

Assessment of Depression in Northern Plains Indians

Kyle X. Hill
University Of North Dakota

Sierra A. Davis
University Of North Dakota

Erin Martin
University Of North Dakota

Jacqueline S. Gray
University Of North Dakota

Sarita Eastman
University Of North Dakota

Melissa Wheeler
University Of North Dakota

Topics: 29.2 American Indian/Alaska Natives; 50.3 psychometrics

Assessment of Depression in Northern Plains Indians

Background:

Mood disorders including depression and anxiety are among the major health problems of American Indians. Depression is estimated to be a leading cause of disability worldwide (Murray and Lopez, 1996). American Indians (AI), among the most heterogeneous and impoverished minority groups in the U.S., suffer disproportionately from depression, with a per capita suicide rate 247% the national average and, among 15-24 year olds, 429% the national average (IHS, 2000). Unfortunately there are few available data addressing the co-morbidity of depression and other mental and physical health problems in AI (Daniels et al, 2001; Daniels et al, 2000), or the relationships between depression and possible moderating factors such as nutrition and cultural identification. Further, the Center for Epidemiological Studies - Depression scale (CES-D) has been the most commonly used measure of depression in epidemiological studies of AI, while mental health practitioners (those who diagnose and treat depression and other mood disorders) most frequently use the Beck Depression Inventory II (BDI-II). The relationship between the CES-D and BDI-II has not been determined for AI, and there are no community-based normative data for the BDI-II in AI.

Many psychological tests for mood disorders are used with American Indian behavioral health clients, however; very few have been examined to see if they are valid, reliable, and culturally appropriate for AI populations. Some of the mediating factors that could contribute to these mood disorders in American Indians are: historical trauma, culture identification issues, quality of life, socioeconomic status, and health status. This study examines the psychometrics of common measures of depression, anxiety and substance use with Northern Plains Indians (NPI). The measures included the Beck Depression Inventory-II (BDI-II), Center for Epidemiology Studies-Depression Scale (CES-D), Tri-Ethnic Depression Scale (TEDS), Beck Hopelessness Scale (BHS), Beck Anxiety Inventory (BAI), Symptom Checklist-90-Revised (SCL-90-R), Quality of Life Inventory (QOLI), and Rumination Scale (RS).

Methods:

Six hundred male and female adult Northern Plains Indians were recruited from IHS and tribal behavioral health clinics on seven North and South Dakota Reservations to complete a series of mood disorder assessments. The participants were recruited from three groups: 1) diagnosed depressed (by clinician), 2) diagnosed anxious (by clinician), and 3) no mental health diagnosis (control). Assessments were completed by paper and pencil, placed in an envelope and returned to the site coordinator. Participants received \$10 in gift/gas cards in compensation for their time and the tribe received \$5/participant for compensation. Site coordinators added the clinical diagnoses to the envelopes and returned them in separate envelopes from the consent forms to the researchers. Data was then entered using SPSS for all returned measures. Assessments included depression, anxiety, hopelessness, rumination, culture, quality of life, substance abuse, substance use, demographics, and the clinician's diagnosis code.

Results:

A total of 600 participants from eight approved sites have completed the assessments. Data from 233 male and 360 female participants between the ages of 18 and 80 years have

participated. The mean age was 36.2 years with a standard deviation of 12.7 years. Seventy-nine percent of participants had at least a high school education and 54% had household incomes below \$8,000/year. Diagnoses based upon clinician reports included: depressed 25.1%; anxious 22.6%; co-morbidity with depression and anxiety 13.7%; substance abuse 24.3%; and no diagnosis 54.5%. CES-D scores ranged from 0-52 with a mean of 16.9 ± 10.6 , $\alpha=0.88$ and split half correlation =0.76. BDI-II scores ranged from 0-56 with a mean of 11.8 ± 11.5 , $\alpha=0.94$ and split half correlation =0.80. The TEDS scores ranged from 7-21 with a mean of 11.2 ± 3.9 , $\alpha=0.93$ and split half correlation =0.88. SCL-90-R Depression Scale scores have a mean for outpatients of 1.32 ± 0.90 and for non-patients of 0.55 ± 0.62 , Chronbach $\alpha=0.92$ and split half correlation =0.92. Correlation coefficients were calculated between all depression and anxiety measures. Depression scores are compared between three groups: 1) no mental health diagnosis, 2) depression diagnosis, and 3) anxiety diagnosis to determine if norms for American Indians differ from the U.S. general population and diagnosed depressed population as reported in the literature.

Conclusions:

- 1) There is a high correlation between the depression, anxiety and rumination measures and an inverse correlation with quality of life.
- 2) Reliability and validity of the measures are reported.

References:

- Daniels, M. C., Mihura, J. L., Ness, F. K., Leonardson, G. R., Diep, A., & Foreyt, J. P. (2001). Psychological Distress in Northern Plains Native Americans diagnosed with type 2 diabetes. Vermillion, SD.
- Daniels, M. C., Ness, F. K., Mihura, J. L., Leonardson, G. R., Madden, C. A., Koplin, B. A., Tangimana, M. M., Hanson, C., & Foreyt, J. P. (2000). Depressive Symptoms and glycemic control in Northern Plains Native Americans with type 2 diabetes. Vermillion, SD.
- Indian Health Service (IHS). (2010). IHS Fact Sheets: Behavioral Health. Indian Health Service, Department of Health and Human Services. Retrieved on November 23, 2010 from <http://info.ihs.gov/Bhealth.asp> .
- Murray, C.J. & Lopez, A.D. (1996). Evidence-based health policy—lessons from the Global Burden of Disease Study. *Science* : 274(5288): 740-743.

The project was supported by NIH Grant Number U26IHS300127/01 from the NARCH IV Project funded through the National Institute of Drug Abuse and Indian Health Service. Jacqueline S. Gray, Ph.D., Principal Investigator and Grant Number P20 RR016741 from the INBRE Program of the National Center for Research Resources, Donald Sens, Ph.D., Principal Investigator. The University of North Dakota IRB approval # 200704-294 and Aberdeen Area IHS IRB # 07-R-07AA and #10-A-29AA