



Eight Decades of Data Reveal a Far Greater Global Burden of Trigeminal Neuralgia

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Trigeminal neuralgia (TN) has long been considered a rare yet devastating facial pain disorder.¹ Despite its well-recognized clinical impact, the epidemiology of TN has remained surprisingly underexplored. The recent systematic review and meta-regression by Jeong et al.² has addressed this situation by offering the most-comprehensive assessment to date, involving 17 studies and more than 170 million individuals from 12 countries spanning 1945 to 2024. A meta-analysis of the incidence and prevalence of a disease provides valuable insight into its epidemiologic profile,³ and the analysis by Jeong et al.² has provided quantitative estimates of the global incidence and prevalence of TN that fundamentally redefine its epidemiologic landscape.

The pooled global incidence of TN was 25.3 cases per 100,000 person-years, the annual prevalence was 45.4 cases per 100,000 inhabitants, and the lifetime prevalence was 108.4 cases per 100,000 inhabitants. The incidence in females was nearly twice as high as that in males (43.8 per 100,000 person-years vs. 21.9 per 100,000 person-years), and the maxillary and mandibular divisions were more frequently affected than the ophthalmic division. It was particularly interesting that the right side of the face was more commonly involved than the left, indicating a right-side predominance. Collectively these estimates indicate that TN may be far more common than traditionally assumed, challenging the long-held supposition of its rarity.

The study has synthesized epidemiologic data across continents and decades to reframe TN as a neurologic pain disorder with meaningful public-health implications, rather than as a mere neurosurgical curiosity. Accurate diagnosis based on internationally established criteria and early MRI evaluation are essential, since these approaches will facilitate the prompt differentiation of neurovascular compression or secondary causes such as multiple sclerosis and tumors, and aid in determining the suitability of microvascular decompression. However, current public-health strategies remain primarily focused on migraine and other headache disorders,⁴ warranting greater awareness and efforts toward the early diagnosis of TN. In clinical practice, systematic documentation of the TN type (primary versus secondary), disease duration, and comorbidities are also crucial to establish individualized treatment strategies.

The authors acknowledged several limitations. The study was constrained by the scarcity of data from low- and middle-income countries, leading to regional imbalance and restricting comparability across geographic areas. The relatively small number of studies included and the considerable heterogeneity arising from differences in diagnostic criteria, study design, and case-ascertainment methods further reduced the generalizability of the findings. Moreover, detailed clinical information was not consistently available across the included studies. Beyond the points acknowledged by the authors, additional limitations include the absence of analyses addressing the impact of diagnostic criteria, temporal variations due to the introduction of MRI and differences in study periods, and the inadequate identification

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of secondary causes. Furthermore, a comparative discussion with previous systematic reviews of TN,⁵ particularly regarding the reasons for differences in the numbers of included studies as well as discrepancies in reported incidence and prevalence estimates, would have strengthened the interpretative depth of the study.

Nevertheless, Jeong et al.² have performed the first comprehensive analysis to quantify the global incidence and prevalence of TN by integrating data from multiple population-based sources. Their study is particularly notable for having evaluated epidemiologic characteristics while accounting for temporal changes in diagnostic criteria. The findings were made more robust by sensitivity analyses and meta-regression approaches.

In conclusion, the study by Jeong et al.² has elucidated the worldwide burden of TN, demonstrating that its incidence and prevalence are substantially higher under current diagnostic standards than previously supposed. Future epidemiologic research should focus on underrepresented regions and large-scale multinational collaborations to address existing heterogeneity and to establish more-precise and standardized disease indicators.

Availability of Data and Material

Data sharing is not applicable to this article as no datasets were generated or analyzed during the study.

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Conflicts of Interest

The authors have no potential conflicts of interest to disclose.

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REFERENCES

1. Jones MR, Urits I, Ehrhardt KP, Cefalu JN, Kendrick JB, Park DJ, et al. A comprehensive review of trigeminal neuralgia. *Curr Pain Headache Rep* 2019;23:74.
2. Jeong YD, Jo Y, Son Y, Kim DK, Kim TH, Cho J, et al. Global incidence and prevalence of trigeminal neuralgia, 1945–2024: a systematic review and meta-regression analysis. *J Clin Neurol* 2026;22:102-112.
3. Jung S, Jung G, Kim D, Oh J, Choi K. Epidemiology of chronic inflammatory demyelinating polyneuropathy in South Korea: a population-based study. *J Clin Neurol* 2023;19:558-564.
4. Kim KY, Ko HY, Bea S, Lee HJ, Shin JY, Chu MK. Treatment patterns and persistence among patients newly diagnosed with migraine in South Korea: a retrospective analysis of health claims data. *J Clin Neurol* 2024;20:529-536.
5. De Toledo IP, Conti Réus J, Fernandes M, Porporatti AL, Peres MA, Takaschima A, et al. Prevalence of trigeminal neuralgia: a systematic review. *J Am Dent Assoc* 2016;147:570-576.e2.