

Mean Time on Triptan Treatment Among Danish Migraine Patients before Discontinuing Treatment – a Register-Based Study

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BACKGROUND

- Migraine is a prevalent and debilitating disease worldwide and is ranked as the second most disabling disorder in terms of years lost to disability.¹⁻²
- Triptans are recommended as second-line acute treatment after first-line failure of non-steroidal anti-inflammatory drugs (NSAIDs) and simple analgesics.³
- Although national guidelines recommend trying three distinct triptans before concluding non-response,⁴ a recent Danish study revealed that, while 40–60% of triptan users discontinued triptan treatment, only 10% had tried more than one triptan before discontinuation.⁵
- Knowledge about the correlation between number of distinct triptans tried before discontinuation and total time on triptan treatment (TToTT) remains unexplored in the existing literature.

OBJECTIVE

- The objective of this population-based study was to determine the correlation between number of distinct triptans tried and mean TToTT among Danish migraine patients, using routinely collected data.

METHODS

STUDY DESIGN AND DATA SOURCES

- From the Danish National Prescription Register we identified all individuals (≥18 years) who had redeemed at least one triptan prescription between 1998 and 2019 and subsequently discontinued treatment with triptans (defined as no further triptan prescription redemptions for at least a two-year period and until the end of follow-up ultimo 2021).
- We assumed triptans (defined by ATC codes: N02CC01–N02CC07) to be prescribed only for migraine.
- Triptan discontinuers were divided into seven groups corresponding to the number of distinct triptans tried (range 1-7) before discontinuation.

STATISTICAL ANALYSIS

- For each of the seven groups mean and median TToTT were estimated, and the correlation between number of distinct triptans tried and mean TToTT was tested.

RESULTS

- We identified 211,026 triptan discontinuers that acquired at least one triptan during the study period. Women were overrepresented (75%) and the median age at index was 39 years.
- The majority tried only one distinct triptan (81.8%), 14.4% tried two, 2.9% tried three, and fewer than 1% tried four or more distinct triptans (Table 1).

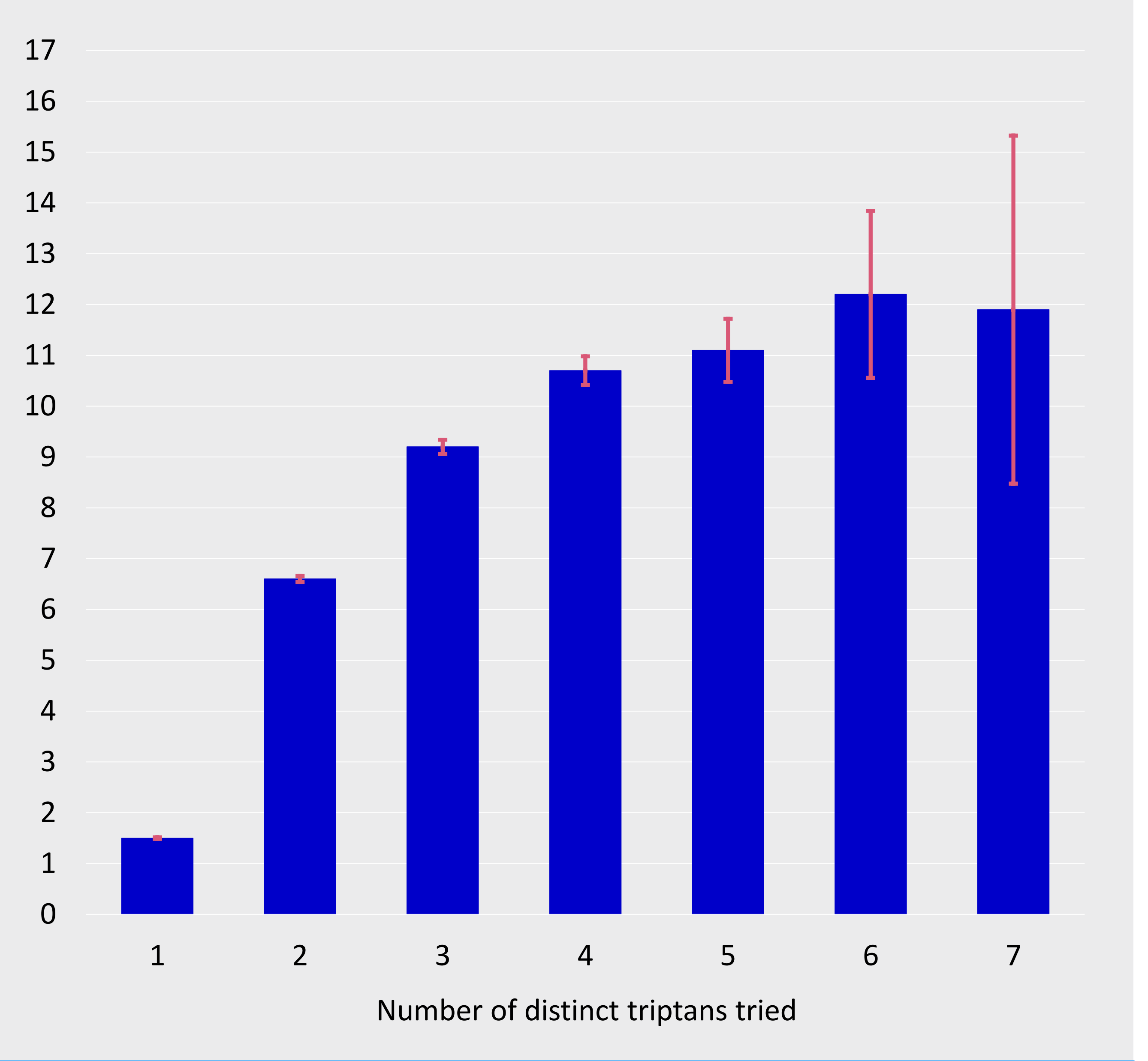
Table 1. Distribution of triptan discontinuers stratified on number of distinct triptans tried as well as mean (SE) and median (IQR) total time on triptan treatment in years			
Number of distinct triptans tried	N (%)	Mean years (SE)	Median years (IQR)
1	172,668 (81.8%)	1.5 (0.01)	0.0 (0.0-1.2)
2	30,487 (14.4%)	6.6 (0.03)	5.5 (2.0-10.3)
3	6,079 (2.9%)	9.2 (0.07)	9.0 (4.7-13.5)
4	1,459 (0.7%)	10.7 (0.14)	10.7 (6.0-15.3)
5	280 (0.1%)	11.1 (0.32)	11.6 (7.0-15.2)
6	40 (<0.0%)	12.2 (0.84)	11.1 (8.9-16.0)
7	13 (<0.0%)	11.9 (1.75)	12.7 (8.1-17.2)

Abbreviations: IQR: interquartile range; SE: standard error.

TOTAL TIME ON TRIPTAN TREATMENT

- The mean TToTT was 1.5 years among the individuals that tried one distinct triptan, but most had limited exposure to triptans (median TToTT=0.0 years).
- From one to four distinct triptans tried, we found a clear dose-response association between number of distinct triptans tried and mean TToTT (Figure 1).
- Statistically significant longer mean TToTT were observed between groups treated with 1 vs. 2 (p<0.001), 2 vs. 3 (p<0.001) and 3 vs. 4 (p<0.001) distinct triptans (1.5, 6.6, 9.2 and 10.7 years for 1, 2, 3 and 4 triptans, respectively).
- However, no further statistically significant increase in mean TToTT was observed when comparing groups treated with 4 vs. 5, 5 vs. 6 or 6 vs. 7 distinct triptans.

Figure 1. Mean (and 95% confidence intervals) total time on triptan treatment in years stratified on number of distinct triptans tried



STRENGHTS AND LIMITATIONS

- The Danish national registers and not least the National Prescription Register have been recognized for providing real-world data that are considered to be among the most extensive and comprehensive of their kind.⁶
- Contrary to for example survey data, the use of the National Prescription Register data collected prospectively mitigates biases related to selection and information and eliminates recall errors.

CONCLUSIONS

- Of all individuals who filled only one distinct triptan, over half of them discontinued immediately, suggesting no intake of or no relief from a triptan. Further, mean TToTT among patients who eventually discontinued triptans altogether increased with the number of distinct triptans tried up until 4 triptans.
- Further research is needed to determine whether triptan discontinuation is due to inadequate symptom relief, poor tolerability or for other reasons, and to establish the likelihood of response to other triptans after failure (for whatever reason) of one or more.

REFERENCES

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CONFLICTS OF INTEREST

MA reports receiving personal fees from AbbVie, Amgen, Astra Zeneca, Eli Lilly, GlaxoSmithKline, Lundbeck, Novartis, Pfizer and Teva Pharmaceuticals and reports serving as associate editor of Cephalalgia, associate editor of The Journal of Headache and Pain, and associate editor of Brain. JMH reports receiving personal fees from Pfizer. TFH reports no conflicts. DSH and USL are current employees of Pfizer Denmark and may own shares in Pfizer Inc. TJS is co editor of the Journal of Headache and Pain, a director and trustee of Lifting The Burden, and reports receiving personal fees from Eli Lilly and Pfizer.