Accuracy and inequalities in physical activity research

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Regina Guthold and colleagues[1] should be congratulated on their rigorous efforts to harmonise and analyse physical activity data from 358 surveys across 168 countries. The Article highlights global patterns of physical inactivity. We agree with the authors' call to prioritise and scale up policy to increase population levels of physical activity, but we feel that their analysis overlooks important social inequalities in physical activity that need to be taken into account by policy and research.

The findings clearly highlight the need for increased policy investment in the promotion of physical activity to meet the WHO 2025 global physical activity target;[2] a 10% reduction in prevalence of insufficient physical activity compared with 2010. The authors showed that 27·5% (95% uncertainty interval [UI] 25·0–32·2) of the world population was insufficiently physically active in 2016, with prevalence ranging from 16·3% (95% UI 14·3–20·7) in Oceania to 39·1% (37·8–40·6) in Latin America and the Caribbean. Additionally, the prevalence of physical inactivity in 2016 was more than twice as high in high-income countries than low-income countries (36·8% [95% UI 35·0–38·0] *vs* 16·2% [14·2–17·9]) and insufficient physical activity was higher among women than men (31·7% [28·6–39·0] *vs* 23·4% [21·1–30·7]). Worldwide, no change in prevalence of physical inactivity was observed between 2001 and 2016. However, increases in prevalence of physical inactivity were observed in high-income countries whereas the prevalence in low-income countries remained stable. The assessment of prevalence by sex, country income groups, and world regions is important to prioritise and target interventions. Furthermore, countries experiencing rapid urbanisation and economic development can learn from countries in which these societal changes have already occurred. However, we would argue that basing policy solely on global trend data might be misleading. Such data might mask important social inequalities in physical activity within countries.

In high-income countries, where the majority of physical activity research has been done, subgroups with lower socioeconomic status typically have a higher risk of physical inactivity and associated non-communicable diseases.[3] The direction of inequality in physical activity might be different in middle-income and low-income countries. Such differences have important implications for targeting policy initiatives aiming to promote physical activity in the least physically active subgroups. Additionally, the time trends reported by Guthold and colleagues might mask diverging trends in physical activity across socioeconomic subgroups. For example, the joint programming initiative Determinants of Diet and Physical Activity analysed surveillance data from 51 820 participants in 24 European countries.[4] The study showed that increases in regional-level gross domestic product per capita (as a measure of economic development) were associated with increases in physical activity among highly educated European adults, but not among those with lower levels of education. Thus, in European countries, social inequalities in physical activity are increased by economic growth that only benefits the most wealthy individuals. Policies that do not consider this social inequality might actually exacerbate it. The trend of increasing inactivity in high-income countries reported by Guthold and colleagues might be associated with growing social inequalities in physical activity in these countries. As discussed by Guthold and colleagues, several lower-middle-income countries are currently experiencing rapid industrialisation and economic development, which might have considerable effects not only on the prevalence of physical inactivity within those countries, but also on social inequalities in physical activity.

A comparison of physical inactivity prevalence stratified by socioeconomic status was beyond the scope of Guthold and colleagues' analysis. Additionally, the physical activity surveys included will not have incorporated a measure of socioeconomic status that is applicable to multicountry comparisons. However, studies using different measures of socioeconomic status could be combined to examine differences and trends in physical inactivity across relative levels of socioeconomic status. Future national physical activity surveys should include an absolute measure of inequality in terms of purchasing power to examine social inequalities in physical activity between and within countries and to monitor inequality trends over time. More research about social inequalities in physical activity and how societal changes (eg, urbanisation, globalisation, and economic development) influence these inequalities globally is warranted.

We fully support the authors' call for policy makers to take action and for multisectoral collaboration to increase levels of physical activity. Furthermore, we hypothesise that the suggested policies, such as improved provision of cycling and walking infrastructure, improving road safety, and creating more opportunities in local community settings, would stimulate physical activity across the socioeconomic spectrum. However, in practice, access to physical activity resources might not be equally distributed.[5] Social inequalities should be considered in future physical activity research and policy.

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