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Trends in physiopathology research of primary headaches over the last 50 years

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Introduction

The headache field, mainly migraine, is passing through a transformative era of new treatments. These breakthroughs would not be possible without the evolving knowledge on mechanisms of headaches. However, there are still unmet needs for headaches' understanding and treatments.

Objectives

Assess whether there is a trend in the number of publications regarding physiopathology of each primary headache disorders (PHD) in the past 50 years. Secondarily, we aimed to evaluate how the SARS-CoV-2 pandemics impacted on physiopathology research of PHD.

Methods

PHD were divided hierarchically in first- and second-digit, according to ICHD-3 criteria. PubMed database was searched using both the name of the PHD and MeSH terms related to physiopathology. Each search yielded the number of publications for a determined PHD along the period selected (1971-2021). Data were retrieved and separated in two groups: a) per decades (1971-2020); and b) per year (2011-2021). Ratios between every two timepoints in each group were calculated, as well as a total ratio for the whole interval.

Results

Either divided per decades, or divided annually for the last 10 years, migraine had the highest absolute number of pathophysiology publications, significantly above the other PHD.

Divided per decades, with exception of tension-type headache (TTH), all the other PHD groups have increased their number of publications over time. Meanwhile, TTH in the last decade decreased the total number of mechanisms research.

The number of papers published in 2020 was lower than in 2019 for TTH, trigeminal autonomic cephalalgias (TACs) and group 4 "other PHD" (4.OPHD), migraine kept practically the same number.

Conclusion

There is a clear disparity in the number of publications on mechanisms of each PHD, being migraine well above TTH, TACs and 4.OPHD.

As expected, the recent COVID pandemics has clearly impaired pathophysiologic research in the headache field.

Keywords: Headache, Migraine, Mechanisms, Physiopathology, Research.

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