

A PILOT STUDY OF DEPRESSION AMONG AMERICAN INDIAN PATIENTS WITH RESEARCH DIAGNOSTIC CRITERIA

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ABSTRACT. In a pilot study of depression among American Indians, 86 patients from three different tribal cultures were evaluated utilizing systematic diagnostic criteria. Similarity of symptom patterns was greater than differences between those patient groups drawn from the tribes and in comparison to non-Indian patterns of depression. Among the Indian patients major depression occurred in three distinct subgroups: an uncomplicated pattern, a secondary depression in association with a past history of alcoholism, and a complicated depression superimposed upon an underlying chronic depression or personality disorder. Each of these three disorders requires a distinctive diagnostic approach and each disorder may be influenced by cultural factors.

High rates of depression among American Indians have been widely reported by treating clinicians (Shore & Manson, 1981). In addition, increased suicide rates among certain Indian tribes have been confirmed by various investigators (Shore, 1975; Kraus & Buffler, 1979; Levy & Kunitz, 1971). These findings have been attributed to rapid cultural change, epidemic patterns of alcohol abuse, increased rates of physical illness, accidents and deaths, and demoralization secondary to enforced dependency. This paper reports the first phase of a research project on major depression in three American Indian tribes. The study was designed to explore the relationship of depression to several of the above conditions.

Many examples of cultural influence on major mental disorders, including depression, have been reported among American Indian tribes (Shore & Manson, 1981). For example, Miller and Schoenfeld (1973) described an increased incidence of depression among the Navajo which they attributed to unresolved grief reactions that are more prevalent among the Navajo than other populations. Navajo culture was hypothesized to predispose the individual to unresolved grief by limiting mourning to four days, a prohibition which may stem from a sanction against the expression of anger and a general fear of the dead. Miller and Schoenfeld (1973) speculated that the limited mourning period leads to an exaggeration of normal grief which contributes to depression in Navajo patients different from other Indian and non-Indian patients. Another example involving cultural dynamics of a slightly different nature has been reported by Jilek (1974) as anomic depression among Coastal Salish Indians of the Pacific Northwest. In

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this condition overwhelming stress from rapid acculturation and loss of traditional identity leads to a state of chronic depression.

Regardless of etiology, mental health practitioners, both Indian and non-Indian, have observed a high prevalence of depression and suicidal behavior in Indian patients. One-third to one-half of all patients visiting IHS mental health outpatient clinics have been treated for symptoms of depression (Shore & Manson, 1981). The majority of depressed patients, like those in the dominant culture, are females between 20 and 40 years of age.

These studies suggest that the pattern of depression is influenced by cultural factors specific to American Indians and contemporary pressures of rapid social change. In order to further explore the diagnosis and treatment of this condition, a valid method of identifying depression within this special population is required. This need defined the major goal of the present study.

Methods

Study Purpose and Design

A multi-stage study was conducted to develop a culturally sensitive diagnostic instrument to be used for community-based psychiatric case-finding and treatment evaluation. In the first stage the Schedule for Affective Disorders and Schizophrenia-Lifetime Version (SADS-L) (Endicott & Spitzer, 1978) was utilized to identify index cases of depression. The initial results of the SADS-L interviews are reported herein. This represents the first attempt to assess and compare systematically patients from different American Indian tribes using established research diagnostic criteria.

Study Sites

The overall design of the study was intended to allow intertribal comparisons of a diagnostic instrument for depressive disorders. Consequently, three American Indian reservation communities were chosen to contrast diverse social, religious, political, and linguistic backgrounds. Their selection was a function of our desire to compare different cultural areas, of population size, and of community interest in participation. These three communities are referred to as the Plains, Plateau, and Pueblo tribes. This convention is adopted to avoid identifying the study sites which, because of their small size, may be singled out mistakenly as examples of widespread psychiatric problems.

The Plains reservation site is occupied by a single tribe with distinct bands situated in the northern Midwest. The reservation covers a large land mass of rolling prairies, interrupted by numerous rivers, valleys, and hills. About 6,200 tribal members and slightly more than half this number of non-Indians live on

the reservation. The bulk of the health and mental health services are delivered through the Indian Health Service (IHS) hospital and clinic located in the main reservation town. Part-time satellite clinics extend services to the outlying areas. Long standing social and cultural change have eroded traditional subsistence patterns, language, and religion. Nevertheless, some indigenous healing practices and ceremonies such as the Sun Dance quietly continue.

The Plateau reservation site is located in the Pacific Northwest on a large tract of land that extends from the Cascade Mountains to the arroyos of a semi-arid central plateau. The reservation is comprised of several tribes with a total population of 4,000 people. Health and mental health services on the reservation are delivered through a combination of tribally-operated and IHS outpatient services. The nearest hospital is located off-reservation in a rural town. Even though tribes of the Plateau study site have been subjected to a long history of acculturative pressure, some aspects of the traditional ceremonial life have remained intact and are undergoing revitalization.

The Pueblo reservation site is situated in the Southwest on land dominated by large mesas. The reservation is relatively small, when compared to the Plains and Plateau sites. There are 8,000 tribal members living on the reservation. An on-reservation IHS hospital and outpatient clinic provide medical and mental health care. Like the Plains site, part-time satellite clinics offer limited services to residents living at some distance from the hospital. This tribe is very traditional, having long resisted social and cultural change. Traditional healing thrives, along with an active ceremonial life.

At each reservation a local site coordinator was selected from the tribal mental health program. Tribal and IHS permission were sought and obtained. A procedure to protect human subjects was approved at the sponsoring institution. The local coordinator, together with physicians and other mental health workers, identified cases who were suspected to have depressive disorders and who recently had been in treatment. These patients were approached and more than 90% of them on each site agreed to participate. The initial design called for an equal number of male and female patients to be drawn from each tribe. Since Indian men significantly underutilized mental health services, this sampling strategy proved unrealistic, and the design was modified to permit a larger number of female patients to be interviewed.

Inter-Rater Reliability

The SADS-L was selected as the standard for establishing criterion validity. Since the study required diagnostic assessments by multiple interviewers across different sites, an inter-rater reliability test of the SADS-L was conducted involving the four research psychiatrists (Shore, Bloom, Keepers, and Neligh). All were members of the Department of Psychiatry at the Oregon Health Scien-

ces University, were involved actively in service and research with American Indian communities, and had extensive transcultural experience in this regard. For the inter-rater reliability test, 10 subjects were drawn from the patient population of a local urban Indian mental health program. Each psychiatrist interviewed two or three randomly assigned patients. These interviews were taped and subsequently viewed and rated by the other three psychiatrists.

The degree of agreement among the raters for primary diagnosis was assessed with the kappa statistic. The kappa coefficients of these comparisons ranged between .94 and .79, generally acknowledged as excellent. Kappa coefficients also were calculated for each rater compared with the consensus of the majority for each diagnosis. In addition, an overall kappa coefficient was calculated for each diagnosis. Again, degree of agreement ranged from good (.62) to excellent (1.0) among the comparisons of rater pairs. The overall kappa coefficients for major depressive disorder (.89) and alcoholism (1.00) were excellent. Given the tribal heterogeneity of the 10 patients (six different tribes were represented), these levels of inter-rater reliability proved remarkable and constitute a much more demanding test than if conducted at each culturally homogenous field site.

Results

Between 1982 and 1984 diagnostic interviews were conducted at each site by one of the four research psychiatrists. A total of 104 SADS-L interviews yielded 86 cases of major depression (Table I). There was an equal number of patients from each tribe. In two instances females outnumbered males by almost 2 to 1. This proportion paralleled the predominance of female patients in the mental health clinics. The Plateau patient group showed a reversal of this trend with a larger number of men; referrals were from the predominantly male tribal alcohol treatment program. The average age of all patients was 38; fifty-nine percent had a high school education; fifty percent were married. A higher per-

TABLE I
CONFIRMED CASES OF MAJOR DEPRESSION AMONG THREE TRIBES

| | Male | Female | Total |
|---------|--------|--------|-------|
| Pueblo | 7(24) | 22(76) | 29 |
| Plateau | 17(61) | 11(39) | 28 |
| Plains | 8(28) | 21(72) | 29 |
| | 32(37) | 54(63) | 86 |

() indicates percentage of rows

centage of males was married (59 versus 44 percent) and a higher number of females widowed or divorced (34 versus 12 percent).

TABLE II
FREQUENCY OF SYMPTOMS IN DEPRESSED PATIENTS

| Symptom | Non-Indian | Total Indian | Pueblo | Plateau | Plains |
|--------------------------------------|------------|--------------|--------|---------|---------|
| Change in appetite/weight | (90) | 74(86) | 25(86) | 22(79) | 27(93) |
| Sleep change | (95) | 79(92) | 27(93) | 26(93) | 26(90) |
| Psychomotor agitation or retardation | (80) | 78(91) | 24(89) | 25(89) | 29(100) |
| Loss of interest or pleasure | (100) | 78(91) | 25(86) | 25(89) | 28(97) |
| Loss of energy; fatigue | (97) | 65(76) | 20(69) | 20(71) | 25(86) |
| Feeling of worthlessness/guilt | (90) | 74(85) | 25(86) | 20(71) | 28(97) |
| Difficulty concentrating | (95) | 62(72) | 22(76) | 14(50) | 26(90) |
| Thoughts of death | (73) | 72(84) | 26(90) | 19(68) | 27(93) |

() indicates percentage of symptoms present

TABLE III
PATTERN OF DEPRESSION

| | Male | Female | Total |
|--|--------|--------|--------|
| Mean number of depressions | 4.1 | 2.9 | 3.3 |
| Currently depressed | 16(50) | 34(63) | 50(58) |
| Average duration in weeks | 40 | 32 | 35 |
| Hospitalized | 11(34) | 21(39) | 32(37) |
| ECT | 0(0) | 0(0) | 0(0) |
| Medication | 13(41) | 33(61) | 46(54) |
| Delusions | 2(6) | 2(4) | 4(5) |
| Hallucinations | 9(28) | 18(33) | 27(31) |
| Voices or visions | 2(6) | 1(2) | 3(4) |
| Suicidal | 11(34) | 22(41) | 33(38) |
| Pregnancy | | 9(17) | |
| Menopause | | 5(10) | |
| Somatic treatment preceded depression | 1(3) | 4(7) | 5(6) |
| Physical illness preced depression | 3(9) | 3(6) | 6(7) |
| Subject attributed depression to a loss: | | | |
| Family death | 4(14) | 16(32) | 20(26) |
| Other | 1(4) | 0(0) | 1(1) |

() indicates percentage among all males, females, and total sample

The frequency of the eight major symptoms of depression elicited by the SADS-L protocol is presented for Indian patients in Table II. These symptoms can be compared in turn to those of a non-Indian cohort reported by Kupfer (1983). Table III depicts the pattern of depression for Indian males and Indian females. Indian females evidenced a greater change in appetite or weight and psychomotor agitation or retardation while Indian males experienced greater loss of energy or fatigue. These symptoms were commonly present and occurred in both sexes for 69 percent or greater of subjects. For the Indian sample as a whole, few differences were evident between tribes, the interpretation of which is limited by the sampling method, and, therefore, are not reported.

Sixty-four percent of all cases had more than 1 depression with an average of 3.3 episodes. The age at first depression (mean 29 years) was equally distributed across age groups. Fifty-eight percent of the patients had a current major depressive disorder at the time of interview. The mean duration of all depressions was 35 weeks with a range from 2 weeks to 4 years. Fifty-four percent of the cases had received antidepressant medication and 37 percent had been hospitalized. No case received electroconvulsive treatment (ECT). Hallucinations were present in one-third of the patients. Thirty-eight percent had a past history of suicidal behavior. Eighty-seven percent of the patients had dysphoria for 2 weeks or more. A greater number of patients were treated by medication and hospitalization in the Plains group.

Eighty-three percent of all cases had more than one psychiatric disorder. Table IV presents the diagnoses that occurred in association with major depressive disorder. Males exhibited more alcoholism and drug use, while females had a higher percentage of anxiety, phobic, cyclothymic, panic, antisocial, bipolar, and somatization disorders. In this sample, the Plateau patients -- as expected -- evidenced a higher proportion of substance use disorder, while the Plains patients showed a more frequent occurrence of generalized anxiety, cyclothymia, panic, antisocial, and bipolar with hypomania.

Table V illustrates the association of alcoholism and drug use disorder with secondary depression. Considering life-time diagnoses, 34 of 36 secondary depressions were associated with a diagnosis of substance abuse. Only two secondary major depressive disorders occurred independent of substance abuse. Males had a higher rate of substance abuse than females (75 versus 39 percent).

The occurrence of chronic intermittent and/or chronic minor depression with major depressive disorder has been defined as double depression (Keller &

TABLE IV
DIAGNOSIS OCCURRING WITH MAJOR DEPRESSION

| Diagnosis | Male | Female | Total |
|------------------------|--------|--------|--------|
| Alcoholism | 24(75) | 19(35) | 43(50) |
| Generalized Anxiety | 4(12) | 13(24) | 17(20) |
| Intermittent | 8(25) | 8(15) | 16(19) |
| Drug use | 7(22) | 8(15) | 15(17) |
| Phobic | 2(6) | 13(24) | 15(17) |
| Cyclothymic | 2(6) | 9(17) | 11(13) |
| Labile | 3(9) | 7(13) | 10(12) |
| Hypomanic | 1(3) | 8(15) | 9(10) |
| Panic | 2(6) | 7(13) | 9(10) |
| Obsessive-Compulsive | 1(3) | 6(11) | 7(8) |
| Antisocial | 1(3) | 5(9) | 6(7) |
| Bipolar with mania | 2(6) | 1(2) | 3(4) |
| Bipolar with hypomania | 0(0) | 3(6) | 3(4) |
| Briquet's disorder | 0(0) | 2(4) | 2(2) |
| Manic | 1(3) | 1(2) | 2(2) |
| Minor depression | 0(0) | 1(2) | 1(1) |

() indicates percentage among all males, females, and total sample.

TABLE V
SUBSTANCE ABUSE IN PRIMARY AND SECONDARY DEPRESSION

| | Primary Depression | Secondary Depression | Total |
|-----------------|-----------------------|-------------------------|-------|
| Substance Abuse | 11(24) | 34(76) | 45 |
| None | 39(95) | 2(5) | 41 |
| Total | 50(58) | 36(42) | 86 |

() indicates percentage of rows

Shapiro, 1982). Twenty percent of the patients exhibited double depression with no major difference by sex or tribe. The definition of double depression was expanded to include labile and cyclothymic personality, labeling this pattern "complicated depression." This broader definition was based upon observations of the four research psychiatrists across the three sites. They noted that patients generally had difficulty in distinguishing between subtle differences in probe questions of the SADS-L for affective symptoms associated with the personality

disorders. For example, a criteria for intermittent depressive disorder requires frequent intermittent periods of normal mood of a few hours, days, or weeks. A probe question for cyclothymic personality asks if one has had "a few days when you feel down or depressed and then at other times a few days when you feel even better than normal or high." Patients tended to confuse the distinction between normal and high mood in these questions, making the subtyping of SADS-L categories difficult. Applying this broader definition, forty-four percent of the patients were diagnosed as having "complicated depression" with a higher frequency among the Plains cases.

Discussion

This is the first study of depression among American Indian patients that has involved the application of systematic diagnostic criteria by experienced psychiatric clinicians. We were impressed that the SADS-L can be applied in these transcultural settings with confidence if certain limitations are considered. All SADS-L interviews were done in English, even with elderly individuals who spoke English as their second language. The high level of transcultural experience among the four research psychiatrists was essential to judge accurately patients' responses. Two aspects of the SADS-L presented particular problems that required interviewer attention. As mentioned above, patients generally had difficulty in distinguishing between subtle differences in SADS-L probe questions, especially for affective symptoms associated with the personality disorders. In addition, we remain uncertain about the reliability of Indian patients' recall of symptom duration since time perception may be significantly affected by cultural experience. Nevertheless, inter-rater reliability was high among the research psychiatrists. These observations suggest certain modifications of the SADS-L that should improve its administration to American Indian patient populations.

There are few differences either by tribe or sex in the symptoms profiles between patients. The findings suggest a core depressive syndrome among patients who have been in treatment. This is supported further by comparison to the non-Indian pattern of depressive symptoms highlighted in Table II. These findings are reminiscent of the conclusion by Jablensky, Sartorius, Gulbinat, and Ernberg (1981) in the World Health Organization (WHO) collaborative study on the assessment of depressive disorders that "the results point to a considerable degree of similarity in depressive symptomatology across the cultures if particular selection criteria are applied." Mezzich and Raab (1980) compared depressive symptomatology between North and South American patient groups, and also demonstrated a commonality of core depressive symptoms and signs.

In our opinion the present findings indicate the common occurrence of major depressive disorder among American Indian patients from different tribal cultures and that sociodemographic as well as cultural differences may modify the content, but not necessarily the form of the primary syndrome. Marsella (1978) observed that in certain non-Western cultures there appears to be no semantic equivalent for the word "depression", and consequently argued that the syndrome of major depression may not exist in these populations. Based on our findings, an assumption that equates the lack of a semantic equivalent to depression with its absence in a given culture is too simplistic. None of the tribes in this study reported semantic equivalents for depression in their respective languages; yet the psychiatric disorder of major depression was observed in a consistent fashion across all three patient populations. Admittedly, this pilot study is limited by its emphasis on patient samples. Therefore, no definitive conclusions can be drawn concerning the community patterns of depression. However, the data certainly demonstrate that there exists groups of American Indian patients who experience similar depressive symptomatology. In fact, all of our patients had by diagnostic criteria (Schedule for Affective Disorders and Schizophrenia - SADS and Research Diagnostic Criteria - RDC) been assigned the same diagnosis based on their symptomatology.

In a separate publication, Manson, Shore, and Bloom (1985) described the unique concepts of depressive behaviors that co-exist with major depressive disorders in one of these tribes. For the Pueblo tribe the common association of a hallucinatory experience, especially for Indian women associated with major depression, has been previously reported (Matchett, 1972). In the current study hallucinations were common among all patients from the three tribes. They most often were explained by patients as hearing the voices of deceased relatives. In addition, many patients attributed their depression to the stress of a family member's death, in spite of our exclusion of cases of normal bereavement. Periods of dysphoric mood were considered as bereavement if they followed the loss of a loved one within a twelve-month period.

There was a common co-occurrence of alcoholism with major depressive disorder, especially among male patients. Although we searched diligently in each community, it was difficult to identify cases of major depression among Indian males without a history of an alcoholic disorder. In an earlier epidemiological survey of an American Indian tribe, Shore, Kinzie, Hampson and Pattison (1973) reported a 27 percent prevalence of alcoholism, a rate significantly above the prevalence of 4.5 to 5.7 percent in the recent ECA study reports (Myers, Weissman, Tishler, Holzer, Leaf, Orvaschel, Anthony, Boyd, Burke, Kramer, & Stoltzman, 1984). Brod (1975) and Westermeyer (1979) also have written about alcoholism as an extensive mental health problem among

American Indians. Its common occurrence among this patient sample of American Indian males may suggest that symptoms of primary depression frequently are masked by acute and chronic alcoholism. Behar, Winokur, and Berg (1984) studied non-Indian alcoholic patients and concluded that 15 percent had serious, debilitating depressive symptoms which began after 35 months of sobriety. In our study no diagnosis of major depression was made in association with alcoholism unless there was at least a prior three month period of sobriety. The period of sobriety among the depressed Indian male patients with a history of alcoholism ranged from 3 to 48 months. This high rate of alcoholic history with a subsequent depression among Indian males highlights the association of these two disorders and underscores the distinction of secondary depression as a particularly important diagnostic problem.

The occurrence of "double" or "complicated depression" among Indian patients is another important dimension to their pattern of depressive illness. Keller and Shapiro (1982) described "double depression" as a major depressive disorder superimposed on an underlying chronic depression and have shown (Keller, Lavori, Endicott, et al., 1983) that it is associated with a guarded prognosis. Among our patients this pattern is common but may be more difficult to diagnose reliably. There is a tribal difference in the occurrence of "complicated depression" with a higher rate in the patients from the Plains tribe (Plains 50%, Pueblo 32%, Plateau 18%) but nearly equal rates among male and female patients (41% and 46%). This intertribal difference in the pattern of complicated depression may not be explained by sampling limitation alone. The mental health clinic of the Plains tribe was the most medically oriented of the three and included the highest percentage of depressed patients who received antidepressant medication and hospitalization. It is possible, however, that the higher rate of "complicated depression" among the Plains group is a true difference and might be attributed to unique cultural and genetic factors. This interpretation is supported by clinical observations (Neligh, personal communication, 1985) that cyclothymia, anxiety, and panic reactions are more common among the Plains tribes in the northern United States and that this pattern occurs more frequently among specific tribal communities.

Conclusion

The occurrence of major depression, alcoholism, and complicated depression presents a triad of depressive disorders among the Indian patients studied. Major depression exists in three distinct constellations among these patients: as an uncomplicated pattern, as a secondary depression in association with a past history of alcoholism, and as a complicated depression superimposed upon an

underlying chronic depression or personality disorder. Each of these requires a distinct diagnostic approach and may be influenced by cultural factors. In summary, our preliminary findings indicate that a common pattern of depression can be distinguished among American Indian patients, that a core depressive syndrome exists among patients across different tribal groups, and that variations are evident which may have clinically meaningful implications.

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