Ethnic differences in infant health

Ethnic minorities are people and communities with distinct national origins, ways of life, languages and/or religions that differ from those of the majority. Although skin colour is not explicit in this definition, the communities on whom attention has focused in terms of their health do not have white skin. On account of their skin colour and culture, black people and ethnic minorities are discriminated against in many areas of social and economic life, directly and indirectly, resulting in restricted opportunities and generally lower socioeconomic status.

In the UK, consistent patterns have emerged in local and national reports of ‘ethnic’ differences in infant health. Reports of such differentials must, however, be compared and interpreted carefully. Terminology and categories have not always been used consistently, and data have been analysed and interpreted with varying degrees of rigour, insight, and sophistication.

Categories and terminology
Clarity, specificity, and accuracy are imperative in clinical practice and epidemiology. In the complex area of ethnicity and race relations, it is particularly important to clarify terms. The accuracy and empirical basis of categories used are not always clear. Whereas some studies clearly use country of birth to define group membership, others report data for ethnic groups without stating clearly how they were defined. In contrast to the Registrar General’s Classification of Occupations, on the basis of which people can be assigned to a social class, there are no universally agreed definitions or categories of ethnic groups. There have been understandable objections to the very notion of official ethnic or racial categories, but recently there has been increasing recognition that discrimination and disadvantage cannot be monitored without appropriate data. Despite the limitations of reducing the complexities within communities to simplistic categories, most government social surveys now include an ethnic question, as will the population census for the first time in 1991. Taken together with other socioeconomic indicators, such ethnic categories can highlight inequalities in health which social class alone cannot convey.

THE LIMITATIONS OF AGGREGATE TERMS
Aggregate terms that refer to skin colour or continental origins are of questionable validity because they mask national, social, and economic differences within the group. For example, a bland ‘Asian’ category would include people from Pakistan, Bangladesh, India, and its diverse regions, and people from East Africa whose ancestors originated in the Indian subcontinent. In one study, the ‘Asian’ category included infants of Chinese origin. However, in England and Wales there is greater variation in infant health within the ‘Asian’ group than between mothers born in the UK and the constituent Asian national categories.

NATIONAL ORIGIN
In their turn, categories such as ‘British’ or ‘Indian’ which may refer to country of birth or to ancestral origins also subsume social and economic complexity. Several studies have taken their analysis further, looking at religion, and establishing the effect of confounding biological and social variables. Local data sets based on a single health district or maternity hospital may not be large enough to permit such complex analysis unless several years’ data are grouped together. Such local studies can, however, identify variations from national trends.

COUNTRY OF BIRTH AS A SURROGATE
In the UK, country of birth is decreasing further in its limited adequacy as a surrogate for ethnic group, as an increasing proportion of minorities are born here. While the number of British born ethnic minority mothers may be statistically negligible at a national scale, in several cities such as Liverpool, Cardiff, and London, black and other minority communities have been established for several generations. The exclusion of information on ethnicity from routine data systems in the health service is thus regrettable.

Perinatal mortality
Comparison of perinatal mortality in England and Wales for 1975–85 by mother’s country of birth showed persistently high rates among births to mothers born in Pakistan. Moreover, their high mortality continues throughout infancy. Adjustments for biological and social factors reduce, but do not eliminate, their excess mortality and congenital abnormality rates. The difference in perinatal mortality between births to women born in the UK and those to all other immigrant mothers narrowed during the decade. For 1982–5, perinatal mortality among births to mothers born in Pakistan was almost twice the rate for UK born and Irish mothers, and was considerably higher than for births to other immigrant women from the New Commonwealth. Excess perinatal mortality among births to mothers from the New Commonwealth and Pakistan generally persisted across age groups, parity, and social classes.

Only one study, which employed aggregate ‘Asian’ and ‘non-Asian’ categories, has estimated the combined effect of several confounding variables, including obstetric experience of the woman’s general practitioner. After adjustment for social class, parity, height, legitimacy, and general practitioner obstetric list status, the relative risk of perinatal death among ‘Asian’ women was reduced from 165 to 142.

CAUSE OF PERINATAL DEATHS
Congenital malformations accounted for almost a third of Pakistani perinatal deaths in England and Wales in 1982–5, compared with less than a quarter for Bangladeshi, Indian, East African, Irish, and UK born mothers’ births. By contrast, perinatal deaths from congenital anomalies were least common in births to mothers from West Africa and the Caribbean. This deficit of congenital malformations among Afro-Caribbean babies was not so noticeable in a study from
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London, but was identified in Birmingham, which also reflected the national trend of high perinatal mortality from congenital anomalies in Pakistani births, with an increased rate of multiple and chromosomal abnormalities. In Leicestershire, the relative risk of perinatal death from congenital malformations was 158 for 'Asian' women, compared with 'non-Asian' case controls. In Bradford, where the Asian population is predominantly of Pakistani origin, stillbirth and early neonatal death rates from congenital abnormalities were twice and almost four times higher respectively in 'Asians' than in 'non-Asians', with multiple congenital abnormalities particularly prominent.

Several studies analyse perinatal mortality rates and congenital malformation rates by separate confounding biological and social factors. In most instances, each of the confounding factors reduces, but rarely eliminates, excess mortality. In Bradford, disaggregation of combined stillbirth and infant mortality rates by social class eliminated the difference between 'Asian' and 'non-Asian' deaths not associated with congenital abnormality. In social classes IV and V, which included 70% of 'Asian' mothers, a twofold 'Asian' excess remained in deaths from congenital abnormality.

Postneonatal mortality
Although over 40% of all infant deaths occur in the post-neonatal period, ethnic differences in postneonatal mortality have received scant attention. In contrast to the picture for perinatal mortality, crude postneonatal mortality rates in 1982–5 were lower for mothers born in Bangladesh, East and West Africa, and India than for UK and Irish born mothers. Bangladesh mothers' babies had the lowest post-neonatal mortality ratios. However, the significantly high risk for mortality of babies of Pakistani born mothers persists into the postneonatal period, and is not removed by standardisations for maternal age, parity, and social class. These confounding variables do, however, account for the deficit for births to Indian born mothers.

CAUSE OF POSTNEONATAL DEATHS
Sudden death from unknown causes accounted for over 40% of postneonatal deaths in the UK, Irish Republic, and Caribbean groups. Among infants of Indian, Bangladeshi, African, and Pakistani born mothers, however, congenital anomalies were more important, accounting for up to a third of postneonatal deaths. Apart from Pakistani infants, the relative unimportance of sudden deaths among infants of Asian and African origin was mirrored in their lower mortality from respiratory disease. Interestingly, a study of neonatal mortality in Blackburn also identified higher mortality from congenital anomalies than from respiratory failure among an aggregate category of 'Asian' babies of all weights.

Birthweight differences
There are significant differences in crude birthweight distributions between births categorised by mother's country of birth. In 1982–5, low birth weight (≤2500 g) in England and Wales was most common (13%) among mothers born in East Africa, and least common in births to women born in the UK and Ireland (7% and 6% respectively). These general trends were always reflected in a study of birth weight in west London. Hindu and Moslem 'Asian' babies had significantly lower mean birth weights, compared with 'European' mothers. After adjustment for biological and social factors (including smoking), there was no difference in birth weight between Moslem and 'European' babies, but Hindu babies were still lighter. Further analysis comparing mother's country of birth identified lighter babies among Hindus from East Africa than those from India. By contrast, a study from Birmingham identified a significantly higher incidence of very low birth weight (<1500 g) in 'West Indian' births, compared with births to 'European' and 'Pakistani' mothers. The number of births in the study was too small to permit inclusion of Bangladeshi births or analysis of confounding variables.

PHYSIOLOGICAL OR PATHOLOGICAL?
There has been some debate as to whether the higher incidence of low birth weight in some minority communities is pathological, or whether it is indicative of physiological differences between groups. In England and Wales for 1982–5, perinatal mortality for low birthweight babies was lowest in babies of women from East Africa (66), India (68), Bangladesh (81), and the Caribbean (84), but was highest (115) among low birthweight births to Pakistani mothers. In the Birmingham study, lower neonatal mortality among very low birthweight 'West Indian' babies corroborated suggestions from America that birth weights are physiologically lower among black than white babies. However, a study from south east London which compared 'British', 'West Indian', and 'African' births found no significant difference in perinatal mortality among very low and low birthweight babies.

Other studies in west London have identified significantly low perinatal mortality among low birthweight 'Asian' babies, suggesting that their lower mean birth weight is not entirely pathological.

Explanations of ethnic differences in perinatal health
There is no simple explanation of these complex differences in the health of ethnic minority babies throughout their infancy. The relative significance of genetic, environmental, or therapeutic factors will not be easily untangled. Several explanations have been advanced, however: some with more justification than others.

It is clear from most studies that the accepted confounding biological factors and the social class position of minority ethnic communities do not account for their differential experiences of infant health. Social class is a very crude measure of socioeconomic position and resources, and may be particularly inadequate as such a measure for minorities, as they are more likely to be in the lower grades of all occupations, and to experience discrimination in other relevant areas of social and material life. The higher mortality rates, after adjustments for social class, may reflect higher levels of unemployment, poverty, and other problems.

It has been suggested that quality of obstetric and other health care provided may also have an impact on mortality at various stages of infancy. It is therefore imperative that services of high quality are available, attractive, accessible and appropriate for all women, in order that problems are prevented or detected early.

Differences in the incidence of congenital malformations account for approximately half of the excess of perinatal and postneonatal deaths among Pakistani infants. Consanguinity, diet, and maternal age have been suggested frequently as principal contributory factors. But few studies in the UK have correlated them with mortality or malformation rates. Where the impact of consanguinity has been carefully explored, its principal importance has not been established. One would expect the relevance of consanguinity to be restricted to autosomal recessive disorders. Other congenital abnormalities may have a genetic component, but consanguinity need not be relevant.
Carefully designed multicentre studies are needed in the UK to establish the relative importance of socioeconomic, biological, and genetic factors in different communities' experiences of infant health. Genetic counselling and other health advice must be sensitive to minorities' traditions, and unfounded speculation about the impact of cultural factors should be avoided.

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