

SCHIZOPHRENIA (p.1)

A **fairly common** example of neurological impairment

About 1 to 1 ½ % of the population (across all cultures, ages, races)

Symptoms usually appear in adolescence to early adult years

Although the neurological damage may have occurred much earlier

Symptoms of schizophrenia:

Bizarre delusions of being controlled, of persecution, of grandeur

Inappropriate affect or blunting of affect

Hallucinations, esp. auditory (always very critical, negative)

Note: Most psychedelics produce visual hallucinations

Incoherent thinking, incl. illogical thought, illogical associations or causal attributions, beliefs in supernatural forces, etc.

Odd behaviors, incl. catatonia, poor personal hygiene, talking in rhymes, avoiding others, echolalia

Causal Factors:

Has a strong **genetic** component:

1% risk in general population vs. 10% if have close relative w/ diagnosis

Concordance for MZ twins is 45% vs. 10% for DZ twins

Note: offspring of discordant (non-schizophrenic) twin also had same risk of schizophrenia as did offspring of schizophrenic twin (implies that discordant twin still carried – unexpressed – gene for schizophrenia)

Environmental factors:

Infections (especially viral), autoimmune reactions, toxins, traumatic

Injury, stress

Drug Treatments:

chlorpromazine (Thorazine), olanzapine (Zyprexa), clozapine (Clozaril)

earlier antipsychotics were also called “major tranquilizers” & were very sedating; later ones not so sedating

many of the earlier drugs blocked DA₂ RSs (esp. butyrophenones, e.g. haloperidol/Haldol)

SCHIZOPHRENIA (p.2)

Drug Treatments (cont.):

Many of the newer antipsychotics block DA2 RSs, but also block DA1, DA4, And some 5HT RSs as well...

Older antipsychotics (that worked mostly on DA2 RSs) are most effective in reducing the “positive” symptoms of schizophrenia (e.g. hallucinations)
Newer antipsychotics are effective in reducing both the “positive” and the “negative” symptoms (e.g. lack of affect, social withdrawal, lack of spontaneous speech, apathy)

As with the antidepressants, it takes some time (several weeks) for the anti-psychotic effects of the medications to occur...why?

There may be a slow compensatory change that occurs to blocking these RSs... “up-regulation”?

Neural Structures involved in schizophrenia:

Often exhibit **wide-spread abnormalities in brain**, incl. an abnormally small cerebral cortex & abnormally large ventricles

Cortical damage is most noticeable in prefrontal area, cingulate cortex, and medial temporal cortex

Most lines of research indicate that **brain develops abnormally**, and that as (damaged) brain structures mature and begin to assert their pathological influence, behavior deteriorates