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DUAL DIAGNOSIS IN ELDERS DISCHARGED FROM A PSYCHIATRIC HOSPITAL

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SUMMARY

Recent evidence indicates persons 60 years and over experience significant alcohol and substance abuse problems. Since a combination of alcoholism and depression is likely to increase the relative risk of suicide, it is important to examine the prevalence of dual diagnosis in older adults. The purpose of this study is to examine the prevalence and correlates of dual diagnosis in older psychiatric inpatient populations and compare our results with findings from studies of younger hospitalized dually diagnosed patients. A retrospective chart audit was performed on 101 elders who were discharged from three psychiatric hospitals. Clinical variables that were examined included length of hospital stay, psychiatric and medical diagnoses, medications and history of suicidal ideation or intent. The leading psychiatric disorder diagnosis for our sample of hospitalized psychiatric elders was depression. Over one-third (37.6%) had a substance abuse disorder in addition to a psychiatric disorder, and almost three-fourths (71%) of this 'dual diagnosis' group abused alcohol and 29% abused both alcohol and other substances. In addition, significantly more elders in the 'dual diagnosis' group (17.7%) than in the group with only a mental disorder diagnosis (3.3%) made a suicide attempt prior to admission to the hospital. Because affective disorders in conjunction with alcohol abuse are the most frequently found disorders in completed suicides, our findings have important relevance for the advocating of routine use of diagnostic assessment and screening for both substance abuse and mental disorders in this population.

Keywords

alcohol abuse; affective disorder; dual diagnosis; elderly people

A psychiatric disorder together with alcohol or drug addiction is referred to as a 'dual diagnosis' (McKenna and Paredes, 1992; Turnbull and Roszell, 1993; Riley, 1994). Findings from the National Institute of Mental Health's Epidemiologic Catchment Area Study (ECA) of 20291 community-residing subjects suggest that the co-occurrence of substance abuse and mental disorders happens more frequently than chance would predict. Lifetime prevalence rates of substance abuse among the mentally ill may be as high as 87% for individuals with antisocial personality disorders, 56% for bipolar disorders, 47% for

schizophrenics and 32% for depressive disorders (Regier *et al.*, 1990). High rates of substance abuse have been found among inpatient psychiatric populations (Regier *et al.*, 1990; McKenna and Paredes, 1992), the mentally retarded (Gabriel, 1994; Reiss, 1990; Matson and Barrett, 1992), the deinstitutionalized homeless (Caton *et al.*, 1994; Kahn *et al.*, 1992) and psychiatric patients who present to emergency departments (Lieberman and Baker, 1985; Szuster, 1990; Sanguineti and Samuel, 1993) and primary care settings (Crum and Ford, 1994). Lifetime comorbidity rates for mental illness and substance abuse in prison populations have been found to be as high as 94% (Abram and Teplin, 1991; Regier *et al.*, 1990). The clinical outcomes for psychiatric patients with a substance abuse disorder are typically poorer than for psychiatric patients without a substance abuse disorder (Lehman *et al.*, 1989; McKenna and Ross, 1994).

There are competing hypotheses on the etiology of dual diagnosis. One hypothesis proposes that the primary psychiatric illness precedes the development of the substance abuse and the individual self-medicates with alcohol or other substances of abuse to relieve the symptom of his illness (Castenada *et al.*, 1989; Khantzian, 1985). An alternate hypothesis is that the substance abuse itself produces or exacerbates an underlying psychiatric disorder, as in the development of depression after prolonged use of alcohol (Lehman *et al.*, 1989). Still others posit that, in cases of dual diagnosis, one disorder is neither the cause nor the consequence of the other but the two are independent of each other (Lehman *et al.*, 1989; Minkoff, 1989).

Patients with psychiatric and substance abuse disorders often present a diagnostic problem because these illnesses may mutually and reciprocally complicate each other (McKenna and Ross, 1994). In an effort to sort out this diagnostic conundrum, several studies have been undertaken to identify variables associated with dual diagnosis. Chris Heh *et al.* (1990) found that pretreatment variables such as physical and neurologic complaints and pretreatment depressive states were significantly correlated with the alcoholic's post-treatment depressive state. McKenna and Ross (1994), in a study of male substance abusers, found seven variables significantly suggestive of dual diagnosis: early sexual abuse, symptoms during subacute sobriety, emotionally motivated substance abuse rationale, anxiety-panic during sub-acute sobriety, sober periods less than 1 year, onset of substance abuse > 20 years of age and use of four different substances.

There is considerable agreement that patients with dual diagnosis are characterized by polysubstance abuse, use of illegal drugs, violent and criminal behavior, high suicide rates, denial of problems, housing instability and homelessness (Lehman *et al.*, 1989; Minkoff, 1989; Mulvey, 1994). In addition, the severity of psychiatric symptoms in patients seeking treatment for their substance abuse has been shown to be a predictor of treatment outcomes, with more severe symptoms predicting poorer outcomes (Laporte *et al.*, 1981; McKenna and Ross, 1994).

DUAL DIAGNOSIS AND THE ELDERLY

Between 15 and 25% of community elders in the US experience clinically significant symptoms of mental illness (Evans, 1990), and 12–15% of the elderly have mental disorders serious enough to warrant professional intervention (Blixen, 1994). Dementia and severe

cognitive impairment are found in 2–14% of older adults, with the incidence increasing with advancing age (Folstein *et al.*, 1985; Evans *et al.*, 1989; Anthony and Aboraya, 1992; McDougall, 1995). The prevalence of anxiety symptoms in this population ranges from 10 to 20% (Sheikh, 1992), and significant depressive symptoms occur in 15–20% of community residents over 65 (NIH, 1991; Steiner and Marcopulos, 1991). Depressive symptoms are also present in 12–36% of medically ill elderly outpatients and in more than one-third of medically ill inpatients (Rodin and Voshart, 1986; Blixen and Wilkinson, 1994). Recent evidence also indicates that persons in their sixties and beyond experience significant alcohol and substance abuse problems with prevalence rates for community-dwelling elders ranging from 1 to 20% (Atkinson *et al.*, 1992). Further, it is estimated that from 10–15% of all elders who seek medical help have an alcohol-related problem (Blixen, 1988) and the prevalence of alcohol-related hospitalizations for those 65 and over (per 10000) is 54.7% for men and 14.8% for women (Adams *et al.*, 1993). Both alcoholism and depression have been identified as risk factors for suicide in older adults (Conwell *et al.*, 1990, 1991; Osgood *et al.*, 1991). Though suicide in this population has largely been ignored, one out of every four suicides is committed by a person 60 years or older and the suicide rate for the elderly is 50% higher than that for the young (Blixen, 1994; Friesen, 1991; Osgood *et al.*, 1991).

In spite of these statistics, only two studies have addressed comorbid mental and substance abuse disorders in those aged 65 and older. In a retrospective study of 21 dually diagnosed older patients (mean age = 60.1) who had been hospitalized in a state-run psychiatric facility in the southern part of the United States, Speer (1990) found that 29% of the sample had received personality disorder plus alcohol abuse diagnoses and 48% had received mood disorder plus alcohol abuse diagnoses. Only one dually diagnosed patient received a schizophrenia diagnosis, and only one an antisocial personality disorder diagnosis (4.8% each). In a second study, researchers in England (Mears and Spice, 1993) identified problem drinkers among a sample of 110 mentally ill elders aged 65–69 ($M = 77$) admitted to an acute psychiatric unit and examined characteristics of these patients to determine screening criteria. Data were also obtained regarding evidence of recent stresses, present life satisfaction and medical and alcohol history. Although a majority of the group were either non-drinkers or drank very little alcohol (59%), a significant proportion (13%) had already been diagnosed as problem drinkers and an additional 6% were subsequently identified as problem drinkers. However, only one patient in the group of problem drinkers admitted that he had a problem with alcohol. The authors found that consumption of alcohol 3 or more days per week was associated with high risk of adverse consequences. They recommended that a useful screening test for elderly mentally ill might be an average weekly consumption of drinking on more than two occasions per week.

While these two studies are noteworthy for addressing the subject of dual diagnosis in the elderly, both studies used predominantly male subjects and a single data collection site. In addition, neither study compared their findings to those of the young and middle-aged dually diagnosed. The purpose of the present study, therefore, was to address this oversight by examining the prevalence of dual diagnosis in older psychiatric inpatient populations, compare our results with findings from studies of younger hospitalized dually diagnosed patients and discuss implications for policy and practice.

METHODOLOGY

Sample

The study was a descriptive, retrospective chart review of the records of community-dwelling older adults, 65 years and over, who were discharged to homebound status from three freestanding, private psychiatric hospitals in the southern part of the United States ($N=101$). The elders were subsequently followed at home by an advanced practice geropsychiatric nurse for short-term psychotherapy that was reimbursed under Medicare Part B for homecare.

Variables

The variables selected for study were those that could be addressed through a retrospective review of the clinical chart and the Health Care Financing Administration Home Health Certification Form (HCFA-485). This one-page form contains pertinent clinical and demographic data and must be signed by the attending physician for all Medicare patients who will be receiving skilled physical or psychiatric nursing care in the home. The information that was abstracted from these two data sources included clinical variables such as length of hospital stay, psychiatric and medical diagnoses, psychotropic and regular medications and history of suicidal ideation or intent. Socio-demographic variables were age, gender, race, marital status and living arrangements. Informal social support consisted of friends or relatives, while formal social support included paid professional and non-professional persons who provided service in the home. For the purpose of this study, subjects who had a DSM-III-R substance abuse diagnosis in addition to a psychiatric diagnosis were labeled the 'dual diagnosis' diagnostic group, while those who had only a psychiatric diagnosis were called the 'psychiatric' diagnostic group.

Data analysis

Basic descriptive statistics such as frequencies, means and standard deviations were used to examine the study. To explore differences between the two groups of patients, the Student's t -test was used for continuous variables and the chi-square test for categorical variables.

RESULTS

While 63 (62.4%) of the older adults admitted to a freestanding psychiatric hospital had a psychiatric disorder, 38 (37.6%) had both a psychiatric and a substance abuse disorder. Of these dually diagnosed elders, 27 (71%) abused only alcohol but 11 (29%) abused both alcohol and other addictive substances. Almost all of the elders (89.5%) who had an alcohol diagnosis were early onset abusers and had been drinking for more than 15 years. Table 1 displays additional characteristics of both groups of patients. Because multiple comparisons were being made requiring the use of a Student's t -test, the Bonferroni adjustment was used to decrease the probability of a type I error. The *a priori* alpha of 0.05 was divided by the number of comparisons made (four). The corrected alpha needed for significance was 0.0125. Overall, the subjects were predominantly Caucasian (98%), unmarried (73.3%), females (68%), with a mean length of psychiatric hospital stay of 18.7 days ($SD = 17.0$). Although the dual diagnosis group was slightly younger ($M = 73.3$; $SD = 6.9$) than the

psychiatric diagnosis group ($M = 75.0$; $SD = 7.0$), this difference was not statistically significant. There was no significant relationship between diagnostic group and number of comorbid medical conditions. Cardiovascular problems were the leading comorbid medical conditions found in both groups (45.5%), followed by musculoskeletal (35.6%) and gastrointestinal (21.1%) problems in the dual diagnosis group and eye and ear (22.2%) and neurologic (19%) problems in the psychiatric diagnosis group. As expected, there was a statistically significant relationship between type of diagnostic group and number of psychiatric diagnoses, with those in the dual diagnosis group having more psychiatric diagnoses ($M = 1.8$; $SD = 0.8$) than those without a substance abuse diagnosis ($M = 1.2$; $SD = 0.6$).

While over half of the sample (55.4%) lived alone, 21 (20.7%) lived with their spouse, nine (8.9%) lived with their children and 15 (14.9%) had 24-hour live-in caregivers. However, there was no significant relationship between diagnostic group and type of living arrangement. While most of the subjects (90%) had at least one person in their informal social support network (family members, friends, neighbors), 10% had no significant supportive persons. As for formal social support services (home health aids, physical therapists, nurses, etc), over one-fourth of the elders (26.7%) had two to three homecare services, but almost three-fourths had none of these services. There was no significant relationship between diagnostic group and type of social support.

As illustrated in Table 2, depression was the leading psychiatric diagnosis in both groups (73.3%), followed by psychoses (10%), bipolar disorder (7%) and dementia (7%). Other psychiatric diagnoses (3%) such as anxiety, obsessive compulsive disorder, psychosomatic disorder and dependent personality were significantly higher in the dual diagnosis group.

As might be expected, antidepressants were the most commonly prescribed psychotropic medications for both groups (60.4%). The next most commonly prescribed drugs were antipsychotic medications (35.6%) followed by antianxiety agents (17.7%), sedative/hypnotics (12.8%), mood stabilizers (6.9%), antiparkinsonian agents (2.9%) and alcohol-inhibiting drugs (antabuse) (2%). Overall, there were no significant differences in the amount of psychotropic medications taken by the dual diagnosis group ($M = 1.3$; $SD = 0.8$) and the psychiatric group ($M = 1.6$; $SD = 0.9$). However, as can be seen in Table 3, significantly more older adults in the psychiatric diagnostic group (43.1%) took antidepressant medication than those in the dual diagnosis group (35.4%).

While there were no significant differences between the groups in expressed suicidal ideation prior to admission, significantly more elders in the dual diagnosis group (17.7%) than in the psychiatric diagnosis group (3.3%) were admitted to the psychiatric hospital for a failed suicide attempt (Table 4).

DISCUSSION

The use of medical records as a primary source for obtaining information has inherent limitations in that patient input is unavailable and information may be incomplete, missing or not uniformly documented. Therefore, there may have been many more elders in the three

psychiatric hospitals who had both a mental and substance abuse disorder. Another limitation of the study may be the manner by which the elderly patients received their diagnoses. Although all three hospitals used DSM-III-R criteria for diagnosing mental and substance abuse problems, discrepancies may be present in the method of evaluation used by each of the clinical sites. Despite these limitations, however, this study represents an important first step in providing prevalence information about dual diagnosis in older psychiatric inpatient populations and compares our findings with studies of younger dually diagnosed age groups.

Several important findings deserve discussion. Over one-third (37.6%) of the older adults in our sample of hospitalized psychiatric patients had a substance abuse disorder in addition to a psychiatric disorder; this rate is higher than the prevalence rate of 19% found in the study of older psychiatric hospitalized patients in England (Mears and Spice, 1993) but consistent with studies of dually diagnosed young and middle-aged hospitalized psychiatric patients in the United States (Regier *et al.*, 1990; Toner *et al.*, 1991). The dually diagnosed elders in our sample were predominantly female (63.2%), but general prevalence studies of young and middle-aged dually diagnosed groups have been predominantly male (Regier *et al.*, 1990; Crum and Ford, 1994).

Another interesting finding concerned the differences in alcohol and other drug abuse between our group of elders and younger hospitalized age groups. While the prevalence rates for young and middle-aged dually diagnosed populations in psychiatric facilities are 34.1% for alcohol disorders and 16.1% for other drug abuse disorders (Regier *et al.*, 1990), almost three-fourths (71%) of our sample of dually diagnosed hospitalized elders abused alcohol and 29% abused both alcohol and other substances. However, while the older dually diagnosed patients in our sample abused prescription drugs such as sedative/hypnotics and anti-anxiety medications, younger populations have been found to use illicit drugs such as marijuana, cocaine, barbiturates, opium, psychostimulants, hallucinogens and inhalants (Lehman *et al.*, 1993; McKenna and Paredes, 1992).

Antisocial personality disorder has been found to be the most common mental disorder diagnosis in young and middle-aged groups with alcohol and substance abuse diagnoses (Regier *et al.*, 1990), but the leading mental disorder diagnosis found in our sample of elderly alcohol and substance abusers was depression. This disparity in leading mental disorder diagnoses in the two age groups may be due to several factors. Personality diagnoses are often neglected in the elderly and accurate histories of lifelong development and adaptation may be difficult to obtain (Fogel and Westlake, 1990). In addition, depression is a frequent outcome for older patients with antisocial personality disorders and the high degree of depression in our sample may be the natural history of early life substance abusers who were also antisocial (Sadavoy and Fogel, 1992).

To further complicate diagnostic and treatment issues in elders with both mental and substance abuse diagnoses is the presence of chronic physical conditions in this population. Physical illnesses may trigger depressive symptoms, or depression may be a response to living with a chronic disease (Fogel *et al.*, 1990; Sadovoy *et al.*, 1990). In addition, medications for the treatment of physical conditions can themselves produce depressive

symptoms (Blixen and Wilkinson, 1994) and, as older people metabolize drugs more slowly, the possibility of drug interactions and depressive side-effects is great.

One of the major findings of the study was the large percentage of elders with both alcohol abuse and affective disorders who made a suicide attempt prior to being hospitalized. More than 90% of completed suicides in all age groups are associated with mental or addictive disorders, with affective disorders and alcohol abuse being the most frequently found disorders in completed suicides (Moscicki, 1995). A combination of the two disorders is likely to increase the relative risk of suicide (Conwell and Brent, 1995). The highest suicide rates occur in those 65 years of age and over (Moscicki, 1995). In our sample significantly more elders with dual diagnosis attempted suicide prior to admission to the psychiatric hospital. We believe this points to the need for routine comprehensive diagnostic assessment and screening for both substance abuse and mental disorders in this population.

CONCLUSIONS

These findings extend the results of the two earlier studies of comorbid substance abuse problems in hospitalized elders with mental disorders. However, the finding that prevalence rates for substance abuse in our sample of elderly psychiatric patients are higher than in young and middle-aged groups with mental disorder diagnoses is an important indicator to how widespread the problem of dual diagnosis in the elderly is. The treatment of dual diagnosis is a complex issue that calls for specialized treatment approaches and settings. However, the elderly with substance abuse and mental disorder problems are also coping with poor health and personal losses and their treatment needs may differ substantially from younger dually diagnosed adults. Prospective studies that look at the outcomes of specialized treatment modalities for dually diagnosed elders are needed if we are to reduce the personal and societal costs associated with comorbid substance abuse and mental disorder problems in this population.

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Table 1.Sample characteristics ($N = 101$)

Variable	Dual diagnosis ($N = 38$)	Psych. diagnosis ($N = 63$)	t -value
<i>Age</i>			1.22
Mean	73.3	75.0	
SD	6.9	7.0	
<i>LOS</i>			0.52
Mean	19.6	17.8	
SD	16.4	17.6	
<i>Medical diagnosis</i>			0.92
Mean	1.8	1.6	
SD	1.2	1.3	
<i>Psychiatric diagnosis</i>			4.41 ^{***}
Mean	1.8	1.2	
SD	0.8	0.6	
<i>Gender</i>			0.42 [†]
Male	36.8%	28.5%	
Female	63.2%	71.4%	
<i>Marital status</i>			1.23 [†]
Married	34.3%	22.2%	
Unmarried	68.4%	77.7%	
<i>Race</i>			1.23 [†]
Caucasian	100.0%	96.8%	
African American	0%	3.1%	
<i>Living arrangement</i>			0.73 [†]
Alone	50.0%	58.7%	
With others	50.0%	41.3%	

*** Significance $p < 0.0001$.

[†] χ^2 -test done.

Table 2.Comparison of diagnostic groups on psychiatric diagnoses ($N = 101$)

Variable	Dual diagnosis ($N = 38$)		Psych. diagnosis ($N = 63$)		χ^2
	N	%	N	%	
Depression	27	71.1	47	74.6	0.15
Dementia	4	10.5	3	4.8	1.22
Bipolar disorder	3	7.9	4	6.3	0.08
Psychosis	1	2.6	9	14.3	3.60
Other [†]	3	7.9	0	0	5.13 [*]

^{*} Significance $p < 0.05$.

[†] Psychosomatic disorder, obsessive compulsive disorder, dependent personality, anxiety.

Table 3.Comparison of diagnostic groups on psychotropic medications ($N = 101$)

Variable	Dual diagnosis ($N = 38$)		Psych. diagnosis ($N = 63$)		χ^2
	N	%	N	%	
Antidepressant	17	35.4	44	43.1	6.25 *
Antianxiety	9	18.8	19	18.6	0.50
Antipsychotic	11	22.9	25	24.5	1.19
Antiparkinsonian	2	4.2	1	1.0	1.11
Antabuse	2	4.2	0	0.0	1.73
Sedative/hypnotic	4	8.3	9	8.8	0.30
Mood stabilizer	3	6.3	4	3.9	0.09

* Significance $p < 0.05$.

Table 4.Comparison of diagnostic groups on suicide potential ($N = 95$)[†]

Variable	Dual diagnosis ($N = 34$)		Psych. diagnosis ($N = 61$)		χ^2
	N	%	N	%	
No ideation	20	58.8	43	70.4	0.25
Ideation	8	23.5	6	26.2	3.26
Attempt	6	17.7	2	3.3	5.84 [*]

^{*}Significance $p < 0.05$.[†]Missing cases = 6.