

# Ethnicity in psychiatric epidemiology: need for precision

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Race and ethnicity are commonly used in medical research to study population differences in disease rates, treatment response and patterns of service utilisation. In psychiatry, reports of higher rates of schizophrenia among second-generation Afro-Caribbeans in the UK have given fresh impetus to the study of ethnicity. The debate about misdiagnosis, labelling and allegations of racist attitudes among psychiatrists has become polarised, without enough attention being paid to the accuracy and precision of the terms used to delineate different population groups. This article examines the use of ethnic and racial proxy variables in psychiatric epidemiology. Selected examples from the psychiatric literature illustrate that the distinction between race and ethnicity is often not appreciated. Replacing the term race with ethnicity allows research superficially to dissociate itself from the racist ideology of the past, but does little to illuminate our understanding of such influences in health and disease. This article proposes five guiding principles which encourage the use of potentially powerful epidemiological methods for investigating diseases in populations, but which guard against careless thinking that can lead to inaccurate, misleading or even dangerous conclusions.

Between 1966 and 1990, 64% of articles in the journal *Health Service Research* included race in their statistics, most commonly as a binary variable used as a control in regression analysis (cited from LaViest, 1994). Around 2500 articles are indexed each year under the Medline headings 'ethnic groups' and 'racial stocks' (McKenzie & Crowcroft, 1994). Research data are now routinely stratified by ethnic groups. However, few studies provide explicit definitions of the terms used to delineate ethnic categories and even fewer justify the use of such categories.

Epidemiology is, by definition, the study of disease in populations. Variations in rates of disease across and within population

groups have provided important aetiological clues to our understanding of many diseases. In an attempt to isolate causative factors in epidemiological research, almost any chosen population group is defined by composite proxy variables that are heavily confounded. Epidemiological research should endeavour to 'unpack' these and isolate the underlying shared biological, cultural and social influences of aetiological importance. There have been recent suggestions for improving the use of racial, ethnic and cultural differences in medical research (Senior & Bhopal, 1994; McKenzie & Crowcroft, 1996). However, several questions remain unanswered: why should ethnicity be recorded, how should it be measured, and what constitutes an ethnic group?

## DO RACES EXIST?

The term 'race' is variously used to describe geographically separated populations (such as African race), cultural group (Jews), nationality (the English race) and even mankind in general (Human race). The idea that humanity can be divided into distinct races has existed since antiquity. Ancient Egyptians divided populations by skin colour to distinguish four groups: Red (Egyptians), Yellow (people of the East), White (those from the North) and Black (those from the South). Romans considered all non-Romans as aliens and Greeks placed all non-Greeks in the category of barbarians. In the Middle Ages, explorers returned to Europe with tales of people different in physical features, cultural tradition and moral values. This provoked great scientific and religious debate into human diversity. Through the 18th century two schools of thought, known as monogenism and polygenism, debated the origin of such differences. The monogenists believed that all races descended from the single original pair of Adam and Eve. They insisted that differences between populations could be explained by the plasticity of

human beings and the modifications imposed upon them by climate, environment and local conditions. Polygenists argued that races descended from several different pairs, and those population differences were so great that the outsiders must be a different species (Jurmain & Nelson, 1994). By the mid-19th century, cephalic index, a method for describing the shape of the head, became a popular way of dividing races. Under the influence of phrenology, monogenists started rejecting their egalitarian concept of race in favour of a hierarchy of races with White Europeans at the top and Black Africans at the bottom. Intelligence, physique, culture and morality were all placed in a hierarchical order, the so-called 'Great Chain of Being' philosophy. Biological determinism became a prominent theme underlying science and medicine. Samuel Cartwright, an American physician, wrote in 1851 that the brain of a black individual is "tinctured with a shade of pervading darkness. His bile is a deeper colour, and his blood is blacker than the white man's" (Osborne & Feit, 1992). The long and dishonourable legacy of such racist ideology in science and medicine, with its implicit connotations of biological superiority, is well documented (Gould, 1981; Fernando, 1991).

But are there biologically distinct races? Human diversity is self-evident, and is confirmed by a cursory visual appraisal of human beings around the world. However, grouping visible phenotypic differences such as skin, hair and eye colour, which are polygenic in nature, does not yield valid taxonomic categories of race. Skin colour is not a marker for other genetic differences between population groups; human beings are not 'colour-coded' (Molnar, 1992). Skin colour is a continuous variable that is often used as if categorical. People of similar skin colour can differ from each other in several other characteristics; for example, Tamils, Masai and Aborigines are all dark skinned, but they would not be considered of the same 'race', even by those who consider skin colour as an adequate measure of racial classification.

Populations do differ biologically in the distribution of both traits of simple inheritance such as blood groups, abnormal haemoglobins, human lymphocyte antigen system, taste sensitivity etc., and traits of complex inheritance such as body form, maturation rates and skin pigmentation. However, there are no racial typologies based on grouping such traits. Classifications based on one particular trait break down

when other traits are included. Many population differences such as haemoglobin abnormalities in malaria endemic zones or darker skin pigmentation in areas with high solar radiation demonstrate the adaptive significance of human diversity. Biological variations between populations are the traces of our evolutionary past but all humanity has descended from a single evolutionary unit since the mid-Pleistocene epoch (ice age). In addition, population genetic studies have confirmed that there exists more genetic/phenotypic variation within 'racial' groups than between them, and no population group has a discrete package of genes (Lewontin, 1972; Jones, 1981). It is now accepted that racial classifications based on traits such as skin colour are scientifically invalid (Molnar, 1992).

## **ETHNICITY AND RACE**

Like race, culture and ethnicity have plural, sometimes ambiguous meanings, overlapping with political concepts of nationality and immigration status. In its usual sense, culture involves all shared characteristics of a society such as traditions, language, social roles etc. that are transmitted across generations by non-biological means. An ethnic group refers to a group of persons who share language, customs and a recent common ancestry. Ethnicity encompasses both biological and non-biological differences between groups. These include physical appearance, self-identification, sense of belonging, values and attitudes, language, behaviour and knowledge of ethnic group history. There is, therefore, a complex inter-relationship between race, culture and ethnicity. Race is socially perceived as permanent and genetically determined; culture is considered changeable with assimilation; and ethnicity is considered partially changeable (Fernando, 1991).

Huxley & Haddon (1935) first suggested that the term race should be replaced by ethnicity since the latter was devoid of the political connotations of racial difference. This, they suggested, would allow human diversity to be studied in a neutral, value-free manner. After the Second World War a liberal consensus emerged that social inequality rather than biology was responsible for differences in population groups. Ethnicity replaced race in socio-political discourse and increasingly in scientific and medical research. Ethnicity was meant to dispel the notion of

immutable and biological differences between races in favour of mutable, environmental differences between population groups (Malik, 1996). The idea of cultural pluralism and multi-ethnicity gained prominence in contrast to that of homogeneous nation states. However, when faced with group differences, mankind seems simply to replace one set of discriminatory attitudes by another. Conflicts in Northern Ireland, Rwanda and former Yugoslavia show how ethnic identification can be as malevolent as racial notions of biological superiority. Cultural conflicts have replaced race wars. Implicit in the immigration policies of several countries is a notion that people of a similar culture are more deserving of citizenship than others. This is cultural and ethnic racism untainted by biology. Debates on ethnicity now have the same socio-political salience as race in an earlier era.

In Britain, Caucasian, Asian and Afro-Caribbean are considered the main ethnic groups. Each of these encompasses diverse and heterogeneous populations that are socially perceived as different 'races'. The term Caucasian was coined originally by Blumenbach in the 17th century to depict a 'racially pure' skull that he discovered in the Caucasus mountains (Molnar, 1992). The term has now become synonymous with 'White'. A definition of ethnicity that includes belonging, shared history and language would not have the French and English in the same ethnic group. Similarly 'Asian' and 'Afro-Caribbean' categories include diverse and heterogeneous population groups that correspond to the popular notion of 'races'. Medical and psychiatric research has followed social convention and used ethnicity as 'race devoid of racism'.

## **ETHNICITY IN PSYCHIATRIC RESEARCH**

The subjective, imprecise and fluid nature of ethnicity makes it difficult to define and measure. This is reflected in most psychiatric research as evidenced by a brief review of recent literature. The common measures of ethnicity are: (a) physical attributes (Harrison *et al*, 1988); (b) physical attributes plus place of birth (Dunn & Fahy, 1990) or place of parent's birth (McKenzie *et al*, 1995); (c) hospital notes (Perkins & Moodley, 1993); (d) hospital notes plus discussion with health staff (Sugarman & Crauford, 1994) or country of birth (Davies *et al*, 1996); (e) discussion with health staff alone (Flannigan

*et al*, 1994); (f) self-assigned ethnicity (King *et al*, 1994). Some studies simply do not mention how ethnic categories were assigned (Morley *et al*, 1991).

Measures of ethnicity based simply on physical appearance highlight the racial foundation of the ethnic facade. Additional measures such as discussion with health staff only confirms that ethnicity is socially perceived race. Adding place of birth or place of parental birth narrows the groups, but may not necessarily produce homogeneous samples, especially in highly mobile migrant groups not constrained by rigid mating patterns. Self-assigned ethnicity has become popular since it appears to eliminate observer bias. However, it forces the respondents to pigeonhole themselves in artificially chosen constructs and ignores the problem of classifying offspring of mixed marriages. Self-assigned ethnicity is changeable over short periods of time (Leech, 1989). There is a decline in ethnic group identification in later generations descended from migrants (Constantinou & Harvey, 1985). Migrant communities may assimilate well enough to think of themselves as a culturally mixed, diverse group whose only link to the country of origin is their skin colour. In addition, self-assigned ethnicity may vary depending upon the context. For instance, Sikhs in Britain may consider themselves 'Black' to identify their experiences of racism, think of themselves as 'Asians' to distinguish themselves from other geographical regions, and as 'Sikhs' for their religious identity (Smaje, 1995). In defining and measuring ethnicity, psychiatric research has so far followed social convention rather than illuminated the debate.

## **WHY MEASURE ETHNICITY?**

Should research be 'colour-blind' and avoid measuring ethnicity at all? A recent report shows that colour-blind policies in education have led to a neglect of the educational needs of students from certain minority groups (Gillborn & Gipps, 1996). Ethnic differences are clearly of importance in many aspects of health and illness, especially since social discontinuities in health care provision often overlap ethnic boundaries. Marmot (1989) has argued that "the vagueness of the term 'ethnic' . . . does not invalidate this area of study. If two groups, however defined, have different rates of disease, productive aetiological investigation may follow". For instance, there is a worldwide increase in the risk of

ischaemic heart disease in migrants from the Indian subcontinent which is not fully accounted for by differences in serum cholesterol levels, smoking rates, systolic blood pressure and fasting blood glucose levels. If an aetiological link is established, it will provide clues for targeting groups for intervention and allow a better subdivision of population groups for research into ischaemic heart disease.

Researchers should therefore explain the need for measuring ethnicity in their hypotheses in a way that allows a valid interpretation of their findings and avoids accusations of bias or prejudicial intent. This also requires a clear mention of the confounders for which ethnicity may be a proxy variable. Psychiatric research has to be especially sensitive, for the stigma of mental illness is as harshly real as is the public's perception of 'races' as biological entities. A report of higher rates of psychosis in Afro-Caribbeans is more vulnerable to racist misuse than reports of higher rates of ischaemic heart disease in people from the Indian subcontinent. Research cannot divorce itself from the social impact of its findings since biological or genetic explanations for ethnic difference can be used to rationalise or justify social inequalities.

## THE WAY FORWARD

So far ethnicity has been poorly defined and measured, thereby diminishing its value as a research variable. The search for better ways of classifying and measuring population diversity must continue. Meanwhile, the value of ethnicity in research can be improved by asking three simple questions: what is being measured in the name of ethnicity; how will it be measured; and why is it being measured? Socially assigned ethnicity may be a valid measure in research into social issues such as stigma, perception of dangerousness or treatment by law enforcement agencies, since what one is measuring is ethnicity as construed in our social interactions. Studies of a proposed biological vulnerability to illnesses must delineate population groups by focusing on shared biological influences. Apparent biological differences can sometimes be environmental in origin. For example, differences in rates of drug metabolism between Indians and the English may be related to environmental influences such as smoking, alcohol intake, diet, etc., and can change following migration as Indians in Britain adopt the lifestyle and dietary habits of the host population (Lin *et al*, 1986). While

one can use broad ethnic categories in a pilot to test a hypothesis, this should then lead to further testable hypotheses, shifting the focus from ethnicity to shared biological or environmental influences.

## GUIDING PRINCIPLES

Ethnicity is a complex variable influenced by biological, social and cultural forces. It can neither be used synonymously with race, nor can it be broken down into three or four easy-to-define categories. Its everyday use, often as a euphemism for race, is likely to continue and may be difficult to alter since a replacement variable is hard to find. All terms used to divide population groups can be criticised for being over-inclusive, stereotypical or offensively racist. The very broad ethnic categories currently popular do not make sense at either a biological or a cultural level, and may simply be a measure of racist attitudes. To improve our understanding of ethnic influences in mental health, we should follow certain guiding principles in psychiatric research.

(a) Researchers should justify the use of ethnic categories in their work by explaining why a particular frame of reference has been chosen. Any hypothesis, therefore, must make clear how the measurement of ethnicity leads to possible answers to a specific question.

(b) Researchers should specify how ethnicity was measured and explain why that particular method of recording ethnicity was chosen. In pilot studies or where a tentative hypothesis is being explored, a range of measures should be included (McKenzie & Crowcroft, 1996).

(c) The results should allow the generation of further testable hypotheses. This will allow the 'unpacking' of the composite ethnicity variable into shared biological or sociocultural influences. A broad measure of ethnicity may be narrowed as a result of such a process.

(d) Study samples must be large enough to allow for confounders. Repeated use of small samples which do not progress this 'unpacking' is questionable.

(e) The terms White/Black/Caucasian/race should be avoided as much as possible. At this stage in our understanding they are

sometimes unavoidable, especially where self-perceived ethnicity is measured or where the research is evaluating the effects of perceived ethnicity.

In politics, racist discourse has shifted its ground from biology to culture. There is a danger that research will follow suit as we cling to outdated and unscientific concepts or use ethnicity as a politically correct term for race. If we want to place ethnic influences in their proper biosocial context, we need to ensure that we are using the terms precisely. Failure to do so can only hinder our understanding of the role of such influences in mental health and illness.

## REFERENCES

- Constantinou, S. & Harvey, M. (1985) Dimensional structure and intergenerational differences in ethnicity: The Greek-Americans. *Sociology and Social Research*, **69**, 234–254.
- Davies, S., Thornicroft, G., Leese, M., *et al* (1996) Ethnic differences in risk of compulsory psychiatric admission among representative cases of psychosis in London. *British Medical Journal*, **312**, 533–537.
- Dunn, J. & Fahy, T. A. (1990) Police admissions to a psychiatric hospital: Demographic and clinical differences between ethnic groups. *British Journal of Psychiatry*, **156**, 373–378.
- Flannigan, C. B., Glover, G. R., Feeney, S. T., *et al* (1994) Inner London collaborative audit of admissions in two health districts. I: Introduction, methods and preliminary findings. *British Journal of Psychiatry*, **165**, 734–742.
- Fernando, S. (1991) *Mental Health, Race & Culture*. London: MIND/Macmillan.
- Gillborn, D. & Gipps, C. (1996) *Recent Research in the Achievement of Ethnic Minority Pupils*. London: Office for Standards in Education.
- Gould, S. J. (1981) *The Mismeasure of Man*. Harmondsworth: Penguin.
- Huxley, J. & Haddon, A. C. (1935) *We Europeans: A Survey of Racial Problems*. London: Jonathan Cape.
- Harrison, G., Owens, D., Holton, A., *et al* (1988) A prospective study of severe mental disorder in Afro-Caribbean patients. *Psychological Medicine*, **18**, 643–657.
- Jones, J. S. (1981) How different are human races? *Nature*, **293**, 188–190.
- Jurmain, R. & Nelson, H. (1994) *Introduction to Physical Anthropology* (6th edn). Minneapolis, MN: West Publishing Company.
- King, M., Coker, E., Leavey, G., *et al* (1994) Incidence of psychotic illness in London: comparison of ethnic groups. *British Medical Journal*, **309**, 115–119.
- LaViest, T. A. (1994) Beyond dummy variables and sample selection: what health service researchers ought to know about race as a variable. *Health Service Research*, **29**, 1–16.

**Leech, K. (1989)** *A Question in Dispute: The Debate about an "Ethnic" Question in the Census. Runnymede Research Report.* London: Runnymede Trust.

**Lewontin, R. C. (1972)** The apportionment of human diversity. In *Evolutionary Biology*, vol 6 (eds T. Dobzhansky, M. K. Hecht & W.C. Steers), pp. 381–398. New York: Appleton-Century-Crofts.

**Lin, K., Poland, R. E. & Lesser, I. M. (1986)** Ethnicity and psychopharmacology. *Culture, Medicine & Psychiatry*, **10**, 151–165.

**Malik, K. (1996)** *The Meaning of Race.* London: Macmillan.

**Marmot, M. (1989)** General approaches to migrant studies: the relation between disease, social class and ethnic origin. In *Ethnic Factors in Health and Disease* (eds J. Cruickshank & D. Beevers), pp. 12–17. Sevenoaks: Wright.

**McKenzie, K. & Crowcroft, N. S. (1994)** Race, ethnicity, culture and science. *British Medical Journal*, **309**, 286–287.

—, **van Os, J., Fahy, T., et al (1995)** Psychosis with good prognosis in Afro-Caribbean people now living in the United Kingdom. *British Medical Journal*, **311**, 325–328.

— & **Crowcroft, N. S. (1996)** Describing race, ethnicity and culture in medical research. *British Medical Journal*, **312**, 1054.

**Molnar, S. (1992)** *Human Variation: Races, Types and Ethnic Groups* 3rd edn. New Jersey: Prentice Hall.

**Morley, R., Wales, T. & MacCarthy, B. (1991)** Attitudes of relatives of Afro-Caribbean patients: do they affect admission? *Social Psychiatry and Psychiatric Epidemiology*, **26**, 187–193.

**Osborne, N. G. & Feit, M. D. (1992)** The use of race in medical research. *Journal of the American Medical Association*, **267**, 27–279.

**Perkins, R. E. & Moodley, P. (1993)** Perception of problems in psychiatric inpatients: denial, race and service usage. *Social Psychiatry and Psychiatric Epidemiology*, **28**, 189–193.

**Senior, P. A. & Bhopal, R. (1994)** Ethnicity as a variable in epidemiological research. *British Medical Journal*, **309**, 327–330.

**Smaje, C. (1995)** *Health, 'Race' and Ethnicity: Making Sense of the Evidence.* London: King's Fund Institute.

**Sugarman, P. A. & Crauford, D. (1994)** Schizophrenia in the Afro-Caribbean community. *British Journal of Psychiatry*, **164**, 474–480.