

SCHIZOPHRENIA

William J. Walsh, Ph.D.

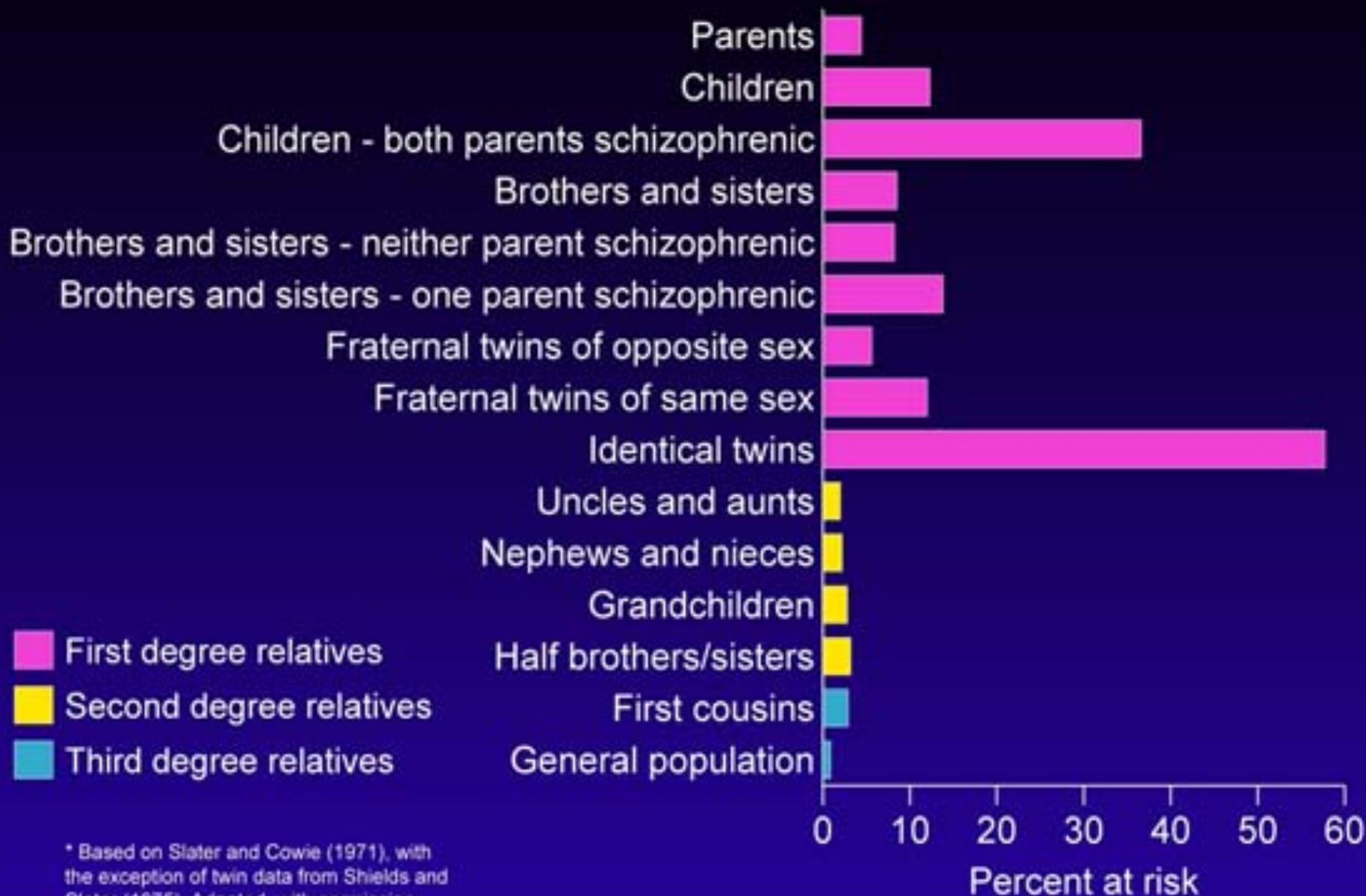
Schizophrenia

- Incidence: 1% of World Population
- Inherited Predisposition: > 50% Concordance in Identical Twins
- Typical Onset Between 15-26 yrs
- Higher incidence in northern Scandinavia and western Ireland

Defining Characteristic = Psychosis

- Auditory hallucinations
- Visual/tactile hallucinations
- Delusional beliefs
- Severe Paranoia

Rates of Schizophrenia Among Relatives of Schizophrenic Patients*



* Based on Slater and Cowie (1971), with the exception of twin data from Shields and Slater (1975). Adapted, with permission, from Tsuang and Vandermev (1980).

History of Schizophrenia

- Ancient times to year 1800: Belief in possession by evil spirits..... treatments included exorcism and trepanation (drilling holes in skull).
- 1800: Recognition of SZ as mental disease.
- 1905: Belief SZ caused by negative life experiences; advent of psychotherapy.
- 1950: Use of antipsychotic medications.
- 1975: Advent of biological psychiatry..... focus on neurotransmitters, receptors, etc.

Present Schizophrenia Theories



1. Dopamine Theory
2. Glutamate Theory (NMDA)
3. Oxidative Stress Theory
4. Epigenetic Theory
5. Virus Theory

Common Flaw in SZ Theories

- ❑ Failure to recognize that schizophrenia is an “umbrella term” given to several different mental disorders.
- ❑ The schizophrenia phenotypes likely have different causes, and involve differences in brain chemistry.
- ❑ Optimal treatment requires a therapy tailored to each phenotype.

Identification of Schizophrenia Phenotypes



- Chemical studies of 25,000 schizophrenics by Pfeiffer (Princeton, NJ) and Walsh (Naperville, IL).
- > 1 million chemical assays of blood & urine.
- Very high incidence of chemical abnormalities, compared to the general population.

Symptom/Trait Database

- About 50-150 symptoms, traits, and physical characteristics were recorded for each patient and research subject,
- The symptoms & traits associated with specific chemical imbalances were identified,
- Biochemical classifications of schizophrenia were developed.

Biochemical Classification of Schizophrenia

- 45% - Overmethylation
- 18% - Undermethylation
- 27% - Pyrrole disorder (severe oxidative stress)
- 4% - Wheat gluten intolerance
- 6% - Other

Biochemistry of Overmethylated Schizophrenia

- ❑ Elevated S_{AMe}/SAH ratio in blood
- ❑ Depressed whole-blood histamine
- ❑ Elevated serum copper
- ❑ High absolute basophils
- ❑ Overmethylation dominant imbalance
- ❑ High norepinephrine & dopamine

Note: The most common psychiatric diagnosis is

Paranoid Schizophrenia

Symptoms of Overmethylated Schizophrenia

- Auditory Hallucinations
- Paranoia
- High Anxiety
- Non-Bizarre Delusions
- Religiosity & Grandiosity
- Depression
- High Physical Activity
- Intolerance to SSRI Antidepressants

Effective Nutrients for Overmethylated Schizophrenia

- Folic Acid
- Vitamin B-12
- Niacin or Niacinamide
- Zinc and Manganese
- Vitamins B-6, C, and E
- DMAE
- GABA
- Metallothionein Promotion Therapy

Generally-Effective Medications for Overmethylated Schizophrenia

1. Risperdal

2. Geodon

Notes:

- SSRI Antidepressants must be avoided
- Antihistamines must be avoided
- Klonopin may assist in reducing anxiety.

Undermethylated Schizophrenia

- Elevated Blood Histamine
- Elevated Absolute Basophils
- Undermethylation
- Low Ceruloplasmin

Undermethylation Schizophrenia

Symptoms & Traits

- ❑ Severe Delusions
- ❑ Obsessive/Compulsive Behaviors
- ❑ Social Isolation
- ❑ High Internal Anxiety
- ❑ Catatonic Tendencies
- ❑ Phobias

Effective Nutrients for Undermethylated Schizophrenia

- L-Methionine
- S-AdoMet
- Calcium, Magnesium
- Vitamin B-6
- Serine
- Zinc
- Metallothionein Promotion

Generally-Effective Medications for Undermethylated Schizophrenia

1. Zyprexa
2. Seroquel
3. Abilify
4. Clozaril

Pyroluric Schizophrenia

- Elevated Urine Pyrroles
- Severe Deficiencies of B-6, Zinc
- Severe Oxidative Stress
- Low Arachidonic Acid Level
- Biotin Deficiency

Pyroluric SZ Symptoms

- Onset During Severe Stress
- Mixed Psychotic Symptoms
- Extreme Anxiety & Fear,
- Social Isolation
- Intolerance to Stress
- Severe Mood Swings

Nutrient Therapy for Pyroluric Schizophrenia

- Vitamin B-6
- Pyridoxal-5-Phosphate
- Zinc
- Manganese
- Primrose Oil
- Biotin, Vitamins C & E

Generally-Effective Medications for Pyrrole Schizophrenia

- All atypical antipsychotics
- Benzodiazapines (especially Klonapin)

Note:

Medication support may become unnecessary after pyrrole disorder is corrected.

Gluten Intolerance

- 4% of Psychosis Cases
- Incomplete Breakdown of Gluten Proteins in the G.I. Tract
- Short Peptides with Opioid Properties

Treatment: Dietary Avoidance of Wheat, Oats, Barley, and Rye

Interface With Psychiatric Medication

Initiation of Nutrient Therapy: Meds continued at full dosage for several months, unless sedation becomes excessive.

Months 4-12: After significant improvement, med dosages may be cautiously reduced to tolerance;

Long-Term Care: Low-dose medication support usually needed to avoid relapse.

Vitamin B-3 Generally Beneficial for All Schizophrenia Phenotypes

- Overmethylation: Major Improvement
- Pyrrole Disorder: Moderate Improvement
- Undermethylation: Slight Improvement

Oxidative Stress Theory for Adult Onset of Psychosis

- Oxidative stresses gradually increase until GSH and MT proteins are overwhelmed, resulting in sudden brain inflammation, alteration of NT levels, and disruption of the blood brain barrier.
- As in Wilson's Disease, sudden onset of a mental illness in young adulthood may result.

Schizophrenia and Oxidative Stress

- All major phenotypes of schizophrenia involve severe oxidative stress,
- Oxidative overload depletes GSH and reduces glutamate activity at NMDA receptors,
- Clear evidence of brain cell loss in schizophrenia: *Archives of General Psychiatry, January 2006.*
- Most antipsychotic medications have antioxidant properties (Risperdal, etc).

Schizophrenia: An Epigenetic Disorder?

- Abnormal methylation and severe oxidative stress are major causes of epigenetic errors.
- Greater than 95% of schizophrenics exhibit abnormal methylation or oxidative overload.
- This could explain failure of schizophrenia to obey classical laws of Mendelian genetics.

Schizophrenia Outcome Studies (open-label)

- 85% report that “life is better” after nutrient therapy,
- 75% report ability to reduce medication,
- Highest efficacy for overmethylation and pyrrole disorder,
- Many cases of complete recovery.

THANK YOU!



William J. Walsh, PhD
Walsh Research Institute
www.walshinstitute.org