

# Estrogen relieves psychotic symptoms in women with schizophrenia

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When combined with antipsychotic medications, the estrogen estradiol appears to be a useful treatment in women with schizophrenia, according to a report in the August issue of *Archives of General Psychiatry*.

The link between estrogen and mental illness was recognized more than a century ago, according to background information in the article.

However, scientific evidence regarding estrogen as a therapy for mental illness has only recently emerged. "Epidemiologic observations of sex differences in the onset and course of schizophrenia prompted exploration of estrogen's role in schizophrenia," the authors write.

Jayashri Kulkarni, M.B.B.S., M.P.M., F.R.A.N.Z.C.P., Ph.D., of The Alfred and Monash University and The Alfred Hospital, Melbourne, Australia, and colleagues conducted a randomized, double-blind study involving 102 women of child-bearing age with schizophrenia. For 28 days, 56 women were randomly assigned to receive 100 micrograms of estradiol daily via a skin patch and 46 women received a placebo skin patch in addition to their regular medications. Psychotic symptoms, which include delusions and hallucinatory behavior, were assessed weekly with a commonly used scale.

The group of women taking estradiol exhibited a greater improvement in psychotic symptoms over time than did the women taking antipsychotic medications alone. They also experienced a decline in positive symptoms—those which represent a distortion of normal functions. No difference was observed between the two groups regarding negative

symptoms, those which occur when normal functions are lost or diminished.

"Estrogen's neuroprotective and psychoprotective actions may be mediated by a variety of routes, ranging from rapid actions, including antioxidant effects and enhancement of cerebral blood flow and cerebral glucose utilization, to slower, genomic mechanisms, which may include permanent modification of neural circuits," the authors write. "The lack of effect for negative symptoms is consistent with literature reporting that negative symptoms are less responsive to treatment than other symptoms of schizophrenia. It is possible that longer-term treatment is required for negative symptoms to respond to treatment. Alternatively, brain regions implicated in negative symptoms may be less responsive to gonadal hormone effects."

Source: JAMA and Archives Journals

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