

Health Equity in Neurosciences

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This special issue of Journal of Neurology Research presents an opportunity to focus on health equity in neurological sciences. The importance of health equity in our fields is increasingly recognized and is a growing area of research and thought. Using the search terms “health equity” and “neuroscience” in PubMed shows a rapidly expanding evidence base in this area, with the number of publications more than doubling every 2 years (Fig. 1).

This special issue contributes five new articles to this field, and of interest, most of these articles have direct relevance to Indigenous health. Lawson and colleagues deliver a systematic review of neuroscience curriculum resources, as well as general science curricula specifically adapted to providing Indigenous content and outreach [1]. As Canada takes important steps towards truth and reconciliation with Indigenous people and better health equity, this work is an important starting point in bridging conventional teaching in the neurological sciences with teachings that are rooted in different cultural worldviews.

In a scoping review of global Indigenous perspectives on neuroscience research, Harding and colleagues outline the growing literature on this topic [2]. This study presents relevant literature from which neuroscience researchers and instructors may appreciate differences in approaches, and bridge future collaboration. The majority of articles identified in the review were recently published, and place a strong emphasis on mental health, ethics, and dementia, among other important topics in the increasingly globalized fields of neuroscience research today.

A qualitative study focused on early-onset dementia in Indigenous peoples is presented by Ody and colleagues [3]. This work provides insights on the experiences of Indigenous people living with early-onset dementia, of added importance because of the elevated age-adjusted prevalence of dementia among First Nations in the province of Alberta and limited literature on the experiences of Indigenous people. The findings of this work provide added perspective that will contribute to

culturally safe practices for health care practitioners.

The article by Veilleux and colleagues is a review focused on neurological care of people while they are incarcerated [4]. This highlights an area where there are likely to be many opportunities to improve health care, and on which there is a paucity of awareness and available literature. As explained by the authors, this topic also has direct relevance to Indigenous health, due to the overrepresentation of Indigenous peoples within Canada’s correctional system.

Finally, the scoping review presented by Dr. Wolbring tackles an important question, regarding how frequently health equity is considered in the literature of novel technologies as applied to neurosciences, such as artificial intelligence, machine learning, and neurostimulation technologies [5]. Increasingly, discussions of ethical and social implications around these new tools are being raised in medical and popular literature. The health equity implications may not be as evident, and indeed the results of this study indicate that health equity and its social determinants has received limited mention thus far. Hopefully this will bring more attention to health equity as the discussion of ethical and social issues in this area develops and matures.

The major emphasis of the published works in this issue on Indigenous health is an indication that there is growing interest from researchers to attempt to define and address inequities. Indigenous people have had to be continuously resilient in the face of colonization and systemic racism; government policies have directly resulted in limited opportunities, affected social determinants of health, as well as impairing access to appropriate medical care [6]. We are aware of several neurological conditions that disproportionately affect Indigenous peoples. Dementia has already been mentioned above [7], as a topic covered in the articles of Ody and colleagues and touched upon by Harding and colleagues [2, 3]. The higher prevalence of risk factors for cerebrovascular disease, such as smoking, dementia and hypertension, are of concern [8-10]. Infectious diseases such as human immunodeficiency virus (HIV) and tuberculosis are also more prevalent among Indigenous people in Canada [11, 12]. This is relevant to neurologic disease because of the strong association of HIV with various neurologic presentations [13]. Tuberculosis may also infect the nervous system, can be very difficult to recognize clinically, and requires prolonged treatment [14]. It is associated with high mortality particularly when co-existing HIV infection is present [14]. The severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) pandemic may have also disproportionately affected Indigenous communities [15], which is of major importance due to the various neurological complications which have been reported in association with SARS-CoV-2 [13, 16].

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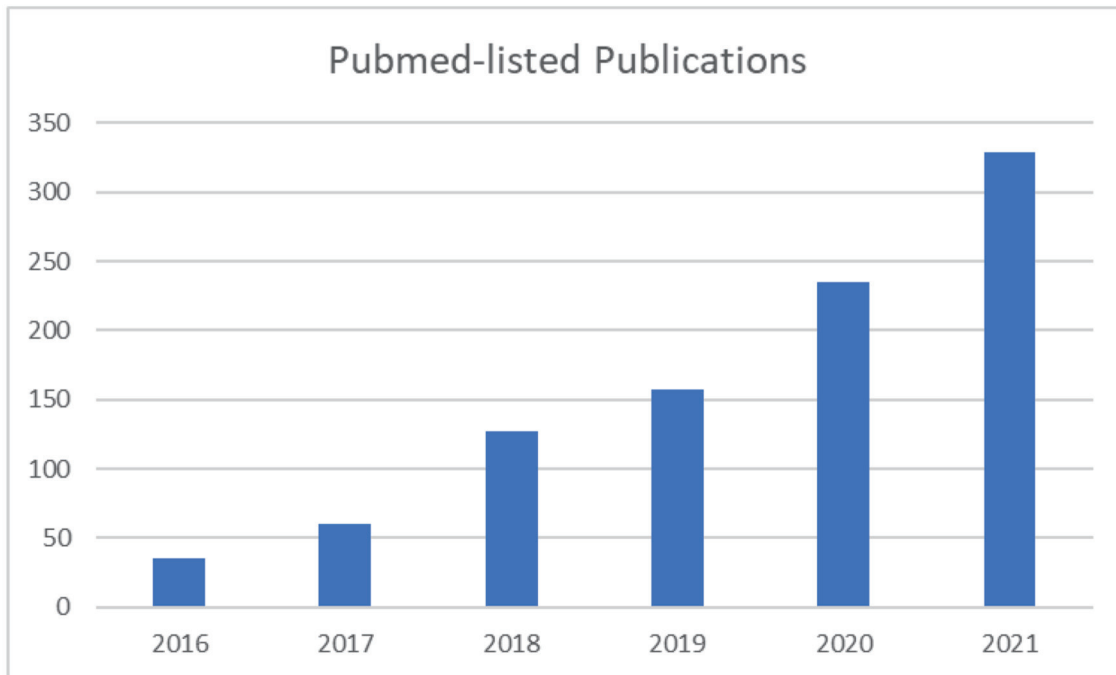


Figure 1. PubMed-listed publications since 2016 (searching “health equity” and “neuroscience” on June 3, 2022).

Recently, we also became aware that a neurogenetic condition (Kennedy disease, or spinal bulbar muscular atrophy) is highly prevalent among Indigenous people living in prairie provinces [17]. The actual prevalence is still unknown with likely underdiagnosis, and we are aware of cases where patients with this condition were misunderstood or deprioritized [18, 19].

We are hopeful that the articles from this special issue will improve awareness and education, and draw attention to the extraordinary strength and resiliency of Indigenous peoples in the context of these health equity issues in neuroscience. We see several additional considerations that are worth emphasizing as research in this area matures. There are Indigenous research philosophies and methodologies which may more accurately reflect the lived and living realities of Indigenous peoples [20]. However, this takes Indigenous-specific expertise, which is in the process of being developed by Indigenous researchers and allies. This will also help widen the available methodologies, which currently tend to be focused on Western research methodologies and tend to privilege the Western literature base, in which there are few Indigenous authors and studies. Finally, the promotion of equity requires considerable care, good intentions and individual as well as collective reflexivity. The importance of community engagement to ensure mutual benefit of the research, as well as capacity-building must always be emphasized. Future work will hopefully lead to actions that will improve equitable access to care and improved neurologic outcomes.

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Conflict of Interest

The authors declare they have no conflict of interest to report relating to this work.

Author Contributions

GP drafted the article. AK modified the article for important intellectual content. Both authors conceptualized the paper and agreed to the final version submitted for publication.

Data Availability

The authors declare that data supporting the findings of this study are available within the article.

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