The number of persons aged 55 and older with a diagnosis of schizophrenia is projected to double over the next 20 years. A tripartite classification system of early-onset schizophrenia, late-onset schizophrenia, and very-late-onset schizophrenia-like psychosis has been proposed. This column reviews recent findings on the outcome and associated features of clinical symptom and social well-being categories for older adults with early-onset schizophrenia. (Psychiatric Services 59:232–234, 2008)

The aim of this column is to review recent findings on the outcome and associated features of clinical symptom and social well-being categories for older adults with schizophrenia. Reviews of other topics for this population can be found elsewhere (1,2). In the past decade the percentage of published articles on aging among all research papers on schizophrenia has remained at about 1% (PsycINFO search). Thus, although the number of persons aged 55 and older with a diagnosis of schizophrenia is projected to double over the next 20 years, from 500,000 to one million persons (1), there is a paucity of data on this age group.

About 85% of older persons with schizophrenia live in the community, 13% in nursing homes, 1% in state and county hospitals, and .5% in veterans hospitals or general hospitals (3).

Classification

The International Late-Onset Schizophrenia Group has proposed that schizophrenia with an onset between ages 40 and 60 be termed “late-onset schizophrenia” and be considered a subtype of schizophrenia (4). The group also proposed the term “very-late-onset schizophrenia-like psychosis” for disorders that begin after age 60.

A problem with a tripartite classification system (early-, late-, and very-late-onset schizophrenia) is its reliance on age rather than clinical presentation. The symptoms of some persons over 60 can resemble earlier-onset cases. Approximately 85% of persons with schizophrenia have onset before age 45 (2), and we focus here on persons with early-onset schizophrenia who have grown old.

Outcomes in later life

Positive symptoms

The heterogeneity of samples and the use of different measures have made it difficult to generalize about outcomes in the disorder. Harding (5) summarized ten large-scale catamnestic studies that were conducted in six countries with 2,429 patients (range 115–502 patients) who were followed for an average of 28 years (range 20–37 years). The percentage of patients who showed significant clinical improvement (mostly related to positive symptoms) ranged from 46% to 84% (median 53%).

Findings from the World Health Organization’s (WHO) 15- to 25-year follow-up studies (6) in 18 cohorts around the world yielded similar results. The percentage of persons who showed no psychotic symptoms, except for some eccentricity or symptom residues, was 48% in the incidence group (mean age 41 years) and 54% in the prevalence group (mean age 51 years). The WHO data also showed better outcomes in developing countries than in developed countries.

In our study of 198 persons ages 55 or older with schizophrenia and living in New York City (7), we found that 49% met the Andreasen remission criteria of overall symptoms (mild to no symptoms on nine items of the Positive and Negative Syndrome Scale [PANSS]), whereas 72% of the sample met remission criteria on the three PANSS positive items of hallucinations, delusions, and conceptual disorganization. There were no racial differences in overall remission rates; however, white patients had greater remission rates of positive symptoms than black patients (79% versus 72%).

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In a San Diego study, there was a significant association between fewer positive symptoms and increased age among persons who had schizophrenia and were between ages 40 and 85 (8). Because virtually all persons in these studies had previously experienced psychotic symptoms, data to support the contention that positive symptoms improve in middle and later life seem compelling.

Negative symptoms
Do negative symptoms dominate schizophrenia in later life? Negative symptoms can be difficult to distinguish from the confounding effects of depression, medications, institutionalization, and poverty. Newer instruments have made differentiation of negative symptoms more feasible. In the WHO study only 23% of the sample showed prominent negative symptoms, although 48% of persons with continuous illness had prominent negative symptoms (6). In our New York City study of older persons with schizophrenia, 60% of the sample met remission criteria on all seven items of the negative symptom scale of the PANSS. In the San Diego study lower negative symptoms tended to be associated with higher age among persons between ages 40 and 85 with schizophrenia (8).

Depressive symptoms
In the studies of depression among older adults with schizophrenia, prevalence rates of depression ranged from 11% to 75%, depending on the level of severity examined (9,10). At all levels, the prevalence among persons with schizophrenia was significantly greater than that of their age peers in the general population. However, depression rates among younger persons with schizophrenia have been found to be similarly high, up to 81% (11). Although depression may not be a core feature of the disorder, it is a common feature, with prevalence rates that remain high throughout the lifespan.

The relationship between positive symptoms and depression has been among the most consistent findings across sites in studies of older adults (9,10). In our sample, we found that 22% had positive symptoms (defined as at least moderate symptoms on the PANSS) and depression (defined as subsyndromal or syndromal depression), 39% had depression but no positive symptoms, 6% had positive symptoms and no depression, and 33% had no depression or positive symptoms (9). In several studies depression has also been associated with worse daily functioning, reduced life quality, more physical disorders, and more financial strain (1,9,10).

Recent data indicate that the potential for suicidality remains high in later life. Montross and associates (12) studied depressed persons age 40 and older with schizophrenia in Cincinnati and San Diego and found that 23% had current suicidal ideation and 49% had made a previous attempt. In our New York City sample, which included depressed and nondepressed persons, 13% had current suicidal ideation and 30% had made a suicidal attempt (13).

Cognitive symptoms
Two interesting findings have emerged with respect to cognitive symptoms in later life. First, for about four-fifths of patients, the data have supported an additive effect of aging on cognition. That is, about three-fourths of these persons have some cognitive deficits that become apparent at the onset of the illness, and then they experience an additional decline as part of normal aging (1,8,14). However, this decline places many in the mild dementia range. In our New York City sample about half showed greater than minimal impairment or no cognitive impairment on the Dementia Rating Scale (1).

The rest of the people with schizophrenia—those with poor overall outcomes with respect to psychopathology and overall functioning—experience an interactive effect of aging on cognition, and there is a suggestion of a possible neurodegenerative process. These persons have more cognitive impairment at onset, slowly decline with age during midlife, and then show a more rapid decline after age 65 (14). Many of these persons score in the moderate and severe ranges of dementia.

Quality of life
Findings in the literature on older adults with schizophrenia vary because of the differences in methodology. Some studies have used more health-oriented self-appraisal measures; others have used multidimensional assessments that include psychological, spiritual, socioeconomic, family, health, and functional dimensions. Studies of older adults with schizophrenia have found lower quality of life to be associated with clinical factors such as depression, positive and negative symptoms, cognitive deficits, anxiety symptoms, physical disorders, poorer perceived health, and more medication side effects. Lower quality of life also has been associated with social factors, such as unemployment, nonindependent housing status, loneliness, lower social and living skills, financial strain, and acute stress. There were no significant associations between age and quality of life (1,8,15–20).

In our New York City study (18) we found that although quality of life was significantly lower for persons with schizophrenia than for a comparison group without the disorder, the absolute difference between the groups was small. Both groups scored in the moderate range and substantially higher than persons with chronic pain. Although depressive symptoms have been found consistently to be associated with quality of life (15), we found that depressive symptoms had a shared variance of 28% with the quality-of-life measure (18). Thus, although there is overlap with depressive symptoms, poor quality of life is not identical to depression. Although the causal relationship between quality of life and depression has not been determined among older adults, prospective studies of younger persons with schizophrenia indicated that depressive symptoms lead to worsening of quality of life indicators (19).

Adaptive functioning
Among older persons with schizophrenia, higher levels of daily functioning, by self-report or performance measures, have been found to be associated with better cognitive functioning, fewer negative symptoms, better physical health, and independent living in the community (1,16,20,21). There have been mixed findings with the variables of lower education, greater age, and movement disorders (1,16,20,21). Positive symptoms and depression generally have not been associated signifi-
canty with adaptive functioning (1,16,20,21). The ten catamnestic studies described earlier found that the percentage of patients who were considered socially recovered ranged from 21% to 77% (median 49%) (5). Although the median value of favorable outcome was similar to that of psychopathology, there was a wider range for the social than for the clinical response. Similarly, the WHO longitudinal study (6) reported that 51% of persons in the incidence group and 60% of persons in the prevalence group manifested mild, minimal, or no disability on the Global Assessment of Functioning and Disability Scale.

**Overall outcome**

There have been various approaches to assessing overall outcome of older persons with schizophrenia. On the basis of symptom remission, social functioning, and medication dosage, Auslander and Jeste (22) found that only 5% of the older outpatients attained sustained remission. Their findings resembled Ciompi’s (23) catamnestic data, in which only 12% of the proband were free of disturbances and 19% had mild disturbances of some kind. Jeste and colleagues (8) found that although the course of schizophrenia appears stable in later life, older outpatients remained impaired in measures of psychopathology, functioning, and well-being in comparison with an age-matched community group.

**Conclusions and recommendations**

Our review indicates that roughly half of older persons with schizophrenia have favorable outcomes in each symptom and social category. In our sample, we found that the intercorrelations among these outcome categories, with demographic variables controlled for, ranged from .01 to .54, with a median value of .22 (4% shared variance) (24). Thus the amount of shared variance is modest, and it is not surprising that full recovery is rare. Moreover, this means that different treatment strategies may be required for each outcome category, although treating one category may have some impact on performance in other categories. Because each of the outcome categories is associated with various clinical and social variables, effective treatments will most likely require both biological and psychosocial methods.

The number of clinical research programs with large databases must be expanded. Most of the outpatient findings described here come primarily from two study groups (1,2), and the institutional data are predominantly from one study group (14). Longitudinal data are beginning to emerge that will assist in determining causality, and the expanded use of multivariate modeling, especially studies that use gerontological models, will allow for a more rational inclusion of variables, the interplay of variables, and the generalizing of results.

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