J Oral Res
oral and craniofacial sciences

Editorial

March for Science.

Rodrigo Mariño.[1]

Affiliations: [1]Melbourne Dental School, The University of Melbourne. Australia.

Corresponding author: Rodrigo Mariño. Melbourne Dental School, The University of Melbourne. Level: 05 Room: 5.248, 720. Swanston St, Carlton, Australia. Phone: (61) 9341 1558. E-mail: r.marino@unimelb.edu.au

Over the years, many of us have attended marches in support of or against various causes. In Chile, in the 70s and 80s, we marched when such demonstrations were not even legal or accepted. Around the world there have been marches for the environment, to stop nuclear proliferation and of course to support one political candidate or another. Last April, I attended a different type of march, a march for something more fundamental, without partisan slogans. The banners and placards were the first sign this was not your average demonstration: *"Science not silence"; "Yes to evidence-based policy and peer review"; "Science doesn't care what you believe, it cares about facts"*. The march was in the defence of a basic human right, the right to knowledge, the right to evidence-based knowledge that should inform laws, public policies and programs.

There are several ways to acquire knowledge, but there is only one that confirms (or rejects) what is already known and builds new knowledge, with previous knowledge corrected and integrated, and that is research. Research using the scientific method, to explore and understand the world around us, to create new knowledge, are part of our cultures. Once this new knowledge is created, it is put to test and reviewed by peers before being translated into practical application for our daily life.

On the 22nd of April, in many places, from Melbourne to Berlin, Washington to Rio and in Chile, it was the inaugural March for Science. Thousands of people attended each event around the world. The march originated in USA, and it was centred on Washington DC in response to US President Donald Trump's proposed budget cuts to science, but it was replicated in more than 500 places, to call on politicians to take note that the public wants policies, laws and programs based on evidence based fact, that are appropriate for the future of the planet. The demand for action focussed on four areas. Available at: https://marchforscienceaustralia.org/melbourne/:

Literacy, A well-informed community is essential to a free and successful society. Communication, Communication of scientific findings and their implications should be encouraged as a scientists' responsibility.

Policy, Public policy should be guided by peer-reviewed evidence and scientific consensus. Public policy must support literacy in science, technology, engineering, and mathematics, and

Investment, Government commitment to stable science funding policy will deliver solutions to complex challenges, promoting prosperity for all.

Speakers at those events included Noble prize winners, politicians and scientists, all with one message; *"Do not stay silent"*, when policies and decision are taken without sound evidence, or when alternative facts take the place of peer-reviewed evidence. Because if we do, we will find someday that human progress is slowed and even reverted. Consider that we live

Conflict of interests: None.

Acknowledgements: None.

Cite as: Mariño R. March for Science. J Oral Res 2017; J Oral Res 2017; 6(5):110-111. doi:10.17126/joralres.2017.033

ISSN Online 0719-2479 - www.joralres.com © 2017

in a world where some decision makers do not believe in evolution (Vice president Pence believes in "intelligent design"), and decisions are made based on ideology, "fake news" and "alternative facts" and a short electoral cycle, driven by opinion polls (Available at: http://fortune.com/2016/07/15/mike-pence-donald-trump-science).

One always can be cynical and adopt a sarcastic position. If you do that you will never be disappointed. However, when we take the challenge and work for that dream of an improved world, and fight for that with the best available evidence, we are setting the bar higher for ourselves and for the society in which we live.

Health care should be based on science, the energy and food industries have to be based on science, water safety, you name it. Famine, communicable and noncommunicable diseases, pollution of the atmosphere and the oceans, climate change, are all challenges addressable by science. Airplanes, computers, mobile phones are all science-based.They are good things and have improved how we live. As health professionals we cannot stay silent when those who make decisions are indifferent to science and the evidence that it provides, in regards, for example to climate change, fluoridation and vaccination.

This is not to benefit of research, or professionals, including health professionals, it is the interest of the community. Polio has been eradicated and other diseases have been controlled thanks to research and evidence. Water is safe to drink and it is the vehicle for fluorides, one of the 10 most successful public health measures from the 20th century, according to the Centers for Disease Control and Prevention (CDC).[1] Of course, the CDCs, or any other or-ganization in the world, not even science for that matter, is prescriptive, but it is an evidence of a peer-reviewed (to say the least, because from time to time flouridation is reviewed and re-re-viewed, again and again) public health measure. Science is not everything, it is not the salvation theme for the world.

However, it has its role. Decisions, laws and policies are also made, as they should be, on the base of other considerations, such as compassion, fairness, social justice, etc., but evidence must be the starting point of a larger, integrated, cyclical evaluation and decision-making and legislative procedures.

Investment in research is also important if we want to achieve the dream of bringing to Chile to more advanced stages of development. Research adds value to our products, or those of any country. Nonetheless, currently Chile, despite some improvements in the last few years, invest only 0.38% of Gross Domestic Product (GDP) in research, (Available at: https://marchforscienceaustralia.org/melbourne/). compared to countries such as South Korea, Israel, Sweden and Finland this figure exceeds the 3%, which was the goal for the European Community by the 2020 (Available at: http://penguincompaniontoeu.com/additional_entries/lisbon-strategy-and-europe-2020/).

Furthermore, the country is still far from the average of the Organization for Economic Cooperation and Development (OECD), of 2.4%. In fact, Chile and Mexico are the only ones in the OECD that invest less than 1% of the GDP in Research and Development (R&D). Available at: http://www.mch.cl/2015/01/28/chile-eleva-gasto-en-id-mayor-nivel-desde-2007-pero-es-ultimo-en-la-ocde/

At the global level, the ranking of expenditure in R&D investment is headed by South Korea (4.36% of GDP). In Latin America, Argentina, Brazil, and Mexico's, among others, investment in research and development exceed that of Chile. Obviously, the legislative processes within each country are complex and varied, and consist of several stages. However, beyond the process of enactment of laws, different groups (trade unions, professional associations, special interest groups, etc.) may influence the introduction, approval or even rejection of the laws. As individuals and professionals we can influence decision making and combat the agendas of powerful vested interests (*e.g.*, tobacco, coal and sugar lobbies). Talk with politicians, talk with leaders of the professional organizations that you belong to make them clear that you want evidence based policies after they have been peer reviewed. A neutral position is not possible, it would only support and perpetuate the *status quo,* choose *March for Science.*

REFERENCES.

1. Centers for Disease Control and Prevention. Fluoridation of public drinking water to prevent dental caries. MMWR. 1999; 48:933-90.