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Anti-science case study: COVID-19 vaccines' effectiveness and safety exaggerated

Plaudits are due to the *Public Health in Practice* editorial team and Paul et al. for their recent article on unwarranted accusations of anti-science, which is used "to discredit scientists who hold opposing views", and their call for "a debate amongst scientists and decision-makers" in light of emerging evidence [1]. The authors boldly focus on the COVID-19 vaccines, noting: "an abundant literature has since depicted a far more nuanced picture of the effectiveness and safety of those vaccines over the medium-term". Here I argue in support of Paul et al. pointing to yet more evidence that the effectiveness and safety of the COVID-19 vaccines have been exaggerated, in the clinical trials and observational studies, largely due to inadequate counting windows - pertaining to infections and adverse effects.

This has been decisively argued in an unofficial series in the *Journal of Evaluation in Clinical Practice*, involving *BMJ* editor Peter Doshi, with the authors collectively finding: infections being overlooked in the 'partially vaccinated'; such infections being ascribed to unvaccinated groups; numerous suspected infections overlooked as 'unconfirmed' (divided roughly equally between vaccinated and unvaccinated); adverse effects being overlooked in the 'partially vaccinated'; adverse effect reporting reliant on solicited reports; longer-term adverse effects overlooked; numerous trial participants lost to follow-up; long-term impacts impossible to discern due to unblinding; and financial conflicts of interest [2–5]. Also discussed were vaccine-related myocarditis, with recent research on this one adverse effect alone showing incident rates far exceeding UK government estimates on the numbers needed to vaccinate in various groups to prevent a severe COVID-19 hospitalisation; and some of the evidence for perceived negative effectiveness, where the vaccines are associated with increased COVID-19 infections, hospitalisations, and even deaths.

Paul et al. are aware of the "suspicion of data falsification, unblinding of patients, and lack of controls" concerning the Pfizer trial, reported in Thacker [6]; the revelation that "the mRNA vaccines were associated with an excess risk of "serious adverse events of special interest"" in Fraiman et al. [7]; and Benn et al. who noted that there was no statistically significant decrease in COVID-19 deaths in the mRNA vaccine clinical trials, while there was an increase (though also not statistically significant) in total deaths [8]. These 7 articles alone should have us wondering if the benefits of the vaccines outweighed the risks for all groups even then, when the earlier and deadlier variants were rampant, to say nothing of Pfizer admitting now in 2024 that they are still trying to "determine if COMIRNATY is safe and effective, and if there is a myocarditis/pericarditis association that should be noted" [9].

Further research about the potential effects of the COVID-19 vaccines beyond the initial trials are also concerning. Raethke et al. discovered a rate of serious adverse drug reactions of 0.24% for the primary series vaccinations and 0.26% for boosters, approximating to 1 serious adverse drug reaction per 400 people [10]. Compare this again to the UK government data cited above, indicating that hundreds of thousands need to be vaccinated for a single positive outcome. Paul et al. appear to be justified in stating that "adolescents do not benefit from the Pfizer vaccine, except for non-immune girls with comorbidities". And Faksova et al. demonstrated that the vaccines are associated with "myocarditis, pericarditis, Guillain-Barré syndrome, and cerebral venous sinus thrombosis", also pointing to additional safety signals [11]. Even more adverse events could have been found with more robust counting windows extending beyond "42 days following vaccination".

It seems obvious that the COVID-19 vaccines are not as effective or safe as advertised, and yet those asking legitimate questions about the scientific data and methods have been heavily censured and even persecuted. None of this is to say that the vaccines are bioweapons cooked up in Bill Gates' basement that will magnetise and kill over half the world's population. The truth is somewhere between these extremes, and it is our job as doctors, scientists, and researchers to get as close to the truth as possible, utilising different approaches, considering alternative perspectives, and all while still remembering that we must always be intellectually humble, recognising that absolute certainty will almost certainly remain out of reach.

Paul et al. are right to call for science to be freed from "the pervasive influence of political expediency, industrial interests and corruption in healthcare and medicine". There is much more that can - and must - be said about misinformation and reverse misinformation regarding COVID-19 (such as the inexplicable denigration of natural immunity), but that will have to wait for another time.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Raphael Lataster
University of Sydney, Sydney, Australia
E-mail address: raphael.lataster@sydney.edu.au.