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Ethnicity and Pain

Over 200 articles in a recent 10-year period explore relations between ethnicity and pain.¹ Three review articles discuss ethnic differences in the prevalence and severity of clinical pain and in responses to clinical and experimental pain.²⁻⁴ Ethnicity, however, remains a relatively understudied concept in pain medicine.

On the Perplexities of Ethnic Difference

Anne Fadiman⁵ describes the case of a southeast Asian girl suffering from a rare, severe form of epilepsy who arrives with her family in the United States. The American doctors do not speak the Hmong language. The parents speak no English and are mistrustful of secular remedies, preferring animal sacrifice to anticonvulsants. Medical, governmental, and cross-cultural complications escalate. Although the girl does not die, she does not recover, lingering in a badly damaged state, unable to walk or talk, "a slight, silent husk." Pain specialists, like other health professionals, increasingly face the perplexities—and sometimes tragedies—of ethnic difference.

Ethnicity is an explosive issue. In addition to ancient antagonisms, a postmodern "politics of identity" (equating self with social group) embroils ethnic difference in partisan agendas.⁶ Some partisans, in response to the political uses of ethnicity, stage a counter-argument that ethnic labels are ultimately "bogus."⁷ Politics aside, it is not self-evident what makes someone Hispanic, Jewish, or African-American. What *is* ethnic identity? The medical literature on ethnicity and pain frequently ignores this basic question.

What Is Ethnicity?

Ethnicity and race—which many researchers treat as mutually entangled concepts—are powerful predictors of health-related outcomes. Today anthropologists and biologists increasingly agree that race is not a scientific category but a social construction;⁸⁻¹⁰ some recommend abandoning it altogether as a variable in public health research.¹¹ Most scientists now view skin color, eye color, hair type, and other outward signs associated with race as phenotypic variations insignificant at the level of the genotype. Human migration, intermarriage, and genetic polymorphism mean that populations are rarely homogeneous. Africans, Caucasians, and Asians (to name the most common racial designations) show wider genetic differences *within* groups than *across* groups.

Race remains a powerful social fact. Few social constructions have fueled more intense conflict. It is not race, however, but racism that accounts for most documented differences in health status between minority and majority groups. Such documentation is important in order to reform systemic inequities in medical care and to identify people at risk for particular conditions (such as the so-called "Asian rickets" common among Indian, Pakistani, and Bangladeshi communities migrating to the United Kingdom in the 1960s and 1970s).

It is easy to misinterpret or oversimplify the complex links between disease and what, for compelling social reasons, we continue to call racial groups. The gene for sickle cell disease is not carried by blacks alone. Differences in the prevalence of hypertension among American blacks and whites have many possible explanations. (Philip Curtin has disproved the "slavery hypothesis," which links high rates of hypertension among African-Americans to a gene supposedly inherited from ancestors whose salt-retaining trait let them survive the deadly Atlantic Passage.¹²) Although single-gene defects cause a small number of diseases in specific groups, such as Tay-Sachs disease among Eastern European Jews, no genetic signature identifies individuals as members of a specific race.

Ethnicity, sometimes employed as a soft synonym for race, inspires similar confusions. Some ethnic groups show physiological and morphological distinctness, such as variations in drug metabolism and in muscle enzyme levels after exercise.^{13,14} Such genetic variations, however, do not tell us what we *mean* by ethnicity. Patterns of gene frequencies that result from marriage choices within a homogeneous cultural group are, as anthropologist Helen Macbeth puts it, "not so much the cause of ethnicity as the outcome."¹⁵ Ethnicity remains a concept in dispute.¹⁶ "Instrumentalists" view ethnicity as a collective strategy for pursuing economic and political interests—fluid, dynamic, and situational—while "primordialists" see ethnicity as embodying a stable, ineffable, potentially coercive bond reinforced by the cultural "givens" (from kinship to language) within specific communities. Macbeth states flatly that accurate definitions of ethnic groups are impossible. Amidst such controversy, Crews and Bindon propose that biomedical researchers should "explicitly state how they are using ethnicity, what their chosen categories imply biologically and sociologically, and why their particular analyses are needed."¹⁷

Rethinking Ethnicity

The special problems that ethnicity poses to researchers in defining their object of study are widely ignored. Bhopal and Rankin found that fewer than 15% of relevant medical studies defined ethnicity.¹⁸ Of the medical journals they surveyed, 96% had no editorial policy on ethnic terminology. (This is also true of the IASP journal *Pain*.) Consistent analytic terminology is essential, especially when labels such as white, Asian, Latino, Afro-Caribbean, and black constitute what Bhopal and Donaldson criticize as a loose and inaccurate "shorthand" developed for nonscientific purposes.¹⁹ Some researchers seek to define ethnicity by objective criteria such as country of origin, as listed on birth or death certificates. Most nations, however, are made up of more than one ethnic group. As a criterion for assigning ethnicity to a specific individual, country of origin may be

objective, but it hardly guarantees accurate information. How, then, *should* researchers and clinicians take account of ethnicity?

Government agencies in the United States and United Kingdom increasingly prefer subjective criteria.²⁰ In 2000, the U.S. census expanded its options for race and ethnicity from 5 categories to 14. The 2000 census also allowed people to choose more than one option, creating up to 63 possible racial/ethnic combinations. At the beginning of the 21st century, 2.4% of Americans identify themselves as members of more than one race. This fluidity of self-identification is likely to increase as cultures change: American blacks under 18 identified with a second race three times more often than those over 50.²¹ Pain specialists need to recognize that ethnic identity contains an irreducible element of personal choice. Individuals can—and do—change their ethnic identification.²²

The fluidity of ethnic identification is clear among the diverse people often described as Hispanic. Latin America has seen widespread intermarriage among European, Asian, African, and native peoples, with the result that health and census data reveal wide variation in racial self-identification across nominally Hispanic groups. Other groups demonstrate similar variation in ethnic identity. Immigrants to the United Kingdom from the Indian subcontinent may be both British nationals and Sikh Punjabis; their children may identify themselves as Indian, Asian, British, or black.²³ Rapid, modern patterns of resettlement bring conflict and challenges, including the medical challenge of unfamiliar patient populations. Thousands of Bangladeshis, for example, recently moved from New York City to Detroit.²⁴ It is no longer possible (if it ever was) to discuss ethnicity as the changeless, solid attribute of fixed and solitary groups. Like race, ethnicity is a social construction, dynamic rather than static, shaped even by the methods of data collection that researchers employ to measure it.²⁵

Despite controversies and uncertainties, ethnicity remains an important area for health-care research, and researchers thus need to develop sound principles to make such work more effective.²⁶ Is there a way to define ethnicity that honors its subjectivity and openness to change—without collapsing into immeasurable vagueness? Senior and Bhopal argue that ethnicity implies one *or more* of three conditions: (1) a common language or religious tradition; (2) shared origins or social background; and (3) shared culture and traditions that are distinctive, maintained between generations, and conducive to a sense of identity and group.²³ This formula, like the alternative versions it contests, is not trouble-free, but it avoids genetic or biological markers. It suggests that ethnicity, whatever else it may be, is inseparable from shared social experience or culture.

Ethnicity in Pain Research

Extensive research into relations between ethnicity and pain has yielded few firm generalizations, in part because both pain and ethnicity are multidimensional, malleable, and shaped by culture. The inconclusiveness also owes much to the difficulty of comparing studies that use not only very different protocols but also measures as diverse and often ill-defined as pain intensity, pain severity, pain report, pain perception, pain behavior, pain expression, and pain response. Further difficulties arise if we consider crucial distinctions among acute pain, chronic pain, clinical pain, and experimental pain.

Under such circumstances, a rigorous quantitative meta-analysis seems impossible. Big questions are often, properly, unanswerable. Smaller questions, however, have elicited valuable responses. Wolff in his 1985 review article³ found sufficient evidence to assert differences in "pain behavior and response" among what he called "ethnocultural groups." This evidence was limited to pain tolerance, verbal complaints of pain, and attitudes toward pain. Wolff, while emphasizing the need for better studies, proposed that ethnocultural variables in human pain responses suggest learned rather than innate behavior patterns. He also criticized traditional racial categories as "crude" classifications that ignore "the many differences within each group." The knotty problems implicit in relations between pain and ethnicity help explain why Wolff recommended collaboration with a cultural anthropologist prior to the commencement of all cross-cultural studies.

The difficulties of research into pain and ethnicity mean that findings must be viewed with extreme caution. In an important 1991 study, Greenwald²⁷ observed no significant relation between ethnic identity and the *sensory* dimension of pain, but identified differences among ethnic groups in its *affective* dimension. Greenwald viewed his findings as positive evidence for a relation between ethnicity and pain, but he emphasized the "limited" nature of this evidence. He anticipated subsequent researchers in choosing to call the relation between ethnicity and pain "problematical." Perhaps no study of ethnicity and pain can control for all confounding variables. Age and sex are sometimes more powerful predictors of pain response than is ethnicity.^{28,29} Wealth, social class, intermarriage, and acculturation may alter one's degree of identification with a particular ethnic group. Differences among individuals within the same ethnic group serve as a constant warning about the peril of stereotypes. Evidence disputes claims that Asians face pain with a stoic attitude and that migrant workers in Australia are accident-prone malingerers.^{30,31}

Three fairly recent studies that examine relations between ethnicity and pain illustrate the problems of generalizing from specific clinical trials. A 1993 study of low back pain patients from six ethnic groups found that ethnic affiliation was the best predictor of reported pain intensity.³² It is unclear, however, whether such findings extend beyond the problematic condition of low back pain. Indeed, many cross-cultural studies of low back pain do not distinguish between national and ethnic identity. A second study, in 1999, found that African-American subjects had lower thermal pain tolerance than whites.³³ (The title explicitly specifies "ethnic differences," not racial differences.) The authors interpret this finding as suggesting differences in the affective dimensions of pain. They also discuss previous research, however, showing that minority status alone can account for lowered pain tolerance. Moreover, the authors classify whites as a homogeneous group—whereas Wolff had asserted that higher pain response levels of whites are chiefly attributable to northern European (Scandinavian) and Anglo-Saxon subgroups. A third study, in 2000, found differences between whites and African-Americans in cutaneous pain perception.³⁴ Nonetheless, the authors do not discuss problems of classification by race, and they acknowledge the possible impact of socioeconomic variables for which their study failed to control. So, despite evident virtues, these three studies continue to leave us on uncertain ground.

Even problematic studies may have useful implications. Clinicians might wish to know that chronic abdominal pain correlates with suicidality among Hispanics in the United States³⁵—or that Hispanic cancer patients find religious faith a valuable resource in coping with pain.³⁶ (Do cancer patients from other ethnic groups, however, *fail* to find value in faith and religion?) Health policy makers might wish to know that 10% of adult dental patients in China routinely receive anesthetic for tooth drilling, as compared to 99% of adult dental patients in America.³⁷ More important than statistics about tooth-drilling, however, is the researchers' conclusion that pain and the perceived need for anesthetic are powerfully influenced by ethnic pain beliefs. Such beliefs, no matter how strongly linked to the idiosyncrasies of individual psychology, inescapably highlight the role of culture.

Culture, Ethnicity, and Pain

Research with adult twins supports Wolff's view that cultural patterns of behavior, not genes, determine perceived sensitivity to pain.³⁸ Significant differences in acute pain response at 2 months of age in Chinese and non-Chinese Canadian infants suggest that the impact of culture occurs well before the acquisition of language.³⁹ Precisely how cultural experience shapes the relation between pain and ethnicity is not known, but various studies using diverse methods suggest that culture plays a crucial role in the individual experience of pain.⁴⁰⁻⁴⁴ The role of culture in shaping the experience of pain within specific ethnic groups is only just beginning to come under study.

The importance of culture to pain and ethnicity is well explored by Bates,⁴⁵ who applied quantitative and qualitative methods to compare patients at a pain center in New England with those at an outpatient medical center in Puerto Rico. Her findings show a lower pain intensity among New England patients. An especially valuable feature of Bates's study is the additional comparison that seeks to determine whether Latinos living in New England, most of whom immigrated from Puerto Rico, show pain responses more like those of the New England or Puerto Rican groups. In their pain response, the Latino immigrants more closely resembled the New England group, implying that the pain response of ethnic groups is indeed shaped and reshaped by culture.

The genetics of pain and possible gene therapies for pain offer promising areas of new research.^{46,47} Researchers must not ignore, however, the complex ways in which human pain, no matter what its genetic substrate, is crucially shaped and modified by culture.

The Dangers of Ethnicity

Medical encounters are not immune from the dangerous consequences that sometimes flow from ethnic difference. The ethnicity of patients may have significant impact on how clinicians assess and treat pain. Todd and colleagues reported that ethnicity of patients is a risk factor for inadequate analgesia in the emergency room.⁴⁸ A study comparing Mexican American and Anglo-American women found that ethnic differences between patients and nurses increased the extent of their differences in assessing pain.⁴⁹ In the United Arab Emirates, only nurses who shared a mother tongue with the patient provided pain ratings that matched those made by patients.⁵⁰

Caregivers, like patients, belong to ethnic groups. They belong to subcultures, including the subculture of medicine, where ingrained attitudes toward particular ethnic groups may have a powerful impact. At one American university medical center, researchers found no difference in the amount of opioid self-administered for acute pain by Asians, blacks, Hispanics, and whites, but found significant differences in the amount of opioid prescribed.⁵¹ In a study of Jewish medical staff treating Jewish and Bedouin women at a medical center in Israel, caregivers' ethnicity significantly influenced their estimates of labor pain.⁵² In a Los Angeles medical center, black and Hispanic patients with isolated long-bone fractures were less likely to receive emergency department analgesics than similarly injured non-Hispanic whites.^{53,54} Even when physicians prescribe adequate medication, ethnic groups face inequalities that translate into poorly controlled pain. Unlike pharmacies in white neighborhoods of New York City, those in non-white neighborhoods stock inadequate supplies of opioids for the treatment of severe pain in their clientele.⁵⁵ Worldwide inequalities in prescription of morphine mean that whites are far more likely than non-whites to receive adequate opioid analgesia. This discrepancy is not solely a function of medical decisions or of income. The U.S. campaign against drug trafficking makes inadequate pain relief for cancer patients in Mexico an issue that is also political and cultural.⁵⁶

It is important to document ethnic differences in the assessment and treatment of pain as a first step toward reform, but an emphasis on difference has its dangers. Not only are research findings often problematic. An emphasis on ethnic differences in the experience of pain can also obscure equally real similarities. A study that focused on patient-controlled analgesia, for example, showed that postoperative opioid use in Asians and in Caucasians is similar.⁵⁷ Facial pain patients from five groups that the authors describe as "ethnic" - black, Irish, Italian, Jewish, and Puerto Rican - were generally found similar in their reported responses to pain.⁵⁸ Studies of specific conditions (from cancer to childbirth) report major similarities among various ethnocultural groups in pain perception and response.⁵⁹⁻⁶³ The challenge of ethnicity is to understand how far the human experience of pain embodies not only measurable differences that distinguish specific groups but also deep similarities that bind us together—despite our diverse, historically changing ethnic and cultural backgrounds.

Ethnicity as a scientific concept and as a cultural fact is full of hazards: handle with care.

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