

Today's Reality: Research Issues in Underserved Populations

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In 1988, the publication of *Workforce 2000* and *Healthy People 2000* signaled the recognition of a fundamental change in American society. By the year 2000, one in three Americans will be members of an ethnic minority population, and minorities and women will be the major groups entering the work force. These changing demographics have forced us to re-evaluate how patient care is provided. Each ethnic group represents a different culture, and culture influences every aspect of the cancer experience for patients, families, and practitioners, including the manner in which the distress and disorder caused by this disease are manifested, defined, and understood. Yet research on these variations and application of cross-cultural knowledge into oncology care is only beginning. This paper will describe some of the influences of culture on cancer nursing, as well as some of the barriers to integrating cross-cultural knowledge and techniques into research and practice.

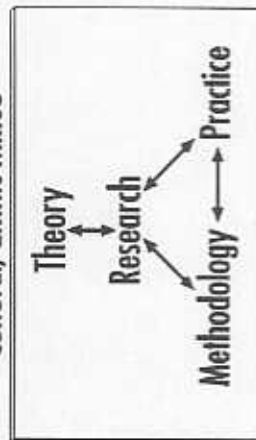
The main issue in conducting cross-cultural research is *scientific correctness*, for

accuracy is severely compromised if the appropriate cultural concepts and constructs of the target populations are not integrated into cancer nursing research and practice. Today's demographic reality makes it not only socially significant, but also scientifically imperative, that the cultural paradigm become a part of cancer nursing.

Our present theories of human behavior, when challenged by cancer, are too restrictive. The needs of clinicians who work with ethnic and underserved populations and patients and families from these groups are poorly met by the present practice structure. If we expand the paradigm presently used by researchers and clinicians by placing the clinical encounter within a multicultural context, the findings of our research would: (1) achieve greater generalizability and produce greater specificity, and (2) increase the probability that the efforts of researchers and practitioners would ultimately lead to better patient care.

Figure 1 outlines the model for this paper. The model is familiar, but awareness of the

Figure 1. Research Paradigm within a Cultural Context
Cultural/Ethnic Milieu



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cultural context in which it occurs requires a fundamental reorganization in thinking. Implicit beliefs structure one's cultural perspective, or lens, which frames thinking and filters perceptions and judgment. The assumptions each of us carries must be rendered explicit in order to test their generalizability or at least to identify their limitations. One example of the dissonance in belief systems arises in the issue of advance directives, which assumes the patient *knows* the diagnosis, *wishes* to make decisions about his or her own care, and *feels it appropriate* to discuss the possibility of his or her own death.¹ These assumptions run counter to many cultural beliefs and highlight the potential legal and ethical problems in our practice.

First, I will discuss how the current theoretical paradigm used in oncology nursing guides research; second, review the limitations of this paradigm; third, introduce how the paradigm of cultural variance can aid in the formulation of questions for research, the methodology and instrumentation used, and the makeup of the research teams; and last, emphasize and reinforce the central position of practice to the research process of the new paradigm. From this model, it becomes clear how nursing practice can help to initiate the questions for as well as test the findings produced through the research process.

Development of cultural competence in practice involves three steps: (1) define world view and culture, (2) develop an ethnocentric (in contrast to ethnocentric) awareness, and (3) ensure scientific accuracy when conducting research.

World View and Culture

In 1993, the California Division of the American Cancer Society adopted the following definition of the underserved:²

The underserved is broadly defined as those who encounter barriers to optimal cancer care (education, prevention, detection, treatment, and rehabilitation). The underserved

includes, but is not limited to, individuals and their children who are indigent; working poor without adequate medical insurance; elderly, homeless, undocumented residents; those who have limited literacy and language ability; persons with disabilities and those whose cultural beliefs and practices may pose barriers to using Western biomedical techniques.

In this definition, neither race nor ethnicity are mentioned. More proximal and operational factors were chosen in order to avoid stereotypic reactions, approaches, and categorizations. The definition addresses *anyone* who faces barriers to optimal care. It is true, however, that ethnic minorities are overrepresented in the socially and economically disadvantaged classes, and often face multiple barriers to health care. Researchers must begin to identify the interrelationships among these factors to design effective interventions. For example, one of the most difficult correlations to study is the association between social class and ethnicity. The two factors are inextricably intertwined, but we cannot assume one is a proxy for the other. More sophisticated studies are required to control for ethnicity and stratify the sample by socioeconomic status. This would enable researchers to understand that ethnicity must be seen as a marker of behaviors and beliefs with a *social context* and not as a risk factor in and of itself, and see intragroup differences more clearly. The separate effects of ethnicity and social status on attitudes and health behaviors cannot be extricated from one another. Together, the two form the whole environment in which individuals live. The challenge is for practitioners and researchers who work with these individuals to identify the specific barriers they face and then design strategies to help the targeted populations to move through or around them.

Stereotypic reactions emanate from a misunderstanding of the concept of culture. Therefore, we must have a working defini-

tion of culture in order to provide the infrastructure for the expanded oncology nursing paradigm.

Defining Culture

Culture defines reality for its members. This reality, or world view, describes the totality of the universe and the individual's place within the cosmos. A culture takes the abstract concepts from its world view and creates a symbolic world that defines the individual's purpose in life and sanctions and prescribes appropriate behavior within the social group. The beliefs, values, and prescribed behaviors of a culture are learned through tradition and transmitted from generation to generation. This world view and ethos of culture provide its members with personal and social meaning.

Culture, then, serves two roles: (1) integrative—provides the beliefs and values from which individuals form a sense of identity and (2) functional—sets the rules for behavior that enable the group to survive, provide for its welfare, and support an individual's sense of self-worth and belonging. These patterns of beliefs and rules for behavior enable members of a culture to maintain behavioral consistency and predictability and make social interaction and integration possible.

These two roles are analogous to the warp and woof of a tapestry. The technique of weaving is universal, but the patterns that emerge from each group are distinctive. Concepts such as beauty—for example, color, balance, symmetry, and the subjects chosen to display in the tapestries—express the ethos of a culture. Specific beliefs and behaviors are like the threads in the tapestry. A thread can be taken out and compared across cultural groups for its inherent structure, but its function and integrity are not comprehensible unless seen within the pattern of the entire cultural fabric from which it came.

Taken in isolation and out of context, a belief or behavior may be misinterpreted or even disregarded as unnecessary or maladapt-

ive. Difficulties in communication between practitioner and patient/family occur when the practitioner disassembles the tapestry of the patient/family and analyzes it according to the template of the practitioner's culture. This is an *ethnocentric* perspective in which the essence of the original pattern is lost. If interventions designed for one pattern are "transplanted" to repair a rent in another, the incongruity becomes apparent. At best, the patient and family might feel misunderstood.³ This metaphor places issues of "compliance" in a different perspective.

Cultural membership and ethnicity are interchangeable. Ethnicity tends to be used in a multicultural context, whereas culture tends to be used in discussing a single group. An *ethnic group* is a self-perceived cultural unit that resides within broader society and permits appropriate interactive behavior within its membership.⁴ Individuals need to have a sense of identity with a group; to be without a sense of continuity is to be faced with one's own death. Ishi, the last Yaqui Indian of California, stated this reality when he sadly commented on the death of his culture. "[Ethnic] identity is found in the 'cup of custom' passed on by one's parents from which one drinks the meaning of existence. Once the cup is broken, one can no longer taste of life." Ethnic identity is vital to one's identity.⁵

Ethnicity is also used as a social/political construct,⁶ and as such creates imposing barriers to communication, understanding, and effective practice. For example, most practitioners do not realize that Asians and Pacific Islanders have the lowest rates of participation in cancer screening and prevention programs of any ethnic group.⁷ They have the lowest rates of participation for mammograms, clinical breast examinations, Pap smears, and smoking cessation programs. Yet, in responding to one federal request for proposals to study ethnic minority health concepts, I was told that Asians were not a targeted group since, for the

Table 1. Ethnicity as a Risk Factor for Analgesia in the Emergency Room*

Analgesic Dose	White % (n)	Hispanic % (n)	P
No analgesic	25.9 (28)	54.8 (7)	.005
Low dose (<10mg MSO4)	45.4 (49)	19.4 (6)	.005
High dose (>10mg MSO4)	26.7 (31)	25.8 (8)	.005

*Source: Todd et al. *JAMA* 1993; 269(23):1537-1539

government's purposes, Asians are not considered a minority.

In a recent study of ethnic differences in pain control, ethnicity was shown to be a factor in analgesia administration in the emergency room for patients with long-bone fractures.¹ Hispanics were twice as likely to receive inadequate analgesia (defined as no analgesia or low-dose analgesia of <10 mg of morphine) compared with their white counterparts (Table 1). The authors of this retrospective study were not able to determine possible mediating factors, but they did speculate that racism or other social/political factors may be affecting medical care for the Hispanic population.

Ethnorelative Approach

All nursing care occurs within a cultural milieu. We live in the culture of the US and work within the subculture of the medical system. Culture is *not an optional* component to be considered only when it seems appropriate. Culture affects all aspects of the cancer experience for patients and families, from the diagnosis to rehabilitation or terminal care. The meaning of the diagnosis, symptoms, and treatment, both physically and psychosocially, are framed by one's culturally molded perceptions.² The only way we can provide quality care—that is, effective and economical care that meets the needs of patients and their families—is to incorporate cultural awareness and knowledge.

Effective cross-cultural health care prac-

tice requires the development of an ethnocultural approach—one which fosters an understanding of the constructs of the reality of others and allows action based on beliefs of comparable validity and utility.^{3,4}

An ethnocultural approach contains three levels.⁵ The first is *acceptance*, in which individuals from different cultures accept the equal validity of other world views, respect each other's right to hold these views, and begin to explore the differences. In the second level, *adaptation*, individuals realize that in order to work together, change will be required on the part of all participants. The final level, *integration*, requires that individuals respond to the needs of the situation for mutual benefit.

Each level builds upon the skills developed in the preceding stratum. Together, they coincide with a hierarchical arrangement of the terms often used in the cross-cultural practice and management literature.⁶ The first is *cultural sensitivity*. Practitioners must first be aware of fundamental cultural differences before they can assess them, and they must also realize that in practice, changes in their fundamental syntax and behavior may be necessary to facilitate communication and caring.

Second is *cultural relevance*. The concepts or interventions used by practitioners must hold significance for the group for which it is intended. The literature abounds with examples of failed international as well as domestic public health programs that overlooked the relevance of the program to the lives of the target populations.^{7,8} Oncology researchers and practitioners would benefit from the experience obtained from these programs. Third, *cultural competence* is achieved when the practitioner integrates the knowledge and understanding of a culture into acceptable and appropriate action.

Scientific Accuracy

The construct of culture is extremely powerful, multidimensional, and tightly

woven. Presently, we lack both the conceptual and technical ability to disentangle the multiple variables involved in the study of any one concept—for example, pain. To begin studying the influence of culture on the cancer experience, culture must first be operationalized.

Foremost, culture is not a dichotomous variable. Numerous published research reports note the ethnicity of their study populations by participants' self-identification, recruitment by name, or visual identification by the researchers. Only the first, self-identification, is valid. Each culture provides a pattern for its members, but individuals members weave their own identity, often modifying the cultural pattern by borrowing from other patterns or creating their own. Ethnic or cultural identity is, therefore, a continuous variable and often variant due to numerous factors. Taken together, the members of a particular ethnic group do not form a homogenous population.

Two additional variables become salient at this point, especially when considering sampling issues for research projects: intra-ethnic and acculturation differences. The complex effect of ethnicity on the therapeutic relationship is compounded by the diversity within each of the federally identified ethnic categories in the US. Examples of this intra-ethnic diversity are: foreign versus American born, country of origin, refugee or immigrant, generational differences, levels of education, socioeconomic status, language, religion, age, and gender. The social/historical background of a particular group and individual experience must also be incorporated.⁹

Variations in the levels of acculturation also play a significant role in modifying cultural beliefs and behaviors, as well as modifying a member's sense of identification with and by the group itself.¹⁰ The usual method of recording ethnicity on a medical history is to note, dichotomously, that an individual is or is not of a particular ethnic group. A notation that the patient is a "Chinese male"

provides little information about the patient. He may be an elderly male, born in a predominantly Chinese neighborhood, who speaks no English, receives public assistance, and rarely goes outside of the community boundaries. Or, he may be a refugee Vietnamese-Chinese male of the same age who lives in the same neighborhood but who has a totally different social, political, and ethnic history. "Chinese male" would not distinguish between these men and a young businessman from Taiwan who is affluent, well-educated, and lives in the US only six months of the year, or young Chinese males who are fifth- or sixth-generation Chinese Americans and speak no Chinese. The first three would all speak a Chinese (or Vietnamese) dialect, which might prevent them from even speaking to each other.

Acculturation is often misconstrued as assimilation. Assimilation occurs when individuals who come to, or even are born into this culture, discard the beliefs and behaviors of their native group and adopt those of the host culture.^{11,12} In actuality, most individuals become at least bicultural (Figure 2). Most of us learn to function well and hold membership in several (sub)cultural groups. We learn to switch between cultures and display the appropriate behaviors and hold the beliefs and values of each group when appropriate, thus holding several sets of beliefs, values, and behaviors simultaneously. One's identity evolves from a synthesis of his or her multiple group memberships. Difficulties arise, however, if

Figure 2. The Assimilation Process

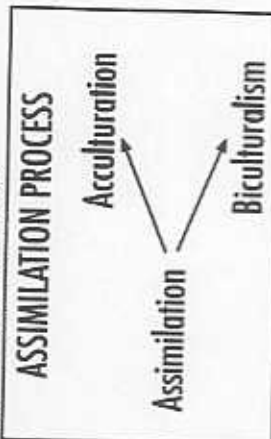
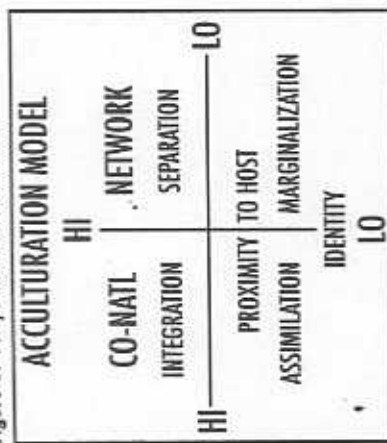


Figure 3. Berry's Model of Acculturation



the behaviors prescribed by the different cultural groups are not kept separate and not recognized and respected for their own value. Displaying in one group behaviors sanctioned by another may result in misunderstandings and miscommunications. The significance of context becomes paramount when studying behavior.

Berry's model depicts a continuous, multidimensional construct of acculturation to the host culture in relation to one's ethnic group (Figure 3). The quadrants represent potential psychodynamics that accompany various positions within the quadrants. Quadrant I represents separation; quadrant II, marginalization; quadrant III, assimilation; and quadrant IV, integration. Greater complexity emerges when immigration factors are also included, such as the push/pull differences inherent in the acculturation process of refugees compared with those of voluntary immigrants, and even the individual differences within each of these groups.

Another common error made in cross-cultural work is the interchangeable use of race and culture. Race refers to biologic differences. Culture is all that is biologically inherited—that is, all that is learned. Although racial differences do make a physiologic difference (for example, in pharmacodynamics and pharmacokinetics and, in certain populations, disease morbidity), the more significant issues involve the

effects of cultural or ethnic differences on life-style and psychosocial responses.

Epidemiology has demonstrated that 85% of variance appears to be due to cultural differences and only 15% of variance can be attributed to biologic differences. We must make a concerted effort to accurately indicate which effect (ie, cultural or biologic) we are talking about and how we are using these variables in research, and work towards identifying their interactions. Studies of immigrant populations are revealing. In Japan, the rate of breast cancer is almost one-fourth that of US white women.¹⁸ However, by the third generation, the rate for Japanese American women approaches half that of white women.¹⁹ This type of change as a result of acculturation has been demonstrated in many other immigrant ethnic groups around the world.

We must also look at cultural protective factors contributing to resiliency, as well as the present concentration on vulnerability. Too often, work with ethnic minorities has been predicated on the "deficit theory" of ability and resourcefulness; that is, the belief that minority group members need only be educated in the "scientific" western biomedical tradition, and their behavior would change. This belief is based in part on the erroneous assumption that a direct relationship exists between knowledge and behavior, and arises from the ethnocentric practice of using the template of the Euro-American tapestry to evaluate the beliefs and behaviors of other cultural groups. Too often the practitioner sees only disjointed beliefs and behaviors—threads of an ethnic tapestry taken out of context—and judges them as mere superstitions or folklore without validity. From this perspective, the integrity, rationality, and strength of other cultural beliefs is overlooked or lost. An ethnocentric approach enables us to learn from other cultures different "right" ways of coping with life's problems, thereby enriching our own repertoire of strategies to support patients'.

Table 2. Cross-Cultural Studies in the Oncology Nursing Literature, 1975-1990

STUDY CATEGORIES	
Epidemiology	54
Knowledge/Attitudes	21
Screening	11
Coping	9
Compliance	5
Ethnic Population	3
Social Support	2
Nursing Care	4
Nurses' Attitudes	1
Total	110

and families' efforts to adapt to the cancer experience and minimize the impact of the disease and its treatment.

A review of the oncology nursing literature from 1975 to 1990 turned up 110 articles that fit the criteria for cross-cultural, transcultural, or multicultural articles and studies.²¹ I divided these studies into nine categories (Table 2): epidemiology, knowledge of attitudes toward cancer, screening, coping, compliance with treatment regimens, ethnic populations, social support, nursing care of ethnic populations, and nurses' attitudes toward patients from other cultures.

Fifty-four (50%) of the articles were epidemiologic studies. The majority of these report the effect of diet and/or life-style on the etiology of cancer or compare incidence of cancers by site in different ethnic groups. Most studies used only black and white patients as their "cross-cultural" categories. The first publication of epidemiologic work with multiple ethnic groups was the 1984

Surveillance, Epidemiology, and End Results study of incidence and mortality rates for eight ethnic groups.²²

Of the 56 remaining studies, only 14 were conducted by nurses. Lindsey, Dodd, and colleagues have worked with investigators in several different countries to describe cancer patients' attitudes toward cancer as well as their social support networks. They reported their findings for Taiwanese, Egyptian, and Swiss cancer patients.²³⁻²⁶ Now, social support data from healthy people in these same countries have been collected to compare the differences, across and within these cultures, between healthy people and those with cancer. This is the only research found in which data from similar studies of cancer patients across different cultures have been compared.

Only five studies directly address the implications of nursing care. Of these, four speak specifically about nursing care and one deals with staff awareness of Hispanic patient compliance. Just one of these five studies was empirically designed.

The majority of the 14 studies conducted by nurses were anecdotal or descriptive. Nursing researchers in oncology have not yet advanced to the level of comparative or experimental designs. The oncology nursing database does not yet exist that would support hypothesis testing for studies of ethnic populations.

In developing the database, we must be cognizant of the fact that cultural knowledge transforms the entire research process. Merely including a particular underserved population in the sample or targeting an underserved population does not make a study cross-cultural. Cultural sensitivity must infuse and suffuse the entire research process of planning, theory development, instrumentation, analysis, and interpretation in order to assure cross-cultural validity and reliability.²⁷ Each of these areas is a field of study in itself and is integral to the whole research process.

Figure 4. Incidence of In Situ or Localized Breast Cancer in Women, by Race/Ethnic Group, 1988

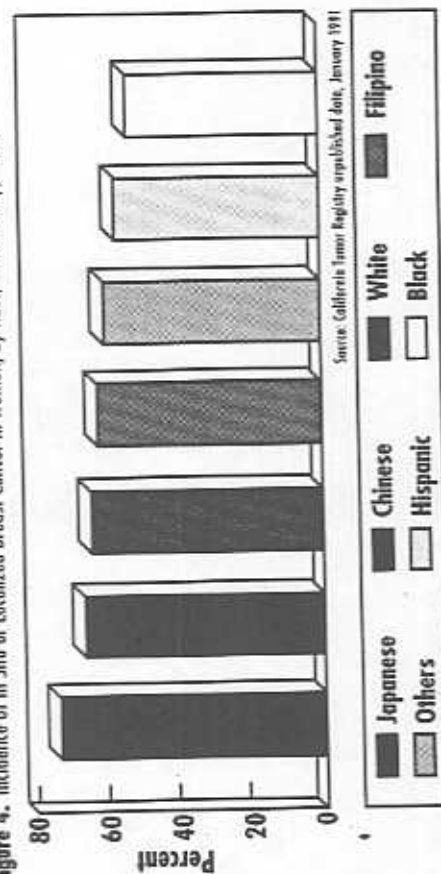


Figure 5. Cancer Mortality Rates by Race/Ethnic Group, 1977-1983

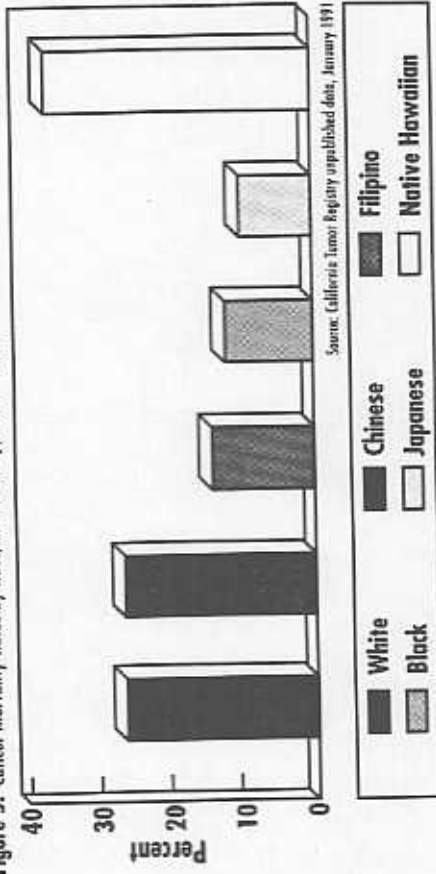
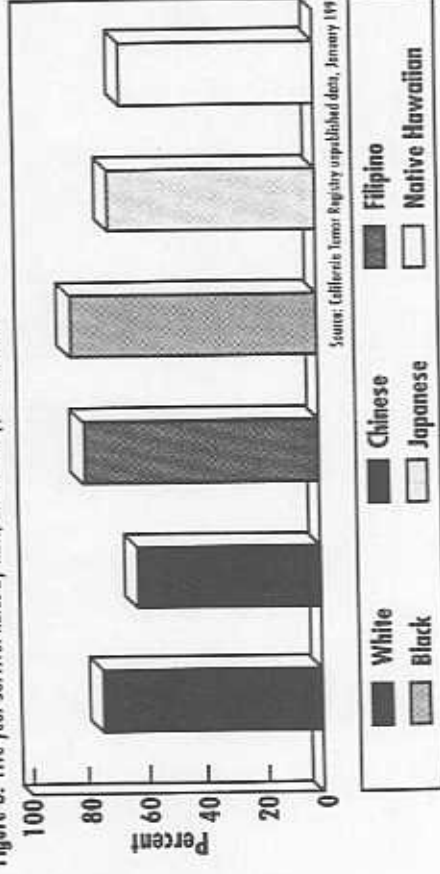


Figure 6. Five-year Survival Rates by Race/Ethnic Group, 1975-1984



Planning

Planning requires the application of what is already known in the literature, especially the cross-cultural literature, and information from experienced and aware practitioners. Researchers must also be culturally informed from ethnography and use identified *emic* domains to formulate study questions.

Presently, only a very small body of literature addresses cross-cultural issues in cancer nursing. However, with planning we can build multidisciplinary research teams to pool necessary skills and knowledge. No one branch of science has all the answers. Each looks upon the same problem from a different perspective, much as in the parable of the blind men and the elephant. However, if we "blind" researchers and practitioners communicate, we can build a composite of the reality we wish to describe much more efficiently and effectively.

In planning a research project to study an ethnic population, it is essential to be specific about the group to be studied. One of the greatest errors made in studying ethnic groups is to consider the groups only according to the federal government's categories of ethnicity. The groupings create gross categorizations. Variations cannot be identified when statistics are not collected in such a way as to differentiate diversity within a group. Erroneous assumptions about the homogeneity of a cultural group's health beliefs and practices and socio-historical experiences are difficult to counter.

Statistically, Asian women are often lumped into one category or noted as "other." Both categories are useless for efforts to develop intervention strategies. The highest rate of breast cancer for any group of women, except Alaskan Alaska Natives,²⁸ are Native Hawaiian women (93.9 per 100,000). The rate for US women is 77.8 per 100,000.²⁸ Similar differences in rates occur with *in situ* diagnoses of breast cancer (Figure 4). The lowest mortality rate among Asian, Hispanic, white and black women occurs in Filipino

Table 3. Pain Perception By Culture

Country	Pain Perception		
	Physical	Psychological	Interfere
Vietnam	3.81	4.84	Low
Japan	3.73	4.64	Low
Taiwan	3.54	4.06	Low
Thailand	3.20	4.40	Low
Puerto Rico	3.06	4.80	High
USA	3.00	4.43	High

women (Figure 5).²⁹ However, differences in survival rates are not as pronounced. This last finding, as displayed in Figure 6, indicates that *protective* effects may be provided by one's culture that could be identified and incorporated into intervention programs for the benefit of all women with breast cancer.²⁹

Socioeconomic differences between groups are known to minimize ethnic differences.³⁰ Yet ethnic group studies using small sample sizes too often do not account for this variation when interpreting incidence and prevalence rates for disorders.

Adebimpe^{31,32} supported the contention that no racial differences appeared among crack cocaine addicts when socioeconomic differences were controlled. However, he criticized the National Institutes of Mental Health statistical reporting because it does not include information on socioeconomic status and also fails to mention how this factor might impact published figures.

Interethnic and intra-ethnic differences in pain response were first identified over 30 years ago by Zbrowski and Zola.³³ Yet, integration of this knowledge in curriculum design or research studies has been minimal to nonexistent. Davitz and colleagues studied pain responses in six different countries³⁴ (Table 3) and found that neither the physical nor the psychological perceptions of pain matched the nurses' stereotypes of pain responses in six different ethnic groups, indicating cultural differences in the relationship

between experience and expressive behavior. With our current focus in cancer nursing on pain management, it is essential to incorporate cultural variations in the study design.

Defining the target population precisely according to intracultural as well as cross-cultural differences is paramount in the first step: planning. It is imperative that we become cognizant of cultural variations and plan our studies with ethnicity, age, socioeconomic status, and gender differences as integral to the design. It must also be noted that each one of us is also a member of at least one ethnic group. Therefore, the first step in a cultural assessment is knowing our own beliefs and values and the general tap-estry from which they originate. Otherwise, we will not be aware of how our cultural values filter our perceptions and bias our judgments.

Theory development

The implicit values and concepts upon which current oncology theory is based must be made explicit and then tested for cross-cultural validity before accurate comparisons can be made between ethnic groups. For example, social support is critical to the ability of patients to cope with cancer. However, who provides support, in what form it is provided, and when and for how long it is provided differs from group to group. Moreover, the expected and valued relationships of the individual with his or her spouse, family, and professionals are currently framed. Gender roles also are often clearly differentiated. These variations must be identified correctly for each group before it can be accurately measured.

In the American ethos, self-sufficiency is highly valued and dependency often connotes a negative characteristic. Yet, in many cultures, dependency is a legitimate status and one easily assumed by men and women when ill. I found that a dependent role was appropriate for Japanese Americans and Anglo Americans to assume, but only when ethnicity and gender were considered simul-

taneously. Japanese-American men and Anglo-American women were able to assume the dependent role and accept nurturance from their social networks, whereas the Japanese-American women and Anglo-American men were not. The latter groups considered the position of dependency to be negative because they are not brought up to be the dependent ones in their cultures.

In a study of depression in African Americans, Heurlin-Roberts and Snowden²⁶ compared the 1990 Epidemiological Catchment Area (ECA) data on anxiety with identifiers obtained from a review of ethnographic studies. Their preliminary findings indicated that the ECA questions matched only 43 of the 70 identifiers of anxiety from the ethnographic data. They concluded that the rates of anxiety disorders in African Americans may be severely undercounted due to culture-specific presentations and conceptualizations of anxiety that were not tapped by the ECA interview schedule.

Instrumentation

Concept equivalence, validity, and reliability issues, including language (translation), are pivotal issues that must be clarified when designing a study of underserved populations. Too often, tools developed and standardized to measure a phenomenon in one population are applied to another group without testing for concept equivalence. Liang and colleagues²⁷ identified three types of equivalence in instrumentation: semantic/operational, metric, and structural. Semantic/operational equivalence exists when the research materials or behaviors are presented in the same way in two or more cultures. Metric equivalence occurs when the researcher feels that the observable indicators have the same relationship with the theoretical constructs in both cultures being compared. Structural equivalence occurs when the linkages between a given variable and its causes and consequences are considered invariant across cultures. These three

Table 4. Side Effects Experienced from Cancer Treatment

Symptoms	JF(18)	AF(18)	JM(7)	AM(7)
Fatigue	9	16	3	4
Hair loss	8	8	1	1
Nausea	3	6	2	4
Diarrhea	4	6	0	0
Vomiting	5	2	1	2
Short of breath	2	4	0	0
Loss of appetite	3	2	1	1
Change in taste	3	3	0	2
Other	31	22	4	18
Total	67	69	12	32

JF—Japanese-American females
AF—Anglo-American females
JM—Japanese-American males
AM—Anglo-American males

Table 5. Greatest Problems Created by Cancer

Group	Category	%
Anglo Female	Side effects Having cancer	56
Anglo Male	Side effects Having cancer	71
Japanese Female	Having cancer Change in lifestyle	44
Japanese Male	Concern for others Having cancer	40

classifications, however, only address translation of measurement instruments as *originally designed*.

Jones and Kay²⁸ address another crucial element involved in applying measurement tools cross-culturally that is even less often included in the testing process: concept equivalence in translations. The translation of concepts can be asymmetric or symmetric. Asymmetric translation requires loyalty to one language, usually the language in which the tool was developed. This technique is appropriate when the goal is to measure a response of one culture in a situation specific to another culture, but the translated version may take on an entirely different meaning (or no meaning) in the new language, since the concepts may not be translatable. Validity is questionable, since the researcher may be measuring a construct that does not naturally exist in the target culture.

In symmetric translations, the goal is loyalty of meaning and equal familiarity and colloquialness in each language. The process involves supralinguistic translation of cultural symbols. Symmetric translation is necessary when the study goal is comparative and requires an even more complex technique of trying to determine whether or not a concept exists in the other culture. If so, how is the concept constituted from a theoretical perspective within its cultural context? If not, what exists in its place within the

culture's world view? However, reliability of the translated measure may be challenged because changes may be required on the original instrument to achieve conceptual equivalence across cultures.

In a study described above, both the Japanese-American and Anglo-American female cancer patients receiving chemotherapy reported the same number of side effects (Table 4). When asked to list the greatest problems created by the cancer experience, the Anglo-American men and women listed side effects first, compared with the Japanese-American patients, who did not list side effects (Table 5). Merely asking for a list of problems would not have elicited the fact that the Japanese-American females experienced significant side effects. The conceptualization of "problems" differed, even when both groups of subjects spoke English. Translation into another language compounds the potential for misconceptions.

The use of standardized tools also has inherent problems of translation. For example, in the same study, the results of the Rosenberg Self-Esteem Scale indicated that both groups of subjects scored equally high. On a scale of 1 to 10, with 10 being the highest score of self-esteem, 93% of the Anglo Americans and 74% of the Japanese Americans scored from 8 to 10 (Figure 7). However, when asked to compare themselves

Figure 7. Self-esteem as Measured by the Rosenberg Self-Esteem Scale, by Sex and Ethnicity

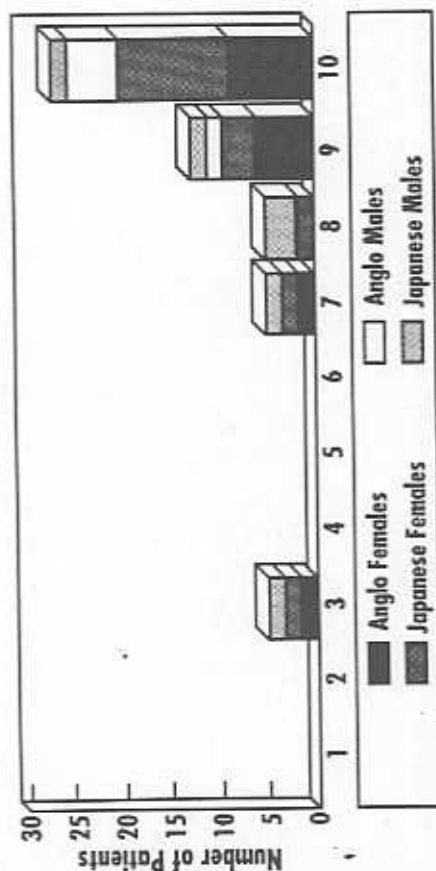


Figure 8. Distribution of Self-Evaluation Scores, by Sex and Ethnicity

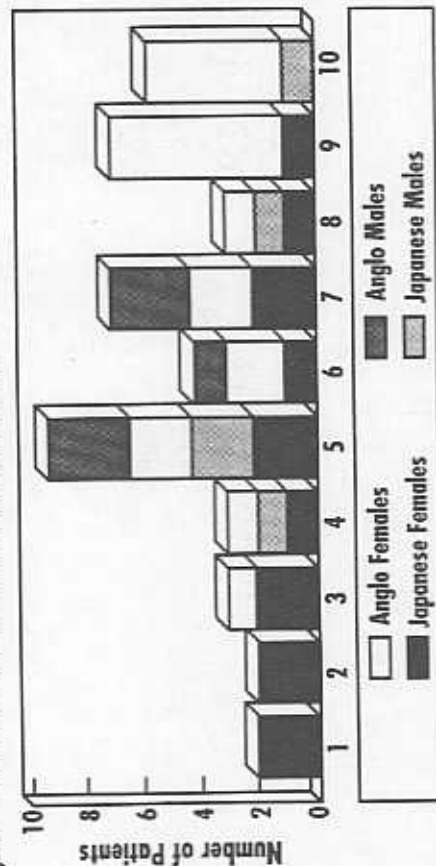


Table 6. Concepts of Disability Associated with a Child's Chronic Illness

Ethnicity	Objective	Process
White	Normalization	Minimize differences
Chinese	Contentment & happiness	Accommodate
White professionals	Normalization	Minimize differences

Table 7. Impact of Death of a Young Child or Young Adult by Ethnic Group

	Young Adult (17-25)	Child 0-7
Anglo	-	1
Black	1	3
Mexican American	1	3
Japanese American	1	4

against their self-generated list of qualities that personify the "ideal" qualities in an individual, their lists were consonant with their respective cultural ethos. The resulting scores of self-esteem indicated a much wider distribution of scores with a significant shift toward lower self-esteem for the Japanese Americans (Figure 8). This finding was significant because the Rosenberg tool, developed and standardized for a white American population, may not be sensitive enough to detect ethnic differences either in conceptualization or rating of self-esteem.

Analysis

In this phase of the process, researchers must apply their knowledge of the potential cultural differences between the groups to the analysis of the findings, choose the variables to consider, and determine the methods of analysis to apply. An overview of the literature on cross-cultural nursing practice shows clearly that we are not at the level of parametric statistical analyses, because we have not identified, clearly enough, the potential conceptual differences between groups. We must begin with descriptive studies to compare cultural domains with mainstream scientific cultural domains. For example, concepts of disability may differ among ethnic groups. Anderson and Chung¹¹ studied differences in the treatment objectives of parents for their chronically ill children. The Chinese parents were labeled by the white health professionals as noncompliant with physical therapy which their children found painful. When both objectives and acceptable processes for treatment were compared, however, it became clear that the objective of therapy for the white parents, as with the white health professionals, was minimization of the disability, and the process was to normalize the child's life-style. In comparison, the Chinese families felt that the happiness and contentment of their children was the ultimate objective, and the acceptable process was to accommodate a child's disability and acknowledge it as part of the child's

identity (Table 6). Thus, the painful treatments contradicted the ultimate objective and the process negated the child's identity. The treatments were, therefore, unacceptable, and the parents withdrew their children from treatment.

In a comparative study of the impact of the death of a family member in four different ethnic groups, Kalish and Reynolds¹² found that the social value of individuals differed by age groups and by ethnicity (Table 7). In the Anglo group, death of a young child (0 to 7 years of age) was most tragic, compared with the black, Mexican-American, and Japanese-American groups, for which death of a young adult (17 to 25 years of age) was most tragic. The death of a young child in the three latter groups was third and fourth. Cultural variation is also evident in expressions of intense grief. Efforts to assess and support the grief and bereavement of members of each of these groups will differ, depending upon a nurse's own ethnic experiences and knowledge and understanding of each culture's appropriate grief behavior.

Interpretation

Interpretation of the data requires an explicit and self-conscious understanding of cultural knowledge. Lopez and Taussig¹³ used ethnically standardized tools to conduct a study comparing cognitive-intellectual functioning of Spanish-speaking impaired with nonimpaired elderly. Their findings summarize the complexity of culturally sensitive assessment. As shown in Table 8, there are biases in the cognitive-intellectual assessment of Puerto Rican, Spanish-speaking elderly when using both the Wechsler Adult Intelligence Scale-Revised (WAIS-R) and its Spanish version, the Escala de Inteligencia Wechsler para Adultos (ETWA) developed in Puerto Rico. The most striking potential error occurs when using the WAIS-R subtests to assess nonimpaired Spanish-speaking older adults. The WAIS-R mean scores (5.64 and 5.05) indicate that these adults are

Table B. Assessment of Spanish-Speaking Elderly

Mean Raw Scores, Mean Scale Scores, and Standard Deviations for Alzheimer's Patients and Nonimpaired Elderly, by Language Background									
Measure	Alzheimer's Patients			Nonimpaired Elderly					
	Spanish	English	Raw Scores	Spanish	English	Raw Scores	Spanish	English	Raw Scores
EIWA/WAIS-R Similarities Vocabulary	M	SD		M	SD		M	SD	
	2.80	3.77	2.75	5.70	9.56*	6.16	18.14*	6.98	
WAIS-R Digit span Block design	M	SD		M	SD		M	SD	
	13.64	12.38	15.35	20.02	32.41*	13.43	52.62*	17.17	
EIWA/WAIS-R Similarities Vocabulary	M	SD		M	SD		M	SD	
	5.00	2.87	7.14	4.32	9.14*	2.82	15.68*	5.42	
WAIS-R Digit span Block design	M	SD		M	SD		M	SD	
	2.76	3.83	2.62	4.82	12.23*	9.81	23.60*	11.15	
Scale Scores									
EIWA/WAIS-R Similarities Vocabulary	M	SD		M	SD		M	SD	
	5.08*	3.24	2.35*	2.56	10.14	3.37	9.48	3.70	
WAIS-R Digit span Block design	M	SD		M	SD		M	SD	
	5.96	3.97	4.00	3.80	10.59	2.77	11.67	3.90	
EIWA/WAIS-R Similarities Vocabulary	M	SD		M	SD		M	SD	
	2.88	1.86	4.57	2.68	5.64*	2.08	10.00*	3.44	
WAIS-R Digit span Block design	M	SD		M	SD		M	SD	
	2.40	1.55	2.05	1.75	5.05*	2.40	7.75*	2.97	

Note. EIWA = Escala de Inteligencia Wechsler Para Adultos; WAIS-R = Wechsler Adult Intelligence Scale-Revised.
*Pairs of means that are significantly different ($p < .05$, Tukey's Honestly Significant Difference test).

English-speaking elders who have low levels of functioning but who scored significantly higher (mean scores of 10.00 and 7.75). Using the English version of the norms can lead to underestimating the ability of the target group. When these same individuals are compared on the EIWA subtests, an overestimation of the Spanish-speaking elders' level of functioning can occur. The scale scores (5.08, 5.96) indicated that the Spanish-speaking elders are less impaired than the English-speaking elders (2.35, 4.00). The researchers interpreted these language-group differences as biases of the specific subtests rather than as valid differences in the two language groups' level of functioning.

Most of the examples herein come from the field of mental health, because researchers in that area are approximately 15 years ahead of the mainstream application of cross-cultural knowledge in oncology. We can build upon their approaches and findings. The challenges are significant, but the potential for improving care and effectively

Summary and Conclusion

The examples given throughout this paper illustrate that blending etic and emic approaches to study design for underserved

reaching the underserved makes the effort worth our while.

We are a relatively young specialty, and, until just recently, we have built our clinical expertise and maturity in practice to master the care of the more obvious problems faced by cancer patients and their families. We have made great strides in this effort, and we are now able to study the more subtle variations in the factors involved in the response to cancer.

A growing number of nurse researchers are interested in this area. Over 50 articles on multicultural and cross-cultural aspects of cancer nursing care were published between 1990 and 1993, and books such as the one written by Frank-Stromborg and Olsen¹¹ have been published as well. In the Oncology Nursing Society, the Transcultural Nursing Interest Special Interest Group has been very active in generating educational programs, and a Multicultural Advisory Council has been established to oversee the progress of the Society toward cultural competence.

Our efforts in education, practice, and research are not reaching the majority of the population of the U.S. Incorporating

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cross-cultural knowledge, theories, and techniques is imperative, and at this stage in the development of cross-cultural studies, ethnographic and qualitative work are central to building the foundation for a database of knowledge to design interventions in underserved populations.

We also lack the critical mass of researchers with the combination of cross-cultural expertise and research sophistication to produce a body of work that can have an immediate effect on practice. Therefore, we must make a focused and united effort to train more nurse researchers and practitioners in cross-cultural nursing research in cancer care and to encourage nurses from minority backgrounds to become advanced practitioners and researchers as well.

The challenge is before us to include in the research paradigm the cultural context of cancer care. This new perspective has the potential to increase the accuracy and specificity of our finding. More accurate results would enable practitioners to provide more effective cancer nursing care to the underserved.

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