Commentary on “The First Global Physical Activity and Sedentary Behavior Guidelines for People Living With Disability”

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Carty et al¹ outline the development and anticipated implications of the WHO's new physical activity (PA) and sedentary behavior guidelines for people living with disabilities (PWD). The authors write: “The emergence of these guidelines marks a purposeful and positive step towards including people living with disability in mainstream physical activity initiatives, thereby advancing their human rights and mainstreaming disability inclusion.” Having co-led and participated in PA guideline development groups,^{2,3} we appreciate the enormous effort that has gone into this project and the WHO's good intentions toward promoting inclusion through inclusive guideline messages (eg, “Every Move Counts”) and images.⁴ But we do question whether the guidelines themselves are inclusive.

The evidence base for the disability guidelines consists almost entirely of studies that do not include PWD.¹ Research is scarce/nonexistent on PA, sedentary behavior, and key health outcomes (eg, all-cause mortality, morbidity) in PWD. The WHO's guideline development group assessed this limited research alongside the general population research, downgraded the evidence certainty to “moderate” due to indirectness, and concluded “the associations between physical activity and sedentary behaviour on selected key outcomes could be expected to result in the same health benefits for people living with disability as the general population.”¹ The PA and sedentary behavior guidelines for the general population were then adopted and applied to PWD.

Indirectness, in this context, refers to differences between people in the evidence base (people without disabilities) and the people to whom the evidence is being applied (PWD).⁵ Carty et al¹ state that combining the evidence bases “emphasises the homogeneity in the physiological response to physical activity and sedentary behaviour, regardless of impairment.” We respectfully disagree.

Physiological responses to exercise have been studied minimally in PWD. However, emerging research shows that some physical impairments do indeed impact physiological responses to PA, especially neurological (eg, stroke, spinal cord injury, cerebral palsy) and limb impairments (eg, amputations, severely shortened limbs). With neurological impairments, disruptions to the autonomic nervous system often occur, resulting in altered visceral and

immune function and an attenuated cardiometabolic response to PA.⁶⁻⁸ With limb impairments, movement inefficiency can increase the energy cost of PA, increasing the metabolic demand at a given PA intensity relative to the demand for people without impairments.⁹ The same may be true for users of wheelchairs, crutches, and other ambulatory aids.^{10,11} In circumstances where the physiological responses to PA are anything but homogenous, it is questionable whether accepting indirect evidence, and extrapolating guidelines from the able-bodied population to PWD, is, in fact, appropriate. If the physiological response to PA is different for PWD, then the amount of PA needed to achieve health benefits may also be different. At this point, we do not know whether the WHO PA guidelines produce the same health outcomes in people with and without physical impairments.

Other impairment types (eg, sensory and intellectual) typically do not alter physiological responses to PA. But even if the physiology is equal, the experiences of people with and without disabilities are not. Because of stigma and discrimination, worldwide, adults with disabilities experience profound health care inequities; experience greater poverty, unemployment, and violence; and receive less education.¹² Can moderate-intensity PA of ≥ 150 minutes per week mitigate these social determinants of health? We simply do not know.

What's at Risk?

A guideline cannot be considered inclusive if it potentially harms certain groups. For some impairment groups, the risks of following the guidelines could outweigh the benefits. Virtually all of the guideline evidence is based on lower limb activities, such as walking.¹ No studies have tested the long-term effects of 150 to 300 minutes per week of upper body PA (eg, pushing a wheelchair), or walking with a prosthesis or gait aid. Clinicians often advise people with lower limb impairments against this volume of PA because of health risks (eg, overuse injuries, skin breakdown). These risks are difficult to justify given overwhelming evidence that PWD can achieve significant health benefits from aerobic activity well below the 150 minutes per week threshold.^{2,3,13,14}

The WHO recommends PWD do the same amount of PA as the general population and expect the same health benefits.¹ Endorsement of this hegemonic standard could have the unintended consequence of reinforcing ableist ideals (ie, ideals associated with able-bodiedness) that perpetuate discrimination and exclusion. For instance, guidelines can create the illusion that 60 minutes per day (kids) and ≥ 150 minutes per week (adults) of PA is normative and possible for everyone.¹⁵ In reality, most PWD are unable to achieve the WHO guidelines^{16,17} because of tremendous societal barriers to participation.¹⁸ Will PWD now be expected to take greater personal responsibility for doing more PA within exclusive systems? When PWD cannot meet the guidelines

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or achieve the purported health benefits, will they be blamed for their own ill-health? How many PWD will self-exclude from PA altogether, believing the guidelines are unrealistic and unachievable?

An Alternative

Many (if not most) studies in the guideline evidence deliberately excluded PWD. Journal editors often desk-reject research involving PWD, believing that their readership is uninterested. These exclusionary scientific practices must end. We need to build a comprehensive evidence base that addresses PA, sedentary behavior, and key health outcomes specifically among PWD. Until such evidence is available, rather than trying to “mainstream inclusion”¹ by applying the WHO generic guidelines to PWD, we recommend guidelines be developed specifically for and with PWD, using only research that includes PWD.¹⁹ These guidelines would stipulate the dose of PA required to improve the few outcomes that *have* been well-studied in PWD (eg, physical function [including strength, cardiorespiratory fitness], quality of life¹). Although the guidelines would not cover as many health outcomes as the WHO guidelines, they would have the advantage of being based on the lived experiences of the people who will actually use the guidelines.¹⁹ This approach would alleviate the risks and unintended consequences of extrapolating evidence from the general population to PWD, while improving the certainty of evidence (directness), the feasibility of the guidelines for PWD, and ultimately, guideline uptake. The WHO efforts could then focus on the inclusion of guidelines for PWD into a broader set of recommendations and actions to increase PA and reduce sedentary behavior for all.

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