Migraine burden associated with triptan satisfaction from the 2022 European National Health & Wellness Survey

Motomori Lewis[1], Aaron Jenkins[2], Jessica Cirillo[3], Karin Hygge Blakeman[4], Lucy Abraham[2], Joshua Brown[1]

[1] Real World Evidence, Pfizer, New York, NY, USA; [2] HTA, Value & Evidence, Pfizer, Tadworth, UK; [3] HTA, Value & Evidence, Pfizer, New York, NY, USA; [4] Global Medical Affairs, Pfizer, Stockholm, Sweden

INTRODUCTION

- Triptans are a standard-of-care therapy for migraines, yet many patients are refractory, contraindicated, or respond insufficiently.[1,2]
- While utilization patterns have been documented, there is little data on triptan satisfaction among people with migraine (PwM).[3,4]
- The objective of this analysis was to compare patient characteristics, migraine burden, and co-occurring treatment use among PwM using triptans by their triptan satisfaction ratings.

METHODS

Study Design: Retrospective, cross-sectional analysis of survey data

Data Source: The 2022 5-country European Union (5EU: UK, France, Germany, Spain, Italy) National Health and Wellness Survey (NHWS, Oracle Life Sciences) is a self-reported, online survey with a migraine specific survey module. The 5EU data are weighted to be representative of national age and sex distributions within 5EU countries.

Study Sample:

- Self-reported having migraine diagnosed by a physician
- Currently taking ≥1 Rx or over-the-counter (OTC) triptan medication

Measures: Patient demographics, clinical characteristics, migraine burden (MIDAS[5], activity impairment (WPAI[6]) and concurrent migraine treatments were assessed.

Statistical Analysis:

- Triptan satisfaction ratings on a 7-point scale were used to stratify the respondents; ratings of 1-3 and 4 (dissatisfaction and neutral, respectively) represented those non-satisfied with triptans, while 5-7 represented those satisfied.
- Inverse probability of treatment weighting (IPTW) was conducted to balance the distribution of demographics characteristics between the satisfaction groups.
- Descriptive results were summarized for each outcome. Two sample t-tests and chi-square tests were used to compare the difference between groups. P-values <0.05 were considered statistically significant.

Table 1. Patient demographic characteristics by triptan satisfaction rating

	Pre-IPTW			Post-IPTW		
Characteristics, N (%)*	Triptan Satisfied (n=799)	Triptan Non-satisfied (n=308)	Standardized Difference	Triptan Satisfied (n=803)	Triptan Non-satisfied (n=311)	Standardized Difference
Age (years), Mean ± SD	49.0 (13.5)	42.5 (14.4)	0.47*	46.2 ± 14.1	46.8 ± 14.1	0.04
Female	647 (81.0%)	223 (72.4%)	0.20*	602 (75.0%)	236 (75.8%)	0.02
Married/living with partner	526 (65.8%)	186 (60.4%)	0.11*	525 (65.3%)	201 (64.5%)	0.02
University education or higher	391 (48.9%)	143 (46.4%)	0.06	381 (47.5%)	142 (45.7%)	0.04
Annual household income			0.16*			0.04
Below median income	301 (37.7%)	137 (44.5%)		327 (40.7%)	126 (40.6%)	
Median income	153 (19.1%)	52 (16.9%)		155 (19.3%)	57 (18.2%)	
Above median income	297 (37.2%)	97 (31.5%)		273 (34.0%)	108 (34.7%)	
Decline to answer	48 (6.0%)	22 (7.1%)		47 (5.9%)	20 (6.5%)	
Employed	493 (61.7%)	203 (65.9%)	0.09	509 (63.3%)	195 (62.6%)	0.01
Charlson comorbidity index, Mean ± SD	0.49 (1.1)	0.61 (1.0)	0.11*	0.53 ± 1.0	0.45 ± 0.9	0.08
Body mass index (kg/m), Mean ± SD	26.0 (6.5)	26.3 (6.8)	0.04	26.1 ± 6.7	26.1 ± 6.4	0.01
Alcohol use	576 (72.1%)	223 (72.4%)	0.01	575 (71.6%)	214 (68.8%)	0.06
Smoking behavior			0.17*			0.08
Never smoked	383 (47.9%)	130 (42.2%)		342 (42.5%)	143 (46.1%)	
Former smoker	208 (26.0%)	74 (24.0%)		220 (27.4%)	84 (27.0%)	
Current smoker	208 (27.0%)	104 (33.8%)		242 (30.1%)	84 (27.0%)	
Exercise (days/month), Mean ± SD	6.7 (8.1)	6.7 (8.4)	<0.001	7.0 ± 8.2	7.2 ± 8.8	0.02
Country			0.28*			0.04
UK	196 (24.5%)	44 (14.3%)		139 (17.3%)	53 (17.1%)	
France	192 (24.0%)	90 (29.2%)		230 (28.6%)	92 (29.6%)	
Germany	192 (24%)	90 (29.2%)		151 (18.8%)	59 (18.9%)	
Spain	137 (17.1%)	48 (15.6%)		158 (19.7%)	62 (19.9%)	
Italy	82 (10.3%)	36 (11.7%)		126 (15.7%)	45 (14.5%)	

*Denotes standardized differences >0.1 pre-IPTW. All characteristics listed in the table were included in the IPTW adjustment. All standardized differences were <0.1 following IPTW.

Table 2. Clinical characteristics and migraine burden by triptan satisfaction rating

	Unadjusted		Adjusted		
Characteristics, N (%)*	Triptan Satisfied (n=843)	Triptan Non-satisfied (n=319)	Triptan Satisfied (n=803)	Triptan Non-satisfied (n=311)	P-value
Triptan contraindications					
Angina	28 (3.3%)	8 (2.5%)	29 (3.6%)	6 (2%)	0.21
Congestive heart failure	12 (1.4%)	7 (2.2%)	15 (1.8%)	4 (1.3%)	0.61
Heart attack	13 (1.5%)	6 (1.9%)	22 (2.7%)	5 (1.5%)	0.39
Other*	59 (7.0%)	35 (11.0%)	62 (7.7%)	21 (6.6%)	>0.05
Cardiovascular (CV) risk factors					
High blood pressure	136 (16.1%)	61 (19.1%)	122 (15.2%)	59 (18.8%)	0.15
High cholesterol	162 (19.2%)	53 (16.6%)	170 (21.2%)	57 (18.2%)	0.33
Current smoker	216 (25.6%)	108 (33.9%)	242 (30.1%)	84 (26.9%)	0.33
Type 2 Diabetes	43 (5.1%)	15 (4.7%)	40 (4.9%)	14 (4.3%)	0.69
Obesity	162 (20.3%)	60 (19.5%)	168 (20.9%)	57 (18.2%)	0.32
Any contraindication or CV risk factor	493 (58.5%)	201 (63.0%)	509 (63.3%)	185 (59.3%)	0.23
Monthly migraine days (MMD) Groups					0.53
<4	554 (65.7%)	209 (65.5%)	503 (62.6%)	204 (65.6%)	
4-9	171 (20.3%)	65 (20.4%)	181 (22.5%)	61 (19.5%)	
10-14	64 (7.6%)	17 (5.3%)	64 (7.9%)	21 (6.7%)	
>=15	54 (6.4%)	28 (8.8%)	56 (6.9%)	26 (8.2%)	
Monthly headache days (MHD) Groups					0.29
<4	150 (32.5%)	52 (32.5%)	143 (30.3%)	59 (34.1%)	
4-9	148 (32.0%)	57 (35.6%)	160 (33.8%)	56 (32.9%)	
10-14	67 (14.5%)	16 (10.0%)	76 (16%)	18 (10.4%)	
>=15	97 (21.0%)	35 (21.9%)	94 (19.9%)	39 (22.6%)	
MIDAS Score Groups, N (%)					0.046*
MIDAS Grade I - Little or No Disability	328 (38.9%)	96 (30.1%)	300 (37.3%)	104 (33.5%)	
MIDAS Grade II - Mild Disability	122 (14.5%)	39 (12.2%)	125 (15.5%)	34 (11%)	
MIDAS Grade III - Moderate Disability	136 (16.1%)	70 (21.9%)	127 (15.8%)	63 (20.1%)	
MIDAS Grade IV - Severe Disability	257 (30.5%)	114 (35.7%)	252 (31.3%)	110 (35.4%)	
Total Activity Impairment (WPAI)	40.6 (29.3)	48.0 (28.2)	41.2 (28.7)	45.9 (29.7)	0.017*

*Other triptan contraindications include: Left ventricular hypertrophy (LVH), Mini-Stroke/Transient Ischemia Attack (TIA), Peripheral arterial disease (PAD), Peripheral vascular disease (PVD), Stroke, Unstable Angina/Chest pains

RESULTS

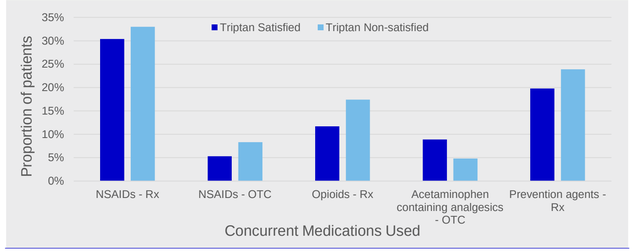
Demographics and clinical characteristics

- A total of 1,162 PwM (approx. 4.9 million people weighted) currently on ≥1 triptan were included in the analyses. Following exclusion on missing variables, 1107 patients were included in the IPTW analysis. Post-IPTW, the effective sample size was 1,114.Prior to IPTW adjustment, the mean age and sex distribution of respondents in the triptan non-satisfied and satisfied groups were 42.5 vs. 48.9 years-old and 72.4 vs. 81.0% female, respectively (Table 1).
- 72.2% of users reported being satisfied with triptan therapy and the remaining 27.8% were non-satisfied.
- After adjustment, there were no observed differences between rates of triptan contraindication or cardiovascular risk-factor across the two satisfaction groups (Table 2).

Migraine burden and treatments

- Monthly migraine and headache frequency did not differ significantly by triptan satisfaction rating (Table 2).
- Presence of moderate-to-severe migraine disability (55.5% vs. 47.1%) and total activity impairment (45.9 vs. 41.2) was significantly higher among triptan non-satisfied PwM compared to those satisfied (Table 2).
- In addition, people non-satisfied with triptans were more likely to use migraine prevention (27.8% vs. 18.6%) compared to triptan-satisfied PwM (Figure 1).
- Common concurrent acute medications used were NSAIDs and opioids; both types were used more among triptan non-satisfied PwM (Figure1).

Figure 1. Adjusted differences between rates of concurrent migraine treatment use among triptan users by triptan satisfaction rating



*Denotes statistically significant differences (p-value <0.05) following IPTW.

CONCLUSIONS

- Among PwM, over 1-in-4 (27.2%) were non-satisfied with triptan therapy. Those non-satisfied with their triptan therapy had a greater migraine burden as indicated by their MIDAS scores and activity impairment compared to triptan-satisfied PwM.
- The differences in MIDAS score groups and total activity impairment remained significant after the IPTW adjusted analysis.
- The differences between satisfaction rating groups may be indicative of unmet needs correlated to treatment with triptans, suggesting a need for more tolerable and effective acute treatment options for PwM

REFERENCES

1: Gendolla A, et al. *Neurol Ther*. 2022 Mar;11(1):167-183. 2: Leroux E, et al. *Adv Ther*. 2020 Dec;37(12):4765-4796. 3: Hyeraci G, et al. *Headache*. 2023; 63: 222-232. 4: Panconesi A, et al. *Cephalalgia*. 2010;30(5):576-581. 5: Stewart WF, et al. *Neurology*. 2001;56(6,S1):S20–S28. 6: Reilly MC, Zbrozek AS, & Dukes EM. *Pharmacoeconomics*. 1993;4:353–365

CONFLICTS OF INTEREST

ML, AJ, JC, KHB, LA, and JB are employees of Pfizer, Inc. which sponsored this study.

ACKNOWLEDGEMENTS

Support for data analysis was provided by Nemin Chen, PhD and Nikoletta Sternbach, BBA of Oracle Life Sciences.

Presented at the 10th Congress of the European Academy of Neurology 2024, June 29-July 2, 2024, Helsinki, Finland