Challenges to Recovery Following Early Psychosis: Implications of Recovery Rate and Timing

Mental Health Exchange Group
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Background

- One component [the quantitative investigation] of mixed methods study of recovery among individuals in an early psychosis program;

- Prospective cohort study examining time-to-first recovery using survival analysis (n = 260)
  - Secondary analysis of program database
  - 308 individuals admitted consecutively to early psychosis program from January 2001 – December 2009;
  - 260 (85%) had appropriate admission data for inclusion in study
Study Site: The Early Psychosis Program

The PIER program (Psychosis Intervention Early Recovery), a service of the Eastern Regional Health Authority in Eastern NL, Canada:

• is a specialized mental health program focused on the recognition, assessment & treatment of individuals experiencing a first episode of psychosis;
• has 3 admission criteria: i) individuals experiencing symptoms of psychosis for the 1st time; ii) between the ages of 16 & 50; iii) with less than 6 mos of antipsychotic treatment.
• has an interdisciplinary team providing a range of services to individuals and families
St. John’s NL Canada
Research Questions

1. What is the rates and timing of recovery following a first psychotic episode?

1. What are the factors that influence the timeliness of recovery?
Two outcomes of interest (target events):

**Partial Recovery** as measured by 2 criteria:
1. Symptom Remission (manic and psychotic)
2. Adequate daily functioning

**Comprehensive Recovery** as measured by 3 criteria:
1. Symptom Remission (both manic and psychotic)
2. Adequate Daily Functioning
3. Quality of Life
Program Scales Used for Operational Measures

Positive and Negative Syndrome Scale (PANSS)

• Contains 30 items, adapted from two earlier rating instruments (Brief Psychiatric Rating Scale and Psychopathology Rating Scale), that evaluate positive, negative and other symptoms in schizophrenia;
  – 8 items have been determined that best represent remission of psychotic symptoms

• Each item is rated on 7 point scale (1=absent, 7=extreme); 7 items assess features that are not present in a normal mental state (Positive Scale); 7 items assess features that are absent in individuals with schizophrenia but present in those with normal mental state (Negative Scale). The final scale, The General Psychopathology Scale assesses the overall severity of the disease by summation of the remaining 16 items (Kay, Fiszbein & Opler, 1998; 1997)
Program Scales Used for Operational Measures

Young Mania Rating Scale

• Contains 11 items to assess the severity of mania but not depression
• Designed to be administered by a trained clinician in 15-30 minutes
• Items are rated on a 5-point scale with varying descriptors for each and are based on the individual’s subjective report of the previous 48 hours but with emphasis on the clinician’s observations during interview.
Global Assessment Scale

- Is a single item rating scale for evaluating the overall functioning of an individual during a specified period (usually 1 week prior to administration) on a continuum from psychologic or psychiatric sickness to health;
- Scale values range from 1 to represent the hypothetically sickest individual to 100 to represent the healthiest and are divided into 10 equal intervals. (Endicott, Spitzer, Fleiss & Cohen, 1976)
Program Scales Used for Operational Measures

Quality of Life Scale

- Contains 21 items designed to assess deficits in social and occupational functioning by examination of the richness of personal experiences, the quality of interpersonal relationships and productivity in occupational roles;

- Contains 4 subscales: 1) *Intrapsychic Foundations* comprises 7 items; 2) *Interpersonal Relations* has 8 items; 3) *Instrumental Role* uses 4 items; and 4) *Common Activities* has 2 items.

- Each item is scored on a 7-point scale with descriptor anchors for each point. High scores (“5” or “6”) reflect normal/unimpaired functioning while low scores (“0” or “1”) reflect severe impairment. (Heinrichs & Carpenter, 1984)
Operational Definitions

Partial Recovery

For the purpose of this study, individuals achieved the target event, **partial recovery**, when:

- They scored ‘3 or less’ on the 8 PANSS items
- They scored ‘5 or less’ on Young Mania Rating Scale
- They scored ‘61 or higher’ on Global Assessment of Functioning

All 3 had to be reached for the target to be achieved
Operational Definitions

Comprehensive Recovery

- For the purpose of study, individuals achieved comprehensive recovery when:
  - They scored ‘3 or less’ on the 8 PANSS items
  - They scored ‘5 or less’ on YMRS
  - They scored ‘61 or higher’ on GAS; &
  - They scored ‘4 or above’ on each item of Quality of Life Scale

- All 4 had to be reached
Data Analysis

Descriptive Statistics

Survival Analysis Methods

• **Kaplan-Meier statistics**: survival curve and hazard function

• **Cox Regression**: multivariate impact analysis
## Recovery Cohort  n = 260

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Males n=188 (72%)</th>
<th>Females n=72 (28%)</th>
<th>TOTAL n=260</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>AGE:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>≤ 24 years</td>
<td>n = 125</td>
<td>n = 35</td>
<td>n = 160 (62%)</td>
</tr>
<tr>
<td>≥ 25</td>
<td>n = 63 (34%)</td>
<td>n = 37 (51%)</td>
<td>n = 100 (38%)</td>
</tr>
<tr>
<td><strong>AGE at 1st Contact</strong></td>
<td>24.2</td>
<td>27.9</td>
<td>25.0</td>
</tr>
<tr>
<td><strong>EDU:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt; high school</td>
<td>53 (28%)</td>
<td>31 (43%)</td>
<td>84 (32%)</td>
</tr>
<tr>
<td>high school</td>
<td>68 (36%)</td>
<td>16 (22%)</td>
<td>84 (32%)</td>
</tr>
<tr>
<td>&gt; high school</td>
<td>57 (30%)</td>
<td>25 (35%)</td>
<td>82 (32%)*</td>
</tr>
<tr>
<td><strong>EMP:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>employ/student</td>
<td>58 (31%)</td>
<td>28 (39%)</td>
<td>86 (33%)</td>
</tr>
<tr>
<td>had worked</td>
<td>61 (32%)</td>
<td>18 (25%)</td>
<td>79 (30%)</td>
</tr>
<tr>
<td>never worked</td>
<td>56 (30%)</td>
<td>23 (32%)</td>
<td>79 (30%)*</td>
</tr>
<tr>
<td><strong>LIV CIRC:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>with parents</td>
<td>128 (68%)</td>
<td>33 (46%)</td>
<td>161 (62%)</td>
</tr>
<tr>
<td><strong>MARTIAL:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>single</td>
<td>179 (95%)</td>
<td>51 (71%)</td>
<td>230 (89%)</td>
</tr>
</tbody>
</table>

* Small # missing
## Clinical Characteristics at Program Entry

<table>
<thead>
<tr>
<th>Clinical Characteristic</th>
<th>Total Population</th>
</tr>
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<tbody>
<tr>
<td><strong>DIAGNOSIS:</strong></td>
<td></td>
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<tr>
<td>Schizophrenia Spectrum Disorders</td>
<td>103 (40%)</td>
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<tr>
<td>Affective Psychosis</td>
<td>60 (23%)</td>
</tr>
<tr>
<td>Other Psychosis</td>
<td>97 (37%)</td>
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<tr>
<td><strong>COMORBID:</strong></td>
<td></td>
</tr>
<tr>
<td>Psychiatric</td>
<td>158 (61%)</td>
</tr>
<tr>
<td>Physical</td>
<td>36 (14%)</td>
</tr>
<tr>
<td><strong>SUB USE:</strong></td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>64 (25%)</td>
</tr>
<tr>
<td>Alcohol</td>
<td>45 (18%)</td>
</tr>
<tr>
<td>Marijuana only</td>
<td>15 (6%)</td>
</tr>
<tr>
<td>Alcohol + marijuana</td>
<td>82 (32%)</td>
</tr>
<tr>
<td>Other</td>
<td>51 (20%)</td>
</tr>
<tr>
<td><strong>FAM HX:</strong></td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>46 (18%)</td>
</tr>
<tr>
<td>1&lt;sup&gt;st&lt;/sup&gt; degree relative</td>
<td>86 (33%)</td>
</tr>
<tr>
<td>Other relative</td>
<td>66 (25%)*</td>
</tr>
</tbody>
</table>

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RESULTS OF SURVIVAL ANALYSIS
Survival Curve (Kaplan Meier) for Partial Recovery
PARTIAL RECOVERY n=238

• 174 participants or 73% achieved partial recovery over the 3-year program

• 122 recovered in the first 12 months
  • Median time for partial recovery = 8.3 months
  • Mean time was 12.6 months
Hazard Function for Partial Recovery
Survival Curve (Kaplan-Meier) Time to Comprehensive Recovery
COMPREHENSIVE RECOVERY

- 59 or 22.7% of the cohort achieved comprehensive recovery;
- A small number (n=7) recovered in the first 12 months;
- The largest number of recoveries occurred in Year 2 (n=27, 46%) and 25 individuals achieved comprehensive recovery in Year 3 (42%);
- 60% of the 59 maintained recovery for 6 months or more.
Hazard Function for Time to Comprehensive Recovery
Cox Regression Results
COX REGRESSION

Partial Recovery

- **Diagnosis:** Individuals with affective psychosis were more likely to reach partial recovery (HR 1.84 p=.007);

- **Education:** Those who completed high school more than 2 times as likely to achieve partial recovery (HR 2.19, p=.005) as were those with post secondary (HR 1.77 p=.01)
Two factors were negatively associated with timeliness to partial recovery:

- Individuals b/t ages 25 and 29 were 50% less likely to reach partial recovery status (HR 0.50 p=.02)
- Individuals who were unemployed but had a work history were 44% less likely to reach partial recovery (HR 0.56 p=.006)
Comprehensive Recovery

1. **Diagnosis:** individuals with affective psychosis were 2 & ½ times more likely to recover than those with SSD (HR 2.5 p=.008); those with other psychoses were more than twice as likely to recover (HR 2.3 p=.03)

2. **Comorbid condition of anxiety:** Individuals with anxiety were 2 ½ times more likely to recover (HR 2.62 p=.07)

3. **Education:** individuals with more than high school were 2 times as likely to achieve comprehensive recovery (HR 2.0, p=.06)
Implications & Conclusion

- The results indicate that much of the progress of recovery (symptom control & daily functioning) occurs in the first 12 months following the initial episode of psychosis;

- Issues related to quality of life, however, remain problematic for the majority of those who experience a psychotic disorder; in particular interpersonal and occupational factors seriously impact the health and well being of the cohort;
Implications & Conclusion (con’d)

• This raises a number of questions about recovery trajectories (do we know what they are?) & whether any one recovery model can address the needs of a diverse group of individuals and families;

• The findings support maintaining a sustained program of interventions that provide (or create) opportunities for individuals to develop and maintain new, age-appropriate social networks and build skills and capacity to achieve personal satisfaction in the achievement of their life’s goals.
Thank You