

# Linkage between Documented Patient Observations and Aggressive Incidents in an Acute Care Hospital Inpatient Psychiatric Unit

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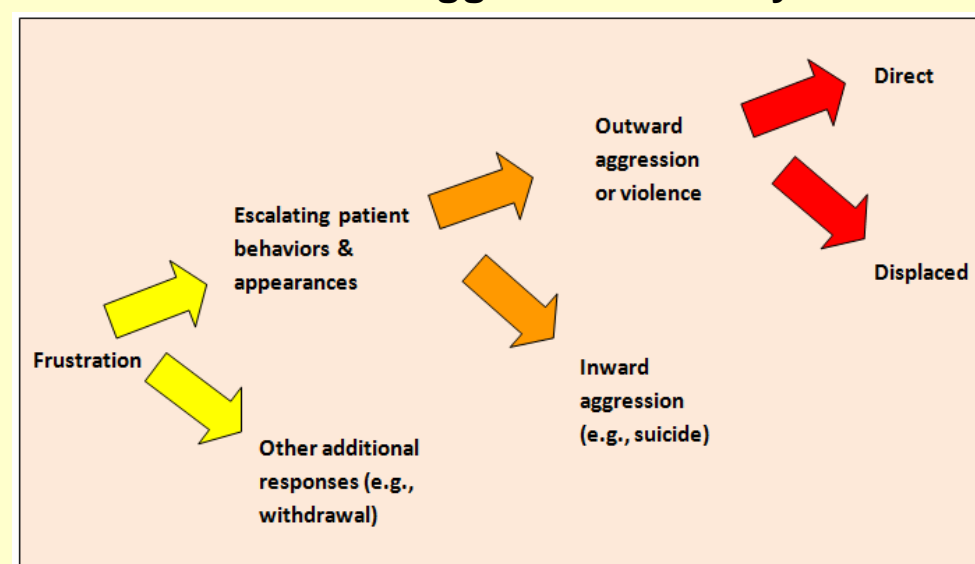
## PROBLEM STATEMENT

The risk of aggressive behavior and violent events in the inpatient psychiatric setting is serious in nature and poses severe risks to patients, staff, and the organization. In one meta-analysis, the percentage of violence occurring in the psychiatric setting was highest within the United States and United Kingdom (Bowers et al., 2011). The report concluded that the United States led the way for violence in forensic and acute care psychiatric settings. The study further reported that 79% of psychiatric nurses surveyed indicated that they had experienced violent events with patients during their professional career.

**Study Purpose.** This research study explored the relationship of violent incidents with patient appearances and behaviors assessed prior to violent events through the use of an observation monitoring tool.

## THEORETICAL FRAMEWORK

### Frustration Aggression Theory



Adapted from Oris, 2013

Two main assumptions:

- ❖ Frustration leads to some form of aggression
- ❖ Aggression is preceded by frustration

This research study utilized the theory to determine if outward signs, in the form of visual appearance(s) and behavior(s), preceded outward expressions of frustration.

## METHODS & DESIGN

### Study Design & Setting

- ❖ Descriptive, correlational study design
- ❖ 38-bed psychiatric unit in Southeastern United States

### Subject Inclusion & Exclusion Criteria

- ❖ Hospitalized inpatients ≥18 years of age involved in violent events
- ❖ Excluded if <2 observations documented in the hour preceding violent event and patients on Q15-min assessments

### Study Variables (existing data)

- ❖ Patient behaviors
- ❖ Patient appearances
- ❖ Aggressive events: type, time of occurrence

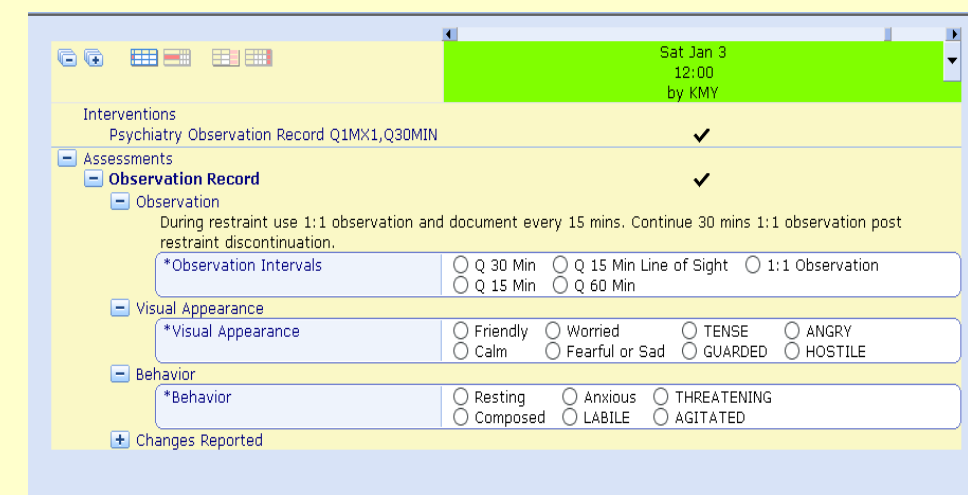
### Demographics

- ❖ Gender, age, diagnosis

## INSTRUMENTS & DATA COLLECTION

### Instruments

- ❖ Facility "Code Gray" Monitoring Form
  - Completed by nurse after aggressive or violent event requiring response
  - Documented ten items surrounding event
  - Study specifically focused on 'Type of Intervention'
- ❖ Psychiatric Observation Record
  - Completed on every patient in 15- or 30-min increments
  - Captures patient behavior and visual appearance



### Data Collection

- ❖ "Code Gray" monitoring forms for violent events obtained
- ❖ Patient behaviors and appearances (two each) collected from observation record during the hour prior to the event
  - Point A: observation earliest in the hour
  - Point B: observation closest to time of aggressive event

## STATISTICAL ANALYSIS

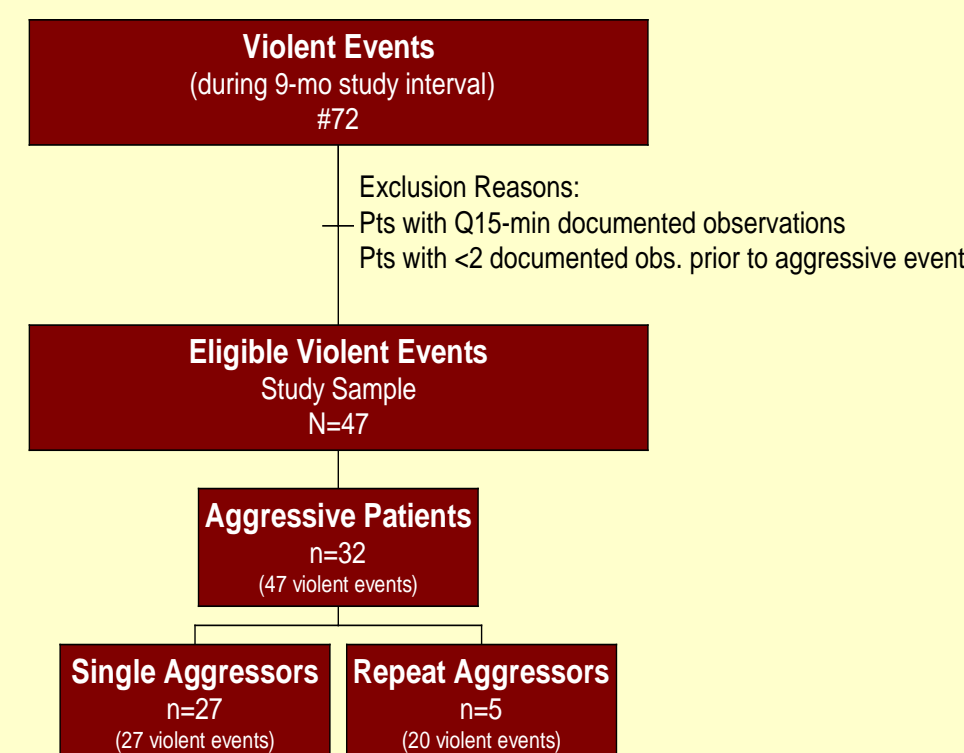
### Descriptive Statistics

- ❖ Mean (M), standard deviation (SD), mode, frequency
- ❖ Spearman rank correlation coefficient: relationship between degree of aggression and visual appearance, relationship between degree of aggression and behavior

### Inferential Statistics

- ❖ Chi-Squared Analysis: differences in gender, diagnoses, types of aggressive events, degree of aggression as a function of diagnosis
- ❖ Two-Tailed Student's t-Test: examined gender mean age differences
- ❖ Stepwise Multiple Regression: type of aggression dependent on subject age, gender, and time of day

## STUDY SAMPLE



## DEMOGRAPHIC RESULTS

Characteristic	Sample		p Value†
	n	%	
<b>Degree of Aggression</b>			.0131††
Type 1: Mild	32	68	
Type 2: Moderate	12	26	
Type 3: Severe	3	6	
<b>Gender</b>			<.0001††
Female	8	17	
Male	39	83	
<b>Diagnosis Category</b>			.0094††
Substance use/abuse-related disorders	10	21	
Bipolar disorder	11	23	
Psychotic disorders	21	45	
Other	5	11	
<b>Total</b>	<b>47</b>	<b>100</b>	

†Significance determined at 95% confidence using  $\chi^2$  analysis and t-Test.  
††Statistically significant.

### Degree of Aggression Analysis

- ❖ Mild: requiring only verbal intervention (32/47)
- ❖ Moderate: requiring verbal followed by physical intervention (12/47)
- ❖ Severe: requiring physical intervention initially (3/47)
- ❖ Significant difference noted between the degree of aggression expressed among the sample population:  $\chi^2(1, N = 47) = 6.15, p = .0131$

### Gender Analysis

- ❖ Male subjects outnumbered females almost 5:1
- ❖ Unit census during the study period (N=1603) revealed more males (57.6%) hospitalized than females
- ❖ Subject gender distribution significantly different from unit census distribution of males and females:  $\chi^2(1, N = 47) = 18.08, p < .0001$
- ❖ Male subjects (age range: 18-67) slightly older ( $M = 46.4, SD \pm 17.3$ ) compared to their female counterparts ( $M = 42.5, SD \pm 15.9$ )
- ❖ Student's t-test revealed no significant difference between ages of males & females involved in aggressive events:  $t(11) = 0.62, p = .5447$

### Diagnosis Analysis

- ❖ Distribution of diagnoses among subjects differed significantly:  $\chi^2(3, N = 47) = 11.47, p = .0094$

## SPEARMAN RANK CORRELATIONS

Positive correlations found between type of aggression and both visual appearance and behavior.

Of the 47 violent events, 29 events (61.7%) were preceded by an escalation of frustration.

Observation	$r_s$
<b>Visual Appearance</b>	
Point A (mode: calm)	.88
Point B (mode: calm)	.50
<b>Behavior</b>	
Point A (mode: composed)	.66
Point B (mode: composed)	.52

Scale to determine strength of association:  $\leq 0.35$  weak, 0.36-0.67 moderate, 0.68-1.0 strong, and  $\geq 0.90$  very strong (Taylor, 1990).

## STEPWISE MULTIPLE REGRESSION

- ❖ Evaluated effect of gender, age, and time of event on degree of aggression – mild, moderate, severe
- ❖ Time played a significant role:  $F(1) = 5.1; p = .0288$
- ❖ Aggressive events, severe in nature, occurred in afternoon/evening hours

## CHI-SQUARED ANALYSES

	Degree of Aggression		Statistic	p Value†
	Mild	Moderate & Severe		
<b>Gender (n)</b>			$\chi^2=12.12$	.0005††
Male	27	12		
Female	5	3		
<b>Diagnosis Category (n)</b>			$\chi^2=20.97$	.0001††
Substance Use/Abuse-Related Disorders	3	7		
Bipolar Disorder	9	2		
Psychotic Disorders	17	4		
Other	3	2		

†Significance determined at 95% confidence. ††Statistically significant.

Chi-squared analyses performed to determine if gender and/or diagnosis played a role in the degree of aggression observed.

- ❖ Statistically significant gender difference in degree of aggression exhibited among subjects observed:  $\chi^2(1, N = 47) = 12.12, p = .0005$
- ❖ Subject diagnoses differed significantly based on the degree of aggression:  $\chi^2(3, N = 47) = 20.97, p = .0001$

## IMPLICATIONS for PSYCHIATRIC-MENTAL HEALTH NURSING

### Findings revealed:

- ❖ Frustration, in the form of escalated visual appearance and/or behavior, usually occurred prior to outward expressions of aggression.
- ❖ Facilities not employing appearance and behavior monitoring may consider adding these assessments.
- ❖ Healthcare workers can educate families/caregivers about outward signs that may be potential precursors to aggressive behavior.

## IMPLICATIONS for FUTURE RESEARCH

### Future research considerations:

- ❖ A predictive, correlational study design utilizing a limited number of trained professionals to assess patient appearance and behavior for violent and non-violent subjects
- ❖ Extend study period
- ❖ Limiting violent event inclusion to one incident per subject

## REFERENCES

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