Multicultural issues have received great attention in recent years in the medical, behavioral, and social sciences. Unfortunately, researchers in physical medicine and rehabilitation have been conspicuously silent with regard to this topic, despite the fact that many racial and ethnic issues arise in the care of patients with chronic disease, injury, and disability. In the absence of meaningful conceptual models and rigorous empirical data, clinicians may inadvertently rely on anecdotal lore and subtle, if not blatant stereotypes of patients who are not members of the majority culture. The degree to which these practices can affect clinical care is generally unknown, although converging evidence suggests that the risk for insensitive and ineffective treatment is high when cultural differences are ignored, minimized, or misconstrued. A rudimentary understanding and appreciation of ethnic and minority issues may help physicians enhance the care for and provide more efficacious treatments to members of the nonmajority cultures.

The multicultural issues addressed in the extant rehabilitation literature have been examined by specific service providers in vocational rehabilitation (1) or have been examined with respect to broader issues in the role of biopsychosocial mechanisms in behavioral health (2). More specialized and condition-specific issues have been studied in isolated research projects that have yet to be synthesized in any meaningful fashion for rehabilitation professionals. Thus, a rather disjointed literature speaks to ethnic and minority issues regarding spinal cord injury (SCI), pain, dementia, and other conditions typically seen by professionals in physical medicine and rehabilitation.

In this chapter, we first propose a definition of ethnic minorities in Western society and touch on some important general issues related to ethnicity. We then review specific social, behavioral, and environmental risk factors related to ethnic minority status that contribute to the onset of disabling conditions and secondary complications following rehabilitation. Ethnic and minority issues related to psychosocial reactions to disability and chronic disease are then discussed. These sections examine cultural differences in adjustment to disability, symptom expression, affective reactions, coping behaviors, family reactions, and societal and service perceptions of individuals of minority status with disability. Finally, implications for clinical practice and research are offered.

DEFINING ETHNIC MINORITIES IN WESTERN SOCIETIES

Ethnic groups are collections of individuals who identify themselves and who are identified by the larger society as sharing a common cultural heritage (3). This common history and experience can include country of origin, language, religion, values, art, cuisine, family structure, health
beliefs, and other elements. In the United States, ethnic minority groups are generally considered to be those cultural groups with a non-European cultural heritage. The major categories of groups, in descending order of population, are African-Americans (31.1 million); Latinos, individuals whose ancestry lies in Mexico, Puerto Rico, Cuba, Central and South America, or Spain (22.3 million); Asian/Pacific Islanders (7.3 million); and Native Americans (1 million) (4–6). All of these groups are diverse and include subgroups with distinct cultures. The cultural groupings are often considered synonymous with race. The association, however, is not that close; for example, there are Latino persons with an African genetic heritage. The groupings are also associated with economic status. There are a disproportionate number of African-Americans (32.7%), Latinos (25%), and Native Americans (28%) with incomes below the poverty line (4,7).

An important difference identified by many researchers between the ethnic minority cultures and the majority culture in the United States is the emphasis on collectivistic versus individualistic behavior (8). In many minority cultures, the needs and desires of the family and the community hold much more weight than they do in the majority, European-American culture (9–11). This differential emphasis on collectivistic action and thought is related to a different conception of the self. In many minority cultures, the self is viewed as a function of one's social roles and environment or as a manifestation of some larger entity. This is in sharp contrast to the traditional European view of the self as located within one's person and as the creator and controller of thoughts and behavior (12). The implication of these contrasting world views for clinical practice is that patients and families from minority backgrounds may place very different values on independence as a goal for rehabilitation than patients and families from majority backgrounds do. In addition, persons from individualistic cultures are more apt to attribute behavior to individual characteristics (e.g., personality, motivation, abilities) while those from collectivistic cultures are more likely to attribute behavior to situational and environmental factors (8).

Another important difference for health care professionals between ethnic minority cultures and the majority involves beliefs about health care. Many ethnic minority individuals both espouse traditional forms of medicine native to their ethnic group and distrust modern medicine. A series of studies documented that Native Americans do not expect fair treatment from non-Native health care professionals (13), that less acculturated Asian-Americans sometimes view modern medicine as a last resort and may not value health insurance (14), and that African-Americans are skeptical of the opinions of physicians and rehabilitation professionals (15,16). Given this distrust of modern medicine, minority individuals may be more inclined to use herbs or potions, or seek the advice of a religious or spiritual community figure before seeking professional health care. Furthermore, research indicates that the interest in traditional forms of medicine among ethnic minority individuals is not mediated by level of education or income (17).

When an individual is identified as belonging to a certain ethnic group in the context of clinical practice or research, the assimilation and acculturation of the individual into the larger society and the majority culture are important factors to consider (18–20). Assimilation refers to the process of participating in the institutions of the society at large, while acculturation refers to the process of learning the manners and style of the dominant culture (3). Minority patients who are less assimilated and acculturated are more likely to hold to the cultural norms of their minority group exclusively and, therefore, require special attention. Minority patients who are more assimilated and acculturated can probably be treated using traditional assessment tools and intervention strategies (21). The Racial Attitudes and Identity Scale (RAIS) (22), the Acculturation Rating Scale for Mexican Americans II (ARSM-A-II) (23), and the Suinn-Lew Asian Self-Identity Acculturation Scale (SL-AWisA) (24) are some research instruments that measure acculturation in African-American, Mexican-American, and Asian-American minority persons, respectively. In clinical practice, the age of entry to the United States and the English speech patterns of the patient can often be used to roughly gauge acculturation.

**DISABILITY INCIDENCE AND RISK FACTORS RELATED TO ETHNIC MINORITY STATUS**

A growing body of epidemiologic data indicates that the incidence of particular disabling diseases and injuries is higher among certain ethnic minority groups than in the majority population. The incidence of disability among African-Americans (14.8%) is substantially higher than among European-Americans (8.4%) (25), owing to higher rates of vascular disease, cancer, criminal assault, and diabetes (26). While the overall rate of disability in the Latino and Native American populations does not appear to diverge sharply from that in the majority population, the incidence of injuries and diabetes is higher in these groups than among European-Americans (26). This differential incidence of disability is probably driven by factors associated with ethnic minority status such as poverty, restricted occupational and educational opportunities, dangerous residential environments, limited access to health care, experience of discrimination, and culture-specific health behaviors (27).

The high rate of vascular disease among the African-American population is, among other factors, related to poor knowledge of health risks, limited access to health care, diet, and cognitive style. In a recent survey of African-Americans, one-fifth stated that they have no usual
source of medical care and that they visit an emergency room or clinic when acute symptoms develop (26). Persons with this sort of access to health care are unlikely to receive screening for hypertensive problems and preventive treatment. African-Americans have a high fat-intake level in their diet compared to the majority population group. This bias toward fatty foods, which is largely due to a high consumption of fatty meats, is evident across all income levels (20) and is not common to other minority groups. The belief or cognitive style that one can control environmental stressors through hard work and determination, despite the lack of adequate socioeconomic resources, has been linked to hypertension among African-American men of low socioeconomic status (28, 29). [This relationship has not been found among African-American college students (30).]

The relatively high incidence of certain types of cancer among African-Americans and some other ethnic minorities is, again among other factors, related to environmental and occupational hazards and health-related behaviors. Minority individuals are overrepresented in poor neighborhoods that are more likely than wealthy areas to contain or be located near environmental hazards (14). Similarly, research indicates that African-Americans who are employed in semiskilled, low-paying jobs are more likely than European-Americans to be exposed to carcinogens, even after controlling for job experience and education (31). In contrast to the exposure to environmental and occupational risk factors, minority groups traditionally have had lower rates of tobacco consumption than the majority population. However, recent Asian male immigrants exhibit very high rates of smoking (20). In addition, new smoking surveys show an increase in the rate of smoking among African-American men.

The disproportionate representation of certain minority groups among certain types of spinal cord and traumatic brain injury is, among other factors, related to occupational and environmental hazards and health and risk-taking behaviors. There is a disproportionately high representation of African-Americans and Latinos among patients with SCI of a violent origin (32). African-Americans and Latinos are more likely to live in high-crime areas, which have a greater preponderance of stores specializing in the sale of alcoholic beverages compared to European-American neighborhoods (33). However, the relatively high risk of suffering violent injury is also related to the subculture-specific risk-taking behaviors as establishing rank in peer relations through aggression (34). Other minority groups are at high risk for other specific types of injury. For example, Native Americans have the highest rate of motor vehicle accidents of any ethnic group in America, which may be due to the relatively high prevalence of alcoholism among Native American persons.

**PSYCHOSOCIAL REACTIONS TO DISABLING CONDITIONS**

Cultural identity and processes are glaringly absent in contemporary models of stress appraisal and coping following the onset of severe illness and disability (35). Substantial evidence, however, demonstrates that 1) cultural identity mediates the presentation, reporting, and meaning of physical problems in the rehabilitation setting; 2) the role of family and significant others in the adjustment and caregiving process varies with ethnic identity; and 3) ethnic minority patients sometimes encounter discrimination from rehabilitation professionals.

Cultural values among less acculturated Latinos, for example, may directly affect emotional and behavioral reactions to disability (36, 37). Latino persons often adhere to strong values of allocentrism and familialism, interdependence on others, and simpatismo and respeto in working with rehabilitation service providers. They may cope within frameworks that emphasize spiritual beliefs, clearly defined gender roles, and a “present-time” orientation (38). Consequently, a less acculturated Latino family may exhibit strong nuclear family support that buffers the patient against affective disturbance, but inadvertently reinforces functional dependence. The patient may defer and acquiesce to professional advice (respeto) and avoid conflict with authority figures (simpatismo), but may not internalize recommendations or display initiative in the rehabilitation program. Men may feel an acute loss of productivity within their defined roles (machismo), while women may endure (aguantar) in a prescribed manner that appears adaptive in terms of affective adjustment, but implies passive behavior in directive therapies. Spiritual beliefs, too, may foster affective acceptance of disability, but inadvertently promote passive involvement in rehabilitation. Finally, the “present-time” orientation may influence a preference for pragmatic and immediate solutions and a disinterest in long-term planning (38). Thus values unique to a less acculturated individual from a collectivistic cultural background that have adaptive features may also present the rehabilitation provider with a special challenge.

**Pain Behavior**

Ethnicity affects the degree to which individuals experience and report painful sensations and conditions. The experimental study of laboratory-induced pain suggests that ethnicity does not moderate the ability to discriminate painful sensations (39), but that ethnicity influences pain complaints and pain-related behaviors (39, 40). The effects of cultural identity appear to be most apparent in studies in which patients with a low degree of acculturation are compared to members of the majority culture. For example, Honeyman and Jacobs (41) demonstrated that cultural beliefs induce a substantially different pattern of disability-
related behavior among Australian Aboriginals than typically observed in Europeans. Although many of the Aboriginal patients in this study had a clear medical diagnosis of spinal pain, public displays of pain and psychosocial impairment and avoidance of activities were rare. In this community, the value placed on performance of community functions by injured individuals clearly superseded that placed on public displays of pain and impairment. Johnson et al (14) wrote that less acculturated Asian-Americans tend to express negative feelings and physical complaints less frequently than European-Americans. This stoic attitude is thought to constitute “keeping face,” a tradition in Asian culture of presenting an honorable image to society. Congruent with this hypothesis, available data suggest that Asian-Americans are more likely to somatize their emotional distress and to report more physical symptoms than feelings of sadness or anxiety on self-report instruments (14,42,43). The influence of culture on pain behavior in more acculturated minority populations is less marked (16).

Recent research suggests that acculturation to Western society may be associated with more health complaints and pain behaviors (44). Lipton and Marbach (16) found that greater acceptance of Western medicine was associated with more pain complaints among African-Americans. This relationship, however, was moderated differently by locus of control within each ethnic group. A more internal locus of control was associated with greater pain intensity among European-Americans, while a more external locus of control was associated with greater pain intensity among Hispanics (44,45).

**Affective Responses to Disability**

The evidence concerning affective responses to disability is less clear. Results of a preliminary study suggest that minority women with SCI experience more emotional distress than other individuals with SCI (46). The results also indicate that minority patients with SCI report significantly more problems with financial issues and skill deficits than do European-American patients with SCI. In a 1993 study by Westbrook et al (47), health practitioners working in different ethnic communities in a Western country reported different reactions to and perceptions of their ethnic minority patients. Men with disabilities from a Chinese community were perceived by health practitioners as less likely to be emotionally communicative than a group of Europeans. Men of Greek and Arabic identity were perceived to be more likely to express grief than the Europeans in this study. The European men were perceived as more inclined to express anger, pessimism, shame, and depression than the other men. His finding is in contrast to a similar study which found ethnic minority patients to be significantly less optimistic about their future than European patients (48). This latter study also found that persons from minority groups were concerned that poverty, disability, and their ethnic identity would handicap them in society.

**Adjustment to Disability**

There is descriptive evidence of distinct relationships between ethnic minority status and adjustment among rehabilitation patients. In a survey of African-Americans with disabilities, Belgrave (49) found that social support, self-esteem, and perception of disability severity were significantly correlated with acceptance of disability. Davis et al (50) reported that African-Americans with SCI tend to have a less positive self-concept, a lower internal locus of control than European-Americans with SCI, and greater external expectancies of control than European-Americans. These expectancies for control over behavioral reinforcement are believed to be closely aligned with rates of reinforcement provided by the psychosocial environment. European-Americans may have more internal expectancies because they experience and perceive a greater correspondence between their behavior and actual rates of reinforcement for performance. African-Americans, in contrast, may experience and perceive less correspondence between their behavior and rates of reinforcement from the environment. Thus, many African-Americans may accurately perceive their behavior at times to be influenced more by external events outside the realm of personal volition than by controllable factors. Data also suggest that persons of minority status may be at increased risk for secondary complications following disability. In the most comprehensive and thorough study to date, Further et al (51) found that a greater proportion of African-Americans had severe pressure sores than did European-American patients. The reasons for this finding are unclear. The authors speculated that the dark skin pigmentation of African-Americans may make it more difficult to detect early skin breakdown. Poor access to preventive and routine health care relative to European-American patients may also hinder early detection (52).

**Family Reactions and Caregiving**

Social support, in particular family support, is an important factor in recovery and rehabilitation subsequent to a disabling injury. Cultural differences in family structures and dynamics, therefore, can be important considerations in the rehabilitation process. The very constitution of family in minority ethnic groups can differ from that in the majority. Whereas in many European-American families the close family consists of mother, father, and children, in many minority families this can include grandparents, aunts, and uncles (18,53). African-American families often include members not related by blood or marriage, but by shared values, norms, and beliefs (54). This is exemplified by the findings of White-Means and Thornton (55) and Lawton et al (56).
that caregivers in African-American families can be close or distant relatives or fictive kin and that the quality of care does not vary with the closeness of blood relationship.

The extended-family structure and the collectivistic spirit characteristic of many minority families suggest that these families might be able to cope better with a disabling injury to a family member than European-American families. Research comparing African-American and European-American families, in fact, indicates that African-American families may cope better with the challenge imposed by a disability than European-American families. Pickett et al (57) found that African-American parents of children with disabilities had higher feelings of self-worth and lower levels of depression than did European-American parents with disabled children. Haley et al (58) found that caregiving for Alzheimer dementia patients was associated with less depression and higher life satisfaction in African-American caregivers than in European-American caregivers. The diminished negative impact of caregiving in African-American families appears to be related to a view of caregiving as an expected family function (9,59) and a regard for elder family members independent of their cognitive and behavioral abilities (60). There is little research comparing other ethnic groups to the majority group or to each other on the impact of caregiving.

The limited amount of research on the relationship between minority status and marital status after a disabling injury suggests that cultural differences have a small or negligible impact on marriage and divorce rates. DeVivo and Richards (61), in a recent study of 6853 SCI persons, found that African-Americans and Latinos do not have significantly different marriage rates than European-Americans. The evidence on the relationship between minority status and divorce is mixed. In a 1985 study with 662 SCI persons, DeVivo and Fine (62) reported that African-American minority status is significantly associated with a higher divorce rate. In a more recent study with 662 SCI persons, African-Americans and Latinos displayed higher, but not significantly different, divorce rates than European-Americans (62,63). The higher rates of divorce reported correspond to higher rates of divorce for these minority groups in the general population. The number of Asian-Americans and Native Americans in these studies was too small to draw any statistical inferences. There is no research on the relationship between minority status and marital status in the traumatic brain injury and stroke populations.

**Societal Reactions and Provision of Services to Ethnic Minorities**

Researchers and activists have argued that ethnic minority persons with physical disabilities face “double discrimination.” In fact, ethnic minority persons may experience “triple discrimination.” They can face discrimination by the majority and minority cultures on the basis of their disability and in the majority culture on the basis of their ethnic identity (64).

Societal attitudes toward persons with disability vary across cultures (64–65). In Asian-American cultures, physical disability, and deviance in general, are often tolerated if the individual still contributes competently in some fashion to the greater good of the immediate community (65). Although traditional Asian-American communities can attach stigma and embarrassment to physical disability, the disabled person who maintains an inner strength and accepts suffering as a part of the natural order is treated with and conveys dignity (65).

The fact that minority individuals receive differential treatment from rehabilitation professionals and other service providers is of more immediate concern. Data suggest that physicians treat patients differently on the basis of ethnic identity. Researchers have found that Latinos presenting with fractures receive less pain analgesics than do European-Americans presenting with the same type of fractures. The tendency to prescribe fewer analgesics for Latino patients than for European-American patients did not appear to be due to differences in displays of pain or physician assessment of pain complaints (67,68). Data also suggest that certain service providers expend fewer resources toward the rehabilitation of minority individuals than European-American individuals. James et al (69) found that African-Americans with SCI treated by participating centers in the Model System Database received less sponsorship and vocational training than did European-Americans. This finding may partly explain the relatively high rate of unemployment among African-Americans with SCI (69–71). Descriptive research has found similar discrimination against Native American clients in certain state vocational rehabilitation services (72). In addition, some data suggest that Chinese-Canadian children with disabilities receive less benefits from Canadian rehabilitation services than do European-Canadian children (73).

Such differential treatment may be partly due to misattributions on the part of service providers about minority client behavior. For example, some service providers may view minority clients as unmotivated because they do not adhere to the prescribed regimen of outpatient visits. Minority clients, however, are more likely to rely on public transport than European-American clients (52,74). The poor compliance of some minority clients, therefore, may be a function of economic resources rather than personal characteristics (75).

**IMPLICATIONS FOR CLINICAL PRACTICE**

The review of the literature suggests many recommendations for improving rehabilitation practices regarding care for persons with an ethnic minority background. We delineate specific implications in terms of service delivery and prevention of secondary complications.
Service Delivery and Intervention
Cultural sensitivity will enhance the rehabilitation services. Preliminary evidence indicates that modern medical interventions can be enhanced with less acculturated individuals, by integrating modern forms of medicine and health care with more traditional practices and including individuals who are strongly identified with the patient's ethnic community in the treatment team (76). Attempts to provide more culturally congruent programs on a Navajo reservation were associated with a dramatic increase in employment of clients with disabilities in one study (76). In another study African-American clients appeared to be more responsive to African-American service providers and felt more comfortable with and continued longer in rehabilitation services when they perceived greater sensitivity and competence in the rehabilitation provider (77). These data indicate that culturally sensitive approaches can heighten cooperation and possibly circumvent mistrust among clientele.

In general, clinicians should be aware of their own cultural biases and stereotypes when working with persons of minority status. Clinicians should be aware that nonverbal behaviors play a substantial role in clinical diagnoses and decision making. Individuals who are less assimilated into the majority culture may exhibit nonverbal behaviors that may easily be misinterpreted by insensitive clinicians. For example, lack of eye contact with the clinician and displays of indifference from an African-American client may not signify disinterest or disdain for the clinician, but rather may be related to issues of cultural mistrust and attempts to preserve self-concept under duress. In addition, the client might be sensitive to clinician behaviors that could imply suspicion and lack of respect (e.g., being scolded or rebuked by the service provider, service provider being tardy for an appointment, service provider providing incomplete or inconsistent information, displays of condescending or contemptuous attitudes).

Nonverbal behaviors may also complicate clinical decision making in other realms. For example, less acculturated individuals from Hispanic and Asian communities may defer to clinical recommendations and opinion, when in fact they may be observing cultural norms for displaying respect for the professional without necessarily internalizing or understanding the nature of the recommended regimen. Similarly, a stoic demeanor may mislead a clinician in the assessment of pain and pain-related discomfort when considering possible prescriptions for pain relief. A thorough interview with the patient and significant others may assist the clinician in providing therapeutic advice to the patient and in determining the need for medication or other interventions.

Clinicians should be aware that minority individuals may place a different emphasis on independence and on the role of certain family members in the caregiving process, compared to majority individuals and families. Certain groups, such as African-Americans, may have an extended sense of family that will include persons who are not blood kin. These individuals may be comfortable with and skilled in their caregiving roles and should be incorporated into family training programs. In contrast, psychological interventions may be indicated for individuals of a majority culture, as white caregivers can have many difficulties with psychological adjustment. These individuals may also be more receptive to support groups and other community-based interventions. Other individuals, such as those from a less acculturated Asian background, may be less receptive to psychologically based interventions.

Clinicians should also pay attention to the role of minority individuals in the educational materials used by rehabilitation staff. Whenever possible, audiovisual and instructional materials should display individuals from minority backgrounds, with examples identifying patients of minority background to enhance receptivity and learning. Ideally, facilities treating patients of certain minority backgrounds will have professionals and clinicians on staff of that same background. This would certainly assist in lowering cultural mistrust and increasing receptivity to rehabilitation practices. Furthermore, it may be particularly helpful to identify individuals from the minority community who can work as “role models” or mentors, who might volunteer to visit and confer with current patients in inpatient and outpatient settings.

Finally, it behooves all the disciplines represented in rehabilitation to examine their resource allocation practices to identify possible areas of bias.

Prevention of Secondary Complications
When considering the prevention of secondary complications, issues germane to general primary prevention among ethnic minorities also apply to the rehabilitation setting. Among persons of minority status, access to appropriate health care appears to be a major concern (2). Many individuals of minority status do not have adequate access to health care facilities, which is vital to the prevention and early identification of secondary complications common to physical disability. As noted earlier in the chapter, this may be due to a variety of factors including lack of financial coverage and lack of transportation. Strategies that can increase the probability of outpatient visits and early diagnosis are needed. These may include greater use of home health services, routine telephone contact or mailings, and improved relations with the informal caregiver. Such strategies may also be helpful in improving adherence to self-care regimens.

Self-care can involve issues of diet, self-management, and performance of specific regimens such as range of motion exercises, stretching, and appropriate transfers. Individuals who are of minority status and who live below the poverty line may have particular difficulty in adhering to these practices for a variety of reasons. Thus, community-based interventions that provide regular “booster” sessions and enhance the salience and practical-
ity of such activities in the home may be particularly effective. Research that identifies incentives for and barriers to adherence to home treatment regimens among minority populations is much needed. Problems with diet vary considerably across cultures and may require specific solutions for each ethnic group.

Certain individuals of minority status will be discharged into communities in which many environmental hazards exist. These hazards might include violence, crime, drug use, and unsafe structures. Although some of these hazards appear to be outside the realm of traditional rehabilitation medicine and psychology practice, rehabilitation professionals may desire and need to work with public health experts to combat these threats to health.

**IMPLICATIONS FOR RESEARCH**

Review of the literature suggests that culture plays a substantial role in the incidence of disabling conditions and injuries, in the responses of patients to disabling injuries and diseases, and in the reactions of families and service providers to persons with disabilities. Further empirical studies are called for on these issues and on issues where the implications of cultural differences are yet unclear.

Research priorities might include 1) clinical studies that develop and evaluate culturally congruent treatment and follow-up programs for particular ethnic groups; 2) correlational and experimental studies that examine the relationship among physical injury, pain-related behaviors, affective reactions, and the response of care providers across ethnic groups; 3) correlational studies that examine the relationship between the value of independence and rehabilitation goals across ethnic groups; and 4) archival research that documents areas of ethnic and racial bias in resource allocation. During research, it will be important to include acculturation as a factor, as acculturation is likely to either moderate or moderate the relationship between minority status and other variables, and to study these issues within as well as between groups.

In addition, the involvement of minority persons in consumer advocacy groups will help clinicians to appreciate new ways of understanding the research to date and will help to develop more culturally sensitive and effective rehabilitation programs in the future. We can learn much by studying the differences and similarities between persons of different ethnic and cultural backgrounds. It is hoped that these lines of investigation result in better care for all patients.

**REFERENCES**


