64.0	75.6	79.0	72.8	63.3	60.5	74.2	70.6
Doctor	14.0	15.5	18.3	4.7	17.6	10.5	17.2	27.0	20.2	16.1
Neither, severe headaches and migraine not discussed	0.0	22.4	17.7	19.8	3.4	16.7	19.5	12.5	5.6	13.3
Gender of physician										
Woman	12.3	26.7	32.1	38.4	26.6	16.0	24.9	38.5	37.1	27.8
Man	44.4	67.1	45.5	59.3	72.9	72.8	69.2	44.5	60.7	59.2
Both seen	33.9	5.6	14.5	1.7	0.6	11.1	5.3	12.5	1.1	10.1
No regular doctor	9.4	0.6	7.9	0.6	0.0	0.0	0.6	4.5	1.1	2.9
True/false questions (% true)										
My doctor understands how much severe headaches or migraine interfere with my life	82.0	59.0	64.5	60.5	41.3	65.0	58.2	67.5	48.3	60.7
My doctor tells me when new medications for severe headaches or migraine are available	58.5	26.0	47.5	20.0	27.9	32.5	24.5	37.5	34.8	34.3
I would ask my doctor for a prescription medication to treat my migraines	70.5	65.0	68.5	47.0	75.6	54.5	58.2	63.0	64.2	62.9

All numbers represent percentages of survey participants; those for the first three questions in the table represent percentages for only those participants who had seen their physician in the prior year (n = 1465–1469)

*Question was phrased as follows: 'How comfortable are you speaking with your doctor about your severe headaches or migraine, excluding conversations about refilling your current medication?'

†Question was phrased as follows: 'When you speak with your doctor about your severe headache or migraine, who most often starts the conversation?'

the most (means of 34 and 31 per year, respectively). Nonetheless, more than half of these migraine sufferers did not use a prescription medication and instead treated their symptoms with an over-the-counter medication.

Overall, only 50% of participants had discussed their severe headaches or migraines with their physician within the year. Those in Finland were the most likely (74%), and those in Sweden were the least likely (21%), to report speaking with a physician about migraine. Our results for Sweden are similar to those of a recent report describing patients with self-reported migraine in Sweden (both male and female), of whom only 27% were currently consulting a physician for migraine (6% regularly; 21% occasionally)[14]. Similarly, in a cross-sectional, population-based study of 12–29 year olds in the eastern US, only 15% of males and 28% of females with headache in the prior 12 months had ever consulted a physician for headaches[15]. Of those who had consulted a physician, about 60% were satisfied with the information given or the treatment offered.

Almost three quarters (71%) of participants reported being the one who initiated conversation about severe headaches or migraines with their physician, suggesting that participants often took the initiative in discussing headache. We did not investigate the timing or specifics of these discussions and thus cannot draw conclusions about the extent to which physicians monitored their patients' migraines. Sixty-eight per cent of participants

were comfortable speaking with their physician about migraine; 39% did not feel that their doctor understood how much severe headaches or migraines interfered with their life. These low levels of communication and comfort in communicating with physicians are comparable to what has been found in other studies. In the US, 71% of men and 59% of women with self-reported migraine have never received a medical diagnosis of migraine[10]. Of those with undiagnosed migraine, 25% report severe disability or the need for bed rest with their headaches, and over 80% report at least some headache-related disability. A survey of neurologists in Canada found that up to one third did not assess migraine-associated disability among their patients, and most did not use validated quantitative scales to assess disability[16].

We cannot explain the finding that only 2% of participants from Israel reported feeling very comfortable, and 69% were very uncomfortable, speaking with their physician about migraine.

We found that 86% of participants believed that their life would be better if they did not suffer from migraines. Moreover, 58% of these migraine sufferers felt frustrated, 46% felt angry, and 44% felt depressed because of their migraines. These results are similar to those of prior studies among young adults in which associations between migraine and anxiety and depression have been reported. In a community-based study of Norwegians aged 20 years or greater[17], depression and anxiety, as measured by the Hospital Anxiety and Depression Scale, were significantly associated with migraine (for depression, odds ratio [OR] = 2.7, 95% confidence interval [CI] =2.3–3.2; for anxiety, OR = 3.2, 95% CI = 2.8–3.6). Moreover, the associations for depression and anxiety among these migraine sufferers increased with increasing headache frequency: the odds ratios for both depression and anxiety disorders were two to three times greater for those with headache > 14 days/month compared with those with headache < 7 days/month[17]. Cassidy and coworkers[18] also reported frequency of headache to be a strong predictor of disability and depression among patients with migraine who were attending a specialty headache clinic. Among French clinic-based migraine patients, stress, as measured by the Perceived Stress Questionnaire, and anxiety, as measured by the Hospital Anxiety and Depression Scale, were both higher than among controls[19]. However, depression, which was also measured by the Hospital Anxiety and Depression Scale, was low among both migraine patients and controls. In a British study of over 600 patients with International Headache Society (IHS)-defined migraine[20], the prevalences of anxiety and depression were approximately 50% and 20%, respectively. In the latter study, however, there was no evidence that the prevalence of these disorders was correlated with frequency of migraine.

With regard to the association between physician gender and patient comfort level in speaking with their physician, migraine sufferers included in this survey were somewhat less likely to feel comfortable speaking about migraine with a female physician than with a male physician. However, the gender of the physician did not impact who began the conversations about migraine, nor did it impact whether or not the patient believed that her physician understood how much severe headaches or migraines interfered with her life.

Those participants who had a higher psychological symptoms score (more symptoms) were slightly less likely to feel comfortable communicating with their physician about migraine. Psychological well-being questions related to how migraines made participants feel were not associated with comfort level in communicating with physicians about migraine. The lack of a strong association between psychological well-being and comfort in communicating with physicians about migraine suggests that psychological well-being does not affect comfort level and that comfort level in communicating with physicians does not affect psychological well-being.

Specific negative feelings about migraines varied greatly by country. For example, 76% of participants in Germany felt angry compared with 21% in Norway; 61% of those in Italy felt confused compared with 13% in Greece; 84% of those in Finland felt frustrated compared with 32% in Italy; and 38% of those in the Netherlands felt useless compared with 3% in Finland and Greece. The large differences we found across countries with respect to patient characteristics, psychological well-being, and comfort in communicating with physician about migraine could be due to cultural differences with regard to how migraines are perceived. Alternatively, it could be that our sampling techniques did not assess equally representative samples from each country.

A strength of this study is that we obtained our results from a large sample of women with migraine. Moreover, we evaluated a range of countries in Europe. The use of a standardized questionnaire enabled us to compare results across the nine countries.

This study has several limitations, however. First of all, the patients' use of medication and diagnosis of migraine or severe headache was based on self-report with no verification. We used slightly different criteria for migraine without aura than those of the IHS[1], namely:

1. we did not require participants to have at least five attacks fulfilling the criteria;
2. we did not require headache duration to be 4–72 h; and
3. we did not require that nausea and/or vomiting or photophobia and phonophobia be present.

Thus, using our criteria, in theory, a woman could have been included in the survey who had unilateral, pulsating headache, was functionally disabled, and had pain lasting

for a few hours to a couple of days but no nausea, vomiting, photophobia, or phonophobia, thereby not fulfilling IHS criteria for migraine without aura. Moreover, we did not specify the nature or timing of aura for those participants who experienced it. Finally, participants with migraine-like headaches caused by another disorder could have been included in the survey.

The feelings score was determined by adding together the number of 12 possible negative feelings that participants experienced as a result of migraine. This score gives equal weight (score of 1) to each negative feeling and thus does not account for the possibility that certain negative feelings could be considered more important than others, depending on one's point of view.

Potential sources of bias in this survey include recall bias and selection bias. Participants were recalling migraine frequency and interactions with physician from memory. Moreover, participation in the survey was optional and thus the characteristics of non-participants may be different from those of participants, preventing the study from being generalizable. Moreover, only those women with a telephone could have been included in the study. Finally, it is possible that consultation with a physician may lead to better health care, which may make headaches better and thus change the measured association between headache characteristics and consultation[10].

Conclusion

Migraines and severe headaches impose a substantial burden on the psychological well-being of young women with migraine in Europe and Israel. In general, communication between these women and their physicians about migraine is incomplete. Much needs to be done to ease the impact of migraines and increase comfort levels for communication about migraines.

Acknowledgment

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