

The importance of evidence in evidence-base care

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In an era where scientific discovery has exploded, and where rigorous quality assurance and quality control mechanisms are applied in the discovery of knowledge, we still face many challenges from people who would deliberately provoke and perpetuate falsehoods to circumvent or even contradict fact-based interventions and policies. This is not a matter of mere scientific hesitancy which is ameliorated by sharing of knowledge and information, but a clear and purposeful opposition to fact. The reasons for this remain largely unclear, but to the scientific community it becomes a daily struggle to advocate for what is correct and just.

We learn and experience early in our scientific careers through the application of the scientific method that we are inherently sceptic. We design ways of approaching problems or challenges from different aspects, and whenever we appear to have an answer, we replicate the process and introduce confounding factors and/or additional variables. We scrutinize for bias; we meticulously record our methods for the sake of examination and replication by other independent scientists who could confirm or disprove our hypotheses. We consult widely, build on the peer-reviewed work of those before us, and ultimately submit our own conclusions for scrutiny and criticism by strangers. We do not form an opinion based on feelings or select anecdotal evidence and then propagate that as our answer or solution to any given challenge. Furthermore, whenever new evidence is discovered and introduced into a system, it will prove or disprove theories, policies, or current practice, and adjusts our approaches to maintain an evidence-based foundation.

As scientific contribution advances, some knowledge acquired through this process becomes the foundation for subsequent experimentation, development, and problem-solving. This leads to complex and intricate challenges being addressed in many fields of medicine and dentistry, but at the same time sees scientific progress and development challenged by naivety and even suspicion. The most current and practical example of this is the challenge to vaccination against the SARS-CoV-2 virus and its variants.

In dentistry, a discipline that is firmly rooted in science and scientific progress, there is no room for any antivax sentiment when this intervention is supported by overwhelming evidence in favour of safety and efficacy. It is also questionable whether ethical care can be



provided to patients and communities when practitioners selectively pick and choose what science they “believe” in, and what not. When fearmongering and antivaccination propaganda is rife, healthcare practitioners have an ethical obligation to provide the best standard of care. This is always informed by evidence, and disregarding evidence-based practice is unacceptable. It also brings into question whether any such practitioners would disregard evidence-based practice in other components of their professional development and service delivery to their patients. The implication is then that personal bias and misinformation informs their practice and interactions with others. Does such a practitioner provide ethical care?

It is without a doubt incumbent on us to educate and disseminate knowledge and information. In terms of a public health intervention developed and researched over many decades, we need to be up to date with the current evidence and apply this intervention in our own lives and practice – it’s right there in the name “public health”. If anyone claims to “do their own research” let it be submitted and scrutinized as per the scientific method, and if it stands up to the process, it will be published and presented to the scientific community to inform and adjust policy based on evidence.

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Please, get vaccinated.