Resilience, Psychopathology and Rehospitalization

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RESILIENCE, RISK, PSYCHOPATHOLOGY AND PSYCHIATRIC HOSPITALIZATION

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Purpose:

The goal of the project was to determine why patients are being hospitalized repeatedly within an acute psychiatric facility. Past studies have found repeated hospitalization leads to economic drain, disability, poor outcome, stigma and discrimination. Repeated hospitalizations are one of the main causes of disability and dysfunction amongst the mentally ill as well as consuming more than 90% of the mental health budget. This drain deprives consumers of a major part of allocated health resources.
Identifying the potential risk factors for repeated hospitalization, interrelationships between risk factors, and vulnerability will help us take the appropriate measures to prevent hospitalization and promote care in the community. Logistically there are three possible factors which may lead to repeated hospitalization:

1. Characteristics of the patient,
2. Nature of the illness and,
3. The management of the illness which includes system in, administrative patients care.

This prospective study which was conducted at the Regional Mental Health Care - St Thomas has the objective to delineate some of these factors. This study aims to find the risk factors, psychosocial correlates and clinical profiles of patients being hospitalized repeatedly.
Methods:

We recruited consenting patients with repeated hospitalization from the inpatient and outpatient programs. These patients were assessed using structured and unstructured psychometric tools to examine demography, psychopathology of psychosis, depression, life events, current psychosocial stress, resilience, nature of treatment and community care. We administered and recorded routine clinical date, brief psychiatric rating scale, Hamilton depression rating scale, Holms and Rahe scale of presumptive life events, life event questionnaire, Connor-Davidson RESILINCE scale (CD-RISK) and suicidality by SISMAP.
Results:

0 We are presenting findings of the pilot phase of this study. The results show that there are significant patient-related factors e.g. experience of trauma, chronic suicidality and unremitted symptoms which are the primary cause of rehospitalisation. The nature of the illness, the nature of treatment and systemic issues are not significantly involved in re-hospitalisation.
10-30% of psychiatric patients use 50-80% of the mental health resources

High risk post discharge

- 45% within 7 days
- 68% within 14 days
- 91% within 21 days
- 25% within 3 months

Prevention of mental disorders

RESILIENCE

Illness → Wellness → Positive Psychiatry

Positive Psychiatry
Wellness
Illness
Prevention of mental disorders

Neurobiology

Neuroplasticity
HPA axis, NA, Serotonergic, DA systems
Neuropeptide Y (NPY), BDNF
Genetics, epigenetics,
Neurocircuitry the amygdala,
hypothalamus mPFC, ACC


Problem statement & objective

1. Patients characteristics determine psychopathology and hospitalization

2. Behavioral & psychological characteristics of resilience: as predictor of relapse

Objective: To examine psychopathological correlates of resilience amongst hospitalized patients
Prevention of mental disorders

RESILIENCE

Screen, consent and Recruitment

Scan database

Assessment Hospitalized

Clinical

Quantification of psychopathology

Resilience:

Diagnosis. Treatment, Hospitalizations Community care etc.

BPRS, HDRS. HRSS, Life-event, SIS-MAP (Sucidality)

CR-RISK
Age 41.2

Gender 65%

Key cause for admission: anxiety depression, violence, unusual thought, suicide,

Commonest diagnosis: Mood disorder, Anxiety-depression

Suicidal ideas and attempt: Current admission, Past history and family history
## Characteristics

<table>
<thead>
<tr>
<th>Reason for Hosp</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Suicidal crisis</td>
<td>12  (35.35)</td>
</tr>
<tr>
<td>Suicide attempt</td>
<td>8   (23.5%)</td>
</tr>
<tr>
<td>Suicide related admission</td>
<td>20  (58.8%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Past history</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Attempt</td>
<td>19  (55.9%)</td>
</tr>
<tr>
<td>ideation</td>
<td>29  (85.3%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Duration of illness</th>
<th></th>
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<tbody>
<tr>
<td>(Range: 3 to 68, SD = 9.7)</td>
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</tbody>
</table>

| BPRS                            | 69  |
| CD-RISK                         | 51  |
| HRSS                            | 429 |
| # Life events in past year      | 4   |
| HDRS                            | 19  |
| SISMAP                          | 26.5|
| testosterone                    | 10.56 (range 2.3 – 15.9, SD 3.6) |
| Cholesterol                     | 3.66 (range = 0.3 to 6.7, SD = 1.44) |
| TSH                             | 6.2 mU/L |
Amongst single (N=12) and repeatedly (N=22) admitted patients there was neither any difference in level of resilience nor any correlation with hospitalization on any parameter of study except for a negative correlation with life events in past one year (r=-0.357, p=.038).

(CD-RISK Total 49.1 Vs. 51.7 p=.657, CD-RISK >40, 10 Vs. 17 p >.999; CD-RISK >60, 3 Vs. 5 p >.999)
Individual items of CD-RISK

- I have at least one close and secure relationship that helps me when I am stressed
- I take pride in my achievements
Continued stress has diminishing and lasting effects on resilience. (Life events in past year)

<table>
<thead>
<tr>
<th>Spearman Rank Correlations - # Previous admissions &amp; Scores</th>
<th>CD-RISC</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>r</td>
</tr>
<tr>
<td>BPRS</td>
<td>-0.076</td>
</tr>
<tr>
<td>CD-RISC</td>
<td>-0.070</td>
</tr>
<tr>
<td>HRSS</td>
<td>-0.218</td>
</tr>
<tr>
<td>Life Events Past year</td>
<td>-0.357</td>
</tr>
<tr>
<td>HDRS</td>
<td>-0.227</td>
</tr>
<tr>
<td>SISMAP</td>
<td>0.094</td>
</tr>
</tbody>
</table>
1. Level of stressful events, 2. Life events in past one year, 3. Level of Suicidality

### Correlations Among Scores

<table>
<thead>
<tr>
<th></th>
<th>CD-RISC</th>
<th>HRSS</th>
<th>Life Events past year</th>
<th>HDRS</th>
<th>SISMAP</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>r</td>
<td>P Value</td>
<td>r</td>
<td>P Value</td>
<td>r</td>
</tr>
<tr>
<td>BPRS</td>
<td>-0.196</td>
<td>.267</td>
<td>-0.136</td>
<td>.499</td>
<td>0.053</td>
</tr>
<tr>
<td>CD-RISC</td>
<td>0.405</td>
<td>.036</td>
<td>0.406</td>
<td>.017</td>
<td>-0.242</td>
</tr>
<tr>
<td>HRSS</td>
<td></td>
<td></td>
<td>0.605</td>
<td>&lt;.001</td>
<td>-0.011</td>
</tr>
<tr>
<td>Life Events</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.145</td>
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<tr>
<td>Past year</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>HDRS</td>
<td></td>
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</table>
### Scores

<table>
<thead>
<tr>
<th></th>
<th>1 Admission Only (n=12)</th>
<th>&gt;1 Admission (n=22)</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>HRSS</td>
<td>425.5 (270.8)</td>
<td>434.6 (238.1)</td>
<td>.931</td>
</tr>
<tr>
<td># Life events in past year</td>
<td>4.5 (3.0)</td>
<td>3.5 (3.2)</td>
<td>.398 (unpaired t)</td>
</tr>
<tr>
<td>HDRS</td>
<td>22.6 (8.2)</td>
<td>16.5 (7.5)</td>
<td>.037</td>
</tr>
</tbody>
</table>

Trends in correlation with resilience and psychopathology (NS)
Resilience, Re-hospitalization and psychopathology

![Graph showing trend over time for hospitalization, BPRS x 10, and HDRS with three lines representing different variables. The y-axis represents HOSPITALIZATION, and the x-axis represents time in increments of 10 (30 to 80). The graph indicates a favorable trend for hospitalization and psychopathology measures over time.]

Favorable
CD-RISK: Hospitalization (Mean)

Hospitalization

- Hospitalization

Favorable

Mean number of hospitalization

CD-RISK Score

0-40

41-50

51-59

60-100
Resilience and level of stress

HRSS (100)

level of resilience had positive correlation with stressful situation (HRSS; $r = 0.405, p = .036$)
Life event's in previous year

Continued stress has diminishing and lasting effects on resilience. (Life events in past year)

Life events in previous one year ($r=0.406, p=0.017$) possibly due to severe psychopathology.
Suicidality and resilience

PSYCHOPATHOLOGY

Favorable

BPRS x 10 | HDRS | SISMAP

30: 43.2 | 20.3 | 7.8
40: 27.9 | 18.2 | 6.5
50: 35 | 20.8 | 7.5
60: 30.1 | 16.8 | 6.2
70: 35 | 19 | 7
80: 23 | 17 | 6.1
Chemistry and endocrine
Can resilience be enhanced?

- Stress - immune response
- Correlation with resilience
- Change in endocrine levels over time course
- May have clinical implication

PSYCHOPATHOLOGY

Thyroid and testosterone: No correlation with resilience

<table>
<thead>
<tr>
<th>Spearman Rank Correlations – Scores with TSH, Testosterone &amp; Cholesterol</th>
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<tr>
<td></td>
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<tr>
<td></td>
</tr>
<tr>
<td>BPRS</td>
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<tr>
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</tr>
<tr>
<td>HDRS</td>
</tr>
<tr>
<td>SISMAP</td>
</tr>
</tbody>
</table>
Thyroid- Testosterone & CD-RISK inverse relationship

Neuroendocrine

Resilience Score

Value

TSH  Testosterone  Linear (TSH)  Linear (Testosterone)
Cholesterol – CD-RISK

![Graph showing the relationship between cholesterol and CD-risk](image-url)
Summary

- Resilience is related to psychopathology to some extent.
- Up to a critical level it has protective effect. It is of particular significance to severity of suicidal ideation.
- Level of resilience can be low due to cumulative stress factors preceding a relapse.
- Longitudinal investigation.
maternal separation increases nerve growth factor (NGF)