

Gender and Schizophrenia

By Carla M. Canuso, MD and
Gahan Pandina, PhD

KEY WORDS

schizophrenia, psychosocial, antipsychotics, hypoestrogenism

ABSTRACT

What are the important gender differences seen in men and women with schizophrenia? Although schizophrenia affects men and women with equal frequency, the illness is expressed differently between the sexes. Women with schizophrenia tend to have better premorbid functioning, a later age at onset, a distinct symptom profile and better course of illness, and different structural brain abnormalities and cognitive deficits. Additionally, premenopausal women appear to have a superior response to typical antipsychotics compared to men and postmenopausal women. These gender differences are thought to arise from the interplay between hormonal and psychosocial factors. It has been hypothesized that estrogen, with effects on both neurodevelopment and neurotransmission, may play a protective role in women with schizophrenia and account for some of the gender differences observed in the disorder. Despite the potential benefit of estrogen in this population, women with schizophrenia appear to be at risk for hypoestrogenism, either as a consequence of antipsychotic-induced hyperprolactinemia or, possibly, as a manifestation of the illness itself. The mechanism and consequences of hypoestrogenism in women with schizophrenia, as well as the role for hormonal therapies in this population, require further study. Mental Fitness. 2004;3(3):38-45.

INTRODUCTION

Increasingly, medical research has given attention to the role of gender in the expression of disease. Within psychiatry, the study of gender differences provides an "ideal window through which to look at the interplay of biological and psychosocial factors."¹ Women and men with schizophrenia display many important clinical differences, including dissimilarities in premorbid

function, age at onset, symptomatology, course of illness, and response to typical antipsychotic medications, as well as possible differences in neuroanatomical abnormalities and cognitive deficits. Several authors have proposed that such differences arise from the inter-relationship between gonadal hormones and neurodevelopmental and psychosocial differences.²⁻⁴

Clinical evidence, supported by studies from the basic neurosciences, suggests estrogen may account for some of the differences observed in schizophrenia and may confer a clinical advantage to female patients. Likewise, social and psychological factors may contribute to a more favorable course of illness in women. This paper reviews some of the established gender differences in schizophrenia and summarizes the clinical and relevant pre-clinical evidence implicating estrogen's role in modifying neurodevelopment and disease expression. In light of estrogen's potentially beneficial role in women with schizophrenia, additional attention is given to the neuroendocrine side-effects of antipsychotic medication in women, as well as to possible hormonal manifestations of schizophrenia itself.

GENDER DIFFERENCES IN SCHIZOPHRENIA

Epidemiology, Premorbid Function and Age at Onset

Schizophrenia, occurring in approximately 1% of the global population, is thought to affect men and women with equal frequency.⁵ Although more recent studies suggest, depending on the diagnostic criteria used, there is a trend towards a higher annual incidence in males,⁶ the cumulative lifetime risk for schizophrenia appears to be the same for men and women.⁷

Women who develop schizophrenia tend to have better premorbid functioning than men, as reflected by the nature of their social relationships and marriage



Dr. Canuso and Dr. Pandina are associate directors of clinical development for Janssen Pharmaceutica, Inc., in Titusville, NJ.