Migraine treatment experience in Denmark: results from a nationwide real world data study with 58,000 respondents between 2021–2023

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OBJECTIVE

To describe the epidemiology, burden of disease, and treatment experience of people with migraine in Denmark who have redeemed at least one prescription of a triptan or a registered ICD-10 code of migraine within a 36-month time period between 2021 and 2023.

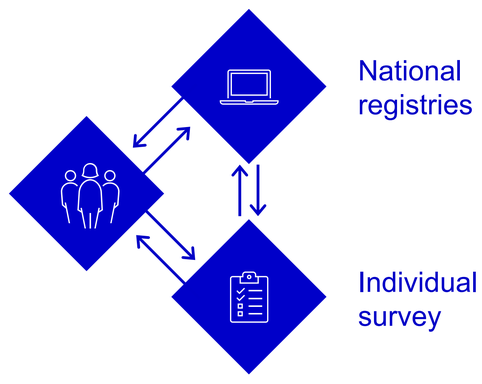
BACKGROUND

Migraine is a disabling neurovascular disease[1]. While both men and women may be affected by migraine, it is the leading cause of disability among young women, and a key contributor to the gender health gap[2]. Acute migraine treatments such as triptans, despite having existed for decades, are underutilized[3] or ineffective in managing the symptoms of migraine[4] and the individual and societal costs of inadequately treated migraine remain high[5,6].

METHODS

This real-world study utilized a unique methodology allowing 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, as illustrated in Figure 1. Using prescription of triptans (ATC codes: N02CC01-N02CC07) as a proxy for migraine, the survey was sent to all Danes ≥18 years who had redeemed a triptan prescription between Jan 2021 – Dec 2023. It contained 87 filtered questions related to migraine including diagnosis, symptoms, comorbid conditions, use of medication, physician contact, and sick leave.

Figure 1. Visualization of the combination of Danish National registers and survey data at the individual level



RESULTS

Key baseline registry results

- Of the 144,323 individuals with a triptan redemption who received the survey, 58,317 (40.4%) completed the questionnaire of which 50,857 individuals (83% women) had a health care professional confirmed migraine diagnosis (migraine population (MP)).
- The average age of the MP was 50.0 (49.5 years for women and 52.1 years for men).
- Distribution of annual income and education between women and men in the MP is presented in Table 1.

Table 1. Baseline demographics

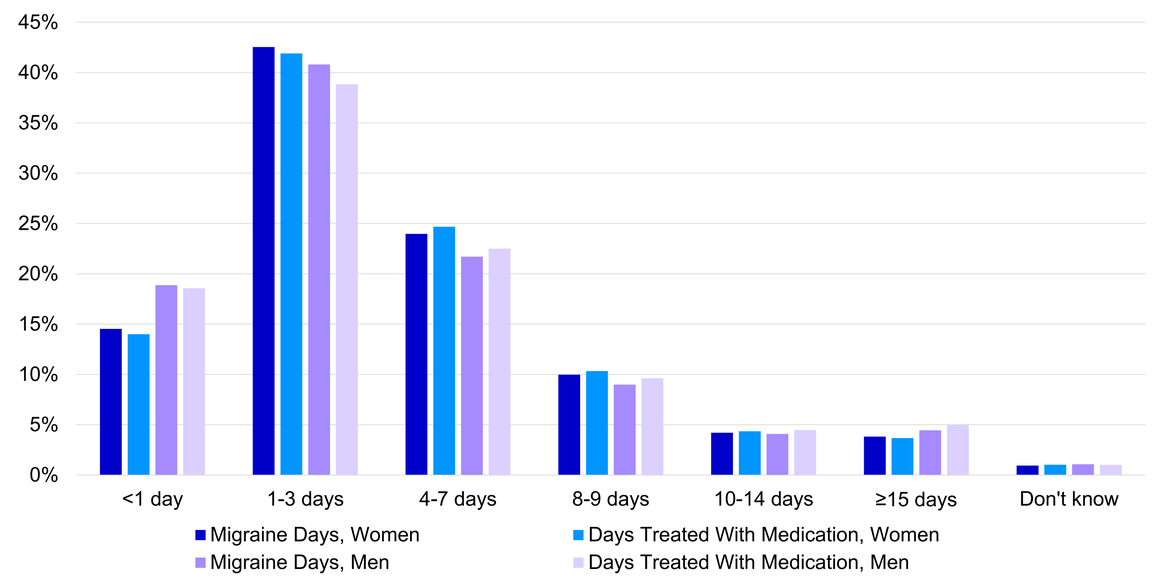
	Migraine population		Women		Men	
	N	%	N	%	N	%
N	50,857	100%	42,392	83%	8,465	17%
Age, mean (SD)	*50 (14)*		*49.5 (14)*		*52.1 (14)*	
Age, median (IQR)	*51 (40, 60)*		*50 (40, 59)*		*53 (42, 62)*	
Annual income						
Income, €, mean (SD)	*42,590 (41,278)*		*40,551 (37,934)*		*52,802 (53,906)*	
Income, €, lower quartile (25%)	*2,045*		*2,000*		*2,488*	
Income, €, median	*46,436*		*45,203*		*54,489*	
Income, €, upper quartile (75%)	*64,221*		*62,085*		*76,874*	
Highest attained level of education						
Primary education	*5,706*	*11%*	*4,465*	*11%*	*1,241*	*15%*
Upper secondary education	*3,893*	*8%*	*3,345*	*8%*	*548*	*6%*
Vocational educations and training	*15,603*	*31%*	*12,516*	*30%*	*3,087*	*36%*
Short cycle higher education	*2,791*	*5%*	*2,055*	*5%*	*736*	*9%*
Vocational bachelors educations/bachelors programs	*14,880*	*29%*	*13,439*	*32%*	*1,441*	*17%*
Masters programs	*7,039*	*14%*	*5,839*	*14%*	*1,200*	*14%*
PhD programs	*662*	*1%*	*520*	*1%*	*142*	*2%*
Not stated	*283*	*1%*	*213*	*1%*	*70*	*1%*

RESULTS

Key survey results

- Distribution of monthly migraine days and migraine days treated with acute medication for the 41,498 women and men having reported a migraine attack the past 3 months is presented in Figure 2.
- The majority of the MP reported having had their first migraine attack more than five years ago (87%) and first seeking treatment more than five years ago (78%), but while most (92%) of the MP reported having had a migraine attack within the last year, only 27% had consulted their doctor about migraine in that time period (Table 2).
- Most, 63%, reported having had migraine within the last month, and 19% within the last 1-3 months.
- Within the last 3 years prior to receiving the survey 19% in the MP reported cardiovascular comorbidity incl. hypertension, 13% chronic pain (excl. headache and migraine), 11% depression, 8% asthma, and 7% anxiety.
- Of the MP with a migraine attack within the last 3 months, 51% of those employed or in education reported sick leave during that time.

Figure 2: Distribution of monthly migraine days and migraine days treated with acute medication (n=41,498) for women and men for the past 3 months



Note: For 'Migraine Days', the intervals are 8-10 days and 11-14 days. The remaining intervals are illustrated in the figure. N=1,862 (4%) reported not taking any medication for migraine attacks or other types of headaches in the past 3 months. An additional N=274 (1%) reported not knowing they whether they had taken medication for migraine attacks and other types of headaches during the same period (data not shown in graph).

Table 2. Migraine history based on survey data

		Total	Women	Men
N		50,857	42,392	8,564
When did you first experience a migraine attack?	Within the last 5 years	6,630 (13%)	5,317 (13%)	1,313 (16%)
	More than 5 years ago/Don't know	44,227 (87%)	37,075 (87%)	7,152 (84%)
When did you first seek treatment from a doctor for migraines?	Within the last 5 years	11,082 (22%)	8,922 (21%)	2,160 (26%)
	More than 5 years ago/Don't know	39,775 (78%)	33,470 (79%)	6,305 (74%)
When did you last experience a migraine attack?	Within the last year	46,899 (92%)	39,236 (93%)	7,663 (91%)
	More than 1 year ago/Don't know	3,958 (8%)	3,156 (7%)	802 (9%)
Do you have more frequent migraine attacks or severe headaches in relation to menstruation (i.e., from 2 days before menstruation to 3 days into the menstrual period)?	Yes		16,040 (38%)	
	No		5,846 (14%)	
	I do not have or only rarely have menstruation/Don't know		20,506 (48%)	
When did you last see a doctor because of your migraine?	Within the last year	13,802 (27%)	11,809 (28%)	1,993 (24%)
	More than 1 year ago/Don't know	36,651 (73%)	30,257 (72%)	6,394 (76%)

Note: For the question "When did you last see a doctor because of your migraine?" N = 50,453 where N_women = 42,066, and N_men = 8,387. N is lower because individuals who did not know when they last experienced a migraine attack were not asked this question.

References: 1. Vos T, et al., *Lancet*. 2020 Oct 17;396(10258):1204-1222. 2. Blueprint to Close the Women's Health Gap: How to Improve Lives and Economies for All. World Economic Forum in collaboration with the McKinsey Health Institute, January 2025 3. Olesen, A, et al., *Sci Rep*. 2022 May 19;12(1):8487. 4. Leroux E et al. Adv. Ther. 2020 Dec;37(12):4765-4796. 5. Ashina M, et al., *Cephalalgia.* 2024 Sep;44(9):3331024241269758. 6. Ashina M, et al., *J Med Econ.* 2025 Dec;28(1):398-404.

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