Editorial

Title:

Making the case for "physical activity security": the 2020 WHO Guidelines on physical activity and sedentary behaviour from a Global South perspective

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"Not just another research gap":

With relatively few exceptions, the majority of evidence concerning the health benefits of physical activity (PA) has been gleaned from high-income countries (HIC)¹. In the opening editorial to this special issue², the Editors suggest that under-representation of lower- and middle-income countries (LMICs, often referred to as "Global South") in the PA literature is more than "just another research gap". Arguably, this gap reflects very real differences in context, competing health and developmental priorities, available resources and undoubtedly, political will.

Juxtaposed against the clear benefits of PA, most LMICs are characterised by the co-existence of both non-communicable and infectious chronic diseases, such as tuberculosis and HIV/AIDS³. Obesity often co-exists with maternal and childhood undernutrition and household food insecurity⁴ which have been excerabated by the COVID-19 crisis . Political circumstances are often adverse, for example many LMICs are experiencing conflict, humanitarian crises, and/or social unrest and have embedded inequalities (e.g., the legacy of apartheid in South Africa). Lack of safety from crime and traffic, poorly designed and often over-crowded urban environments, low prioritisation of physical education in schools, and inequitable distribution of green space, are endemic to most LMICs ^{6,7,8}. Thus, PA, even for transport, is difficult at best, and largely undertaken by necessity rather than by choice⁹. Meanwhile, recreational PA is inaccessible for most in these settings.⁸ As such, and with rapid urbanisation in LMICs, often into poverty⁹, we are required to view PA through the "lens" of equity. This demands us to elevate the discussion for physical activity above health, and frame it as a basic human right that is central to sustainable development.

Need or Choice?

Despite clear constraints, the prevalence of PA in LMICs is higher than in other regions, mostly through work- or transport-related activity, as shown by the work of Strain et al. in this issue¹⁰. And while studies in HICs have demonstrated strong associations between PA and attributes of the built environment, these relationships may be attenuated or even inverse in some LMIC and low-income settings^{11,12}. Similarly, crime and traffic indices are barriers to PA in high and upper middle-income countries (UMICs), but in low-income countries (LICs), there may be

little or no association as many people have no other transport options^{12,13}. The unintended consequence of these circumstances is that LMICs spend up to 5% of gross domestic product on health expenditure for road-traffic deaths and injuries, with 44% of these, for example in the African region, related to walking or cycling¹⁴. And even children from upper-middle income countries (UMICs), where large income inequalities exist, are more likely to walk to school, despite unsafe crossings, absent sidewalks and a high perception of crime¹⁵. Taken together, this situation suggests a "need vs choice" rubric¹⁶ for PA in low-income countries or disadvantaged settings, and the need for a much better understanding of what comprises a "walkable" community. As such, beyond the "research gap" there is the need to translate what is known, to inform and mitigate the choice constraints for PA in LMICs, in order to "level the playing fields".

The new WHO Global guidelines recognise light activity as offering some health benefits¹⁷, which has important implications for LMICs, where longer sessions or high volumes of light activity are often the dominant form of PA¹⁸. And because much of the PA in these countries is utilitarian¹¹, messaging around the benefits of PA needs to be tailored, recognising the nature and context in which PA takes place, as discussed in Milton et al.¹⁹.

Guidelines alone are not enough

While the 2020 Guidelines¹⁷ have been designed to be inclusive than, these alone are not sufficient to address the lack of change in global PA prevalence, and the potential decline in PA, that may accompany rapid urbanisation occurring in LMICs²⁰. Guidelines need to be accompanied by intersectoral national plans and policies that position PA as a developmental and rights-based issue, one that promotes the co-benefits beyond health and ensures equitable access. Putting these policies in action is particularly challenging in LMICs, given the burden of inequality and the very real competing demands for resources. While there has been an increase in countries with national PA policy (stand-alone or embedded in NCD policy)^{21,} the proportion of operational plans in LMICs is lower.

There is need for a cadre of personnel, in public and allied health, sports science, sports and exercise medicine, who are trained to deliver PA for health and social development programmes. PA should also form part of the training for urban planners and transport

engineers, who may require bespoke solutions to the urban environments reality of developing countries. We must also empower communities with PA "champions", physical educators and coaches, to engage community members in social mobilisation and civil discourse with local policy makers. Past experience suggests that these actions can be effective in creating culturally salient opportunities for PA in LMICs²³.

The recent COVID-19 pandemic has exacerbated many equity issues and COVID-19 quarantine restrictions in some countries have led to a decrease in PA and an increase in sedentary behaviour.^{24,25} Some LMICs may be hard hit particularly due to urban overcrowding, lack of public open space, and less access to the internet for online PA resources. Whereas in others, such as in Lagos, Nigeria, the COVID-19 response resulted in a marked decrease in vehicular traffic, and improved air quality which has encouraged more people to engage in physical activity²⁶. In many countries, the COVID-19 pandemic was the first time that governments recognised the importance of PA for mental and physical well-being, and introduced any PA-related regulatory responses; even if these involved mobility restrictions²⁷. Indirectly, COVID-19 has presented a critical moment or "a window of opportunity" to emphasise that access to safe and enjoyable PA should be a basic human right. The response of civil society ("pushback") and desire to seek opportunities for PA during local 'lock downs' highlights the urgency of this call to policy- and decision-makers at local, provincial and national levels.

Physical activity Security:

Similar to food security, we encourage policy makers, practitioners, urban planners, researchers, and other key stakeholders, to recognise and adopt this definition of physical activity security:

"when *all people, at all times*, have physical and economic access to sufficient, safe and *enjoyable* physical activity to meet, not only their health needs, but to promote physical and emotional well-being and social connectedness, for an active and healthy life."

The new WHO Guidelines for PA were not solely designed to target individual health behaviour, but to provide systemic direction and guidance for what is needed, at a whole-of-government and whole-of-society approach, to ensure that communities and individuals can attain "physical activity security" no matter where they reside around the globe. We applaud the inclusive 2020 WHO Global Guidelines for PA and Sedentary Behaviour¹⁷, and recognise that the proportion of persons meeting these guidelines is higher in LMICs than HICs⁷ for the time being; however, the Guidelines alone do not resolve the issues of equity and environmental justice.

In line with the WHO Global Action Plan for Physical Activity 2018-30²⁸, a regulatory response prioritising PA both for health and as part of the sustainable development agenda will go far towards creating PA enabling environments in LMICs and other highly inequitable settings. This will help to ensure that with rapid urbanisation and development in LMICs, societies are "future proofed" to deliver the *universal human right* of physical activity security.

References:

- ¹Sallis JF, Bull F, Guthold R, Heath GW, Inoue S, Kelly P, Oyeyemi AL, Perez LG, Richards J, Hallal PC, Lancet Physical Activity Series 2 Executive Committee. Progress in physical activity over the Olympic quadrennium. *The Lancet*. 2016 Sep 24;388(10051):1325-36.
- ²Stamatakis E, Bull F. The 2020 global guidelines on physical activity and sedentary behaviour: putting physical activity in the "must-do" list of the global agenda. *British Journal of Sports Medicine* 2020;54(24) doi: bjsports-2020-103509
- ³Oni T, Unwin N, Why the communicable/non-communicable disease dichotomy is problematic for public health control strategies: implications of multimorbidity for health systems in an era of health transition, *International Health*, Volume 7, Issue 6, November 2015, Pages 390–399, https://doi.org/10.1093/inthealth/ihv040
- ⁴Penny Farrell, Anne Marie Thow, Seye Abimbola, Neha Faruqui, Joel Negin, How food insecurity could lead to obesity in LMICs: When not enough is too much: a realist review of how food insecurity could lead to obesity in low- and middle-income countries, *Health Promotion International*, Volume 33, Issue 5, October 2018, Pages 812–826, https://doi.org/10.1093/heapro/dax026
- ⁵Shadmi E, Chen Y, Dourado I, Faran-Perach I, Furler6 J, Hangom P, Hanvoravongchai P, Obando C, Petrosyan V, Rao KD, Ruano AL, Shi L, de Souza LE, Spitzer-Shohat S, Sturgiss E, Suphanchaimat R, Villar Uribe M, Willems S. Health equity and COVID-19: global perspectives. *Int J Equity Health*, 2020; 19:104 https://doi.org/10.1186/s12939-020-01218-z
- ⁶Oyeyemi, A. L., Adegoke, B. O., Sallis, J. F., Oyeyemi, A. Y., & De Bourdeaudhuij, I. (2012). Perceived crime and traffic safety is related to physical activity among adults in Nigeria. *BMC Public Health*, *12*(1), 294. https://doi.org/10.1186/1471-2458-12-294
- Malambo, P., De Villiers, A., Lambert, E. V., et al. The relationship between objectively-measured attributes of the built environment and selected cardiovascular risk factors in a South African urban setting. BMC Public Health, 2018;18(1). doi:10.1186/s12889-018-5772-3
- ⁸Aubert S, Barnes JD, Abdeta C, Abi Nader P, Adeniyi AF, Aguilar-Farias N, Tenesaca DS, Bhawra J, Brazo-Sayavera J, Cardon G, Chang CK. Global matrix 3.0 physical activity report card grades for children and youth: results and analysis from 49 countries. Journal of physical activity and health. 2018 Jan 2;15(s2):S251-73.
- ⁹Simone M, Cities of the Global South, *Ann Rev Sociol* 2020; 46: 603-622, https://doi.org/10.1146/annurev-soc-121919-054602

- ¹⁰Strain, T., Wijndaele, K., Totaro Garcia, L., Cowan, M., Guthold, R., Brage, S., & Bull, F. Levels of domain-specific physical activity at work, in the household, for travel and for leisure among 327,789 adults from 104 countries. *British Journal of Sports Medicine* https://doi.org/10.17863/CAM.57529
- ¹¹Adkins A, Makarewicz C, Scanze M, Ingram M, Luhr G. Contextualizing walkability: do relationships between built environments and walking vary by socioeconomic context?. Journal of the American Planning Association. 2017 Jul 3;83(3):296-314.
- ¹²Elshahat S, O'Rorke M, Adlakha D (2020) Built environment correlates of physical activity in low- and middle-income countries: A systematic review. PLoS ONE 15(3): e0230454. https://doi. org/10.1371/journal.pone.0230454
- ¹³Oyeyemi, A.L., Kolbe-Alexander, T.L., Lambert, E.V. Physical activity and safety from traffic and crime in Africa: case study. In: Siefken, K., Ramirez, A., Schulenkorf, N., Waqanivalu, T., Editors. *Physical Activity in Low- and Middle-Income Countries*. Routledge/Taylor & Francis Group Publisher (under revision)
- ¹⁴Global status report on road safety 2018. Geneva: World Health Organization; 2018. Licence: CC BYNC-SA 3.0 IGO.
- ¹⁵Salvo D, Sarmiento OL, Reis RS, Hino AA, Bolivar MA, Lemoine PD, Gonçalves PB, Pratt M. Where Latin Americans are physically active, and why does it matter? Findings from the IPEN-adult study in Bogota, Colombia; Cuernavaca, Mexico; and Curitiba, Brazil. Preventive medicine. 2017 Oct 1;103:S27-33.
- ¹⁶González SA, Sarmiento OL, Lemoine PD, Larouche R, Meisel JD, Tremblay MS, Naranjo M, Broyles ST, Fogelholm M, Holguin GA, Lambert EV. Active school transport among children from Canada, Colombia, Finland, South Africa, and the United States: a tale of two journeys. International journal of environmental research and public health. 2020 Jan;17(11):3847.
- ¹⁷Bull FC, Saad Al-Ansari S, Biddle S, et al. World Health Organization 2020 Guidelines on Physical Activity and Sedentary Behaviour. *British Journal of Sports Medicine* 2020 doi: 10.1136/bjsports-2020-102955
- ¹⁸Dickie K, Micklesfield LK, Chantler S, Lambert EV, Goedecke JH. Cardiorespiratory fitness and light-intensity physical activity are independently associated with reduced cardiovascular disease risk in urban black South African women: a cross-sectional study. Metabolic Syndrome and Related Disorders. 2016 Feb 1;14(1):23-32.
- ¹⁹Milton K et al. (this issue)
- ²⁰Barr AL, Partap U, Young EH, Agoudavi K, Balde N, Kagaruki GB, Mayige MT, Longo-Mbenza B, Mutungi G, Mwalim O, Wesseh CS. Sociodemographic inequities associated with participation in leisure-time physical activity in sub-Saharan Africa: an individual participant data meta-analysis. BMC public health. 2020 Dec;20(1):1-3.

- ²¹Assessing national capacity for the prevention and control of noncommunicable diseases: report of the 2019 global survey. Geneva: World Health Organization; 2020. Licence: CC BY-NC-SA 3.0 IGO
- ²²Chastin SFM, Van Cauwenberg J, Maenhout L, Cardon G, Lambert EV, Van Dyck D. Inequality in physical activity. Global trends by income inequality and gender". *International Journal of Behavioral Nutrition and Physical Activity* (in review)
- ²³Paez DC, Reis RS, Parra DC, Hoehner CM, Sarmiento OL, Barros M, Brownson RC. Bridging the gap between research and practice: an assessment of external validity of community-based physical activity programs in Bogotá, Colombia, and Recife, Brazil. Translational behavioral medicine. 2015 Mar 1;5(1):1-1.
- ²⁴Dunton, Genevieve, Shirlene Wang, Bridgette Do, and Jimikaye Courtney. "Early Effects of the COVID-19 Pandemic on Physical Activity in US Adults." (2020).
- ²⁵Giustino V, Parroco AM, Gennaro A, et al. Physical Activity Levels and Related Energy Expenditure during COVID-19 Quarantine among the Sicilian Active Population: A Cross-Sectional Online Survey Study. *Sustainability*. 2020 Jan;12(11):4356.
- ²⁶Lawanson T, Foley L, Assah F, Mogo E, Mapa- Tassou C, Ogunro T, Onifade V, Oni T The urban environment and leisure physical activity during the COVID-19 pandemic: a view from Lagos, Cities & Health, 2020; DOI: 10.1080/23748834.2020.1806459
- ²⁷Payne R And Malyshkina M. Countries Start Lifting Restrictions On Exercise And Sport Under Covid-19 Lockdowns: How Do They Compare? (5/5/2020), International Sport And Culture Association, (URL: http://isca-web.org/english/news/countriesstartliftingrestrictionsonexerciseandsportundercovid19lockdownshowdotheycompare, accessed 10/02/2020)
- ²⁸Global action plan on physical activity 2018–2030: more active people for a healthier world. Geneva:World Health Organization; 2018. Licence: CC BY-NC-SA 3.0 IGO.