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Second wave and second opportunity: capitalising on cardiovascular research activity during the COVID-19 pandemic

Author's full names, highest academic degrees, affiliations and ORCID ID

Dr Asad Shabbir MBBS PGCert(MedEd) MRCP FHEA

The William Harvey Research Institute, Barts and The London School of Medicine & Dentistry, Queen Mary University of London, London, EC1M 6BQ, UK, ORCID ID 0000-0003-3466-0405, asad.shabbir@qmul.ac.uk

Prof Amrita Ahluwalia BSc PhD

The William Harvey Research Institute, Barts and The London School of Medicine & Dentistry, Queen Mary University of London, London, EC1M 6BQ, UK, ORCID ID; 0000-0001-7626-6399, a.ahluwalia@qmul.ac.uk

Corresponding author

Dr Asad Shabbir MBBS PGCert(MedEd) MRCP FHEA

The William Harvey Research Institute, Barts and The London School of Medicine & Dentistry, Queen Mary University of London, London, EC1M 6BQ, UK, ORCID ID 0000-0003-3466-0405, asad.shabbir@qmul.ac.uk

MANUSCRIPT

The COVID-19 pandemic has placed unprecedented pressure on healthcare systems and negatively impacted on research activity. Non-COVID research productivity has fallen owing to the closure of academic institutions, home-working and clinician-scientists being recalled to clinical service. However, pending the discovery of a vaccine recruitment of healthy volunteers and patients into COVID-19 clinical trials will be the primary route to identify potentially lifesaving treatments.

As a result of the reduced capacity to access primary care and 2-week wait appointments there is a significant risk of diagnostic delays in the management of chronic diseases which could lead to a looming crisis, including concerningly in cardiovascular disease (1). Also, an implication of isolation measures has been the closure of research institutes and the reduction of non-COVID research outputs. COVID-19 research activity, in contrast, initially grew at an exceptional rate reaching almost 2500 publications per week, although this has slowed with recent numbers of publications being 927 in the week starting 21th September, even in the face of increasing global cumulative cases and deaths (*figure 1*).

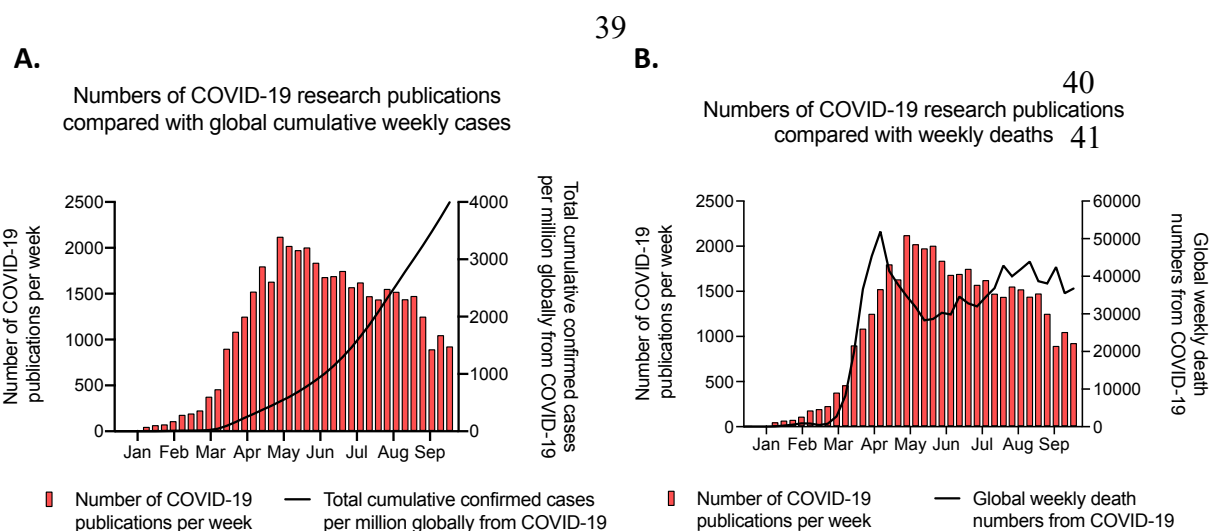


Figure 1. Numbers of COVID-19 research publications compared with (A) global cumulative weekly cases per million (Number of COVID-19 publications calculated from National Center for Biotechnology Information (NCBI) database) and (B) global weekly deaths. Accessed in October 2020 from <https://www.ncbi.nlm.nih.gov> with search terms; coronavirus, SARS-CoV-2, COVID-19. Cumulative incidence and death data collected from Our World In Data (ourworldindata.org), Global Change Data Lab, data accessed in October 2020).

Despite this, progress is being made with respect to tackling the consequences of infection. The findings that older patients are more susceptible to infection, the benefits of dexamethasone in severely affected hospitalised patients (the RECOVERY trial) and hydrocortisone are some of the discoveries that have come from the global research effort. There are currently over 3000 COVID-19 trials (clinicaltrials.gov) actively recruiting healthy volunteers and patients. Since there is likely to be no vaccine available before 2021, coupled with the increasing number of confirmed deaths, currently at 1,114,636 (European Centre for Disease Prevention and Control (ECDC), accessed 19th October 2020, <https://www.ecdc.europa.eu/en/geographical-distribution-2019-ncov-cases>), it is critical that the search for therapeutics for patients with COVID-19 continues. The global effort must continue, capitalising on the second wave with recruitment of these additional patients into clinical trials. Clinical trial units (CTUs) should be working towards enabling and supporting clinical research facilities to maximise the additional patients that may be eligible to recruit. Social distancing and protecting staff from unnecessary risk is a concern, however there is ample time to ensure clinical research facility preparedness to facilitate additional patient recruitment into clinical trials and rapid data analysis.

The economic conditions have also resulted in a perception of decreased funding for non-COVID research (2; 3) and whilst there is a focus on COVID-19 this inevitably results in neglect of other equally and arguably more pressing areas of research; an issue that has been raised by many recently (4). Restricting clinical research due to concerns related to COVID-19 whilst understandable, due to the many unknowns concerning the pandemic, may actually result in worse outcome for patients (5). It is possible that research funding may be more challenging to win in the medium- to long-term if the closure of charity shops in the UK for instance, which make up a significant proportion of revenue for charities that fund research, recurs with restrictions on retail space trading. It is important that key areas of disease that remain our biggest killers worldwide are not ignored.

FIGURE 1

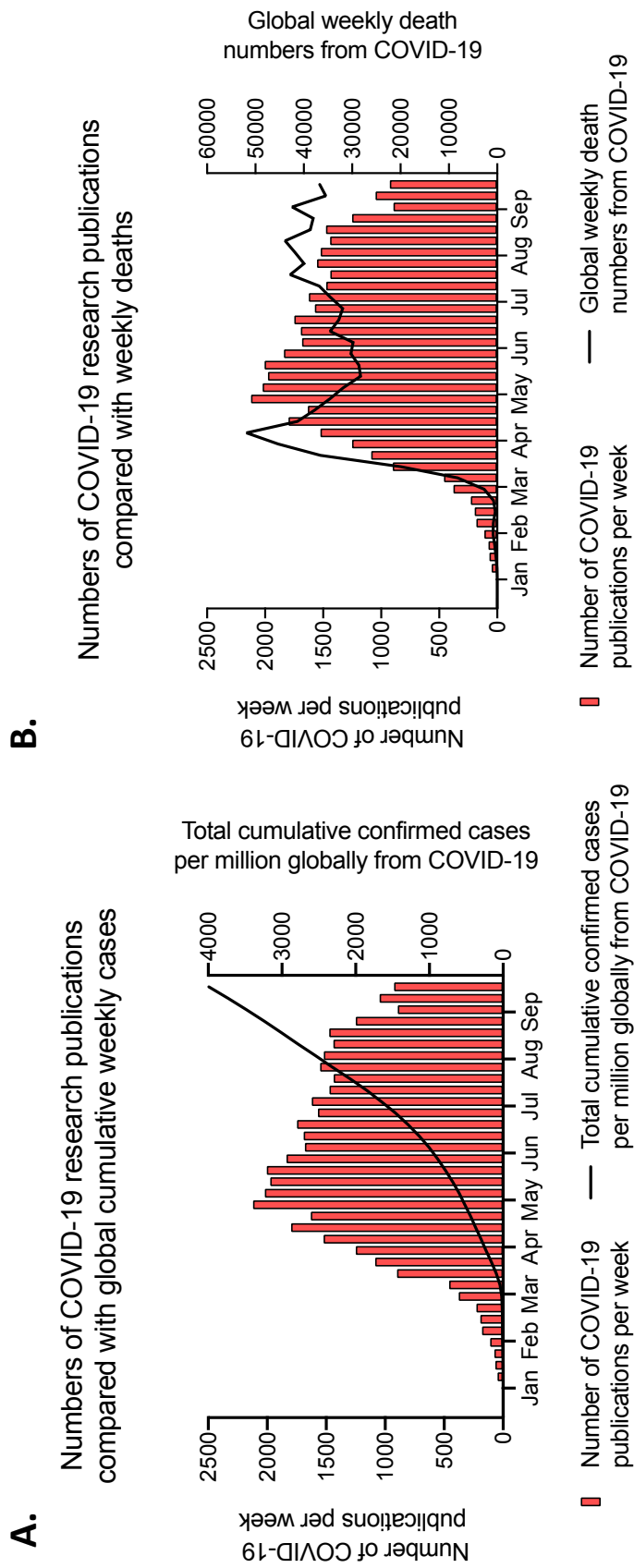


FIGURE LEGEND

Figure 1. Numbers of COVID-19 research publications compared with (A) global cumulative weekly cases per million (Number of COVID-19 publications calculated from National Center for Biotechnology Information (NCBI) database and (B) global weekly deaths. Accessed in October 2020 from <https://www.ncbi.nlm.nih.gov> with search terms; coronavirus, SARS-CoV-2, COVID-19. Cumulative incidence and death data collected from Our World In Data (ourworldindata.org), Global Change Data Lab, data accessed in October 2020).

REFERENCES

1. Wright A, Salazar A, Mirica M, Volk LA, Schiff GD. 2020. The Invisible Epidemic: Neglected Chronic Disease Management During COVID-19. *J Gen Intern Med* 35:2816-7
2. Mitchell J. 2020. British Heart Foundation warns research investment could halve this year due to coronavirus, <https://www.bhf.org.uk/what-we-do/news-from-the-bhf/news-archive/2020/june/bhf-research-under-threat>. *British Heart Foundation*
3. 2020. Coronavirus (COVID-19): information for grant applicants and grantholders, <https://www.cancerresearchuk.org/funding-for-researchers/applying-for-funding/policies-that-affect-your-grant/coronavirus-covid-19-information-for-grant-applicants-and-grantholders>. *Cancer Research UK*
4. Banerjee A, Katsoulis M, Lai AG, Pasea L, Treibel TA, et al. 2020. Clinical academic research in the time of Corona: A simulation study in England and a call for action. *PLoS One* 15:e0237298
5. 2020. ESC Guidance for the Diagnosis and Management of CV Disease during the COVID-19 Pandemic. *The European Society of Cardiology*

DISCLOSURE STATEMENT

The co-authors declare that there is no conflict of interest.

PERMISSIONS STATEMENT

The data used to form the figures in this manuscript are available on publicly available online (i.e. available on the internet) government and charity websites. The co-authors confirm that the all illustrations and figures in the manuscript are entirely original and do not require reprint permission.

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