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FACTORS RELATED TO MENTAL HEALTH OF NATIVE AMERICANS IN EASTERN TRIBES

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Abstract

Native Americans are reported to have many health problems and a significant need for more health education and mental health services. This paper is part of a five-year research project funded by the National Institute on Disability and Rehabilitation Research (NIDRR) that addresses the health, disability and service needs of Native Americans in eastern tribes. The Mashantucket Pequot Tribal Nation (MPTN) is the lead grantee representing three Native American tribes in the state of Connecticut and one Native American tribe in Rhode Island that are building capacity to improve the quality and utility of research related to Native Americans with disabilities. The Participatory Action Research model with a community-based approach was used to facilitate collaboration among the participating tribes. Native American research technicians conducted individual interviews with members of their tribes. Demographics, prevalence of disabilities, and various factors associated with health and mental health are presented.

Of the 858 tribal members who responded to survey questions, the third most prominent health problem reported was mental illness, 16% when all types of mental conditions were combined (i.e., anxiety, substance abuse, bipolar disorder, depression, eating disorder, schizophrenia). While 54% of the respondents reported one or more mental health symptom related to anxiety and depression, only 10% had seen a mental health professional and only 12% reported a need to see one. Using Pearson Product-Moment Correlation Coefficients, mental illness was associated with lower income, less education; poor general health; increased binge drinking, cocaine use, inhaling of paint to get high; more visits to mental health professionals and a reported need to see a psychologist. Seeing a psychologist was not significantly associated with income for the four tribes, though it was for the three Connecticut tribes.

Introduction

Racial and ethnic minorities face a social and economic inequality that includes greater exposure to racism and discrimination, violence, and poverty, all of which take a toll on mental health. A report by the U. S. Department of Health & Human Services (2001) stated that racial and ethnic minorities collectively experience a greater disability burden from mental illness than do whites, because minorities received less care and poorer quality of care, rather than from their illnesses being inherently more prevalent in the community. Also, according to the same report, members of minority groups may experience limited availability of, and access to, culturally sensitive treatments.

Native Americans are reported to have many general health and mental health issues and there is a significant need for more health education and services for this population. The National Council on Disability (NCD, 2003) reported that 22% of Native Americans/Alaska Natives lived with significant disabilities. Strikingly greater prevalence rates of depression, anxiety, and substance use was observed among Native Americans compared with other racial-ethnic groups of the population (Huang, Grant, Dawson, Stinson, Chou, & Saha, 2006). Though research on Native Americans has been limited by the small size of this population and by its heterogeneity, existing studies suggest that youth and adults suffer a disproportionate burden of mental health problems and disorders. As one indication of distress, the suicide rate is 50% higher for the Native American/Alaska Native population than the national rate (U. S. Department of Health and Human Services, 2001). There is a disparity between needs and service provision for Native Americans (Marshall, Johnson, Martin, Saravanabhavan & Bedford, 1992) and greater awareness of these issues by health professionals and by Native Americans is clearly needed.

This paper is part of a five-year research project funded by the National Institute on Disability and Rehabilitation Research (NIDRR) that addresses the health, disability and service needs of Native Americans in four eastern tribes. The Mashantucket Pequot Tribal Nation (MPTN) is the lead grantee representing three Native American tribes in the state of Connecticut and one Native American tribe in Rhode Island. Research questions addressed are: What are the major health problems of Native Americans in Connecticut and Rhode Island? What is the incidence rate of disability? How are income, age and education related to health and mental health? What other factors are associated with general health and mental health conditions? Is the use of Native American traditional healing practices and exercise related to better health?

Methodology and Study Design

A community-based approach and the Participatory Action Research (PAR) model were used to facilitate collaboration among the four participating tribes throughout the study. Beginning in 2004, tribal council members recruited and selected tribal members as research technicians. These research technicians received training from an outside consultant and/or key project staff, and conducted surveys of their own tribal members.

The Tribal Health and Disability Survey (Survey A) was based on health surveys that had been developed by two of the tribes and was modified by project staff and the Advisory Council. Inter-rater reliability for this survey was 97.85 based on a comparison of research technicians trained in July of 2004. The Survey A was used to collect health data on tribal members and also as a screening device to identify tribal members with disabilities. The participants were asked to respond to a 30-minute confidential interview or to complete the survey questions on their own with the research tech present to answer questions as needed. Tribal members with disabilities were identified from Survey A questions and were then asked to participate in a second survey, a *Community Needs Assessment* (Survey B). Data on the Community Needs Assessment of Native American with disabilities is reported elsewhere (Ni, Wilkins-Turner, Liebert, & Ellien, 2008). The study design included the following methodology:

1. Participatory Action Research (PAR) to ensure tribal participation in the planning and implementation of community-based research.
2. Culturally appropriate networks to maximize potential for recruitment of Native American research technicians.
3. Mandatory three-day research training prior to conducting interviews to ensure consistency of interviewing procedures among the Native American research technicians.
4. Research team combining tribal and university based researchers met weekly throughout the study to address research issues encountered by the research technicians and to support career development and mentoring.
5. Native American research technicians from the participating tribes conducted individual interviews with members of their tribe, mostly in tribal members' homes, but also at tribal offices or at tribal events, i.e. tribal elections and celebrations.
6. Participation was voluntary and convenient sampling was used (see sample below).

Sample

As shown in Table 1, the goal of interviewing 858 (30%) tribal members or age 16 and above from four tribes was met. The goal of interviewing 30% from each tribe was exceeded by the three

Connecticut tribes (31-35%) and the goal was almost met by the tribe in Rhode Island, with 28% (504) of the tribal members. In the early stages of collecting data, the plan to use random sampling from tribal rolls was possible. Later, barriers to the access of tribal rolls arose, and research technicians actively recruited tribal members to participate, resulting in predominantly convenience sampling. Participants were recruited by newsletters, mailings, newspapers, and Council-meeting announcements as well as by the research technicians.

Table 1. Percent of Members from Each Tribe

Sample Goal for Tribes = 30%	% of Each Tribe's Members
Tribe 1 = 122	142 (35%)
Tribe 2 = 138	146 (32%)
Tribe 3 = 62	66 (31%)
Tribe 4 = 536	504 (28%)
Total Goal = 858 (30%)	858 (30%)

Because one tribe was much larger than the others, over half of this survey sample was from that tribe. Of the 858 tribal members who participated in Survey A Tribal Health and Disability data collection:

- 17% (142) were from Tribe 1
- 17% (146) were from Tribe 2
- 8% (66) were from Tribe 3
- 59% (504) were from Tribe 4

Results

Demographic Data

Gender and Age. Of the 858 tribal members who responded to Survey A, 46.2% (396) were males and 53.8 % (462) were females. Of the 845 members who reported age, the average age of the participants was 38 years old with a range from 16 to 92 years of age. Males were an average of 37.2 years old and females were an average of 39.7 years old. Of the tribal members responding about age:

- 21.5% (182) were over 50;
- 51% (431) were between the ages of 25 to 50; and
- 27% (232) were 16 to 25 years of age.

Marital Status. Of the tribal members who completed Survey A, 856 reported their marital status as follows:

- 50.7% (434) had never married;
- 30.7% (263) were married;
- 15.2% (130) were divorced (11.9%) or widowed (3.3%); and
- 3.4% (29) described their status as single, separated or “other.”

Education. Of the 850 tribal members who reported the highest grade they had completed in school:

- 23.7% (202) had not graduated from high school;
- 37.5% (319) had either a high school diploma (25.9%) or GED (11.6 %); and
- 38.7% (329) had pursued post secondary education including:
 - 20.1 (171) completed some college
 - 9.1% (77) earned an Associate’s Degree;
 - 6.0% (51) earned a Bachelor’s Degree;
 - 3.0% (25) earned a Master’s Degree, Doctorate or JD degree.

Employment. Of the 857 tribal members reporting employment status, 62.9% (539) described themselves as “employed;” Another 37.1% (318) indicated not employed. Of those who were unemployed, 40% (132) said they were looking for a job and 60% (198) said they were not. Of those who were not seeking employment outside the home, reasons included the following (some gave more than one response):

- 23.4% (50) were attending school.
- 22.9 % (49) were retired.
- 15.2% (30) at home with children.
- 25.2% (54) were unable to work.
- 12.2% (26) were unable to find a job.

Another 13% (26) gave a variety of other reasons for not being able to work (i.e. elderly, work restrictions, disabled). From this group most (21, 9.8%) claimed disability or medical problems as their reason for not seeking employment and 2.3% (5) said taking care of relatives, problem with daycare, or too old.

Income. The average income for all participants was \$45,402.08. Of the 771 who reported their annual household income, one fifth (20%) reported income of less than \$10,000; 51% (395) reported making between \$10,000 and \$50,000, and 29% (225) reported their household income as over \$75,000.

Specifically:

- 20% (151) reported an annual household income of less than \$10,000;
- 22% (169) reported an income between \$10,001 and \$25,000;
- 29% (226) reported an income between \$25,001 and \$50,000;
- 15% (118) reported a household income between \$50,001 and \$100,000;
- 14% (107) reported a household income over \$100,000 per year.

Health and Related Factors

Of the 853 who responded, 80% (686) of the tribal members described their general health as “good” to “excellent,” and about 20% said fair or poor:

- 14.8% (126) described their health as “excellent”;
- 27.3% (233) described their health as “very good”;
- 38.3% (327) described their health as “good”;
- 16.3% (139) described their health as “fair”; and
- 3.3% (28) described their health as “poor.”

Medical Insurance Coverage and Cost. Of the 847 tribal members responding, 86.3 % (731) stated that they had some kind of medical insurance. Of the 802 tribal members who reported type of insurance coverage:

- 43.1% (346) persons had private insurance;
- 30.5% (245) persons listed Indian Health Services (IHS) as their coverage;
- 10.5% (84) persons were Medicaid recipients;
- 15.8% (127) persons were Medicare or VA recipients;

Of the 823 tribal members responding, 73.5% (605) felt that their health insurance adequately covered the cost of their health care, and 26% (216) did not. Some said that the cost interfered with medical care in the last 12 months:

- 15.6% (135) said the cost prevented them from seeing a doctor when needed;
- 19.3% (165) said the cost prohibited them from buying prescription drugs.

Health Care. While most 84.5% (706) of the responding tribal members reported they were satisfied with their current health care system, 15.5% (129) were not satisfied. About two-thirds (68%) reported seeing a family doctor, and 44% (372) reported seeing a medical specialist, in the past year. Most of the

tribal members 73.6% (623) had a particular doctor they go to when they need medical care. Though almost all were satisfied with their last visit to a doctor, some reported problems regarding a doctor visit in the last 12 months:

- 17.3% (146) said transportation was a problem getting to their doctors appointments; and
- 41.9% (327) reported waiting more than 15 minutes in the doctor's office.

Use of Traditional Healing Practices. Over one-half (58.2%) of the 854 respondents used one or more traditional healing practices including the following:

- 50.5% (431) Prayer;
- 15.1% (129) Smudging;
- 19.3% (165) Dancing;
- 16.3% (139) Singing;
- 11.7% (100) Herbs;
- 9.3% (79) Cleansing;
- 8.1% (69) Sweats;
- 6.0% (51) Drumming
- 5.2% (44) Medicine man/woman.

Frequency of Exercise. Almost a third (29.5%) of the people responding (253) stated that they did not do any type of exercise. Those who did exercise reported a variety of physical activities, including:

- 46.0% (395) walked a mile without stopping (average of 5.5 times a month).
- 27.7% (238) did gardening or yard work (an average of 2.3 times a month).
- 24.8% (2113) did calisthenics (an average of 2.3 times a month).
- 23.5% (202) lifted weights (an average of 2.7 times a month).
- 16.6% (142) jogged or ran (an average of 1.7 times a month).
- 14.4% (124) rode a bicycle or exercise bike (average of 1.5 times a month).
- 11.3% (97) did aerobics (an average of 1.00 times a month)

Dental Care. About half (52.7%) or 449 tribal members had seen a dentist within the past year and 47.4% had not. For 46% (392), their last dentist's visit was over a year ago and a small number (12) had never been to a dentist. Sixty-two percent (62%) or 528 reported a need for one or more types of dental work.

Medical Conditions and Disabilities

Health conditions and disabilities with the highest frequency are shown in Table 2. Of the 858 (100%) who reported health problems, the condition with the highest frequency was hypertension (19.3%) and visual impairments (18.9%) was second including a small number (15) who were blind (1.7%). When all mental health conditions are combined, **mental illness is the third highest condition** (16.3%); 140 reported one or more mental health condition including anxiety 9.8% (84); bipolar 3.3% (28), chronic depression 5.9% (51) eating disorder 2.7% (23); mental illness 3.4% (29); personality disorder 1.7% (15) and schizophrenia .7% (6). Of the 140 with mental health (MH) conditions, 86 (10%) reported one MH condition; 30 (3.5%) had two MH conditions; 12 (1.4%) had three MH conditions; six (0.7%) had four MH conditions; and another six (0.7%) had five MH conditions.

Table 2. Major Health Conditions and Disabilities

Health Conditions and Disabilities (Includes doctor diagnosed & self-reported symptoms)	Percentage (number) of participants
Hypertension	19.3% (166)
Visual impairment/blindness	18.9%(163)
Mental Illness¹	16.3% (140)
Asthma	15.9% (136)
Arthritis	15.5%(133)
Obesity	12.2(105)%
Diabetes	11.9%(102)
Eczema	9% (76)
Heart problems	7.8%(67)
Orthopedic Disorder	7.5% (65)
Substance Abuse including alcohol, street drugs, glue, etc.	7.5% (64)

¹ Anxiety 9.8%(84); Bipolar 3.3%(28), Chronic depression 5.9% (51) Eating Disorder 2.7%(23); Mental Illness 3.4%(29); Personality Disorder 1.7%(15) Schizophrenia .7%(6)

Incidence of Disability. One-fifth (20%) or 162 of those responding (828) reported having a health or disabling condition that interfered with daily living or the ability to work. From all responses to Survey A, the Project Director identified 174 tribal members (20.4%) from the four tribes as having a disabling condition that interfered with daily living or the ability to work. This is somewhat less than the National Council on Disability report that 22% of American Indians/Alaska Natives live with significant disabilities (National Council on Disability, 2003). Of the four tribes, one had 24% with disabilities, one had 22%, one had 21% and one tribe had 12%.

Mental Health Conditions and Symptoms. About 16% (101) respondents said that a doctor had told them that they had one or more mental health conditions including:

- 13.9% (117) Depression;
- 8.7% (73) Anxiety;
- 4.4% (36) Post-traumatic Stress;
- 5.7% (48) Obsessive or Compulsive Behavior;
- 2% (17) Phobia.

Over half (54%) of the respondents reported that within the past year, they had at least one mental health symptom that had persisted for more than several weeks including:

- 36.9% (315) Sleeping/eating disturbances or decreased energy;
- 29.2% (250) Worrying constantly;
- 27.5% (235) Sadness, anxiousness or empty mood;
- 23.7% (203) Loss of interest in ordinary or pleasurable activities;
- 20.2% (172) Feelings of hopelessness, pessimism and guilt;
- 15.2% (130) Rapid heart rate, difficulty breathing, trembling and sweating;
- 16.1% (138) A sense of “losing control”;
- 13.5% (116) Reliving traumatic events or having repetitive nightmares; and
- 14.0% (120) An overwhelming tension when there is no real danger.

Some individuals reported more extreme symptoms within the last 12 months:

- 9.0% (77) took extreme actions to avoid the source of their anxiety;
- 7.4% (63) reported “repeated unwanted thoughts”;
- 4.3% (37) seriously considered attempting suicide within the last year.

Yet with all the reports of mental health symptoms, only:

- 9.9% (85) had seen a mental health professional in the past 12 months; and
- 12.3% (105) felt a need to see a mental health professional.

Alcohol Use. Of the 853 tribal members who responded, 58.8% (502) reported drinking alcoholic beverages including beer and wine, and 41% (351) said they did not drink at all. Of those who drank, 70% said they drink at least once a week and 46% (251) reported “binge drinking”² (this was 29% of the total sample) with the following frequency:¹

- 22.5% (123) did this on 1 to 2 days in the past month;
- 13.3% (73) did this on 3 to 9 days;

² Binge drinking is defined as having five or more drinks in a row.

- 4.0% (22) did this 10 to 19 days; and
- 6.0% (33) did this 20 to 30 days in the past month.

Tobacco and Other Drugs: Of the tribal members who responded:

- 38.7% (326) currently smoked cigarettes or used tobacco;
- 40% (340) said they had never smoked; and
- 24.3% (205) said they had used tobacco in the past.

Almost two-thirds (63.8%) of the participating tribal members had tried marijuana at least once in their lifetimes. Of the 532 who had smoked marijuana:

- 15.7 (131) had smoked marijuana once or twice in their lifetime; and
- 21.3% (178) had smoked marijuana 100 or more times.

Over half (62%) of those who had smoked marijuana did so at a young age:

- 14.4% (80) smoked the first time at age 12 or younger;
- 47.3% (263) smoked first between the ages of 13 and 16; and,
- 37.8% (210) smoked marijuana for the first time at age 17 or older.

Of the 828 who responded to questions about cocaine and non-medical drug use:

- 17.7% (147) had used some form of cocaine in their lifetime; and
- 2.8% (23) had used cocaine within the past 30 days.
- 13.5% (112) had used other types of non-medical drugs in their lifetime such as LSD, PCP, Ecstasy, or mushrooms.

History of Abuse and Physical Altercations. Of the 790 respondents, 77% (611) stated that they had not experienced inappropriate sexual touching and 7% (68) did not answer this question. Of those who responded to questions on physical or sexual abuse:

- 22.6% (179) reported sexual touching that they did not want;
- 14.6% (116) reported this had happened before the age of thirteen;
- 9.4% (78) reported physical abuse by a parent or adult taking care of them; and
- 11.5% (95) reported they had been forced to have sexual intercourse;

Some tribal members also reported physical altercations within the last year.

- 8.1% (68) reported being hit, slapped, choked or physically hurt by a spouse/partner or boyfriend/girlfriend within the past twelve months;
- 13.0% (108) reported a physical fight during the past twelve months; and
- 3.8% (31) reported treatment by a doctor or nurse for an injury received during a physical fight

during the past year.

Factors Related to Mental Illness and Other Variables

To understand the relationships among different variables, several correlation coefficients were calculated. Pearson Product-Moment Correlation Coefficients (*r*) were calculated in which either two variables are continuous or one variable is continuous and the other variable is dichotomous and nominal. Phi correlation coefficients (Φ) were calculated in which two variables are dichotomous.

In this study, mental illness is a continuous variable. Mental illness scores were calculated by adding up the numbers of mental disabilities and conditions each participant had. The mental disabilities included: anxiety, bipolar, chronic depression, eating disorder, mental illness; personality disorder, Schizophrenia.

As shown in Table 3, mental illness was found to be associated with the following factors, less income, less education, poor health, binge drinking, cocaine use, inhaling paint to get high, visits to psychologists and need to visit a psychologist or other mental health professional.

Table 3. Factors Related to Mental Illness

Variables	<i>r</i>
Less Income	$r=-0.073^{*3}$
Less education	$r =-0.07^*$
Poor general health	$r =.24^{***}$
Binge drinking ²	$r =.11^*$
Cocaine usage	$r =.13^{***}$
Inhaling of paint to get high	$r =.07^*$
Visits to psychologists	$r =.42^{***}$
Need of visiting psychologist	$r =.49^*$

Note³. Level of significance. *<0.05, **<0.01, ***<0.001

Income. Income was significantly associated with the following in the negative direction: mental illness ($r=-0.073$, $p =.04$), and amount of alcohol consumption ($r=-0.113$, $p =0.002$). As income increased, mental illness and alcohol consumption behavior decreased. Income did not appear to be significantly associated with marijuana usage ($r=-.04$, $p =.32$), and risky injection needle sharing behavior ($r=0.05$, $p =.17$). Annual household income and smoking did not appear to be significantly

associated ($r = .079$, $p = 0.081$). Income was not associated with psychologist visits ($r = 0.02$, $p = .58$) for the four tribes though it was related for the three CT tribes ($r = 0.11$, $p = .05$), in that as income increased so did the psychologist visits. Income was significantly associated with education in the positive direction ($r = 0.441$, $p < .0001$) so that as income increased, education also increased, and vice versa. Annual household income and age appeared to be positively associated ($r = .009$, $p = 0.01$). The need for dental work was associated with income in the negative direction ($r = -.09$, $p = .012$). The less income, the more need for dental work. Self-report of better health was not significantly related to income status or to having health insurance.

Education and Employment. Education was negatively associated with mental illness ($r = -0.074$, $p = .032$), smoking ($r = -0.173$, $p < .001$), and marijuana usage ($r = -0.10$, $p = .004$), in that as education increased, reports of mental illness, smoking and marijuana usage decreased. As reported above, a higher level of education was associated with a higher income ($r = 0.44$, $p < .001$), employment ($r = 0.27$, $p < .0001$) and general health ($r = .12$, $p < .001$). Gender appeared to be associated positively with level of education ($r = 0.09^*$, $p = 0.09$). Gender did not appear to be associated positively with either annual household income or likelihood of employment. Tribal members who reported having a better health condition tended to have employment ($r = .19$, $p < .0001$). Employment also was associated positively to having health insurance ($\Phi = .14$, $p < .001$).

Age. Older tribal members were more likely to report their health condition as less satisfactory ($r = .33$, $p < .0001$). Age was significantly and positively-related to hypertension, ($r = .40$, $p < .001$), heart problems ($r = .27$, $p < .001$), and obesity ($r = .21$, $p < .001$) in that as age increased, hypertension, heart problems and obesity increased. The relationship between age and depression was **not** significant ($r = .015$, $p = .67$).

Alcohol, Tobacco, Drug Use and Physical Abuse. As reported above, education was negatively associated with smoking ($r = -.173$, $p < .001$) and marijuana usage ($r = -.10$, $p = .004$), in that as education increased, reports of smoking and marijuana usage decreased. Mental illness was associated with increased binge drinking² ($r = .11$, $p = .02$) and increased cocaine use ($r = .13^{***}$, $p < .001$).

Traditional Healing Practices. The majority of the respondents used one or more traditional healing practices. In Connecticut, those people who used traditional healing reported significantly better health ($r = .134$, $p = .012$) but this relationship was not significant for the four tribes. The age of the respondents was not significantly related to the likelihood of their using traditional healing practices ($r = .085$, $p = .15$,

non-significant), nor was their gender ($r = .007$, $p = .9$, non-significant).

Exercise. A majority of respondents also did one or more types of exercise. However, 29.5% (253) did not do any type of exercise. Exercise was significantly related to better self-reported health ($r = .09$, $p = .01$).

Discussion

The outcomes of this study echo the results of prior research supporting the need for health education in Native American communities. It also emphasizes the necessity of tribal community involvement in order to adequately identify health issues. The participatory nature of the research design and data collection allowed for participation of tribal members whose health concerns had not been adequately identified in the past. The methodology for the study was based on prior research that underscored the value of Participatory Action Research in Native American communities. The involvement of tribal members as research technicians to collect data was a critical element in gathering quality information. To identify health information needs, health professionals must be able to access what are often closed communities of Native Americans, where lack of trust for outsiders is prevalent; especially where sensitive health issues are involved.

Despite the fact that our data doesn't permit generalization to Native Americans as a whole, our sample paints an interesting picture of the health needs of Native Americans from four eastern tribes living in the towns of Southeast Connecticut and Rhode Island and does support some of the national data. The incidence of disability for the four eastern tribes (20%) is somewhat lower than the national data for Native Americans of 22% (NCD, 2003); though two of the tribes met or exceeded the 22% rate. Of the four tribes, one had 24% with disabilities, one had 22%, one had 21% and one tribe had 12%. Disability rate differences in the latter tribe that may account to some degree for the discrepancy in disability rate is that this is the wealthiest of the four tribes and offers many benefits to members. Also sample selection and data collection methods differed from the others in that many were interviewed as a group at a tribal election instead of being recruited by research technicians and interviewed individually at home. This study also parallels prior reports that mental illness, diabetes, and obesity are significant issues among Native Americans. More than half of our sample reported anxiety, stress, and depression. The seriousness of these symptoms is reflected in the fact that over 36% had persistent symptoms of sleeping or eating disturbances over several weeks; 20% had persistent feelings of hopelessness, pessimism and guilt; and 4% had seriously considered suicide within the past year.

A strikingly greater prevalence of depression, anxiety, and substance usage has been observed among Native Americans compared with other race-ethnic groups of the population, according to Huang, Grant, Dawson, Stinson, Chou, and Saha (2006). In their study, the prevalence for drug use disorder, mental disorder (i.e., major depression, bipolar disorder) and anxiety among Native Americans were 4.9%, 15.3%, 15.3% respectively, while 2.0%, 9.2% 11.1% in the total population. It is challenging to compare this data with the present study since definition of terms is somewhat unclear; in this study 7.5% reported substance abuse including alcohol and drugs, 16.3% reported mental illness when all types of mental illness were combined and this included anxiety, which was reported by 9.8%.

Given these reports, it is startling that only 10% reported seeing a mental health professional and only 12% reported needing one. This raises the question of whether tribal members surveyed felt no need for services because they were unfamiliar with their potential value; or whether they chose to address their problems in other ways, e.g., talking to family or friends, using traditional healing practices, getting medication from doctors for their condition without therapy, or self-medicating with drugs or alcohol. Cultural issues and issues around stigma may play a role here and warrant further study. The availability of professional tribal members who are practicing psychologists, social workers or therapists may be another factor.

According to a Mental Health Report of the Surgeon General from the U.S. Department of Health and Human Services (1999), the majority of people with diagnosable disorders, regardless of race or ethnicity, do not receive treatment; and the stigma surrounding mental illness is a powerful barrier to treatment. This is particularly troubling when the efficacy of mental health treatment is so well documented (U.S. Department of Health and Human Services, 1999). Of the 856 respondents, 61.4% said they had a family member with a disability or health condition. Only 7% (60) had a child who was receiving special education services.

Issues of vulnerability to physical abuse, and addiction to cigarettes, alcohol, and drugs are also raised in this sample. Over half (59%) of the sample drank, with about one-third drinking occasionally, and 29% reporting binge drinking on at least one day in the past month. The majority had tried marijuana, and almost a fifth (18%) said they had tried cocaine at least once in their lifetime.

Given the possibility that these behaviors could be under-reported, the relevance of addiction prevention programs must be considered. It is also noteworthy that despite the significant numbers of individuals reporting use of alcohol or drugs, only a small minority (7.5%) reported substance abuse as a significant health issue. This data raises the issue of the difficulty in self-identifying addiction/and abuse. Health educators could be very helpful in providing information about self-assessment of mental health and addiction problems, as well as availability of resources.

The disparity in income reported in this study is due to different levels of economic development among the tribes studied, with one tribe having a casino and several businesses. The substantial number of tribal members with lower incomes is easily overlooked when surrounded by other wealthy tribal members. The disparity between health needs and services received is noteworthy. Tribal members with lower income are the population that rehabilitation counselors and mental health professionals need to reach and to find ways to close the income and health gap. In general, health disparities between Native Americans and non-Natives can be attributed to socio-demographic and cultural factors, inadequate resources, continued population growth, discrimination, traditional values, and, importantly, historical contexts including devastating population losses through war and disease, appropriation of aboriginal lands by governments, and loss of traditional economies (Beals, Manson, Whitesell, Spicer, Novins, & Mitchell, 2005).

The relationship between income and health is supported in this study. As income increased, mental illness and alcohol consumption decreased. Lower income level was also found to be associated positively with symptoms of feeling sad anxious and “empty”. Greater awareness and education about these problems by health professionals and by Native Americans is much needed. Health professionals, both native and non-native, need to know the views of Native Americans about mental illness and available treatment methods. Research studies on Native Americans are needed regarding the effectiveness of different treatment methods, how to reduce “stigma”, and how to provide culturally sensitive services.

A tribal education program at John Hopkins may provide a model for assisting tribal leaders and local health professionals to coordinate and effectively apply available resources to addressing health priorities determined by the tribes themselves (Asham, Rhoades, Brenneman, 1998). This integration of strategies for prevention and self-evaluation into local health care delivery systems also need to be encouraged. Health agencies serving Native Americans could develop education and information programs for the tribal community which stress “health and wellness” and provide specific information for persons with mental illness and other disabilities on how to cope with conditions in order to avoid, as much as possible, functional limitations. To increase culturally relevant services and meet the desire of Native Americans for Native American service providers, there is a need for more Native American health educators, mental health providers, and efforts to train, hire and retain Native Americans in health related fields (Marshall et al, 1992).

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