Targets of therapeutic intervention for prevention of repeated hospitalization: need for developing ‘personalised care model’

Amresh Srivastava, University of Western Ontario
Social exclusion and Resilience: Newer targets for intervention

Amresh Srivastava

Associate Professor of Psychiatry
Western University
Parkwood Institute of Mental Health and
Lawson Health research Institute
London Ontario, Canada
Addressing poverty is a public policy priority. When 1.57 million people live in poverty in as prosperous a place as Ontario, there is a clear need to adapt public supports and investments.
Want to admit a patient?

$468

Per patient per year

Hospital x 10: 178
Community x 10: 34.8
Whitby Psych, Ontario Hospital for the Insane, Ontario Hospital, Whitby, or OHW,

Bethlem Hospital at St George's Fields, 1828

Whitby Psych, Ontario Hospital for the Insane, Ontario Hospital, Whitby, or OHW,
then 1939

St. Thomas, SJHC

then

Now

2014
Then... & now
Then... & now
Why do patients get repeatedly hospitalized?

Besides several treatment what more can be done

Does RESILIENCE play a role?
For people with mental illness

It has been a long journey

and for many others

It has been a Sojourn
Mental disorder and poverty

<table>
<thead>
<tr>
<th>Mental Disorder</th>
<th>Incidence</th>
<th>Progress to SMI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any mental disorder</td>
<td>18.6%</td>
<td>25%</td>
</tr>
<tr>
<td>Severe mental disorder</td>
<td>4.1%</td>
<td>25%</td>
</tr>
</tbody>
</table>

- Mental disorder is increasing 3.5 times increase by 2020
- Poverty is decreasing 25% by 2020
Repeated Hospitalisation

Do patients and their positive characteristics prevent hospitalization?

missed Opportunity in first admission
Short-term and long term objectives

Need for newer ways of treatment

Intervention at ARMS

Treatment for ‘personal growth’

Re-define follow up criteria

A prognostic approach
100 years outcome of schizophrenia

Reduced risk of being hospitalized

2015

50%

Hagardty et al
Short-term and long-term outcome of schizophrenia

16-country WHO study and max recovery in El

11% Canada 2012

16- country WHO study and max recovery in El
Rehospitalised patients are those admitted with suicide risk.

50% readmitted

Vulnerable
At-risk for suicide at the time of discharge
Patients have difficulty in accessing healthcare (left without support)
Rehospitalised patients are those admitted with suicide

Our studies: Hospitalisation

Hospitalization in acute and recently discharged patients

Suicide behaviour in schizophrenia

Resilience in Recently discharged patients

Risk of suicide at the time of discharge in Early psychosis

Positive psychiatry (PPC) traits in psychopathology and psychosis
Resilience
### Resilience

No consensus definition

<table>
<thead>
<tr>
<th>A Protective factor</th>
<th>&gt; 500 key words</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adaptability</td>
<td>Neurobehavioral construct</td>
</tr>
<tr>
<td>Optimism</td>
<td>Modifiable</td>
</tr>
<tr>
<td>Satisfaction</td>
<td>Mindfulness</td>
</tr>
<tr>
<td>Contentment</td>
<td>Foresight</td>
</tr>
</tbody>
</table>

Shares common biological features with suicide
<table>
<thead>
<tr>
<th>Neurocognition</th>
<th>Neuroplasticity</th>
<th>Neuropeptides, neuroprotectives, BDNF and NG1/2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neuro-circuitry Amygdala, hypothalmus, mPFC, ACC</td>
<td>Resilience</td>
<td>HPA Axis, NA, DA, serotonergic system</td>
</tr>
<tr>
<td></td>
<td>Genetics and epigenetics</td>
<td>Genetics and epigenetic</td>
</tr>
</tbody>
</table>

**Resilience - A neurobiological construct**
Resilience - relapse - rehospitalisation

- Symptoms
- Crisis
- Suicidality (Intent, ideas, attempt)

Behavioural characteristics
Hypothesis

We believe that identifying indicators for patient’s ability and resources to deal with psychopathology may improve therapeutic outcomes. Knowledge about such indicators may offer better ‘personalized – care’ to minimise symptom severity.
Re-organization of description of resilience

**Resilience**

- **Self-Worth**
  - 12 items: 4, 5, 7, 8, 10, 12, 14, 15, 17, 19
- **Optimism**
  - 5 items: 24, 3, 6, 13
- **Conviction**
  - 8 items: 25, 22, 18, 16, 11, 9, 2, 1
1. Psychopathology and Level of Resilience

<table>
<thead>
<tr>
<th></th>
<th>Duration of illness (months)</th>
<th>Length of current hospitalization (weeks)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>12.6 (12.7)</td>
<td>11.3 (28.5)</td>
</tr>
</tbody>
</table>

- **N**: 78
- **Male**: 42
- **Age**: 43.6
- **Married**: 20
- **SISMAP Severe**: 38
- **BPRS**: 55
- **Life events**: 3.5
- **HDRS**: 19.4
- **HRSS x 10**: 31.1
- **Hospitalization ≥ 1**: 32
- **CD RISC (mean, N= 74)**: 52.3
- **Patients: CD-RISC<50**: 54
- **Mean Number of Hosp**: 5.4
Hospitalisation

Resilience

don't give up
strong sense of purpose
stay focussed

One admission

pride in achievement

→ Don't Give-up

> 1 admission

Strong sense of purpose on 1

Resilience

don't give up
strong sense of purpose
stay focussed

pride in achievement

one admission

> 1 admission

Strong sense of purpose on 1
Under pressure I stay focussed

Resilience
don't give up
strong sense of purpose
stay focussed

pride in achievement

Hospitalisation
Behavioural Characteristics of resilience

Main target for intervention is increasing/building SELF-WORTH

- 4 items
  - Optimism 31%
  - Conviction 8%
  - Self-worth 61%

- 8 items
  - Resilience has Negative correlation with Hospitalisation
  - Resilience building therapy for Self-worth
  - to prevent Psychopathology
  - and Hospitalisation
## Acute and recently discharged (not long-term) RMHC St. Thomas

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospitalized more than once</td>
<td>32%</td>
</tr>
<tr>
<td>Duration of illness</td>
<td>12.6 years</td>
</tr>
<tr>
<td>Length of current hospitalisation</td>
<td>11.3 weeks</td>
</tr>
<tr>
<td>Resilience on CD-RISC &gt; 60</td>
<td>22%</td>
</tr>
<tr>
<td>PPC factors</td>
<td></td>
</tr>
<tr>
<td>Self worth</td>
<td></td>
</tr>
<tr>
<td>Characteristics of patients who are repeatedly hospitalised</td>
<td></td>
</tr>
<tr>
<td>Characteristics of patients with high suicidality who are repeatedly hospitalized</td>
<td></td>
</tr>
</tbody>
</table>

Shrivastava A and Campbell R, 2012 (Unpublished)
## Behavioural Characteristics

<table>
<thead>
<tr>
<th>I do not give up</th>
<th>Under pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td>I stay focussed</td>
<td>I have strong sense of purpose</td>
</tr>
<tr>
<td>Take pride in my achievement</td>
<td></td>
</tr>
</tbody>
</table>


Resilience and hospitalisation

CD-RISC Score

Mean number of Hospitalisation

SISMAP - Suicidality

HDRS

Premorbid

Prodromal

Psychotic

Transitional

Recovery

Early initiation, Evidence based

Phself-specific, Person-centered, adaptive

Integrated (Pharmacologic and psychosocial)

Continuity with a life-span approach
<table>
<thead>
<tr>
<th>Q 1</th>
<th>What is the best time of intervention?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Early phase</td>
</tr>
<tr>
<td>Q 2</td>
<td>What type of resilience building measure will be effective?</td>
</tr>
<tr>
<td></td>
<td>Increasing self-worth</td>
</tr>
<tr>
<td>Q 3</td>
<td>Which symptomatology is also related to behavioural traits?</td>
</tr>
<tr>
<td></td>
<td>suicide</td>
</tr>
</tbody>
</table>
Q4  Do Behavioural traits play a role?

- 5 different traits have positive correlation
- Negative correlation with duration of illness
- Medium severity of symptoms
- After a certain duration severity of psychopathology is not correlated with resilience
## Risk - Resilience - Response: Newer Interventions

<table>
<thead>
<tr>
<th>Resilience - building measures</th>
<th>Mindfulness training</th>
<th>Yoga</th>
</tr>
</thead>
<tbody>
<tr>
<td>combined recreational sport and psychosocial rehabilitation</td>
<td>Harm-reduction approach</td>
<td>TM</td>
</tr>
<tr>
<td>metallization and cognitive training</td>
<td>protection approach</td>
<td>Meditation</td>
</tr>
<tr>
<td>moderate resilience and emotional intelligence</td>
<td>promotion approach</td>
<td>Medications</td>
</tr>
<tr>
<td>Cognitive interventions</td>
<td>Psychotherapies</td>
<td>transmagenetic modulation</td>
</tr>
</tbody>
</table>
Clinical implications of research of resilience

New understanding - new hope

Newer intervention

Effective treatment in early phase

Meaningful integration of treatments

Prevention of mental disorders
hope