

Psychotic Symptoms in Primary Care

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BACKGROUND. Psychotic symptoms include a variety of disturbances in perception, reality testing, speech, and behavior. We examine the prevalence, distribution, treatment, and functional impairment associated with psychotic symptoms in primary care patients.

METHODS. Data are drawn from a recent study of adult primary care patients (N=1001) in a large, urban, prepaid group practice. At the medical visit, patients completed a questionnaire that probed demographic characteristics, health status, and mental health care utilization. Following the visit, patients received a telephone-administered, structured psychiatric interview that included 11 psychotic symptoms. Medication prescription data were also available. Comparisons are presented of patients with and without psychotic symptoms.

RESULTS. Thirty-seven (3.7%) patients reported one or more psychotic symptoms, most commonly a belief that others were spying on or following them (n=16). As compared with patients without psychotic symptoms, a larger proportion of the patients with psychotic symptoms reported mental health-related work loss (54.1% vs 17.9%, $P < .0001$), suicidal ideation (21.6% vs 2.6%, $P < .0001$), major depressive disorder (32.4% vs 6.3%, $P < .0001$), bipolar disorder (29.7% vs 1.2%, $P < .0001$), and several other mental disorders. An antipsychotic medication had been prescribed during the previous 17 to 20 months for only two (5.4%) of the patients with psychotic symptoms.

CONCLUSIONS. Psychotic symptoms were relatively common (3.7%) in this practice and were strongly associated with functional impairment and affective, anxiety, or substance use disorders. Primary care physicians are encouraged to examine patients with these mental disorders for the presence of psychotic symptoms.

KEY WORDS. Psychotic disorders; affective disorder, psychotic; mood disorders, psychotic; brief psychiatric rating scale; physicians, family. (*J Fam Pract* 1996; 43:481-488)

The term *psychosis* encompasses a variety of gross disturbances in mental capacity that interfere with reality testing, speech, behavior, and rational thinking. Psychotic symptoms occur in several different psychiatric disorders (eg, schizophrenia, bipolar disorder, major depressive disorder with psychotic features, and substance-induced psychotic disorders) and general medical conditions (eg, temporal lobe epilepsy, multiple sclerosis, acute intermittent porphyria, and systemic lupus erythematosus). For this

reason, the mere presence of a psychotic symptom informs clinicians less about which general medical, psychopharmacologic, or psychosocial treatment to provide than about the critical need to perform a thorough psychiatric assessment and develop an appropriate differential diagnosis.¹

Research on the prevalence of mental disorders in primary care has seldom included psychotic disorders,^{2,5} presumably because these conditions are thought to be so uncommon in this setting. When efforts have been made to measure schizophrenia and related disorders, the rates in primary care (0.4% to 1.0%)^{6,7} are found to be similar to those observed in community samples (0.7% to 0.8%).^{8,9} A national survey of primary care physicians indicated that schizophrenia accounts for no more than 5% of the mental disorders treated by primary care physicians.¹⁰

Remarkably little attention has been devoted to quantifying the amount, type, or distribution of psy-

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chotic symptoms in general medical settings. A literature search failed to uncover a single study that sought to describe the clinical epidemiology of psychotic symptoms in primary care. In the current study, we examined the prevalence and distribution of psychotic symptoms in a sample of primary care patients from a large prepaid group practice. Psychotic symptoms were defined to include grossly disorganized speech, auditory and visual hallucinations, and several types of delusions as well as thought insertion and thought broadcasting.

METHODS

Data are drawn from a study to validate the DSM-IV Symptom Driven Diagnostic System for Primary Care (SDDS-PC). The study was conducted in the spring and summer of 1994 at the Department of Medicine of Kaiser Permanente in Oakland, California. The methods and primary objectives of the study as well as the general characteristics of the study sample have been described elsewhere (Weissman MM, Broadhead WE, Olfson M, et al. Diagnostic aid for detecting DSM-IV mental disorders and in primary care. Unpublished data, 1996) and are summarized below.

ELIGIBILITY

Eligible subjects were between 18 and 70 years of age, able to read and write English, able to complete the study forms, and able and willing to provide informed consent. All eligible subjects were required to be scheduled for face-to-face contact with their primary care physician.

RECRUITMENT

A random sample of patients with prescheduled appointments who met the general eligibility requirements were invited in a previsit telephone call to participate in the study. Of 2530 patients offered participation, 1435 initially agreed to participate, and 1001 completed the protocol. Lack of time was the most common reason for declining participation at the previsit call, and failure to arrive on time for the appointment or missing the appointment were the most common reasons for not participating at the visit. Study subjects were similar to a random sample ($n=5005$) from the general clinic population with respect to age (mean age, 49.2 years vs 49.7 years, respectively), sex (male 37.0% vs 41.9%, respective-

ly), and percentage who had ever visited the Kaiser Permanente Department of Psychiatry (12.0% vs 12.7%, respectively).

HEALTH STATUS ASSESSMENT

Patients who met eligibility criteria were invited to report to the medical clinic for study intake one half hour before their regularly scheduled appointment. At study intake, written informed consent was obtained and patients completed a questionnaire that included demographic data, recent use of mental health services, and information on their health status.

One item from this questionnaire asked patients to rate their physical health during the past month on a 4-point Likert scale in which excellent, good, fair, or poor were scored in descending order, ie, from 4 to 1. A related item queried emotional health on the same Likert scale. Patients were also asked how well (very well, fairly well, not well, very poorly) they had gotten along with their husband, wife, or partner during the past month (marital distress) and whether they had missed one or more days at work or school or were unable to do housework during the past month because of an emotional problem (mental health-related work loss). Impairment was also measured with the Sheehan Disability Scale (SDS),¹¹ which is a composite of three self-rated Likert response items to assess work, family, and social functioning ranging from 0 (none) to 10 (severe).

After completing the patient questionnaire, a research nurse administered a structured interview that included questions concerning recent suicidal ideation. Positive responses to any questions concerning suicide were immediately shared with the primary care physician.

DIAGNOSTIC ASSESSMENT

Within 4 days following the medical visit, a mental health professional contacted each subject by telephone to administer sections of the Structured Clinical Interview for DSM-III-R (SCID),¹² which had been modified to DSM-IV criteria, and the Mini-International Neuropsychiatric Interview (MINI). The MINI includes a section on psychotic symptoms, which is described below.¹³ Eighty-four percent of the diagnostic interviews were completed within 2 days following the index medical visit, and the other interviews were completed within 4 days following the medical visit.

The telephone assessments were conducted in a confidential manner. If, however, the interviewers detected an acute or urgent psychiatric condition, they called a mental health professional from the Department of Psychiatry at Kaiser Permanente, who evaluated the patient. In these cases, the interviewers told the patient that they would be contacting a mental health professional at Kaiser.

PSYCHOTIC SYMPTOMS

The MINI includes 11 questions related to psychotic symptoms. These questions probe paranoid delusions, delusions of control, delusions of reference, thought insertion, thought broadcasting, and auditory and visual hallucinations. Positive responses are followed up with a question to determine whether the symptom is currently present. On the basis of the entire interview, the examining mental health professional determines whether the patient's speech is incoherent or disorganized or includes marked loosening of associations. In the analyses that follow, patients are classified as having psychotic symptoms if they currently have at least 1 of the 11 psychotic symptoms (Table 1).

TABLE 1

Frequency of Individual Psychotic Symptoms in Primary Care Patients with Psychotic Symptoms

Symptom	Patients With Psychotic Symptoms, % (n=37)
Paranoid delusions	
People spying on or following the patient	43.2
People plotting to try to hurt or poison the patient	27.0
People secretly testing or experimenting on the patient	16.2
Auditory hallucinations	
Hear voices that other people cannot hear	35.1
Hear other people's thoughts	32.4
Visual hallucinations	
See things other people cannot see	32.4
Thought broadcasting	
Someone can hear the patient's thoughts	32.4
Thought insertion	
Strange thoughts being put into the patient's mind	18.9
Delusions of control	
Under some controlling power other than God	18.9
Delusions of reference	
Special messages sent to the patient through TV, radio, or newspaper	16.2
Incoherence, disorganized speech, or marked loosening of associations*	10.8

*Based on interviewer judgment.

NOTE: Items are from the Mini-International Neuropsychiatric Interview.

SERVICE UTILIZATION

Data on medication prescriptions and visits to the Department of Psychiatry at Kaiser Permanente are drawn from an automated medical information system. The anchor point for these analyses is January 1, 1993, which represents a 17- to 20-month reference period.

STATISTICAL METHODS

Comparisons between patients with and without psychotic symptoms on categorical variables were made with the chi-square test, except when the expected cell size fell below 5, in which case Fisher's exact test was used. The Student's *t* test was used for comparisons involving continuous variables, and the Mann-Whitney test was used for comparisons involving ordered categories. Analysis of variance was used to compare SDS scores of patients with mental disorders alone, psychotic symptoms alone, and neither. Significant omnibus F-tests ($\alpha=.01$) were fol-

lowed with the Scheffe post hoc test for pairwise comparisons ($\alpha=.05$).

RESULTS

PSYCHOTIC SYMPTOMS

A total of 37 (3.7%) patients reported one or more current psychotic symptoms. The most commonly reported symptoms were a belief that others were spying on or following the patient (43.2%), auditory hallucinations (35.1%), visual hallucinations (32.4%), and thought broadcasting (32.4%) (Table 1). Most (62.2%) of the patients with psychotic symptoms reported two or more such symptoms.

DEMOGRAPHIC CHARACTERISTICS

A majority of patients in both study groups were female, married, and had completed at least some college education. As compared with patients with-

out psychotic symptoms, those with psychotic symptoms reported significantly lower total annual family incomes (Table 2). Whereas nearly one half (48.2%) of the patients with psychotic symptoms had total annual family incomes of less than \$25,000, only about one quarter (28.3%) of the patients without psychotic symptoms had family incomes below \$25,000. There were no other significant differences in the basic sociodemographic characteristics of the two patient groups.

IMPAIRMENT

The patients with psychotic symptoms reported significantly greater impairment in work, family, and social functioning than the patients without psychotic symptoms (Table 3). More than one half (54.1%) of the patients with psychotic symptoms stated that during the past month they had missed one or more days of work because of emotional problems, and approximately three quarters (75.7%) reported that their emotional health was fair or poor.

Patients with psychotic symptoms were also significantly more likely than patients without psychotic symptoms to report that they were in fair or poor physical health (Table 3). Despite this finding, patients with psychotic symptoms were not significantly more likely than patients without psychotic symptoms to report having ever been told by a physician that they had a stroke (0% vs 4.0%, respectively), cancer (8.1% vs 8.1%, respectively), hypertension (32.4% vs 38.9%, respectively), diabetes (10.8% vs 12.1%, respectively), or heart disease (8.1% vs 10.0%, respectively).

SUICIDAL IDEATION

Patients with psychotic symptoms (21.6%) more common-

ly than patients without these symptoms (2.6%) indicated that they had been "feeling suicidal" during the past month ($P < .0001$). During the interview with the research nurse immediately before the medical visit, 8.8% (3 of 37) of the patients with psychotic symptoms and 0.9% of the those without psychotic symptoms admitted that during the past month they had planned to kill themselves ($P < .0001$).

MENTAL HEALTH CARE

On the patient questionnaire, outpatient mental health care was broadly defined to include discussion of emotional problems with a physician, and visits to a psychiatrist, psychologist, psychotherapist, social worker, family therapist, or drug counselor

TABLE 2

Selected Sociodemographic Characteristics of Primary Care Patients With and Without Current Psychotic Symptoms

Characteristic	Patients With Psychotic Symptoms (n=37)	Patients Without Psychotic Symptoms (n=964)	Statistical Significance
Sex, %			
Female	75.7	62.2	$P=.1$
Male	24.3	37.8	
Race, %			
Black	56.8	47.0	$P=.2$
White	24.3	37.6	
Other	18.9	15.4	
Marital status, %			
Married	51.4	61.0	$P=.4$
Never married	24.3	18.6	
Separated or divorced	21.6	14.6	
Widowed	2.7	0.8	
Education, %			
< High school	13.5	8.5	$P=.1$
High school graduate	24.3	14.2	
Some college	40.6	41.5	
College graduate	21.6	35.8	
Family annual income,* %			
<15,000	44.4	11.8	$P < .0001$
\$15,000-24,999	13.9	16.5	
\$25,000-39,999	27.8	27.5	
\$40,000+	13.9	44.2	
Employment, %			
Full-time	48.6	56.9	$P=.3$
Other	51.4	43.1	
Age, y, mean (SD)	46.7 (12.9)	49.5 (10.3)	$P=.2$

*For income data, patients with psychotic symptoms, n=36, and patients without psychotic symptoms, n=935.

NOTE: See text for definition of psychotic symptoms.

TABLE 3

Self-Reported Functional Status of Primary Care Patients With and Without Current Psychotic Symptoms

Function Measured	Patients With Psychotic Symptoms (n=37)	Patients Without Psychotic Symptoms (n=964)	Statistical Significance
Emotional health (fair or poor), %	73.0	35.2	$P < .0001$
Physical health (fair or poor), %	75.7	38.2	$P < .0001$
Work loss due to emotional problems, past month, %	54.1	17.9	$P < .0001$
Marital distress,* past month, %	18.2	9.5	$P = .2$
SDS work impairment score, mean (SD)†	4.7 (3.8)	1.9 (2.4)	$P < .0001$
SDS social impairment score, mean (SD)†	5.1 (3.6)	1.9 (2.6)	$P < .0001$
SDS family impairment score, mean (SD)†	4.1 (3.8)	2.0 (2.6)	$P < .0001$

*For marital distress, patients with psychotic symptoms, $n=22$, and patients without psychotic symptoms, $n=713$.

†Higher scores correspond to greater impairment.

SDS denotes Sheehan Disability Scale.

NOTE: See text for definition of psychotic symptoms.

PSYCHOTIC SYMPTOMS AND MENTAL DISORDERS

A substantial proportion of patients with psychotic symptoms met DSM-IV criteria for one of the surveyed mental disorders (Table 4). For example, over one half (54.1%) of the patients with psychotic symptoms met criteria for current major depressive disorder or criteria for lifetime bipolar disorder. In addition, patients with affective, anxiety, or substance use disorders commonly had psychotic symptoms: bipolar disorder (47.8%), drug abuse or dependence

during the past month. Although patients with psychotic symptoms were more likely than patients without psychotic symptoms to have received mental health care during the past month (43.2% vs 13.3%, respectively, $P < .0001$), over one half of the patients with psychotic symptoms did not report receiving such care. Approximately one third (37.0%) of the patients with psychotic symptoms reported having seen a psychiatrist during the past month.

Most of the patients with psychotic symptoms (59.4%) and a substantial proportion of those without psychotic symptoms (23.1%) stated that they had been previously told by a physician that they had a mental health or substance use problem ($P < .0001$). According to the automated medical information system, a psychotropic medication had been prescribed during the past 17 to 20 months for 40.5% ($n=15$) of the patients with psychotic symptoms, and an antipsychotic medication had been prescribed for 5.4% ($n=2$). A total of 27.0% ($n=10$) had visited the Department of Psychiatry during this period. Most ($n=8$) of these patients had been seen more than once by the department.

(20.8%), posttraumatic stress disorder (20.0%), panic disorder (18.8%), major depressive disorder (16.4%), and generalized anxiety disorder (16.2%).

Patients with psychotic symptoms and one of the mental disorders ($n=24$) tended to be more severely ill, more functionally impaired, and more likely to have received mental health care than their counterparts with psychotic symptoms but without a mental disorder ($n=13$) (Table 5). All of the patients with psychotic symptoms who reported recent suicidal ideation ($n=8$) or a recent plan to kill themselves ($n=3$) met criteria for one of the mental disorders (Table 5).

To examine the clinical significance of psychotic symptoms without one of the mental disorders, we compared SDS impairment ratings of (1) patients with a mental disorder but no psychotic symptoms ($n=160$); (2) patients with psychotic symptoms but none of the mental disorders ($n=13$); and (3) patients with neither ($n=804$). The three groups significantly differed from one another with respect to SDS work ($F=46.0$, $P < .0001$), social ($F=56.3$, $P < .001$), and family ($F=52.6$, $P < .0001$) impairment scores. On the work impairment subscale, for example, patients

with mental disorders alone (mean=3.8) reported significantly more impairment than patients with neither psychotic symptoms nor a mental disorder (mean=1.5) (Scheffe test, $P < .05$). Patients with psychotic symptoms and none of the disorders scored between these two groups (mean=2.8). Similar results were observed with the social and family function SDS subscales (data not shown).

DISCUSSION

We found that 3.7% of adults in a large prepaid primary care practice reported that they were currently experiencing one or more psychotic symptoms, most commonly the paranoid delusion that someone was spying on them or following them around. These patients were highly impaired in self-reported work, social, and family functioning. They also had elevated rates of several mental disorders, especially major depressive disorder, bipolar disorder, and panic disorder. Patients with psychotic symptoms

and a mental disorder were significantly more impaired than patients with psychotic symptoms without a mental disorder.

Little attention has been devoted to the problem of detecting and managing primary care patients with psychotic symptoms. Possible explanations for this low level of interest include the previously mentioned low prevalence of psychotic disorders in primary care,^{6,7} the low priority given to psychotic disorders by primary care educators,¹⁴ and the perception that caring for psychotic patients is the proper role of mental health specialists rather than primary care physicians.

One general approach to the detection of mental distress and disorder in primary care involves making self-reported symptom data available to the treating clinician at the time of the patient visit.¹⁵⁻¹⁷ On the basis of the current findings, psychotic symptoms do not appear to be an appropriate target for this approach. Most patients with psychotic symptoms met criteria for a nonpsychotic mental disorder; the

small number of patients without such a disorder reported lower levels of impairment. Casefinding strategies that focus on patients at high risk for psychotic symptoms are likely to be a more efficient use of the physician's time than broad-based screening initiatives.

A reasonable approach to the detection of psychotic symptoms in primary care is to concentrate on patients who have known affective, anxiety, or substance use disorders. In these cases, particularly when there is considerable functional impairment, family physicians should make simple and direct inquiries concerning the possibility that the patient is experiencing paranoid delusions ("Have there been times when you felt that people were trying to

TABLE 4

Selected DSM-IV Disorders in Primary Care Patients With and Without Current Psychotic Symptoms

Disorder	Patients With Psychotic Symptoms (n=37) %	Patients Without Psychotic Symptoms (n=964) %	Statistical Significance
Any disorder	64.9	16.6	$P < .0001$
Major depressive disorder	32.4	6.3	$P < .0001$
Bipolar disorder*†	29.7	1.2	$P < .0001$
Panic disorder	24.3	4.0	$P < .0001$
Generalized anxiety disorder	16.2	3.2	$P < .0001$
Posttraumatic stress disorder	15.6	1.6	$P < .0001$
Drug abuse/dependence	13.5	2.0	$P < .0001$
Obsessive compulsive disorder	12.1	1.0	$P < .0001$
Antisocial personality disorder*†	5.4	1.2	$P < .05$
Alcohol abuse/dependence	5.4	2.1	$P = .2$

*Lifetime disorder.

†Diagnosis based on the Mini-International Neuropsychiatric Interview. All other diagnoses based on the Structured Clinical Interview for DSM-III-R modified to DSM-IV criteria.

NOTE: See text for definition of psychotic patients.

TABLE 5

Characteristics of Primary Care Patients With Psychotic Symptoms With and Without an Associated Mental Disorder

Characteristic	Patients With Psychotic Symptoms Mental Disorder % (n=24)	Patients With Psychotic Symptoms No Mental Disorder % (n=13)	Statistical Significance
Suicidal ideation, past month, %	33.3	0	$P=.03^*$
Suicide plan, past month, %	12.5	0	$P=.5$
Emotional health (fair or poor), %	83.3	53.8	$P=.05$
Physical health (fair or poor), %	87.5	53.8	$P=.02$
Work loss due to emotional problems, past month, %	62.5	38.5	$P=.2$
Marital distress, past month, † %	16.6	25.0	$P=.5$
Mental health visit, past month, %	54.2	23.1	$P=.07$
Ever told by doctor of mental health problem, %	75.0	30.7	$P=.008$
Number of psychotic symptoms, mean (SD)	3.3 (2.6)	1.9 (1.3)	$P=.03$
SDS work impairment score, mean (SD)‡	5.7 (3.7)	2.8 (3.3)	$P=.04$
SDS social impairment score, mean (SD)‡	6.2 (3.5)	3.2 (2.9)	$P=.01$
SDS family impairment score, mean (SD)‡	5.3 (3.7)	1.8 (3.1)	$P=.006$

*Fisher's exact test.

†For marital distress, patients with mental disorder, n=14; patients without mental disorder, n=8.

‡Higher scores correspond to greater impairment.

NOTE: See text for definition of psychotic symptoms.

SDS denotes Sheehan Disability Scale.

tioned for the presence of psychotic symptoms.

The detection of psychotic symptoms in patients with known nonpsychotic mental disorders has important clinical implications. For example, major depressive disorder without associated psychotic symptoms usually responds to an antidepressant medication alone. Major depressive disorder with psychotic symptoms, however, responds more favorably to a combination of an antipsychotic and antidepressant medication than to either medication alone.¹⁸ In patients known to have an anxiety disorder, the discovery of psychotic symptoms may eventually lead to the diagnosis of a comorbid primary psychotic disorder (eg, schizophrenia), a comorbid substance-induced psychotic disorder, or a general medical condition that presents with psychotic symptoms.

The current findings are constrained by several limitations in the study design.

harm you?") or auditory hallucinations ("Have there been times when you heard things that others could not hear?"). By selectively adding such questions to their assessment repertoire, family physicians have an opportunity to increase their detection of patients with psychotic symptoms.

Family physicians who rely exclusively on the passive observation of incoherent or disorganized speech may fail to detect most of their patients who have psychotic symptoms. In our sample, only 4 of the 37 patients with current psychotic symptoms exhibited disorganized speech. For this reason, we recommend that patients with known affective, anxiety, or substance use disorders be directly ques-

First, the diagnostic instrument did not include schizophrenia or other psychotic disorders, so we are unable to determine the proportion of patients with psychotic symptoms who met criteria for these psychotic disorders. Second, the possibility of selection bias is raised by the significant number of patients who were approached to participate but were not successfully recruited. The sampling strategy oversampled high users of outpatient services who are presumably less healthy than infrequent users and therefore at greater risk of psychotic symptoms. Patients with paranoid symptoms might be more apt to refuse participation, however, thereby lowering the rate of patients in the study who

have psychotic symptoms. A more representative sample is needed to address these uncertainties. Third, the data concerning psychotropic prescriptions and visits to the department of psychiatry do not capture pharmacy and service utilization outside the prepaid group. Fourth, the findings are based on patients from a large urban prepaid primary care practice and may not generalize to other treatment settings. These limitations exist in relation to the scarcity of information concerning psychotic symptoms in primary care.

CONCLUSIONS

We found evidence of psychotic symptoms in 3.7% of a large and representative sample of patients from a private prepaid primary care practice. The work, family, and social functioning of these patients was significantly impaired. Many of the patients with psychotic symptoms, particularly those with extensive impairment, met criteria for a nonpsychotic mental disorder. Based on these findings, we recommend assessing primary care patients with known affective, anxiety, or substance use disorders for the presence of psychotic symptoms.

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