

Dear Editor,

The mini-review by Leong and Eccles on ‘The use of race and demographic variables in clinical research’ in the March 2010 issue of *Rhinology* ⁽¹⁾ is extremely irrelevant to a multi-ethnic country such as ours. Nearly all research in Singapore and neighboring Malaysia uses ethnicity as a demographic variable. We often use race and ethnicity interchangeably when they are, as the authors correctly describe, very different terms.

Racial categorization, or more appropriately ethnic categorization, is an accepted practice in Singapore and Malaysia. All identity documents bear these details. Whilst racism exists in our society as in any other, political correctness has not caused governments here to abandon this practice. Indeed the collection of racial data in clinical studies is often not questioned by ethics committees.

In medicine, both genetic (racial) and cultural (ethnic) environmental factors are of paramount value in understanding many diseases entities. For rhinologists, nasal index is used as an indicator for aesthetic, physiological, and airflow dynamics between different populations ⁽²⁾. However, nasal index is an external feature that does not necessarily correlate with internal anatomic variations within the skull, in particularly nose and sinuses ⁽³⁾. In addition, nasal index only represents some of the well defined racial classes ‘‘Africans, Caucasians, and Asians’’, and as more racial and ethnic groups exist, it is clear that this simple anthropometric association is inaccurate ⁽⁴⁾.

According to Leong and Eccles systematic review on the value of nasal index, it appears that although it has some aesthetic value, it is an inadequate indicator of nasal physiology ⁽⁵⁾. Furthermore, there is no strong evidence to support theories that suggest the effect of environment on shaping the features of human nose.

Several studies showed geographic and gender differences in nasal indices as well as significant difference in the measures of inner nasal anatomical dimensions between different racial groups. Ohki et al. found racial differences in the nasal resistance among normal young Caucasian, Oriental, and black African adults ⁽⁶⁾. This finding was confirmed by the work of Morgan and colleagues who obtained internal nasal measurements using acoustic rhinometry and reported a significant difference in the measurement of the mean cross-sectional area of right and left nostrils and the nasal volume (0-4 cm) before and after decongestion between Orientals, Caucasians, and black Africans ⁽⁷⁾. Corey et al. also found a significant difference in the minimal cross sectional area before and after decongestion between a black group and the other two groups (white and Asian subjects) ⁽⁸⁾.

Other reports showed significant geographical variations in certain diseases distribution (e.g. nasopharyngeal carcinoma) which could be related to environmental and cultural factors (ethnicity) or heritable genetic factors (racial) ⁽⁹⁻¹⁰⁾.

In such cases, racial recognition, in the absence of genetic typing, is very useful in clinical practice. For example, a unilateral middle ear effusion in a Chinese man is more alarming than an Indian woman with the same condition.

Recently, Litvack and colleagues have investigated the racial and ethnic disparities among patients with chronic rhinosinusitis who present for sinus surgery and they found a significantly worse disease-specific quality of life in non-white (African Americans, Asians, Persians, Pacific Islanders, and Native Americans) and Hispanic-Latino groups in comparison to white and non-Hispanic-Latino groups, respectively. In addition, the prevalence of nasal polyps among the non-white group was significantly higher. The reasons for the differences were not explained. However, there were no differences in age, education, income, clinical characteristics, incidence of allergic rhinitis and asthma, prior surgeries, and smoking habits among all the groups included in the study ⁽¹¹⁾. These findings suggest that differences among chronic rhinosinusitis among people might be related to genetic factors that are yet unrevealed.

We believe that race and ethnicity remain relevant in evaluating diseases in rhinology as long as they are defined correctly, used appropriately, and interpreted scientifically. We believe that it is pre-mature to abandon the use of racial data in rhinology. In therapeutic studies, failure to use race as a demographic variable may obscure benefits in certain racial groups that may not be evident in a population as a whole.

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Reply to the letter

Dear Editor,

Alshaikh and Kanagalingam state that our mini review on race and demographic variables is “extremely irrelevant” to a multi-ethnic country such as Singapore. They go on to say that racial categorisation or ethnic categorisation is an accepted practice in Singapore and Malaysia and that nearly all research in these countries uses ethnicity as a demographic variable.

In response, we believe that our paper is directly relevant to demographics for studies in multi-ethnic countries such as Singapore and believe that they have misunderstood the main point of our paper. We believe that there is no scientific basis for racial categorisation, and that ethnicity may be useful but at present does not have any scientific basis. We challenge the authors to give objective scientific definitions to their demographics of race and ethnicity and believe they will have some difficulty. For example they assert in their letter:

“For example, a unilateral middle ear effusion in a Chinese man is more alarming than an Indian woman with the same condition.”

We ask the simple question – On what basis are the patients classified as Chinese or Indian? What parameters are used to describe the racial demographics of an Indian or Chinese?

The term ‘Chinese’ may refer to the Han Chinese that constitute the majority of Chinese but this group has substantial genetic, linguistic cultural and social diversity as one would expect from a group of over one billion persons scattered across China, Taiwan, Singapore, Malaysia, USA, Canada,

Australia, UK, etc. etc. Are the Singapore Chinese an homogeneous group? How can you define this group scientifically. By the shape of the nose? By the skin colour? By the language? By the shape of their eyes? There has been thousands of years of migration of Chinese people across the world and we suspect that the Singapore Chinese are quite an heterogeneous group. We could similarly discuss the imprecision of the term ‘Indian’ as the diversity of Indians ranges from those who inhabit the Himalaya mountains in Kashmir right down to the tropical south of India, not to mention the great migration of Indians across the world.

Our thesis is that the use of racial terms such as ‘Chinese’ and ‘Indian’ is an unscientific way of describing a population of patients, as classification depends entirely on the judgement of the investigator with no objective measurements to support the classification, and no hard definition of the racial terms. Our paper highlights this problem of racial classification in scientific and clinical research and although we accept the limitations the nasal index as a demographic variable, it is at least an objective parameter that can be properly defined and measured. We do believe that race and ethnicity are important in medical research- the problem is how can they be defined in a more scientific way in demographics?

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