Promoting ethnic parity in health, leaving behind 'race': a challenge for the global community in 2020

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Text

Promoting parity is central to both medicine and public health, whether we refer to sex, age or population group. This issue is of unique importance in the field of nutrition, given the historical and persistent role of food systems in generating inequalities within and between populations. Moreover, age, sex and population variability are all associated with variability in body size and composition, metabolism, and health outcomes such as cardio-metabolic risk.

Beyond age and sex, it has long been recognised that nutritional status often differs on average between what are usually referred to as 'racial' or 'ethnic' groups. In this issue, for example, Shypailo and Wong present new body composition reference data for children and adolescents, stratified by three 'racial/ethnic' categories described on the basis of self-report as White, Black and Hispanic [1]. The authors propose that evaluating health and nutritional status relative to children of similar 'race/ethnicity' increases the accuracy of the assessment.

This approach allows us to move away from the idea that there is a single nutritional norm, and that any one population represents this norm. But in acknowledging such population differences, it quickly becomes clear that the language used to describe them profoundly affects how they are conceptualised; and that this is not simply a semantic issue, but also influences how clinical and public health practice affect health outcomes.

No contemporary nutritionist can be unaware of the different biological pathways that can contribute to 'racial/ethnic' variability in nutritional traits. Even from a broad perspective,

we could differentiate ancestry and heritable factors, inter-generational effects, living conditions and cultural factors [2]. The editors of this journal recognise the complexity of this issue, and their current instructions aim to help authors describe which aspect is under consideration: 'use "race" to describe racial categories based on physical appearance, "ethnicity" to describe traditions, lifestyle, language, diet, and values, and "ancestry" to describe ancestry informative markers (AIM) based on genetic or genomic data'.

As soon as we try to apply these instructions, however, multiple problems manifest. If 'race' refers to physical appearance, what characteristics should we look at, and who is given the role of looking? When it comes to traditions, lifestyle and diet, are these selected by preference, or are they imposed by socioeconomic constraints? One might assume that the most objective approach (if resources were available) would be to assess ancestry informative markers, but this too is problematic: genes themselves do not define clear boundaries between population groups.

Anthropologists, representing the academic discipline that has focused in most detail on 'racial/ethnic' variability, have concluded that 'race' does not exist in human bodies, only in human minds [3]. At the level of genes there are no discrete, objective racial groups. Allele frequencies tend to vary gradually by geography, and genetic variability within populations is substantially greater than that between populations. Studies using ancestry informative markers find that individuals typically possess genes from different ancestral groups [4]. The lengthy history of human migration, along with many forms of exogamy, has ensured that gene flow has always characterised our species. Genes may certainly *congregate* among populations, but they do not *demarcate* them. Differentiating 'race' on the basis of physical

appearance is similarly flawed, moreover the genes underlying aspects of physical appearance such as skin colour do not map well onto other genes [3].

Discrete races arise not by evolutionary adaptation to local ecological conditions, but by the active 'racialising' of human groups for political reasons. We create races in the mind when we propose that they exist, and race entered science from political practice, not the other way round [3]. This only occurred relatively recently, and was closely associated with the use of slaves in New World colonies in the 17th and 18th centuries. Prior to that, population differences were expressed in terms of religion, language or culture, but not specifically biology [3]. Racialist ideologies have given rise to unmitigated societal conflict and human misery, the effects of which continue to reverberate in many countries. We must acknowledge this openly, without relinquishing the aim of addressing population variability in ways that may benefit human health and promote equality.

The importance of societies' *projection* of 'race' onto populations for health outcomes is increasingly revealed by elegant studies. Many studies have reported high rates of hypertension in African Americans [5], and the discredited 'slavery-hypertension' hypothesis attributed this to endemically high blood pressure, supposedly due to selective survival of those with genes promoting sodium retention during the transport of slaves to the New World [6]. However, a study in Puerto Rico found that 'colour', a sociocultural marker of racism, predicted blood pressure better than did a genetic-based estimate of continental ancestry [7]. Likewise, numerous studies have reported higher prevalences of low birth weight in African Americans compared to European Americans that have persisted over the last century [8]. However, a broader analysis found that found that birth weights declined

across generations after mothers had migrated from Africa into the US [8]. Potential underlying mechanisms for such trends are already recognised, such as exposure to psychosocial stress. Neither of these studies refutes a contribution of genetic factors to nutritional outcomes, but both studies indicate that genes and ancestry are not the best explanation for the population differences. This in turn may have profound implications for the appropriate clinical or public health response.

Ethnicity is a very different concept to race. From an anthropological perspective, ethnicity goes beyond simply focusing on behaviour, culture and values, by explicitly acknowledging the role of identity [9]. Identity is a 'concept of synthesis', through which a person 'seeks to integrate [their] various statuses and roles, as well as [their] diverse experiences, into a coherent image of self' [9]. Crucially, ethnic identity emerges through a two-way process, incorporating both how individuals see themselves relative to others, and also responding to how others see them and behave towards them. It emerges through social interactions that may be influenced by all of the levels of biology mentioned above, including ancestry and appearance, and it may be a direct target of discrimination. This concept therefore offers a much richer framework through which to explore and understand population variability.

With reference to the new body composition centiles [1], what was assessed should be regarded not as 'race', but ethnicity. Those who aim to apply these centiles will likewise be categorising ethnicity, based on reaching a shared understanding between researchers and participants regarding how best to describe them. Importantly, ethnicity varies between countries due to historical circumstances, hence for example the three most common

groups in the UK are different to those in the US, and those who identify as ‘black’ in the UK may differ in several ways from their African American counterparts in the US.

More broadly, no such references adequately capture the full range of ethnic variability in contemporary societies, hence any clinical benefits may be unequally distributed. Moreover, in our studies in London, UK, an increasing proportion of children have a family background that defies any simple categorisation - both parents are of mixed-ethnic ancestry, and have also migrated from their country of birth, thus changing their living conditions. How best to assess the body composition of such ‘other’ or mixed-ethnic children against a reference offering only three choices? This requires judgements and decisions, that should be recognised as such.

Finally, how may ethnic-specific reference data improve health? They may help inform clinical decisions regarding individual children, but it is also vital that they do not normalise physical differences that arise in part from major inequalities in living conditions. Regarding body composition, ethnic differences in fat-free mass could be shaped by differences in birth weight and opportunities for physical activity, such as the air quality and ‘walkability’ of the local environment. Differences in fat mass and distribution could be shaped by the same factors, alongside differential exposure to food environments and stresses that influence fat deposition. At this stage, we should be cautious regarding what these differences mean, and should not assume that they arise only from genetic differences or ancestry.

Ethnic-specific reference data are to be welcomed, but if they are genuinely to promote parity in health they must be used prudently. In this context, particular care should be taken

over the increasing use of artificial intelligence in medicine, where racism may take new forms, in new artificial minds [10].

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Conflict of interest

The author declares no conflict of interest.

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