Session 5: Mental Health – Psychotic Disorders

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Disclosure slide

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Epidemiological Studies of Rates of Schizophrenia & Other Psychotic Disorders

- Psychotic Disorders are comprised of schizophrenia spectrum disorders and affective psychoses.
- Schizophrenia occurs in all countries
- Prevalence rates vary from 0.5% to 3% (average is 0.75%) lifetime (a little less than 1 in 100)
- 1.4 Males > 1.0 Females, age of onset (M-22, F-27)
- Peak ages of onset 16-30, adolescence – “incidence”
- Affective Psychoses (Bipolar Disorder & Major Depressive Disorder with psychotic features) ~ 2% lifetime
- Similar period of age of onset.
Attentional/Impulse control disorders

Anxiety disorders

Mood disorders

Substance use disorders

Schizophrenia

Ranges of onset age for common psychiatric disorders. Implications for assessment and treatment in adolescents – separating signal from noise

Paus, Keshavan and Giedd - Nature Neuroscience 2008
Epidemiological Studies of Rates of Psychotic Symptoms

- Psychotic symptoms (e.g., hallucinations, delusions) occur more often than previously thought, 5-15% of children studied from age 9, as well as teenagers.
- These symptoms do not always herald an impending psychotic disorder, but are associated with higher rates of transition to psychosis.
- Social and neurocognitive impairments are frequently present from childhood in the “premorbid period”.

From Cannon, Kelleher et al.
6 Severe and psychotic (loss of reality testing)
5 Severe but not psychotic
4 Moderately severe
3 Moderate
2 Mild
1 Questionable
0 Absent

“Conversion” to PSYCHOSIS

SOPS positive symptom scale

Childhood  Early adolescence  Late adolescence  Young adulthood
The **CASES** trajectory of symptom evolution.

- Inattention, Difficulty learning
- Anxiety, Uneasiness, Flattened Affect
- Withdrawal
  - Day dreaming, Solitary activities
- Drop in grades, Failure, Non-attendance
- Attenuated Psychotic Symptoms

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- **Cognitive**
- **Affective**
- **Social Isolation**
- **Educational failure**
- **Subthreshold Positive symptoms**

Adapted by Keshav from model by Cornblatt
Developmental Evolution of Schizophrenia

Stages of Illness

Premorbid

Prodromal/Onset/Deterioration

Decline, Stability or Recovery

Residual/Recovered

Primary Prevention

Remediation/Secondary Prevention

Regeneration

Rehabilitation

Healthy

Worsening Severity of Signs and Symptoms

Gestation/Birth 10 Puberty 20 30 40 50 Years

Adapted from Lieberman et al
Reported mean duration of untreated psychosis (1-2 years)

- Ho 2003
- Wiersma 2000
- Amminger 2002**
- Malla 2002
- Linszen
- Verdoux 2001
- Black 2001
- Larsen 2000
- Hoff 2000
- Ho 2000
- Drake 2000
- Browne 2000
- Barnes 2000
- Robinson 1999*
- McGorry 1996**
- Larsen 1996
- Szymanski 1996
- Loebel 1992*
Treatment & Duration of Untreated Psychosis

- Treatment outcome is better in first episode patients the sooner antipsychotic treatments are initiated (Wyatt, 1988).
- Time to remission is a function of prior untreated duration of psychosis (Lieberman JA, et al. *Neuropsychopharmacology*. 1996;14(3 suppl):13S-21S)
- Cognitive Enhancement Therapy (CET) over 2 years improves neurocognition modestly, improves social cognition substantially, and reduces gray matter loss, in persons in the early phase of schizophrenia (Keshavan, Eack et al., *Arch Gen Psychiatry*, 2010)
Importance of Violence in the Untreated Early Psychosis Period

- Violence is significantly elevated in the first episode (FE) of psychosis especially if it is untreated.
- Violence in FE can be considered to be on a continuum from any violence (34.5%), to serious violence (16.6%) and severe violence leading to bodily harm to others (0.6%).
- While rare, homicides during first-episode psychosis occurred at a rate of 1.6 homicides per 1000, equivalent to 1 in 629 presentations.
- The annual rate of homicide after treatment for psychosis was 0.11 homicides per 1000 patients, equivalent to 1 homicide in 9090 patients with schizophrenia per year.
Importance of Violence in the Untreated Early Psychosis Period - 2

• The rate ratio of homicide in FE psychosis was 15.5 times the annual rate of homicide after treatment for psychosis!
• Violence of any severity was associated with involuntary treatment, a forensic history, hostile affect, symptoms of mania, illicit substance use, lower levels of education, younger age, male sex and the DUP. Serious violence was associated with a forensic history, DUP & total symptoms.
• Conclusion: Early treatment is crucial.
Clinical High Risk (“Prodromal”) Syndromes

- Identified by a semi-structured interview

- Structured Interview for Prodromal Syndromes (SIPS) - McGlashan (Yale)

- Criteria of Prodromal Syndromes (COPS)
  - Attenuated positive symptom syndrome
  - Brief intermittent psychotic syndrome
  - Genetic risk + deterioration syndrome

Miller et al., 2003
Cognition: IQ Deficits Already Present in Premorbid and Clinical High Risk Phases*

*Cross-sectional studies from 4 meta-analyses – L. Seidman
Mean Baseline Cortisol by Diagnostic Outcome Group (Walker et al)
• Decelerating - 5 times lower at 30 months than at 6 months (but not fully asymptotic)
• SIPS/SOPS criteria thus sensitive to imminent risk
• Provides empirical basis on which to time interventions
• Cannon et al (AGP 2008)

<table>
<thead>
<tr>
<th>Interval</th>
<th>Incidence Rate Per Epoch</th>
<th>Incidence Rate Cumulative</th>
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<tbody>
<tr>
<td>BL - 6mo</td>
<td>12.7%</td>
<td>12.7%</td>
</tr>
<tr>
<td>6 - 12 mo</td>
<td>9.0%</td>
<td>21.7%</td>
</tr>
<tr>
<td>12 - 18 mo</td>
<td>5.1%</td>
<td>26.8%</td>
</tr>
<tr>
<td>18 - 24 mo</td>
<td>5.8%</td>
<td>32.6%</td>
</tr>
<tr>
<td>24 - 30 mo</td>
<td>2.7%</td>
<td>35.3%</td>
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</table>
Treatment Studies of the Clinical High Risk Period are Promising

- Some indications that antipsychotic medications may attenuate the symptoms or delay the onset of Psychosis (McGorry, McGlashan studies).

- Cognitive Behavior Therapy (CBT) may do the same as above (Morrison, Addington).

- Omega-3 has one very promising study.

- More research is clearly needed but the results so far suggest a 10% conversion rate to psychosis in treated subjects compared to 30% in untreated. The data are promising. Thus far, consensus in field is not to use anti-psychotics unless other treatments are ineffective.
Early Intervention: Why? To Improve Outcome and Reduce Suffering

- Greatest risk of deterioration during first 1-5 years of illness.
- Prevent decline – cognitive, social, vocational.
- Reduce chance of violence to self or others - higher rates in schizophrenia of homicides, violent suicide attempts, and self harm such as major self mutilation, in untreated first-episode psychosis compared to later in the illness.
- Critical period for effective intervention: Prodrome & early psychosis: reduce duration of untreated psychosis (DUP), or even better, reduce clinical high risk period.
Intervention Strategies

Family and Friends Notice Non-specific Changes

Early Behavioral Changes

Family or friends notice pre-psychotic symptoms

Patient notices attenuated symptoms

First treatment or hospitalization

Psychotic symptoms emerge

PSYCHOSOCIAL INTERVENTION

MEDICATION

LOW-DOSE MEDICATION

Adapted from Cornblatt et al
Barriers to Care in Prodrome & 1st Episode Psychosis

- Denial on part of patient and family, stigma.
- Poor recognition of symptoms by others before very late in disorder – low mental health literacy.
- Limited knowledge on part of mental health providers.
- Lack of access to treatment – very limited trained workforce and very limited services.
- Child-Adult chasm. Many patients presenting with symptoms in mid-late teens.
- Need financial buy-in for early intervention in psychiatry.
Summary - 1

- Most psychotic illnesses begin in teens to 20’s.
- Current mental health services intervene late.
- There is a service gap at a critical period – adolescence.
- Need for care precedes psychotic diagnosis.
- Hospitalization can be traumatic. Early intervention may avert a hospitalization, minimize its traumatic impact, or may help provide continuity of care with outpatient clinician.
- The untreated psychotic period is a period of greatest risk to self (suicide & self-harm) and to others ranging from mild to severe, including homicide.
• The earlier psychosis is detected and treated, the better the prognosis.

• New advances have helped us to reliably predict who may be at imminent risk.

• Early treatments may delay, prevent, or mitigate severity of onset.

• Community awareness of warning signs and early referral are critical to reach those who can benefit.

• Early intervention may prevent cognitive loss, violence to self or others and enhance functioning.
Our BIDMC – MMHC Program

- Center for Early Detection, Assessment & Response to Risk (CEDAR) for Psychosis
- First Episode Treatment (PREP & Southard)
- DMH Service Reform
- Research
- Partners - Prevention Collaborative
- Diverse Youthful, Urban Communities
- Widespread Community Education
- Training