Mood Correlates of Substance Use Among Chronic Mentally Ill Outpatients

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Abstract

The present research determined the correlates of substance abuse in chronically mentally ill patients with self-reported mood as assessed by the Affects Balance Scale. Greater alcohol and drug abuse were found to be positively associated with more negative affect, primarily anxiety, depression, and hostility. Such abuse was found to be inversely related to positive affect, primarily contentment, vigor, and affection. The schizophrenics tended to have more positive correlations with negative affect and the nonschizophrenics tended to have more negative correlations with positive affect. The highest correlation of the study was -.57 for the nonschizophrenics subjects between drug abuse and Total Affective Charge, an index devised by Templer to assess the sum of positive and negative affect.

Introduction

The purpose of the present study was to relate substance abuse in chronically mentally ill persons to mood states as measured by the Affects Balance Scale.[1]

Estimates suggest that the prevalence of chronic mentally ill who abuse substances to be somewhere between 20 and 60%.[2] In a study by Drake, Osher, and Wallach,[3] 45% of discharged psychiatric patients in urban after care used alcohol, with 22% clearly abusing alcohol. In a study by McKelvy, Kane, and Kellison,[4] 60% of the hospitalized patients had both a psychiatric disorder and a substance abuse disorder. Pepper, Kirhen, and Rugglewig[5] reported that 37% of chronically mentally ill abuse alcohol and 37% abuse other drugs. Meuser, et al.[2] and Turner and Tsuang[6] reported that there is a wider range, but not necessarily a greater amount of substances used among schizophrenics compared to other psychiatric populations and the general population. Breakey, Goodell, Lorenz, and McHugh[7] reported that schizophrenics use a wider range and a greater amount of drugs compared to a control group of hospitalized patients. Central nervous system stimulants and hallucinogens are the only substances that have been consistently found to be used more among schizophrenics. Among the schizophrenics in their sample, Test, Knoedler, Allness, and Burke[8] reported that 17.3% had used narcotics, 41% had used sedatives, 60% had used stimulants, 50% had used LSD and PCP, 87% had used marijuana, and 96% had used alcohol. McLellan et al.[9] reported that 60% of patients interviewed acknowledged use of alcohol or drugs while hospitalized.

Subjects

Subjects were selected from a semirural, outpatient county mental health facility in the central San Joaquin Valley. Subjects who met the following criteria were asked to participate in the study: subjects must have been at least 18 years of age; have had an open chart at Tulare County Mental Health; and been able to read English to participate in the study. Fifty-seven subjects were recruited for the study. Four were removed from the study because of incomplete data on the substance use questionnaire, leaving 53 subjects who were included in the analysis. Twenty-seven of the patients had a primary diagnosis of Schizophrenia, nine subjects were diagnosed with Major Depression, six subjects were diagnosed with Bipolar Disorder, five subjects were diagnosed with Psychotic Disorder-Not Otherwise Specified, two subjects were diagnosed with Dysthymia, and one subject each were di-

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agnosed with Generalized Anxiety Disorder, Alcohol Abuse, Adjustment Disorder, and Posttraumatic Stress Disorder. The subjects were divided into two groups; a schizophrenic group consisting of those subjects with a primary diagnosis of Schizophrenia and a nonschizophrenic group consisting of those subjects with a primary diagnosis other than Schizophrenia.

There were 16 men and 11 women in the schizophrenic group while the nonschizophrenic group had 10 men and 16 women. Overall, the ratio of men to women was nearly equal; 26 men and 27 women. The 53 subjects ranged in age from 22 to 65, with a mean age of 40.64 years (SD 11.63). The subjects ranged in education from 1 to 16 years with a mean of 11.43 (SD 2.56). Seventeen (65%) of the schizophrenic patients and 11 (41%) of the nonschizophrenic patients had participated at some point in day treatment during their involvement with the county mental health system. Seven schizophrenics (27%) and 5 nonschizophrenics (19%) had a history of conservatorship. Eighteen of the schizophrenics were unemployed; three were noncompetitively employed and four were competitively employed. The comparisons for the nonschizophrenic group were 24, 2, and 1 respectively.

At the time of intake, 15 were married, 9 were divorced, 5 were separated, 22 subjects were never married, one was widowed, and the marital status for one subject was unknown. For the entire sample, 39 of the subjects self reported their ethnicity at time of intake as White, 13 as Hispanic, and 1 as Asian/Pacific Islander. Ethnically, the nonschizophrenic group was similar to the schizophrenic group. There were 21 White, 5 Hispanic, and 1 Asian/Pacific islander subjects in the nonschizophrenic group. In the schizophrenic group there were 18 Whites and 8 Hispanic subjects.

Instruments

The Affects Balance Scale of Deragatis[1] consists of 40 words which describe emo-

tional states. Using a five-point Likert scale (0 = never, 1= rarely, 2 = sometimes, 3 = frequently, and 4 = always), the subject was asked to rate to what degree he or she has felt each emotion during the past month. From these 40 items, eight scales are developed (four positive and four negative). The positive scales are Joy, Contentment, Vigor, and Affection. The negative scales are Anxiety, Depression, Guilt, and Hostility. There is a "Positive Score Total" which is the sum of the four positive emotions and a "Negative Score Total" which is the sum of the four negative emotions. The "Affects Balance Index" is the ratio of the Positive Score Total to the Negative Score Total. In addition, there is the "Total Affective Charge," an index devised by Templer[10] to assess the sum of the Positive Score Total and the Negative Score Total.

A substance use questionnaire was also administered to all subjects. It is a list of three brief questions pertaining to the clients' use of illicit substances and alcohol during the past month, the past year, and their drug or alcohol preference.

Procedures

Clients meeting the previously described criteria were asked to participate in the study. A consent form was given to potential subjects which included an explanation of the purpose, expectations, requirements, and subject rights of the study.

The protocol packet included a questionnaire to assess the use of substances during the past month, the past year, and their drug preference; and the Affects Balance Scale. Protocols were distributed and collected by the principal investigator and by Tulare County Mental Health staff during medication evaluation visits and visits with their therapist at Tulare County Mental Health Services. Protocols were collected at three offices in the Tulare County Mental health service area: Visalia, Porterville, and Tulare California.

The principal investigator instructed

those administrating the protocols on the distribution and collection of the packet, on confidentiality, and standard administration. Printed guidelines and instructions on administration of the protocol were provided.

Results

Table 1 (below) displays the means and standard deviations of the number of times the subject reported alcohol or drug use during the past month and past year. Also included is the number and percentage of subjects who endorsed any use of the specified substances. Note that two of the schizophrenic subjects and three of the nonschizophrenic subjects responded to the question regarding use during the past month, but did not respond to the ques-

tion regarding use during the past year. This accounts for the larger N for Alcohol use during the past month than for the past year. Tables 2, 3, and 4 (pp. 244, 245, 246) contain the correlation coefficients between the substance use dependent variables and the Affects Balance Scale for the schizophrenic, non-schizophrenic, and the combined groups respectively.

Discussion

For all subjects, substance use was correlated with distress and less positive affect. It is also apparent that the negative affective states assessed by the Affects Balance Scale were associated with greater substance use and that the positive affective states were associated with lesser sub-

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Table 1. Means, Standard Deviations, Number, and Percentages of Subjects who self-reported using substances during the past month (N=53) and past year (N=48).

Substance	Past Month				Past Year			
	M	SD	N	(%)	M	SD	N	(%)
Alcohol	0.64	2.14	12	(23%)	7.04	23.15	10	(21%)
Marijuana	0.02	0.14	1	(1%)	0.04	0.20	2	(4%)
Stimulants	0	0	0	(0%)	0.04	0.29	1	(2%)
Sedatives	0.60	4.12	3	(6%)	7.85	52.67	2	(4%)
Opiates	0.75	4.32	2	(4%)	2.50	17.32	1	(2%)
Hallucinogens	0	0	0	(0%)	0	0	0	(0%)
Solvent	0	0	0	(0%)	0	0	0	(0%)
Other	0	0	0	(0%)	0	0	0	(0%)
Any of above	2.02	6.13	16	(30%)	17.48	58.64	17	(35%)

Note. M represents the mean number of times that a subject reported substance use during the past month or year.

Table 2. Correlations between Affects Balance Scale variables and self-reported, bivariate, substance use variables for schizophrenic subjects.

ABS Variable	Alcohol use past Month (n=27)	Year (n=25)	Drug use past Month (n=27)	Year (n=25)	Any use past Month (n=27)	Year (n=25)
Joy	-.14	-.21	.07	.17	-.08	-.13
Contentment	-.15	-.27	-.09	-.01	-.19	-.26
Vigor	-.02	-.14	.17	.14	.09	-.08
Affection	.08	.08	-.11	.05	.01	.10
Anxiety	.34	.52**	.16	.14	.39*	.55**
Depression	.23	.47*	.12	-.03	.27	.44*
Guilt	.10	.22	.10	-.03	.15	.20
Hostility	.35	.37	.18	.09	.42*	.39*
Positive Total	-.07	-.16	.02	.11	-.05	-.11
Negative Total	.29	.45*	.16	.04	.35	.45*
Total Affective Charge	.16	.21	.14	.13	.23	.26
Affects Balance Index	-.23	-.40*	-.05	.05	-.24	-.36

Note.   ABS = Affects Balance Scale * $p < .05$, ** $p < .01$

stance use. A straightforward inference is that substance use is associated with more subjective distress and less positive affect. This is precisely what is measured by the Affects Balance Index which has negative correlations with substance use in the schizophrenic, nonschizophrenic, and the combined groups of subjects.

Templer, Spencer, and Hartlage[11] maintained that substance use has basically two purposes. One is to increase pleasure and decrease discomfort, and the other purpose is to bring about an optimal level of arousal. It would appear that this "comfort-discomfort" dimension is more highly associated with substance use than is the arousal dimension with the combined group of schizophrenics and nonschizophrenic patients. This is based on the observation that the Affects Balance Index (which essentially measures the comfort-discomfort dimension) is more highly associated with substance use than Total Affective Charge which essentially measures the level of arousal.

Table 3. Correlations between Affects Balance Scale variables and self-reported, bivariate, substance use variables for nonschizophrenic subjects.

ABS Variable	Alcohol use past		Drug use past		Any use past	
	Month (n=26)	Year (n=23)	Month (n=26)	Year (n=23)	Month (n=26)	Year (n=23)
Joy	-.26	-.28	-.37	-.36	-.38*	-.28
Contentment	-.22	-.30	-.31	-.41	-.32	-.30
Vigor	-.18	-.35	-.26	-.39*	-.27	-.35
Affection	-.25	-.50	-.31	-.47*	-.32	-.50**
Anxiety	.30	.06	.18	-.08	.41*	.06
Depression	.29	.18	.15	-.02	.44*	.18
Guilt	.23	-.11	.02	-.26	.28	-.11
Hostility	.49**	.21	.18	-.09	.53**	.21
Positive Total	-.24	-.38	-.33	-.43*	-.34	-.38*
Negative Total	.36	.10	.15	-.11	.45*	.10
Total Affective Charge	.13	.30	.18	-.57	.13	.30
Affects Balance Index	-.35	-.29	-.27	-.20	-.46*	-.29

Note. ABS = Affects Balance Scale * $p < .05$ ** $p < .01$

It is not possible to infer with certainty whether subjective distress causes the substance abuse or whether substance abuse causes the subjective distress. The fact that the preponderance of those that used substances were far from daily users would be more consistent with the first of these two alternatives. If one considers that the mean number of times using alcohol in the past month is .64 with a standard deviation of 2.14, it does not seem likely that such a limited degree of alcohol use would account for correlations as high as .49. The extent of drug abuse was also quite limited.

As stated previously, substance use in the schizophrenic patients was positively correlated with the Affects Balance Scale's negative affects but were not significantly correlated with the positive affects. With the nonschizophrenic subjects, however, the significant correlations were negative with the positive emotions, although there were also some significant positive correlations found between the Affects Balance Scale variables of Anxiety, Depression, and Hostility with the dependent variables of alcohol use during the past month and any use past month. The nonschizophrenic patients produced significant negative correlations of Total Affective Charge with alcohol use during the past year, drug use during the past month, and any use of alcohol or drugs during the past year. With the schizophrenic subjects, the correlation between the Total Affective Charge and "any use of alcohol or drugs during the past year" correlation was positive and significant. A possible explanation for this is that the schizophrenics are more likely to use substances to escape from subjective distress. The nonschizophrenics may also use substances to escape subjective distress, but may also use for the added effect of promoting positive affect.

The association of subjective distress and substance use would appear to have treatment implications, especially for schizophrenics. There is currently considerable focus in the treatment of schizophrenics upon the importance of taking

Table 4. Correlations between Affects Balance Scale Variables and self-reported, bivariate, substance use variables for all subjects.

ABS Variable	Alcohol use past Month (n=53)	Year (n=48)	Drug use past Month (n=53)	Year (n=48)	Any use past Month (n=53)	Year (n=48)
Joy	-.22	-.28*	-.22	-.24	-.26	-.24
Contentment	-.20	-.32*	-.25	-.32*	-.27	-.31*
Vigor	-.13	-.30*	-.12	-.29*	-.13	-.26
Affection	-.12	-.26	-.24	-.32*	-.18	-.24
Anxiety	.32	.24	.18	.00	.40**	.25
Depression	.28*	.33*	.16	.03	.38*	.31
Guilt	.19	.07	.08	-.13	.23	.06
Hostility	.44*	.30*	.20	.01	.49**	.30*
Positive Total	-.19	-.32*	-.23	-.32*	-.23	-.29*
Negative Total	.34*	.27	.17	-.02	.42*	.26
Total Affective Charge	.14	.07	-.05	-.33*	.17	-.05
Affects Balance Index	.31	.35*	-.23	.19	-.38**	-.33

Note. ABS = Affects Balance Scale * p < .05 ** p < .01

antipsychotic drugs to prevent episodes of florid psychosis. There is also great focus upon the antisocial, disruptive, and inappropriate behaviors of schizophrenics. Because psychosis and maladaptive behaviors are more apparent, more burdensome, and annoying to others, the suffering of schizophrenia persons may not be sufficiently noticed and understood. The presentation of flattened affect may further serve to cover up underlying emotional distress. Hoffer[12] made a distinction between the "hot" and the "cold" symptoms of psychosis with the former applying to disruptive or outrageous behavior that more frequently results in intervention and the latter referring to less obvious symptoms that are more likely to be not noticed or ignored by others. According to Templer, Spencer, and Hartlage,[11] most schizophrenics are depressed and anxious, and ten percent of them eventually take their own lives. If schizophrenics are more likely to use sub-

stances to dampen subjective distress, perhaps much more attention should be paid to their subjective distress.

There are potential treatment implications based on the fact that alcohol and substance use were significantly negatively correlated for the nonschizophrenic patients with the positive affect scales of the Affects Balance Scale. Perhaps with the stimulation of positive and enjoyable activities there would be less inclination to use illicit drugs and alcohol to increase positive affect.

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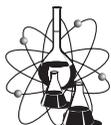
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