Martelletti The Journal of Headache and Pain https://doi.org/10.1186/s10194-020-01112-7 The Journal of Headache and Pain

EDITORIAL

An unexpected and suspended time

(2020) 21:36

Paolo Martelletti^{1,2}

The pandemic that is shocking our lives will also have an enduring impact on global research priorities [1-3]. It will not be a question of scotomizing important areas of medicine, but a return to its origins. The extreme fragmentation of the healthcare offers to citizens changes its priorities, and bringing together apparently distant disciplines [4]. The powerful investments that all nations are making by transforming their hospitals will not and must not be nullified but converted into large multidisciplinary departments.

In this new scenario, how will clinical and basic headache research be positioned? Will it have the same access to funds, or will global priorities decrease their force of impact, putting them at least on standby?

PubMed reports for the year 2020 729 papers published with "migraine" search, while with "CoViD-19" or "coronavirus" we can see 3746 items [5]. It is clear from now that in the next 2–3 years basic, clinical and epidemiological research on this pandemic will absorb most of the publications. Headache area will be strongly penalized, politically perceived as not a priority, previously enriched by the use of monoclonal antibodies, and not lastly for an exquisite, ethical reason.

How is the headache community going to renew itself, hooking this terrible situation? [6] To give a definite answer today is premature, but surely this pandemic will change over time the epidemiological expression of chronic non-communicable diseases. In the next 10 years we will see growing many pathologies unveiled or triggered by the immunological interactions of SARS-CoV-2 infection [7].

Therefore, epidemiological studies on CoViD-19 clinical interactions, on environmental factors, and not only on the headache symptom which sums up to 14% of

²Emergency Medicine CoViD-19 Unit, Sant'Andrea University Hospital, Rome, Italy



CoViD-19 patients' clinical presentations, will have to inspire the finding of still hidden avenues of research, or their *ex novo* creation.

Lastly, the huge economic crisis coming ahead will impact also on availability of funds, prioritized to the CoViD-19 area, and surely migraine won't be top ranked in this list of priorities anymore. Which young researcher, now that hospitals are hiring all the youngsters in the CoViD-19 areas, will have scientific interest in migraine? This will depend from the vitality and creativity of our scientific community.

After the pandemic the scientific priorities will see a revolution, and this will also bring positive notes. We will see a post-crisis Marshall Plan, and it will be up to us to be part of it.

The signs of discontinuity, with the swirling chasing each other marking future appointments through the "see you at", are clear and will remain so. No congress or meeting of medium or large size upwards will be classed as an acceptable and accepted risk. In an already digital era, Scientific Societies found themselves unprepared for remotely cultural exchanges, being anchored to a twentieth-century concept of solving problems with a handshake, or cementing ideas during the coffee breaks. The immense economic resources previously allocated to oceanic meetings, fleets of airplanes to bring together scientists, will no longer exist at least for a few years, perhaps forever. And this will mitigate the enormous conflicts of interest that undermined their credibility and therefore their reason for being.

From now on, the sharing and the scientific debate will use our digitalized desks, with the predictable reluctance of some related to habits or the fact that digital sharing prefers and rewards active participants and not mere audience. Young researchers, the sherpa of scientific research, will adapt themselves in a Darwinian way to this evolutive phase [8]. The true congresses of the future will harbour in scientific journals that will have to offer not only the aseptic list of papers already undergone the

© The Author(s). 2020 **Open Access** This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if changes were made. The images or other third party material in this article are included in the article's Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this licence, with http://creativecommons.org/licenses/by/4.0/. The Creative Commons Public Domain Dedication waiver (http://creativecommons.org/publicdomain/zero/1.0/) applies to the data made available in this article, unless otherwise stated in a credit line to the data.



Check for

CORE

Correspondence: paolo.martelletti@uniroma1.it

¹Department of Clinical and Molecular Medicine, Sapienza University of Rome, Rome, Italy

rigorous scrutiny of referees, but the critical re-reading and vulgarization of the messages contained through blogs, dedicated webinars, audio-podcasts, discussion forums, Q&A interviews, hybrid or scientific/educational platforms or new models of augmented reality interaction [9]. Is it just not the digital translation of what already took place in any conference room?

If all of us have reconverted our academic teaching from frontal to online in a flash, if we made operational methods of university exams and degrees online, then we are ready to move from the playful and social use of technology to a digital revolution where the sharing of research and the provision of training will find its territory, in emergency for now, stable immediately afterwards [10].

It is time to discover new avenues of research and education.

Aut inveniam viam aut faciam. Hannibal Barca (247–182 B.C.)

Acknowledgements

Not applicable.

Authors' contributions

The author(s) read and approved the final manuscript.

Funding

No funding has been received for this publication.

Availability of data and materials

Not applicable.

Ethics approval and consent to participate Not applicable.

Consent for publication

Not applicable

Competing interests

I have no competing interests.

Published online: 22 April 2020

References

- Lake MA (2020 Mar) What we know so far: COVID-19 current clinical knowledge and research. Clin Med (Lond) 20(2):124–127
- Panati K, Narala VR (2020) COVID-19 outbreak: an update on therapeutic options. SN Compr Clin Med. https://doi.org/10.1007/s42399-020-00264-6
- Chatterjee S (2020) Important steps to control COVID-19/SARS-CoV-2 infection. SN Compr Clin Med. https://doi.org/10.1007/s42399-020-00271-7
- Martelletti L, Martelletti P (2020) Air pollution and the novel Covid-19 disease: a putative disease risk factor. SN Compr Clin Med. https://doi.org/ 10.1007/s42399-020-00274-4
- 5. Last accessed on 9 April 2020
- Maassen van den Brink A, de Vries T, Danser AHJ. Headache medication and the COVID-19 pandemic. J Headache Pain. 2020. https://doi.org/10.1186/ s10194-020-01106-5
- Wan Y, Shang J, Sun S, Tai W, Chen J, Geng Q, He L, Chen Y, Wu J, Shi Z, Zhou Y, Du L, Li F (2020) Molecular Mechanism for Antibody-Dependent Enhancement of Coronavirus Entry. J Virol 94(5). https://doi.org/10.1128/JVI. 02015-19 Print 2020 Feb 14
- Keesara S, Jonas A, Schulman K (2020) Covid-19 and health Care's digital revolution. N Engl J Med. https://doi.org/10.1056/NEJMp2005835

- Noyes JA, Welch PM, Johnson JW, Carbonneau KJ (2020) A systematic review of digital badges in health care education. Med Educ. https://doi. org/10.1111/medu.14060
- 10. Rose S (2020) Medical student education in the time of COVID-19. JAMA. https://doi.org/10.1001/jama.2020.5227

Publisher's Note

Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

Ready to submit your research? Choose BMC and benefit from:

- fast, convenient online submission
- · thorough peer review by experienced researchers in your field
- rapid publication on acceptance
- support for research data, including large and complex data types
- gold Open Access which fosters wider collaboration and increased citations
- maximum visibility for your research: over 100M website views per year

At BMC, research is always in progress.

Learn more biomedcentral.com/submissions

