Anxiety Symptoms and Quality of Life in Middle-Aged and Older Outpatients With Schizophrenia and Schizoaffective Disorder

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Objective: This study examined whether anxiety symptoms make an independent contribution to poorer quality of life among middle-aged and older outpatients with schizophrenia or schizoaffective disorder.

Method: We evaluated data from an ongoing study of 163 older patients with DSM-III-R or DSM-IV schizophrenia or schizoaffective disorder who were enrolled in research at the University of California, San Diego, Advanced Center for Interventions and Services Research from October 1992 to April 1998. Measures used were the anxiety, somatization, obsessive-compulsive, and phobic anxiety subscales of the Brief Symptom Inventory. We performed hierarchical multiple regressions with forced entry of variables to determine whether anxiety symptoms significantly predicted poorer health-related quality of life (measured by 2 scales) after controlling for demographic variables, akathisia, cognitive impairment, depressive symptoms, and overall psychopathology.

Results: Anxiety symptoms were associated with poorer outcomes on overall quality of well-being and subscales representing vitality, social functioning, and role functioning limitations due to physical problems. In most cases, the proportion of variance in quality of life accounted for by anxiety symptoms was greater than that accounted for by depressive symptoms.

Conclusions: Results suggest that anxiety symptoms have a significant negative impact on the quality of life of middle-aged and older patients with schizophrenia and schizoaffective disorder.

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The prevalence of anxiety in patients with schizophrenia or schizoaffective disorder is high, with reported rates of up to 63% for panic attacks,[1,2] 59% for obsessive-compulsive symptoms,[3] 51% for posttraumatic stress disorder,[4,5] 17% for social phobia,[2] and 12% for generalized anxiety disorder (GAD).[2] One recent investigation found prevalence rates of 43% to 45% for anxiety disorders overall in a sample of 100 psychotic patients, with no significant differences in anxiety prevalence rates among patients with schizophrenia and schizoaffective disorder.[6] Obsessive-compulsive disorder (OCD), social phobia, and GAD were the most common comorbid diagnoses in that sample.

Recent studies of nonelderly samples of patients with psychotic disorders indicate that anxiety symptoms and disorders are associated with greater impairments in everyday functioning and quality of life.[3,7,8] For example, in a recent study of patients with schizophrenia or schizoaffective disorder, Huppert et al.[9] found that both depressive and anxiety symptoms were significantly related to worse quality of life, but anxiety symptoms were more highly correlated with both positive and negative symptoms than were depressive symptoms. Anxiety symptoms but not depressive symptoms predicted satisfaction with daily activities, satisfaction with family contacts, and subjective quality of health. Correlations between anxiety symptoms and quality of life remained significant even after controlling for depressive symptoms, positive symptoms, and negative symptoms. The authors concluded that anxiety uniquely contributed to subjective quality of life in schizophrenia.

Although the literature is fairly consistent in documenting the existence of comorbid anxiety and its association with worse functioning and quality of life in schizophrenia, the existing studies have been largely limited to younger adult samples. Epidemiologic studies of nonpsychotic populations suggest that anxiety disorders are less prevalent in older adults than in younger people,[10] although such findings may partially reflect the difficulty of applying conventional diagnostic criteria for anxiety disorders to older populations.[11] Anxiety in older adults may differ from anxiety in younger adults. For example, due to decreased cardiovascular reactivity to anxiety-

related stressors with aging, older people may be less likely to experience the autonomic hyperarousal characteristic of many of the anxiety disorders.[12] Accordingly, some researchers have suggested that anxiety and depressive symptoms are more likely to co-occur in older people.[11,13] It is therefore possible that anxiety has a smaller impact on quality of life in older adults, particularly after controlling for the effects of depressive symptoms.

Meeks and Woodruff-Borden[14] provided the only published large-scale study to date that focused on the functional impact of anxiety symptoms in older patients with serious mental illness. Their study involved community-dwelling middle-aged and older adults (mean age = 55 years, SD = 11 years) with serious mental illnesses (including 18% with schizophrenia, 29% with schizoaffective disorder, 26% with bipolar disorder, 19% with major depression, and 9% with other diagnoses). Anxiety symptoms were correlated with depressive symptoms, delusions and hallucinations, and functional impairment. However, after statistically controlling for the effects of severity of depression, the association between anxiety symptoms and functional impairment was no longer significant. The authors concluded that anxiety symptoms appeared to be a marker for affective disorder in this population rather than a distinct syndrome. The limitations of this study included the fact that the sample included as many individuals with mood disorders as those with schizophrenia and schizoaffective disorder, and the assessment battery did not include measures of akathisia, medical comorbidity, or cognitive impairment, all of which could obscure relationships between anxiety and functioning in later life.

Previous reports from our research center and other groups have indicated that depressive symptoms are common in middle-aged and older schizophrenia outpatients[15] and are associated with poorer functioning and quality of life.[16,17] However, we have not yet specifically examined the relationship of anxiety symptoms to quality of life in older schizophrenia patients.

The present study assessed the impact of anxiety symptoms in a large sample of middle-aged and older adult outpatients with schizophrenia or schizoaffective disorder. We tested the following hypothesis: Anxiety is associated with worse health-related quality of life, even after controlling for demographic variables, depressive symptoms, overall psychopathology, medical conditions, akathisia, substance use, and cognitive impairment.

METHOD

Participants

Participants were middle-aged or older (mean age = 57.5 years, SD = 9.5 years, range, 43–84 years) community-dwelling patients with schizophrenia (N = 137) or schizoaffective disorder (N = 26) enrolled in research at the University of California, San Diego, (UCSD) Advanced Center for Interventions and Services Research (previously known as the Intervention Research Center) for study of older patients with schizophrenia and other psychotic disorders. These individuals represented all patients enrolled in Center research from October 1992 to April 1998 who had a diagnosis of schizophrenia or schizoaffective disorder, as established with the Structured Clinical Interview for DSM-III-R[18] or DSM-IV[19] and confirmed at a subsequent staff meeting.

To be considered for study inclusion, potential participants were required to be men or women over the age of 40 years (no upper age limit) who were physically and psychiatrically stable enough to undergo the various assessments. Patients were excluded if there was clinical evidence of focal neurologic disorders, history of head injury with a loss of consciousness for over 30 minutes, current substance abuse or dependence, or Axis I or Axis II disorders other than schizophrenia or schizoaffective disorder.

We compared the schizophrenia and schizoaffective disorder patients on demographic, socioeconomic, and psychopathology variables and found only 1 difference: Patients with schizophrenia were more likely to report use or abuse of psychoactive substances than were patients with schizoaffective disorder (33.7% vs. 5.6%; $\chi^2 = 5.82$, df = 1, p = .016). Removal of the schizoaffective patients from the analyses did not substantially change the results, and substance use or abuse was not related to anxiety or quality of life variables in this sample. Thus, the groups were combined for the present report. We did, however, include diagnostic category as a predictor variable in all analyses.

The UCSD Institutional Review Board approved the research protocol, and all subjects (and their authorized representatives, if applicable) provided written informed consent prior to participation in Center research. Many of the participants have contributed data to prior reports,[15,16] but this is our first focused examination of the relationship of anxiety symptoms to quality of life in this sample.

Measures

Trained research assistants obtained sociodemographic information and medical, psychiatric, and pharmacologic history at study entry. Geriatric psychiatry fellows and nurses in our Center conducted neurologic and other physical examinations, as well as laboratory tests, as necessary. For rating scales, interrater reliability among research assistants was established and maintained by a highly structured training program that included didactic and practice-rating sessions on videotape and with live patient interviews. There was a determination of the interrater reliability of each rater as compared with the taped "gold standard" rater on each rating scale, and later a determination of the interrater reliability of a single rater using all the raters except the taped "gold standard" rater.

Training continued until a set criterion (intraclass correlation coefficient [ICC] ≥ .70) was reached. Interrater reliability for Center raters was excellent for all scales listed below (ICCs ranged from .77 to .95).

Anxiety symptoms were measured using 4 subscales of the 53-item Brief Symptom Inventory (BSI)[20]: anxiety (6 items, α = .81), somatization (7 items, α = .80), obsessive-compulsive (6 items, α = .83), and phobic anxiety (5 items, α = .77). Patients rated each item on a 5-point Likert scale from 0, "not at all," to 4, "extremely," to indicate the amount of distress caused by the item over the past week. Scores for each subscale were derived by averaging the responses across items within the subscale. This measure was used in the Center from October 1992 until April 1998; all patients who were seen in the Center during this time period completed the measure.

Severity of depressive symptoms was rated using the 17-item Hamilton Rating Scale for Depression (HAM-D-17),[21] and overall psychopathology was assessed with the Brief Psychiatric Rating Scale (BPRS).[22] Severity of global cognitive impairment was assessed with Mattis' Dementia Rating Scale (DRS).[23] The number of Axis III diagnoses according to DSM-III-R or DSM-IV (which ranged from 0 to 6) was used as an index of physical comorbidity. Akathisia was measured with the performance-based Barnes Akathisia Scale (BAS).[24] The primary dependent variable was health-related quality of life as measured with the Quality of Well-Being (QWB) scale.[25] QWB scale total scores are expressed in terms of an overall rating ranging from 0.0 (dead) to 1.0 (perfect health). The mean score for age-comparable normal adults is .71 (SD = .09).[26]

We had data from the Medical Outcomes Study 36-item Short Form Health Survey (SF-36)[27] for a subset of participants (N = 64). The SF-36 provides information about functioning that supplements the QWB scale overall functioning score. The SF-36 personal interview comprises 8 subscales: physical functioning, social functioning, role functioning limitations due to physical problems, role functioning limitations due to emotional problems, mental health, general health, bodily pain, and vitality. SF-36 raw scores were transformed to a scale ranging from 0 to 100 using a standard formula,[27] with higher scores indicating better health and functional status. Mean scores for these subscales in the general U.S. population range from 60.9 (for vitality) to 84.2 (for physical functioning).[28]

Procedures

Trained staff administered the functional measures during patient interviews, and these raters were kept unaware of the patients' scores on psychopathology scales and cognitive assessments. As noted above, we have established high interrater reliability for all of these scales. Not all participants completed every measure. The degrees of freedom for each analysis are provided in the results below.

Statistical Analysis

We first performed univariate analyses using Pearson's correlation coefficient (r) and analysis of variance to determine which potential predictor variables were significantly associated with either the BSI anxiety subscale scores or with any of the outcome variables. We then used hierarchical multiple regression with forced entry of variables and no removal to predict QWB scale scores. Each predictor or set of predictors was entered as a block, in the following order: demographic variables, akathisia, cognitive impairment, overall psychopathology, depressive symptoms, and anxiety symptoms. Categorical variables such as ethnicity (white vs. nonwhite) and socioeconomic status[29] (only 1 participant was determined to be professional, so professional and intermediate categories were combined) were dummy coded before being entered into the models. Participants missing data for any variable (N = 39) were excluded listwise from the analyses; these included 16 individuals missing BAS scores, 12 individuals for whom living situation was unknown, 8 individuals missing DRS scores, 2 individuals missing a BSI subscale score, and 1 individual missing the HAM-D-17 score. Thus, QWB analyses were performed on a sample of 124 participants with complete data on all measures to identify the relative contributions of the various predictor variables to health-related quality of life. We also conducted a similar series of analyses using the subsample of participants with SF-36 data (N = 64).

RESULTS

Sociodemographic and selected clinical data are presented in Table 1, and anxiety and quality of life data are presented in Table 2. The sample was predominantly white and male, with an average duration of illness of over 27 years. Symptom scale scores indicate moderate levels of psychopathology, distress, and impairment. Table 2 shows that BSI subscale scores in this sample were between 1 and 2 standard deviations above the mean for normal males.[30] Table 2 also shows that overall quality of well-being was almost 2 standard deviations below the mean of age-comparable older adults,[26] and all subscales of the SF-36 were below the mean of the general U.S. population.[28]

Anxiety as a Predictor of Quality of Well-Being

Gender, duration of psychiatric illness, number of medical conditions, and substance use or abuse were not significantly associated with any of the BSI subscales, the QWB scale score, or any of the SF-36 scores. Thus, these variables were not included in the multivariate regression analyses. Table 3 shows the correlations among anxiety measures and quality of life measures.

Table 4 depicts the results of the hierarchical regression model for health-related quality of life using the total QWB scale score. Demographic variables, cognitive

Table 1. Sociodemographic and Selected Clinical Data for Middle-Aged and Older Outpatients With Schizophrenia and Schizoaffective Disorder (N = 163)

Variable	N	%
Gender		
Men	123	75.5
Women	40	24.5
Ethnicity		
White	127	77.9
African American	17	10.4
Latino	12	7.4
Asian American	4	2.5
Other	3	1.8
Marital status		
Single	52	31.9
Married/cohabiting	36	22.1
Divorced/separated	56	34.4
Widowed	19	11.7
Living situation (N = 151)		
Alone	46	30.5
With others	74	49.0
Board and care or SNF	31	20.5
Socioeconomic status (N = 162)[a]		
I (professional)	1	0.6
II (intermediate)	11	6.8
III (skilled labor)	39	24.1
IV (semi-skilled labor)	77	47.5
V (unskilled labor)	34	21.0
Diagnostic category		
Schizophrenia	137	84.0
Schizoaffective disorder	26	16.0
Current substance use (N = 121)		
None	85	70.2
Use	29	24.0
Abuse	7	5.8
	Mean	SD
Age, y (range, 43–84)	57.5	9.5
Education, y (range, 6–18)	12.6	2.6
Age at onset of psychosis, y (range, 4–66)	29.9	13.2
BPRS score (range, 19–62)	32.5	8.0
No. of medical conditions (range, 0–6)	1.9	1.6
DRS score (range, 97–144)	132.8	9.4
HAM-D score (range, 0–30)	9.8	5.8

[a]Based on Hollingshead scale.[29]
Abbreviations: BPRS = Brief Psychiatric Rating Scale, DRS = Mattis' Dementia Rating Scale, HAM-D = Hamilton Rating Scale for Depression, SNF = skilled nursing facility.

Table 2. Anxiety and Quality of Life Data for Middle-Aged and Older Outpatients With Schizophrenia and Schizoaffective Disorder

		Score			
Measure	N	Mean	SD	T Score	Range
BSI					
Anxiety	162	0.89	0.81	68	0.00–3.17
Somatization	163	0.72	0.71	64	0.00–3.00
Obsessive-compulsive	163	1.21	0.89	68	0.00–3.50
Phobic anxiety	162	0.64	0.72	70	0.00–3.20
QWB	163	0.55	0.10	32	0.42–0.86
SF-36					
Physical functioning	62	65.7	26.0	42	0.0–100.0
Role limitations, physical[a]	63	56.3	39.1	43	0.0–100.0
Role limitations, emotional[b]	63	57.7	42.0	43	0.0–100.0
Vitality	64	52.9	25.3	46	0.0–100.0
Mental health	64	62.8	22.1	43	4.2–100.0
Social functioning	63	66.1	30.3	42	0.0–100.0
Bodily pain	63	66.7	29.7	46	0.0–100.0
General health	63	65.2	23.2	47	20.0–100.0

[a]Role functioning limitations due to physical problems.
[b]Role functioning limitations due to emotional problems.
Abbreviations: BSI = Brief Symptom Inventory, QWB = Quality of Well-Being scale, SF-36 = Medical Outcomes Study 36-item Short Form Health Survey.

impairment, overall psychopathology, depressive symptoms, and anxiety symptoms made independent contributions to the QWB scale score after controlling for all previously entered variables. Akathisia was not a significant predictor of quality of life in this sample after controlling for demographic variables. The resulting model explained 56.6% of the total variance in QWB scale scores.

In order to explore what types of anxiety symptoms were significant predictors of overall health-related quality of life, we performed another hierarchical regression, this time entering the 4 BSI anxiety subscales in forward stepwise fashion. The obsessive-compulsive subscale was the only significant predictor of the total QWB scale score after controlling for all other variables ($\Delta R^2 = .075$, df = 1,107; $p < .001$).

To present these findings in more descriptive terms, we compared patients who scored in the highest quartile on the obsessive-compulsive subscale with patients who scored in the lowest quartile on quality of life. Patients with low obsessive-compulsive subscale scores scored almost 25% higher on the QWB scale than did patients with high obsessive-compulsive subscale scores (mean [SD] = .61 [.12] vs. .49 [.05]), a difference that was highly statistically significant ($t = 5.86$, df = 84, $p < .001$).

Anxiety as a Predictor of SF-36 Scores

We performed a similar set of analyses using the SF-36 subscales. As noted above, data for this measure were available for only a subset of participants, and thus the degrees of freedom for these analyses are smaller than the degrees of freedom for the QWB scale models. Comparison of those patients who completed the SF-36 (N = 64) with those who did not (N = 99) revealed no significant differences on anxiety measures or any other predictor of interest except for gender; those with SF-36 data were more likely to be female ($\chi^2 = 5.67$, df = 1, $p = .017$).

Overall psychopathology, anxiety symptoms, and depressive symptoms were the strongest predictors of the SF-36 subscales. Anxiety was a significant predictor of 3 of the 8 subscales: vitality, role functioning limitations due to physical problems, and social functioning. Anxiety symptoms were the only significant predictors of vitality ($\Delta R^2 = .196$, df = 4,36; $p = .017$) and role functioning limitations due to physical problems ($\Delta R^2 = .174$, df = 4,35; $p = .022$). The variance in social functioning was best accounted for by overall psychopathology ($\Delta R^2 = .192$, df = 1,40; $p < .001$), depressive symptoms

Table 3. Correlation Coefficients Among Anxiety Measures and Quality of Life Measures for Middle-Aged and Older Outpatients With Schizophrenia and Schizoaffective Disorder

	Brief Symptom Inventory Subscales			
Measure	Somatic	Obsessive-Compulsive	Anxiety	Phobic Anxiety
QWB	–.43†	–.49†	–.38†	–.38†
SF-36				
Physical functioning	–.39†	–.23	–.19	–.08
Role limitations, physical[a]	–.65†	–.46†	–.48†	–.29*
Role limitations, emotional[b]	–.56†	–.45†	–.50†	–.35†
Vitality	–.56†	–.53†	–.47†	–.30*
Mental health	–.54†	–.57†	–.62†	–.50†
Social functioning	–.57†	–.55†	–.64†	–.53†
Bodily pain	–.60†	–.50†	–.43†	–.29*
General health	–.63†	–.49†	–.44†	–.32*

[a]Role functioning limitations due to physical problems.
[b]Role functioning limitations due to emotional problems.
*$p < .05$.
†$p < .01$.
Abbreviations: QWB = Quality of Well-Being scale, SF-36 = Medical Outcomes Study 36-item Short Form Health Survey.

Table 4. Hierarchical Multiple Regression Predicting Overall Quality of Well-Being in Middle-Aged and Older Outpatients With Schizophrenia and Schizoaffective Disorder (N = 124)

Variable	R Value	R^2 Value	ΔR^2 Value	ΔF Value	df	p Value
Demographics[a]	.490	.240	.240	2.929	12,111	.001
Akathisia[b]	.513	.263	.023	3.414	1,110	.067
Cognitive impairment[c]	.553	.306	.043	6.725	1,109	.011
Overall psychopathology[d]	.664	.441	.135	26.129	1,108	< .001
Depressive symptoms[e]	.697	.485	.044	9.175	1,107	.003
Anxiety symptoms[f]	.752	.566	.081	4.783	4,103	.001

[a]Age, education, ethnicity, marital status, living situation, socioeconomic status, diagnostic category.
[b]Barnes Akathisia Scale.
[c]Mattis' Dementia Rating Scale.
[d]Brief Psychiatric Rating Scale.
[e]Hamilton Rating Scale for Depression.
[f]Anxiety, somatization, obsessive-compulsive, and phobic anxiety subscales of the Brief Symptom Inventory.

($\Delta R^2 = .118$, df = 1,39; p = .002), and anxiety symptoms ($\Delta R^2 = .104$, df = 4,35; p = .034).

Figure 1 compares the percentage of variance in the 8 SF-36 subscales explained by depressive symptoms and by anxiety symptoms after controlling for demographics, akathisia, cognitive impairment, and overall psychopathology. Thus, Figure 1 depicts the results of 2 different sets of models, one including depressive symptoms but not anxiety symptoms and the other including anxiety symptoms but not depressive symptoms. The proportion of variance explained by anxiety symptoms, ranging from 6.7% to 24.5%, exceeds that explained by depressive symptoms (0.1% to 20.5%) for each of the SF-36 subscales.

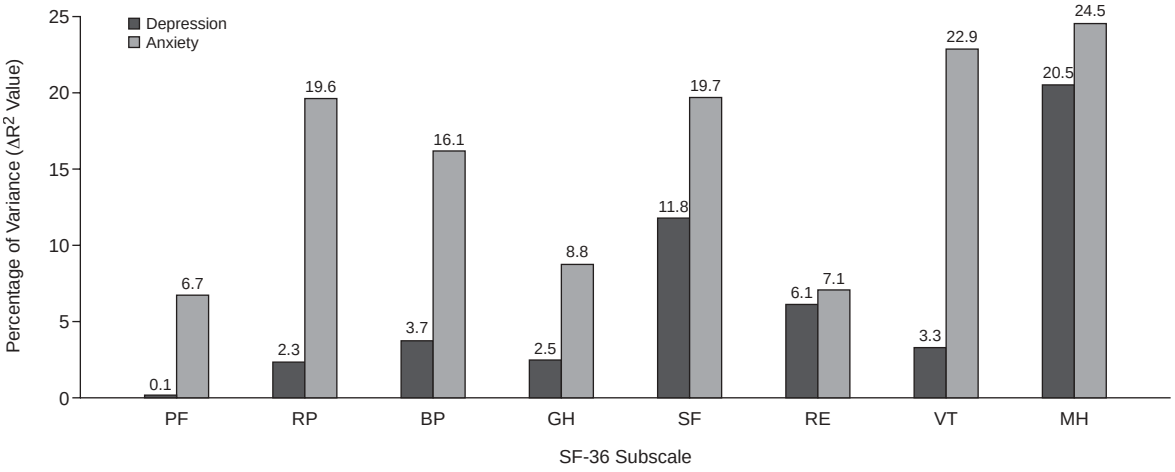
DISCUSSION

Consistent with our hypothesis, anxiety was associated with poorer quality of life in middle-aged and older outpatients with schizophrenia, even after controlling for demographic variables, akathisia, global cognitive impairment, overall psychopathology, and depressive symptoms (medical comorbidity and substance use or abuse did not show effects on quality of life in this sample). Specifically, anxiety was related to poorer overall quality of well-being, vitality, social functioning, and limitations in role functioning due to physical problems.

Notably, the association of anxiety with measures of health-related quality of life remained significant after controlling for depressive symptomatology, and, in most cases, the proportion of variance attributable to anxiety symptoms was greater than the proportion attributable to depressive symptoms. Consistent with the findings of Huppert et al.[9] in their sample of younger adults with schizophrenia, we found evidence that anxiety symptoms did have a significant negative impact on quality of life independent of depressive symptoms. This result contradicts the findings reported by Meeks and Woodruff-Borden[14]; however, their sample of middle-aged and older adults included individuals with a range of diagnoses including major depression and bipolar disorder. It is plausible that anxiety symptoms could be more disabling for older adults whose primary problem is psychosis rather than a mood disorder.

A primary limitation of this study is the reliance on anxiety symptoms rather than comorbid diagnostic categories such as OCD or panic disorder. However,

Figure 1. Percentage of Variance in Health-Related Quality of Life (SF-36 subscales) Attributable to Depressive and Anxiety Symptoms After Controlling for Demographic Variables, Akathisia, Cognitive Impairment, and Overall Psychopathology (N = 64)



Abbreviations: SF-36 = Medical Outcomes Study 36-item Short Form Health Survey, PF = physical functioning, RP = role functioning limitations due to physical problems, BP = bodily pain, GH = general health, SF = social functioning, RE = role functioning limitations due to emotional problems, VT = vitality, MH = mental health.

DSM-IV diagnostic criteria for anxiety disorders have been criticized as applying less well to older adults than to younger people.[11,13] Thus, it may be as appropriate to study the impact of anxiety symptomatology as that of DSM-IV anxiety diagnoses. The severity of anxiety symptoms in the present sample is clinically significant and comparable to that found in a sample of younger, male psychiatric outpatients.[30]

A further limitation is that, because this is a cross-sectional design, causal inferences cannot be made. We do not know whether anxiety symptoms cause decrements in quality of life or whether quality of life issues affect anxiety in some way. A longitudinal design could help to determine causal relationships. The study is also limited because not all participants completed all study measures, particularly the SF-36. However, we did not find evidence that predictors except for gender differed between those with complete versus missing data, and gender was not related to anxiety symptoms or quality of life in this sample. Thus it is unlikely that the missing data biased our results in a major way.

Strengths of our study include a relatively large sample of well-characterized middle-aged and older outpatients with schizophrenia and schizoaffective disorder. These patients were administered a battery of assessments that evaluated multiple domains, including 2 measures of health-related quality of life. The results of this study indicate that anxiety symptoms are associated with reduced quality of life in older schizophrenia patients even after controlling for demographic variables, depressive symptoms, overall psychopathology, cognitive impairment, and akathisia.

There are several clinical implications of this study with regard to assessment and treatment. We found that anxiety symptoms are associated with worse quality of well-being for patients with schizophrenia and schizoaffective disorders, and recognition of these symptoms of anxiety is therefore clinically important. Anxiety comorbidity in schizophrenia is often underdiagnosed, perhaps because acute psychotic symptoms dominate clinicians' attention.[6,31] In the case of obsessive-compulsive symptoms, underdiagnosis may be the result of misdiagnosis of obsessions as auditory hallucinations[32] or a reliance on insight, resistance, and ego-dystonicity for the diagnosis of obsessions, which may not be essential criteria in the presence of psychotic symptoms.[33,34] Because anxiety that is unrecognized or misdiagnosed could lead to inappropriate or ineffective treatments and ultimately extend patients' suffering, it is important to educate clinicians about the high comorbidity of anxiety and psychotic spectrum disorders. Clinical researchers should also include measures of functional status in studies of anxiety in addition to standard measures of anxiety or depression. The association of anxiety and functional status may predict medical utilization and cost of primary care as well as patient well-being.[35]

Anxiety symptoms represent a potentially treatable comorbid condition for many older patients with schizophrenia and schizoaffective disorder. These patients appear to respond well to cognitive-behavioral therapy, although such treatments have not yet been well investigated in middle-aged or older psychotic patients.[36–38] Although studies of antipsychotic medications for anxiety symptoms in psychotic patients have yielded inconsistent

results, there have been demonstrated benefits from the use of pharmacotherapy in this population.[39] There is evidence that patients with a psychotic disorder and obsessive-compulsive symptoms can benefit from treatment with serotonergic antidepressants.[40,41] A small study of patients with schizophrenia and panic symptoms showed that those who were treated with alprazolam had a reduction of panic attacks as well as improvements in schizophrenia symptoms.[42] However, that study did not include older adults, for whom the use of benzodiazepines can be problematic.

Although studies of therapeutic outcome based on improvement of anxiety and psychotic symptoms are worthwhile, future investigations should also explore whether treatment of anxiety symptoms in this population results in improvements in quality of life. This research should include middle-aged and older patients with schizophrenia and schizoaffective disorder, who represent a growing proportion of the seriously mentally ill. It is important to determine if effective treatments could improve patients' functioning in ways that could enhance their work, recreation, and personal relationships.

Drug name: alprazolam (Xanax and others).

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