v

Migraine related sick leave among people with effective treatment of migraine: results from DREAM, a nationwide population study

Henrik Winther Schytz[1],Daniel S Hauberg[2], Ulla S Lønberg[2], Aaron Jenkins[3], Lucy Abraham[3], Karin Hygge Blakeman[4], Maria Spanggaard[5], Jens Olsen[5], Christine Bach[5], Thomas F Hansen[1]

[1]Danish Headache Center; Glostrup, Denmark; [2]Pfizer ApS, Ballerup, Denmark; [3]Pfizer R&D UK Ltd.; [4]Pfizer AB, Stockholm, Sweden; [5] EY Parthenon, Copenhagen, Denmark

BACKGROUND

Migraine is a neurovascular disease affecting primarily people of working age[1] and which, if ineffectively treated, has high individual and societal costs[2,3] and is the leading cause of disability among women[4,5]. The pain or comorbid symptoms of migraine may negatively impact people's ability to work (presenteeism) or result in sick leave (absenteeism) [6]. Optimizing acute treatment may improve lost productivity time due to absenteeism and presenteeism[7].

OBJECTIVES

The purpose of this study was to explore self-reported sick leave among women and men with and without effective acute treatment of their most recent migraine attack.

METHODS

- **Data Source** – The DREAM (Danish REgistry Analyses of Migraine) study is a real-world study utilizing a combination of individual level nationwide data from Danish national registers, such as prescription medicine use, comorbid diagnoses, income data, and data related to long term sick leave, with self-reported data from an electronic survey distributed by Statistics Denmark.

- **Participants** – an electronic survey was sent in December 2024 to all Danish residents ≥18 years who had redeemed a triptan prescription (ATC codes: N02CC01-N02CC07) as a proxy for migraine or who had been diagnosed with migraine (ICD-10: G43) between January 2021 – December 2023.

- **Analyses** – In line with the European Headache Federation consensus statement[8] on effective treatment of acute migraine medication, we defined effective acute treatment of the most recent migraine attack (any severity, ≤3 months prior) as obtaining, with any acute migraine treatment, all of the following: 1) pain freedom or pain relief within 2 hours, lasting at least 24 hours, 2) no or minimal migraine accompanying symptoms within 2 hours, 3) no side effects. Self-reported days of sick leave due to migraine were analysed for those survey responders with migraine who were employed or in education stratified by treatment effectiveness of their most recent migraine attack. Descriptive statistics was used to determine statistical differences between groups.

RESULTS

Baseline characteristics for the 38,981 people included in this analysis are shown in Table 1 and presented in **Poster 055: Evaluation of real-world effectiveness of acute migraine treatment: results from DREAM, a nationwide population study on 58,000 people (Schytz HW et al).**
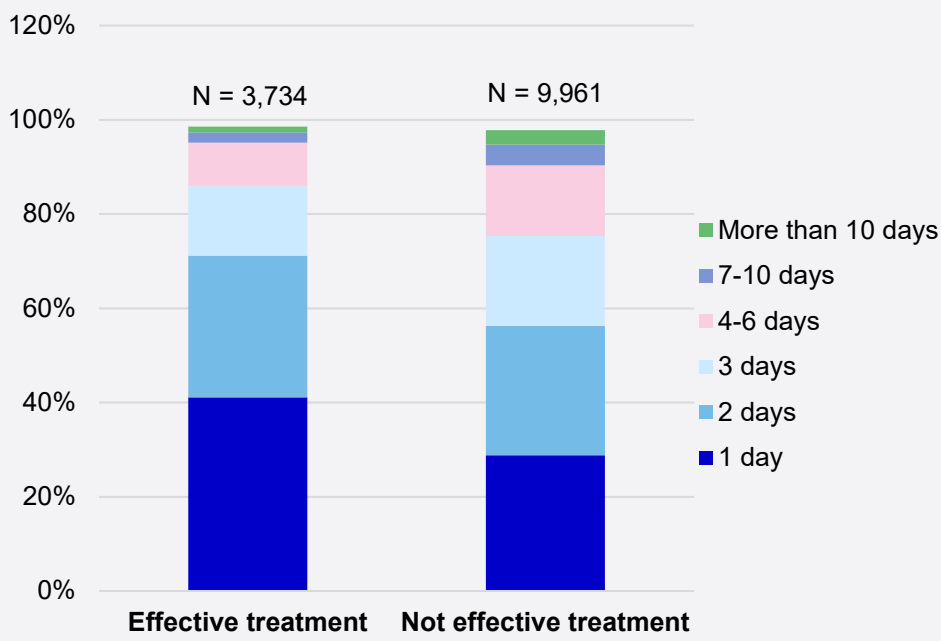
Sick leave and treatment effect

- There were 26,472 people who were employed or in education, and had treated a migraine within the past 3 months (84% women and 16% men)

- Of these 13,695 (52%) (85% women and 15% men) reported at least one day of sick leave due to migraine within the past 3 months.

Table 2 shows the distribution of self-reported sick leave among women and men, employed or in education, with effective treatment or not effective treatment of their most recent migraine attack.

- For 9,550 people who had effective treatment, 39.1% reported at least one day of sick leave due to migraine (40.2% among women and 34.9% among men).

- For the remaining 16,922 people who did not have effective treatment this was significantly more, with 58.9% (59.2% among women and 56.5% among men, (p<0.01)) reporting at least one day of sick leave due to migraine - see detailed sick days in figure 1.

The distribution of days of sick leave within the past 3 months of people with and without effective treatment is presented in Figure 1. While the method of reporting sick leave in intervals precludes obtaining an exact number of sick days between the groups, the group with effective treatment report more 1-3 days sick leave and less 4-≥10 days of sick leave than the group with not effective treatment.

Figure 1: Distribution of self-reported days of sick leave due to migraine for people with and without effective treatment of migraine within the past 3 months

Reported says of sick leave	Effective treatment (%)	Not effective treatment (%)
1 day	41%	29%
2 days	30%	27%
3 days	15%	19%
4-6 days	9%	15%
7-10 days	2%	4%
More than 10 days	1%	3%

Table 1: Baseline characteristics by outcome measure of those treating a migraine within the past 3 months (N = 38,981)

	Effective treatment			Not effective treatment		
	Total n (%)	Women n (%)	Men n (%)	Total n (%)	Women n (%)	Men n (%)
N	14,021 (36,0%)	11,260 (34,2%)	2,761 (45,4%)	24,960 (64,0%)	21,634 (65,8%)	3,326 (54,6%)
Return to normal function 2h	8,422 (60%)	6,679 (59%)	1,743 (63%)	5,599 (40%)	4,581 (41%)	1,018 (37%)
Age						
Age, mean (SD)	52.9 (13)	52.4 (13)	54.8 (13)	47.6 (13)	47.3 (13)	49.5 (14)
Age, median (IQR)	54 (44, 62)	53 (44, 62)	56 (47, 64)	48 (38, 57)	48 (38, 56)	50 (39, 59)
Annual income (EUR)						
Income, mean (SD)	46,973 (48,998)	43,911 (44,698)	59,462 (62,055)	42,477 (37,599)	41,186 (35,470)	50,880 (48,423)
Income, median (IQR)	50,150 (3,535, 68,123)	48,482 (3,140, 65,201)	59,773 (5,421, 82,676)	46,830 (4,089, 63,901)	46,072 (4,240, 62,498)	53,317 (3,225, 75,291)
Number of comorbidities						
0 comorbidities	11,156 (79.6%)	8,909 (79.1%)	2,247 (81.4%)	19,540 (78.3%)	16,878 (78.0%)	2,662 (80.0%)
1 comorbidity	2,549 (18.2%)	2,084 (18.5%)	465 (16.8%)	4,870 (19.5%)	4,269 (19.7%)	601 (18.1%)
2 or more comorbidities	316 (2.3%)	267 (2.4%)	49 (1.8%)	550 (2.2%)	487 (2.3%)	63 (1.9%)
Time since first triptan redeemed						
<5 years	2,691 (19.2%)	2,080 (18.5%)	611 (22.1%)	6,151 (24.6%)	5,213 (24.1%)	938 (28.2%)
5-10 years	2,218 (15.8%)	1,724 (15.3%)	494 (17.9%)	4,663 (18.7%)	3,990 (18.4%)	673 (20.2%)
10-15 years	1,993 (14.2%)	1,600 (14.2%)	393 (14.2%)	3,775 (15.1%)	3,255 (15.0%)	520 (15.6%)
15-20 years	2,045 (14.6%)	1,674 (14.9%)	371 (13.4%)	3,576 (14.3%)	3,166 (14.6%)	410 (12.3%)
>20 years	5,048 (36.0%)	4,166 (37.0%)	882 (31.9%)	6,701 (26.8%)	5,934 (27.4%)	767 (23.1%)
Previous use of preventive medication						
Yes	6,664 (47.5%)	5,412 (48.1%)	1,252 (45.3%)	13,084 (52.4%)	11,425 (52.8%)	1,659 (49.9%)
No	7,357 (52.5%)	5,848 (51.9%)	1,509 (54.7%)	11,876 (47.6%)	10,209 (47.2%)	1,667 (50.1%)

N = 38,981 (n women = 32,894, n men = 6,087)

Table 2: Sick leave by outcome measure (N = 38,981)

	Effective treatment			Not effective treatment		
	Total n (%)	Women n (%)	Men n (%)	Total n (%)	Women n (%)	Men n (%)
N	14,021	11,260	2,761	24,960	21,634	3,326
Have reported sick from work or education due to migraines in the last 3 months (n=26,472)						
Yes	3,734 (39.1%)	3,040 (40.2%)	694 (34.9%)	9,961 (58.9%)	8,638 (59.2%)	1,323 (56.5%)
No	5,771 (60.4%)	4,480 (59.3%)	1,291 (64.8%)	6,811 (40.2%)	5,812 (39.9%)	999 (42.7%)
Don't know/prefer not to answer	45 (0.5%)	39 (0.5%)	6 (0.3%)	150 (0.9%)	131 (0.9%)	19 (0.8%)
Number of days reported sick due to migraine in the last 3 months						
1 day	1,535 (41.1%)	1,259 (41.4%)	276 (39.8%)	2,872 (28.8%)	2,510 (29.1%)	362 (27.4%)
2 days	1,122 (30.0%)	918 (30.2%)	204 (29.4%)	2,734 (27.4%)	2,384 (27.6%)	350 (26.5%)
3 days	552 (14.8%)	445 (14.6%)	107 (15.4%)	1,895 (19.0%)	1,657 (19.2%)	238 (18.0%)
4-6 days	345 (9.2%)	277 (9.1%)	68 (9.8%)	1,497 (15.0%)	1,290 (14.9%)	207 (15.6%)
7-10 days	80 (2.1%)	57 (1.9%)	23 (3.3%)	438 (4.4%)	364 (4.2%)	74 (5.6%)
≥ 11 days	47 (1.3%)	39 (1.3%)	8 (1.2%)	308 (3.1%)	252 (2.9%)	56 (4.2%)
Don't know/prefer not to answer	53 (1.4%)	45 (1.5%)	8 (1.2%)	217 (2.2%)	181 (2.1%)	36 (2.7%)
Valuation of productivity costs						
Total number of sick days in the last three months	8,504	6,852	1,653	29,454	25,250	4,204
Average number of sick days in the last three months	0.90	0.91	0.83	1.75	1.74	1.80
Estimated productivity cost per person (last three months)	191	195	178	374	372	386

CONCLUSIONS

o Effective treatment of the most recent migraine attack (rapid and sustained pain reduction, absence of adverse effects and of non-pain symptoms) was associated with significantly less migraine related sick leave than not effective treatment.

o Women reported more migraine-related sick leave than men, both with effective treatment and with not effective treatment of their most recent migraine attack. Hence, the personal and socioeconomic gain from more effective treatment can be substantial for women and their workplaces.

REFERENCES
1: Husøy AK. J Headache Pain. 2025 Oct 7;26(1):204 2: Ashina M et al., Cephalalgia. 2024 Sep;44(9):3331024241269758. 3: Ashina M et al. J Med Econ. 2025 Dec;28(1):398-404 4: Vos T et al. Lancet. 2020 Oct 17;396(10258):1204-1222. 5: Husøy AK & Steiner T. J Headache Pain. 2025 Oct 21;26(1):227. 6: Buse DC et al. J Manag Care Spec Pharm. 2020 Oct;26(10):1334-1343. 7: Buse DC et al. J Occup Environ Med. 2023 Apr 1;65(4):e261-e268. 8: Sacco S et al. J Headache Pain. 2022 Oct 12;23(1):133.

Presented at the European Headache Conference, December 03 - 06, 2025, Lisbon, Portugal
Copyright © 2025