

# Global estimates of headaches suggest disorder impacts over 50% of the population

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A new review of the evidence suggests 52% of the global population are affected by a headache disorder every year, with 14% reporting migraines. The review is published in *The Journal of Headache and Pain*.

Headaches are one of the most prevalent and disabling conditions worldwide. However, studies of headache prevalence can vary greatly in their methods and samples, which may impact how the global rates of headaches are estimated.

Authors from the Norwegian University of Science and Technology reviewed 357 publications from between 1961 and the end of 2020 to estimate the global prevalence of headaches. The majority of publications considered in the review reported on adults between 20 and 65, but some also included adolescents and children down to 5, and elderly people above 65. Building on a previous report from 2007, Lars Jacob Stovner and colleagues also measured the differences in methods across the studies they reviewed. They modeled these differences in methods and how they are associated with estimates in headache prevalence. Most studies reported on headache prevalence during the past year. However, some studies reported on headache prevalence across the whole lifetime and some for much shorter periods, including instances of headache within the last day.

Based on the 357 publications reviewed, the authors estimate that 52% of the [global population](#) have experienced a headache disorder within a given year, with 14% reporting a [migraine](#), 26% reporting a tension-type headache and 4.6% reporting a headache for 15 or more days per month. From the 12 studies that reported on headache during the last day, the authors estimate that 15.8% of the world's population have a headache on any given day, and almost half of those individuals report a migraine (7%).

Lars Jacob Stovner, lead author, said: "We found that the prevalence of headache disorders remains high worldwide and the burden of different types may impact many. We should endeavor to reduce this burden through prevention and better treatment. To measure the effect of such efforts, we must be able to monitor prevalence and burden in societies.

Our study helps us understand how to improve our methods."

All types of headache were more common in females than males, most markedly for migraines (17% in females compared to 8.6% in males) and headaches for 15 or more days per month (6% in females compared to 2.9% in males).

The authors also investigated the association between study methods and headache estimates. Some of the different measures the authors looked at, such as screening questions, sample size, publication year, and how [diagnostic criteria](#) are applied, amongst others, explained 29.9% of the variation in migraine estimates and less for other headache disorders. This suggests that there may be other methodological factors accounting for the greater variations across the studies. When modeling the variation in migraine prevalence estimates, the publication year of studies was associated to 6% of the variation in headache estimates, with higher prevalence estimates associated with more recent publication. The publication year was not associated with other headache types. The authors propose that this might reflect a real change with migraines becoming more common over the last three to four decades. Alternatively, this finding could suggest improved methods of diagnosing migraines.

The authors also acknowledge that the majority of publications they reviewed came from [high-income countries](#) with good healthcare systems so this may not reflect every country. Further investigation into middle and low-income countries would help present a more accurate global estimate. However, to obtain data from as many countries as possible, the authors did use a broad range of studies that sampled participants outside of [clinical settings](#), such as employees of a company, university students and [hospital staff](#), amongst others.

Lars Jacob Stovner said: "Compared to our previous report and global

estimates, the data does suggest that headaches and migraines rates may be increasing. However, given that we could explain only 30% or less of the variation in headache estimates with the measures we looked at, it would be premature to conclude headaches are definitively increasing. What is clear is that overall, headache disorders are highly prevalent worldwide and can be a high burden. It may also be of interest in future to analyze the different causes of headaches that varied across groups to target prevention and treatment more effectively."

The authors conclude that this study provides a baseline in how to estimate [headache](#) rates across the world and future research could build on this to improve methods for measuring the success of interventions and treatment.

**More information:** Lars Jacob Stovner et al, The global prevalence of headache: an update, with analysis of the influences of methodological factors on prevalence estimates, *The Journal of Headache and Pain* (2022). [DOI: 10.1186/s10194-022-01402-2](https://doi.org/10.1186/s10194-022-01402-2)

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