Impact of Therapeutic Milieu and Unit Aggression on Progression to Discharge: Correlation of Emergency Events with Outcomes for Psychiatric Peers

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Outline of Presentation

• Purpose:
  – Investigate the impact of the milieu variable, emergency events, on psychiatric peer outcomes.

• Design and Methods:
  – Retrospective cohort study to quantify change in milieu characteristics. Analysis of outcomes on an inpatient psychiatric unit after a change in the patient population.

• Findings:
  – Regression analysis identified emergency events as a predictor of the LOS for male patients with psychosis.
  – LOS increased for male patients with psychotic disorders when exposed to increased unit aggression.

• Practice Implications:
  – Milieu variables predict length of stay, confirming relevance of the therapeutic milieu. These findings impact treatment, policy, education, and milieu management practices.
Learning Objectives

1. Describe why studies have been used to evaluate milieu have not produced operationalized data.

2. Describe how unit aggression has impact on LOS variable by diagnosis.

3. Discuss the variability in coping styles by diagnosis.

Purpose

Purpose: Therapeutic Milieu

- Peplau
  - Conceptualized as “holding environment”

- Milieu Therapy was the rationale for nurse-patient relationships.
  - De-emphasized in recent years.
  - Suggests as irrelevant: Is the place where therapies happen, but is not an intervention itself.

- Current focus is safety, stabilization and progression to discharge.
  - Hospitalizations account for 16% of annual mental health budget.
  - Acute shortage of beds across the country.

- Non-Psychiatric units focus on social support, minimizing noise, adequate space, access to nature, maximizing sleep and comfort (Zimring, Joseph, & Choudhary, 2004).
Purpose: Therapeutic Milieu

- Extensive nursing literature supports treatment milieu as a factor related to patient satisfaction (Clarkin, Hurt, & Crilly, 1987; Kirshner & Johnston, 1982; Melle et al., 1996; Melle, Schjødt, Byrsting, & Gjerris, 2008).

- Qualitative Metrics: Patient Satisfaction Surveys
  - Studies suggest that patient’s perception of aggression and behavior of staff are variables in outcomes. (De Benedictis et al., 2011, p. 488).
  - “High levels of aggression and staff control generally should be avoided” (Jörgensen, Römma, & Rundmo, 2009, p. 113; Melle et al., 1996).

- It is necessary to identify and quantify milieu atmosphere variables (Rogers et al., 1991, p. 350).
  - Operationalize the qualitative analysis to quantify patient perceptions
  - Perception of aggression can be quantified by incidence of emergency events.

Purpose: From Milieu to Outcomes

- Milieu is a bio-psycho-social treatment variable
  - Variables include diagnostic mix, aggression, staffing, built space (Melle et al., 1996).

- Patients need to cope with their environment

- Coping impacts outcomes

- Increased events means a milieu has changed:
  - Increased aggression, agitation, risk of harm to self or others.

- Suggests increased need for coping resources to achieve goal of “safe holding place for recovery”.

Rationale:
Advancing Nurse Milieu Theory

- The hospital milieu has been deemphasized in recent years.
  - Perception as not relevant.
  - Research on the impact of milieu is scant
  - ‘Satisfaction’ does not quantify the variables in the milieu.
  - Milieu therapy requires identification of quantifiable milieu variables (Rogers et al., 1991).

- Little research on impact on psychiatric peers
  - Research can quantify aggressive and disordered units, and evaluate outcomes of psychiatric peers (Bower et al., 2003; Lewis, Taylor, & Parks, 2009).
Opportunity and Aim of Study

• On August 29, 2011 a flood destroyed the existing state hospital in a rural community.
  – Acute mental health patients in treatment were moved to other units in the state and mixed with typical patient population. Many of these patients were medication non-compliant, and at risk of harm to self or others.

• Unit acuity increased & emergency events increased.

• Data identify the impact of emergency events on patients that receive emergency interventions and impact on staff. Data scant on impact to psychiatric peers on unit.

• With pre and post data available, this was an opportunity to evaluate peer patient outcomes associated with change in milieu acuity and characteristics.

Design and Methods

• Consent
  – Nursing Research Council
  – University of Vermont Institutional Review Board (CHRBS).

• Data Collection
  – Jeffords Institute of Quality Measurement
    • Age, gender, dates of hospitalization, diagnosis, discharge status, emergency events
  – GAF data was mined by researcher.

• Three-year, retrospective cohort study
Design and Methods: Sample

- All adult inpatient hospitalizations from March 2010-March 2013. Total Sample of 778 patients.
- Exclusion criteria:
  - LOS < 1, LOS > 66
  - Patients who were not discharged to home care
  - Incomplete data
- After exclusion:
  - 610 patients studied.
- Two cohorts:
  - Before August 29, 2011: Group A (N=381).
  - After August 29, 2011: Group B (N=229).
- Statistics
  - Descriptive
  - Comparison of Means,
  - Regression Models
  - p=0.05

Findings

Findings: Descriptive Distribution by Diagnosis

- DX 1, 2, & 3 comprise 88% of sample
- Data analysis focused on outcomes for DX 1, 2, & 3

<table>
<thead>
<tr>
<th>Code</th>
<th>%</th>
<th>Disorder</th>
</tr>
</thead>
<tbody>
<tr>
<td>DX 1</td>
<td>33.4</td>
<td>Psychotic Disorders</td>
</tr>
<tr>
<td>DX 2</td>
<td>26.2</td>
<td>Bipolar Disorders</td>
</tr>
<tr>
<td>DX 3</td>
<td>28.2</td>
<td>Major Depressive Disorders</td>
</tr>
<tr>
<td>DX 4</td>
<td>5.4</td>
<td>Anxiety Disorders</td>
</tr>
<tr>
<td>DX 5</td>
<td>3.1</td>
<td>Substance Induced Disorders</td>
</tr>
<tr>
<td>DX 6</td>
<td>3.6</td>
<td>Includes anti-partum and post-partum mood disorders, Alzheimer’s disease, dementia, and conduct disorders.</td>
</tr>
</tbody>
</table>
Findings: Data Groups A & B

<table>
<thead>
<tr>
<th>Variable</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Younger</td>
<td>Group B: 3.76 years younger</td>
</tr>
<tr>
<td>More Male</td>
<td>A: 49.9%, B: 67.2%</td>
</tr>
<tr>
<td>Lower GAF on Admission</td>
<td>Group B: -1.94 points</td>
</tr>
<tr>
<td>Males with MDD</td>
<td>Group B: -4.47 points</td>
</tr>
<tr>
<td>Increased Events/Aggression per Day</td>
<td>A: 0.16, B: 0.99</td>
</tr>
<tr>
<td>LOS Change</td>
<td>Group B: +2.86 days</td>
</tr>
<tr>
<td>Increased Psychosis, and BPAD DO *</td>
<td>+5.82 days, +3.59 days*</td>
</tr>
<tr>
<td>Decreased MDD DO*</td>
<td>Group B: -1.61 days*</td>
</tr>
<tr>
<td>Events Predictor of LOS</td>
<td>R²: A=0.334, B= 0.473</td>
</tr>
<tr>
<td></td>
<td>* Not Significant</td>
</tr>
</tbody>
</table>

May be non-linear in effect
Higher R²

Findings: t-Test LOS Outcomes

<table>
<thead>
<tr>
<th>Sample</th>
<th>SIG</th>
<th>MEAN DIFF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample</td>
<td>.006</td>
<td>3.86</td>
</tr>
<tr>
<td>DX 1</td>
<td>.013</td>
<td>4.35</td>
</tr>
<tr>
<td>DX 1 Males</td>
<td>.011</td>
<td>0.82</td>
</tr>
<tr>
<td>DX 2</td>
<td>.002</td>
<td>3.59</td>
</tr>
<tr>
<td>DX 3</td>
<td>.033</td>
<td>-1.61</td>
</tr>
</tbody>
</table>

- Increased LOS Males patients with psychotic disorders (p=0.011)
- Female patients with MDD had shorter LOS (3.1 days p=0.152)

Findings: Regression Models of LOS by Diagnosis

<table>
<thead>
<tr>
<th>DX Code</th>
<th>Group</th>
<th>Significant Predictors</th>
<th>R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>A</td>
<td>Age, GAF, Events, Gender</td>
<td>0.257</td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>Age, Events, GAF, Gender</td>
<td>0.429</td>
</tr>
<tr>
<td>2</td>
<td>A</td>
<td>Age, Events, GAF, Gender</td>
<td>0.110</td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>Age, Gender, GAF, Events</td>
<td>0.586</td>
</tr>
<tr>
<td>3</td>
<td>A</td>
<td>Age, Events, GAF, Gender</td>
<td>0.551</td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>Age, Gender, GAF, Events</td>
<td>0.455</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DX 1 Group</th>
<th>Significant Predictors</th>
<th>R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Males A</td>
<td>Age, GAF, Events</td>
<td>0.330</td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>0.447</td>
</tr>
</tbody>
</table>
Discussion

Discussion: DX Code 1 Males
Biology of Illness

- DX Code 1 Males
  - Biology of illness
  - Coping mechanisms
- Dopamine Role in Psychosis
  - Psychotic symptomology associated with D2.
  - Increased stressors results in increased dopamine:
    - Increased symptomology
  - Requires increased LOS to progress to discharge

Discussion: DX Code 1 Males
Internal Coping Resources

- Coping mechanisms for psychotic males
  - Utilize emotional based coping.
    - Results in increased insecurity, fear, stress (Ritsner & Lysaker, 2011)
  - Contributes to D2 cascade
  - Increased symptomology.
  - Requires increased LOS to progress to discharge
Discussion: DX Code 1 Males
Social Support Resources

• Milieu serves as moderating influence
  – Increased milieu aggression decreases unit support
    • Staff availability and staff priorities are impacted
    • Decrease in DX Code 3 peers decreases unit peer coping resources
    • Increased milieu aggression decreases social support from family
  – Results in increased fear, insecurity, stress
  – Contributes to D2 cascade
  – Increased symptomology
  – Requires increased LOS to progress to discharge

Discussion:
Ethical Implications

• Patients have right to access best care
  – Non-maleficence
• Patients have right to refuse treatment
  – Autonomy
• Distributive Justice
  – Few resources, increased need.

Discussion:
Policy

• Untreated Mental Health Illnesses that lead to increased emergency events:
  – Right to refuse medications may harm course of treatment of peers
  – Process for court order of medication
  – Facilities
    • Distribution of DX Code
    • Type of environment
    • Space per patient
    • Access to ‘safe places’ for peers
  – Exposure to untreated peers as an institutional harm
    • Reimbursement
Discussion:
Nursing Education and Practice

- Milieu variables vary in impact on patient
  - Milieu/aggression, patients perceptions, staff behavior
- Stress and coping
  - Coping style suggest differential interventions
  - Need an assessment algorithm: Events, PRN, sleep, nutrition, ADLs, agitation, symptoms, content of socialization.
- Need models to understand coping with internally generated stimulus
- Advocating for patients rights
  - Balancing autonomy and right for care

Suggestions for Future Research

- Evaluate LOS
  - Context of stress and coping
  - Objective markers
    - Discrete GAF, Med-compliant, EE Participant, Algorithms
  - Social support resources
    - Staff, Peers, Family, Other
    - Unit Stressors/Emergency Events
- Environmental Stress as challenge or support?
- Optimal mix of DX on unit
  - Do DX Code 3 patients support DX Code 1?

Discussion:
Summary of Conclusions

- Aggression is a quantifiable milieu variable
- Unit aggression is a predictor in LOS models
- Milieu is relevant in psychiatric care
Limitations

- Naturalistic sample
  - Size contributes to power
- Did not have data to evaluate coping resources
- GAF on Admission not discrete number
- Data did not exclude patients who had events.
- Staffing variables
- Payment variable not in model
- Not generalizable

Thank You!

Questions

References


References


