

# **Illness awareness, psychotic symptomatology and violent behaviour during admission to a PICU**

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# overview

- Introduction
- Insight and violence
- Present study- hypotheses
- Methods- participants, instruments, procedure, data analysis
- Results
- Implications- clinical and research
- Weakness and strength

# Introduction

## Schizophrenia & Violence

- Schizophrenia is associated with an elevated risk for violent behaviour
- Relationship between psychotic psychopathology and overt aggression is incompletely understood
- Specific psychotic symptoms sometimes motivate aggression
- No consensus
  - on the extent of their influence
  - on how they interact with other variables such as illness awareness.

# Introduction

## Insight and violence

- Evidence of association of lack of insight and propensity to violence is emerging
- Relationship between insight and violence is complex
- Violent Schizophrenic patients have insight deficits (Buckley 2004)
- Sparse Research literature
- First study : poor insight into schizophrenic illness and propensity to violent behaviour

# Present study

The Aim: To explore and understand the relationship of insight and violence in individuals with schizophrenia

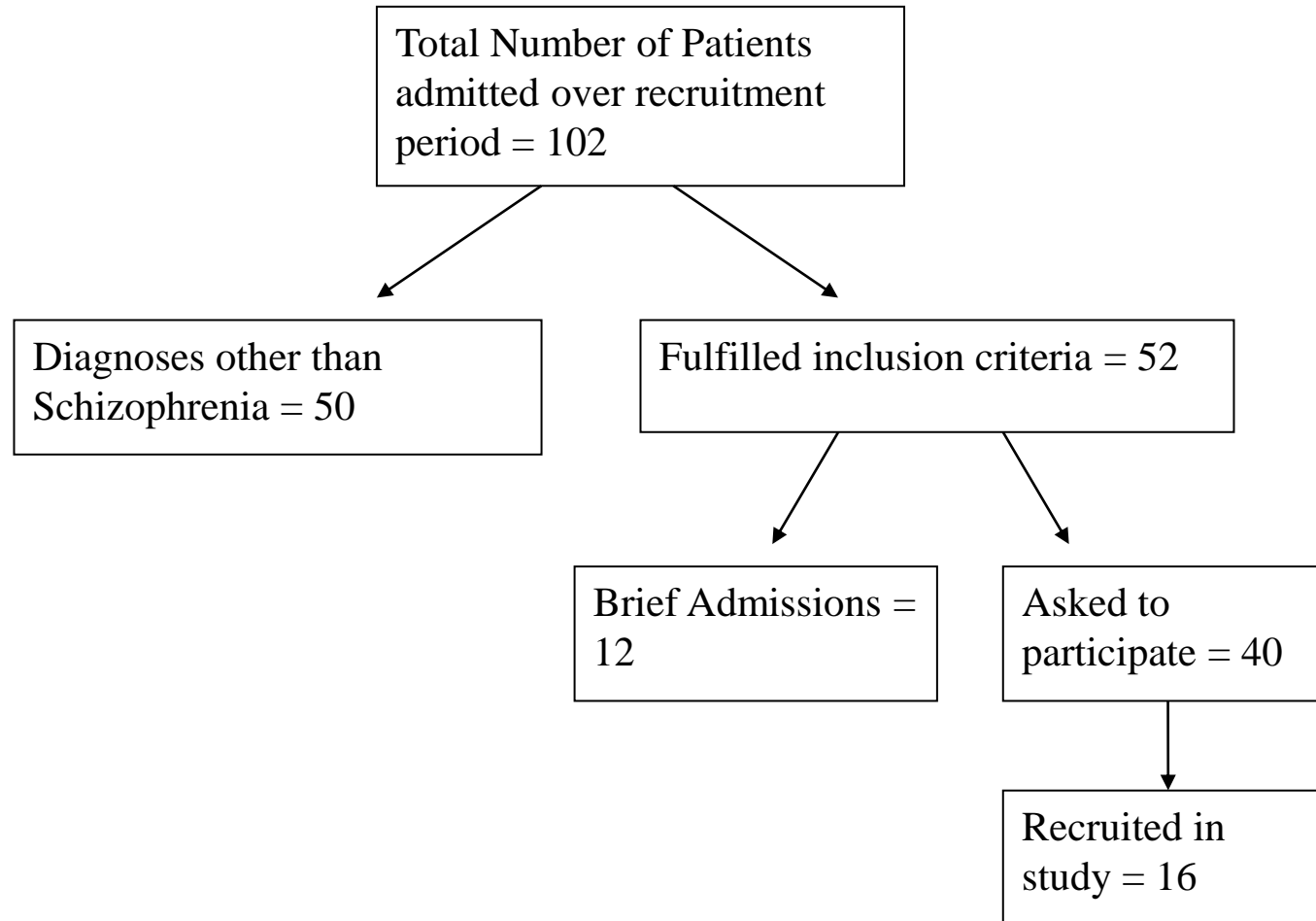
Hypotheses: Aggressive behaviour toward others during a 6 week prospective period will be

- positively correlated with PANSS hostility score on admission
- positively correlated with impaired insight on admission
- positively correlated with PANSS positive subscale scores on admission
- negatively correlated with PANSS negative subscale scores on admission

# Present Study

- Multiple single case design
- 36 bed low secure psychiatric intensive care unit
- Approval:
  - Local Ethics Committee, Luton & Dunstable
  - Research Governance Approval Panel
- Funding:
  - No financial aids were received for this research
- Data Collection:
  - Between May 2005 to January 2006
  - Main investigator- semi-structured interview PANSS, SAI-E & SUMD
  - Psychology Assistant- administer NART
  - Nursing Staff –report aggressive incidents using SOAS

# Participants- Recruitment for Study



# Participants- Recruitment for Study

- Inclusion criteria
  - » Age between 18 and 60years
  - » Ability to give informed consent
  - » ICD-10 diagnosis criteria of schizophrenia
- Exclusion criteria
  - » Learning disability (IQ<70)
  - » Significant medical co-morbidity
- Obstacles to Recruitment
  - » Competent to consent just before discharge
  - » Willing to participate but unwilling to provide written consent
  - » Unwilling to have anything written about them
  - » Reluctant to engage in assessment interview
  - » Informed consent overshadowed by symptoms of illness

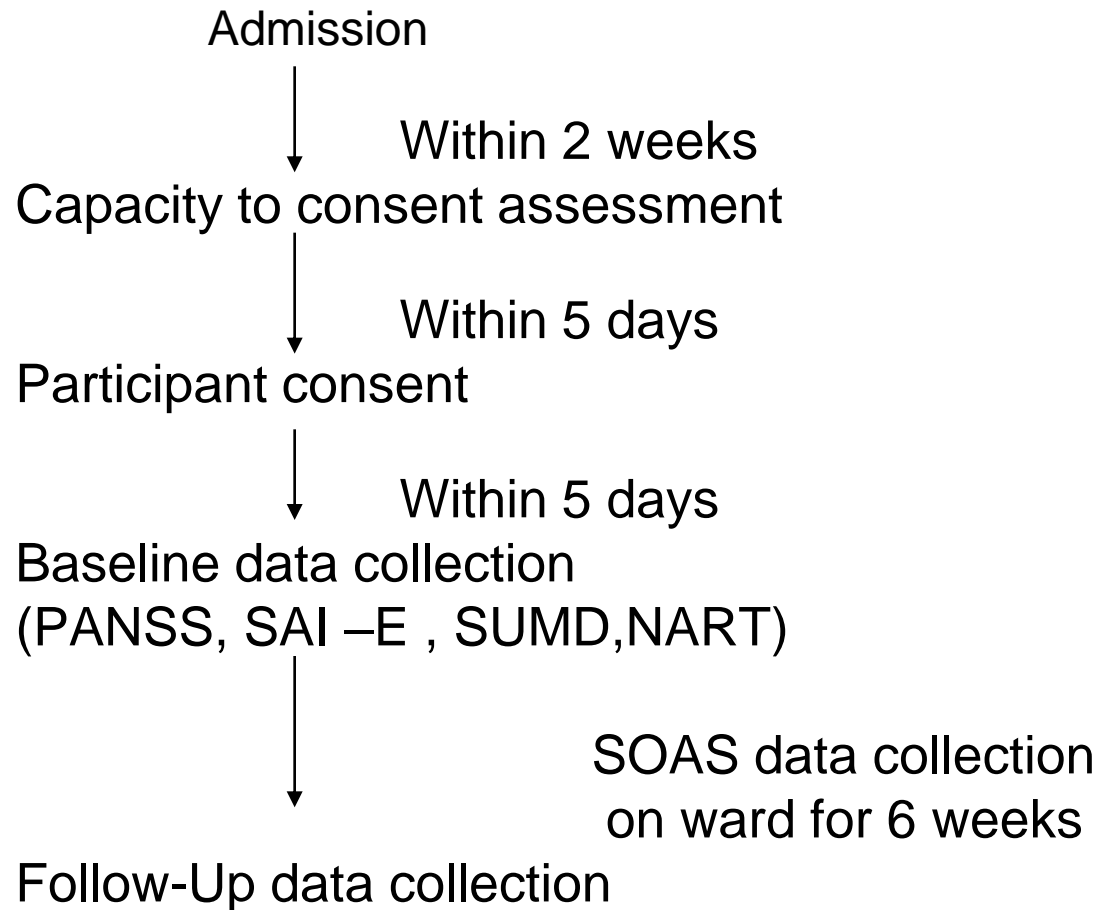
# Measurements

- Psychopathology
  - Positive and Negative Syndrome Scale PANSS (Kay 1987)
  - High inter- rater reliability and test retest reliability
  - Clinical interview
  - 30 items (7 positive, 7 negative, 16 symptom severity)
  - Scored on 7 point scale, 1=absent, 7=extreme
  - Includes one item to assess lack of insight & judgement
  - Composite scales
- Insight Schedule of Assessment of Insight
  - Expanded Version SAI-E (Kemp & David 1997)
  - 3 dimensions + hypothetical contradiction + awareness of change in mental functioning, difficulties resulting from MI and key symptoms
  - 3point scale (0-2) max score 24

# Measurements

- Scale to Assess Unawareness in Mental Disorder – SUMD (Amador 1993) –utilised current awareness of first 3 items-awareness of mental disorder, achieved effects of medication & social consequences of having a mental disorder
- Violence
  - Staff Observed Aggression Scale SOAS (Palmstierna 1987)
  - Assess degree and frequency of violence
  - Observation reporting separate from scoring
  - Completed by ordinary nursing staff
  - Good inter-reporter reliability without previous training
- IQ
  - The National Adult Reading Test NART (Nelson 1982)
    - » 50 word test, irregular words of increasing difficulty
    - » Convertible to WAIS Verbal/Performance/Full IQ

# Procedure



# Data analysis

- Computer software Statistica for Windows version 6.0.
- Correlations (Pearson product moment coefficient) to investigate relationship between violence on ward and
  - » demographics
  - » IQ
  - » clinical symptoms including hostility
  - » insight scores
- multiple regression analysis –identify which of the variables had the most significant impact on levels of aggression -small numbers
- Inter-Correlations between the different insight scales -concurrent validity.

# RESULTS

- **Socio-demographic Variables**
  - » Gender            male    16    female 0
  - » Age                M=30.2 (range 23-40)
  - » Ethnic group    White European 10 (62.5%)  
                         Black Caribbean 2 (12.5%)  
                         British Asian     4 (25%)  
                         Mixed Race       2 (6.25%)
  - » Marital Status   Single            14 (87.5%)
    - »                    Married            1 (6.3%)
    - Relationship      1 (6.3%)
  - » Previous contact with CJS    13 (81.3%)
- **IQ Full scale    M=90.2 SD 27.1**
  - Verbal            M=97 SD 12.8
  - Performance M=98.5 SD 12.2

# Results- Clinical Variables

- Mean Age at onset of illness 21.7years
- Mean Duration of illness 6.2years
- Previous hospitalisations M= 3.63 (range 1-11 )
- Legal Status
  - 13 Section **3** 81.3%
  - 1 Section **37** 6.3%
  - 2 Section **47** 12.5%
- Offender status
  - 11 Non-offender 68.8%
  - 3 Theft 18.8%
  - 1 Assault 6.3%
  - 1 Criminal Damage 6.3%
- Positive substance misuse history
  - » 7 Alcohol 43.5%
  - » 2 Cannabis only 12.5%
  - » 9 Amphetamine only 56.3%
  - » 4 Multiple drugs 25%

# Results- Clinical Variables cont..

- Source of referral
  - 7 Inpatient unit 43.8%
  - 7 Community 43.8%
  - 2 Prison 12.5%
- Reason for admission
  - 14 Verbal aggressions 87.5%
  - 9 Physical aggressions 56.3%
  - 6 Property damage 37.5%
  - 8 Non-compliance 50%
  - 10 Highly aroused 62.5%
  - 5 Absconsion 31.3%
- PANSS Score
  - Total M=116 (89-137)
  - Positive Scale M=31.75 (21-38)
  - Negative Scale M=29.9 (17-41)

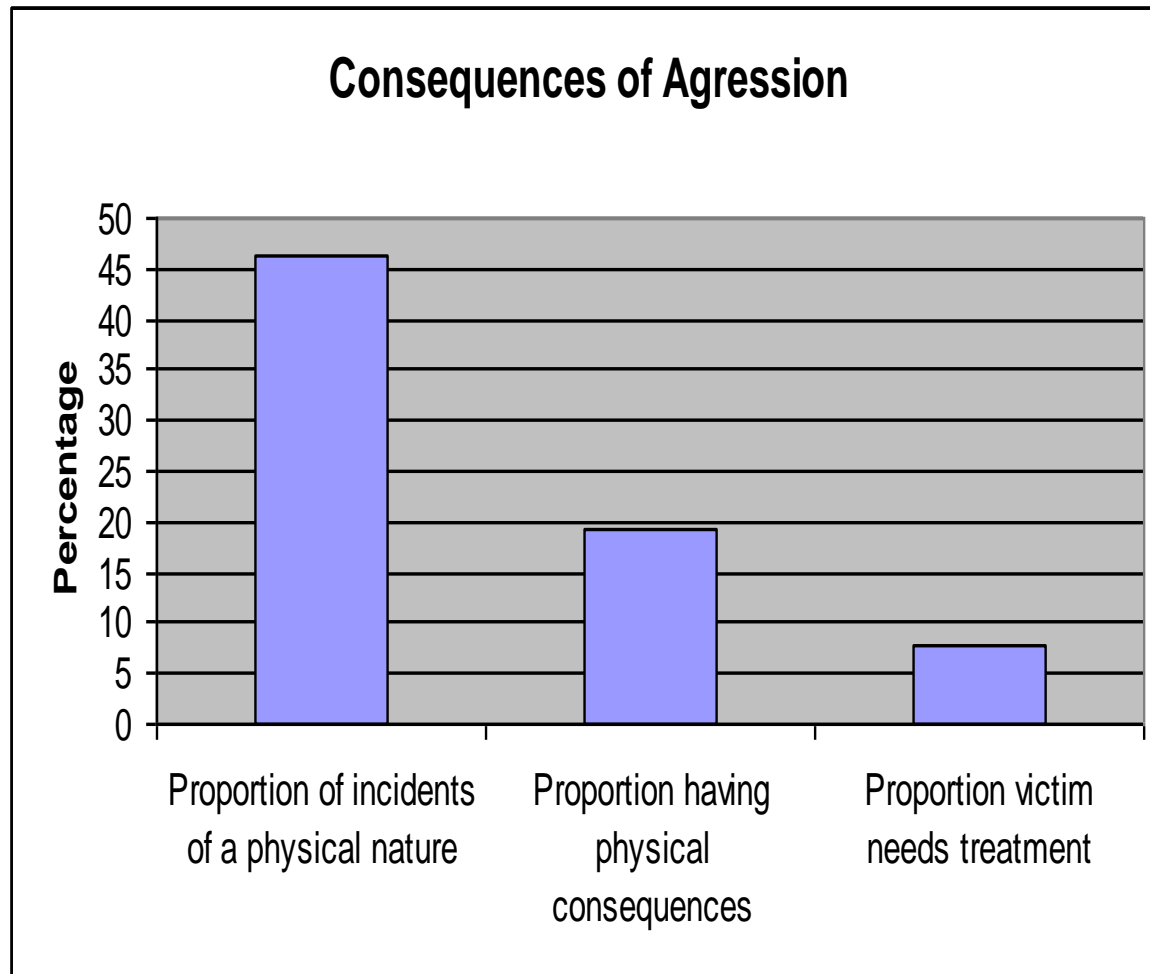
# Violent Incidents: Number and severity

- **Total of 26 violent incidents involving 10 participants**
- MHA Section Part III Vs Part II- number and severity
- **Aggression Severity      No of incidents**

Mild (Score 2-5)	19
Moderate (6-8)	6
Severe (9 or more)	1

Average severity = 4.44
- no significant correlation between age of the participant, their illness duration, number of previous hospital admissions to frequency and severity of violent acts as recorded by SOAS

# Consequences of aggression



## Means

Verbal aggression	13
Use part of body	9
Ordinary objects	3
Dangerous object	0

## Aim

Nothing aimed at	0
Object	3
Staff member	14
Other patient	5
Other person	3

## Provocation preceding an aggressive event

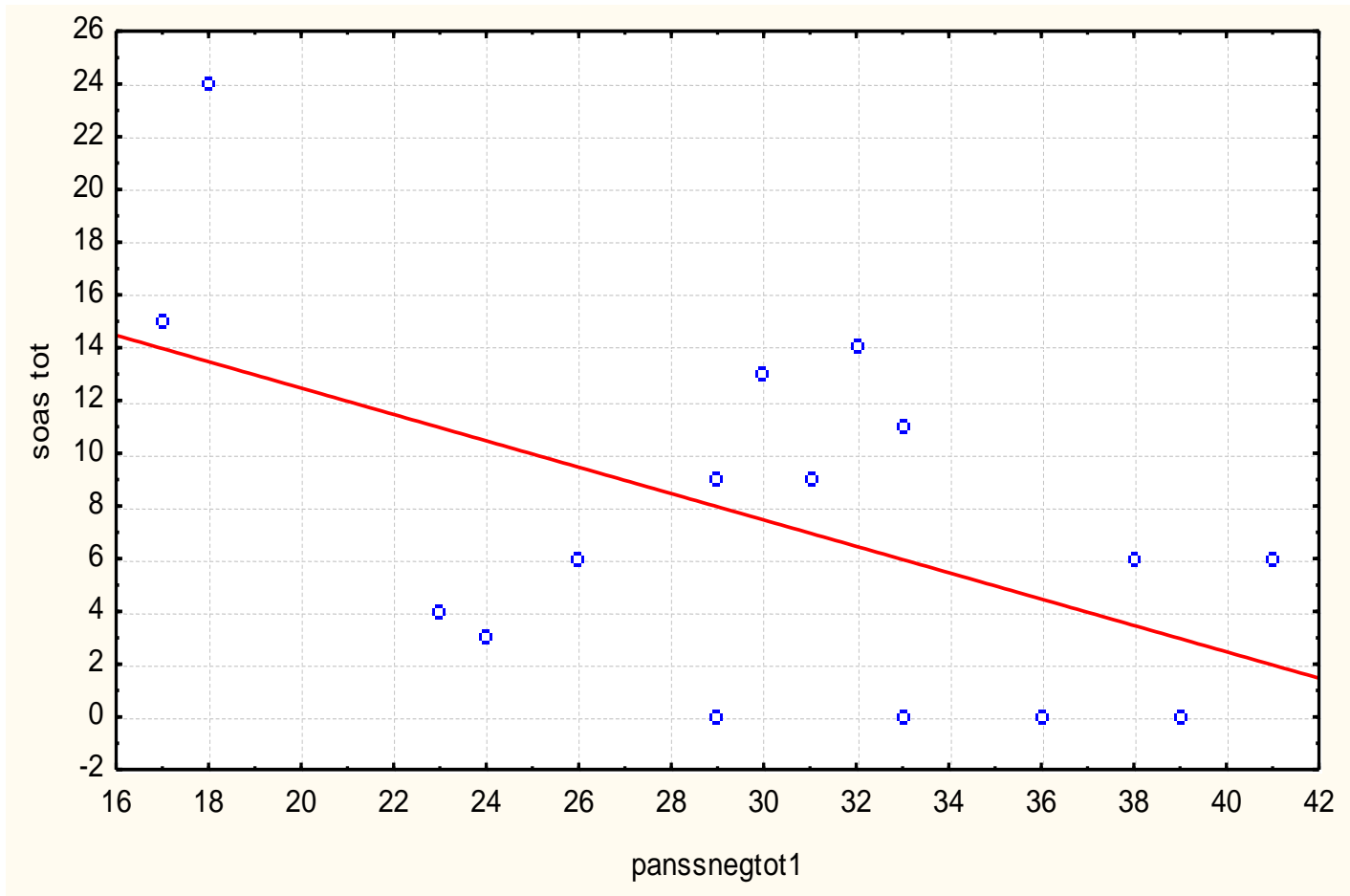
- Without provocation 14
- Provoked 12
  - Other patient 2
    - » Treatment imposed 2
    - » Not discharged 2
    - » Denied something 6

# Correlations:

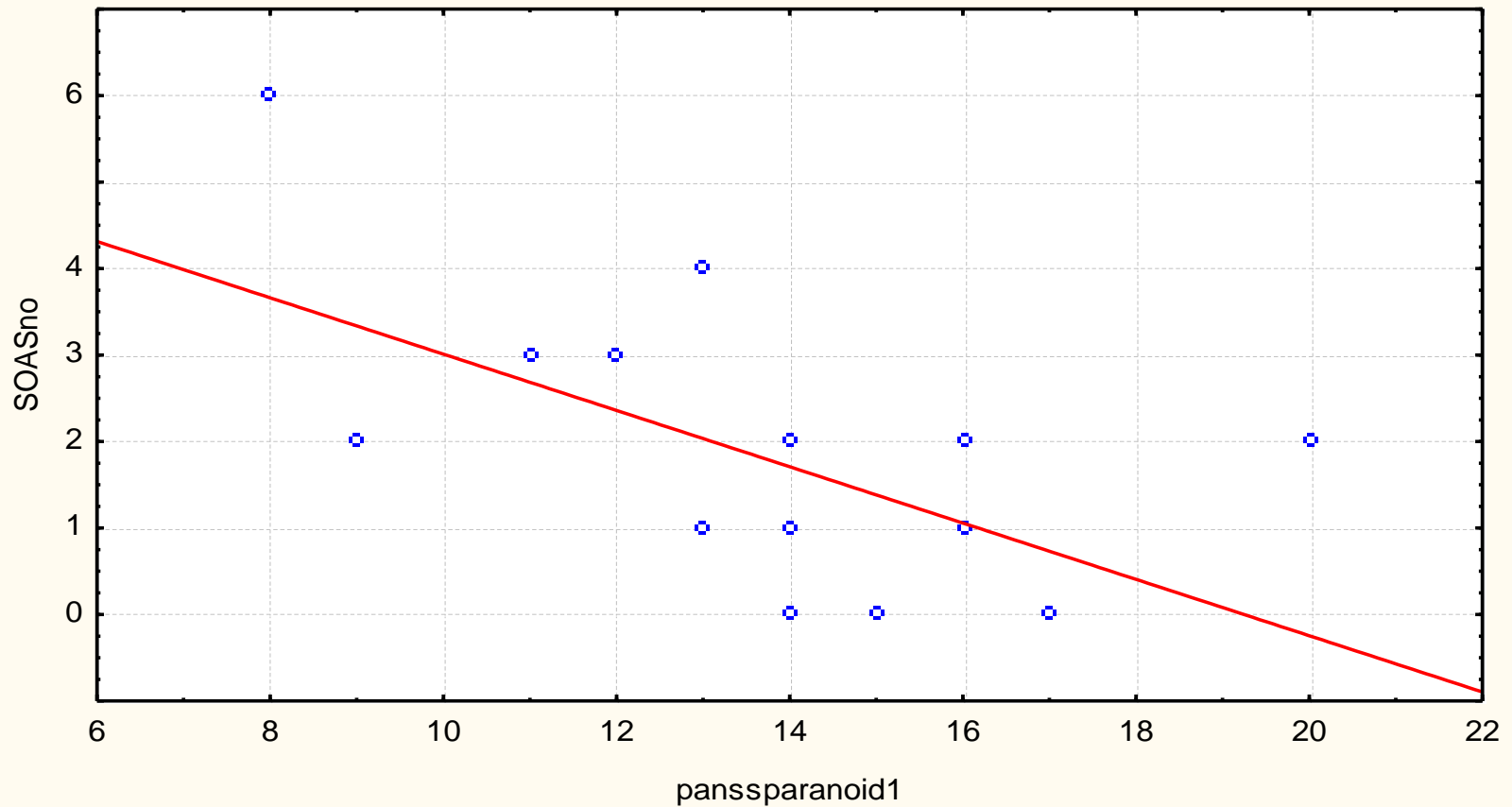
## Violent Behaviour & Psychopathology $p < 0.05$

PANSS Variable	No of aggressive incidents	Total SOAS score
Suspiciousness/ persecution	$r = -0.58$ $p = 0.018$	$r = -0.51$ $p = 0.042$
Poor rapport	$r = -0.60$ $p = 0.013$	$r = -0.75$ $p = 0.001$
Paranoid belligerence	$r = -0.60$ $p = 0.014$	
Negative Syndrome		$r = -0.52$ $p = 0.038$

# Correlations between PANSS Negative and SOAS total score with line of best fit



# Correlation between Number of Violent Incidents and PANSS Paranoid belligerence Subscale (P6+P7+G8) with line of best fit



# Violence and Insight

- SAI, SUMD and G12, item on lack of judgement and insight in PANSS, there was varying levels of correlation
- For the difference between those with a violent incident and those without, t- test showed no difference in insight (SAI & SUMD) or symptoms (PANSS) in the two groups.

# Overview of Results

## Hostility and Violence

- Hypothesis that aggressive behaviour will be positively correlated with PANSS hostility score on admission was not supported
  - Overt hostility demonstrated by verbal expression of resentment rather than by physical assault
  - SOAS- prominent threats of violence/ verbal aggression, serious physical aggression less common
  - Results limited by low baseline rates of hostility
  - small sample

# Insight and Violence

- Correlation between level of insight and violence did not reach significant levels.
- The hypothesis of aggressive behaviour towards others during 6 week prospective period will be positively correlated with impaired insight on admission was not supported
  - Sample size-significant barrier to useful analysis of results
  - false negative (lack of power due to insufficient number)

# Positive Symptoms and Violence

- Hypothesis: Positive correlation of aggression with PANSS positive subscale scores on admission was not supported
- This study found no correlation with symptom severity and violence in acutely ill patients who required secure setting to manage their disturbed behaviour
- Buckley 2004: violent patients in comparison to non-violent patients were more symptomatic on the PANSS ( $p < 0.001$ ).
  - different results due to the populations being compared
  - violent subjects in a sample drawn from forensic (prison and court patient clinic) setting to non-violent (control group) subjects who were attendees at a CMH Centre

# Negative Symptoms and Violence

- The results of this study confirmed the hypothesis negative correlation of aggression & PANSS negative subscale scores on admission
  - makes sense: negative symptoms are protective for violence
  - consistent with evidence emerging from CATIE
- Swanson 2006 suggested “this finding has intuitive clinical plausibility”
  - A certain level of initiative, organisation, psychomotor activation and social contact may be necessary to carry out violent acts; those conditions tend to be absent in persons with a high negative symptoms of schizophrenia

# Schizophrenia and Violence

- Negative correlation between paranoid cluster and violence – unexpected and out of keeping with general view
- Patients with dominant paranoid picture refrain from any interaction with people around them and tend to avoid communal areas.
- Their isolative behaviour reduces exposure to conflict and potential violence
- “Delusions are often associated with chronic psychotic conditions that are frequently attended by social withdrawal and development of smaller social networks. Delusional subjects in the community, therefore, may have less desire and fewer opportunities to engage in the interpersonal interactions that can lead to violence compared with less severely ill patients” Appelbaum et al., 2000
- “Patients living alone were significantly less likely to engage in any violence than their counterparts who were living with family, controlling for other risk factors” Swanson et al., 2006

# Scientific Implications

- Difficulties inherent to study this patient population with active psychosis and acutely disturbed behaviour
- Acquiring informed consent
- Informed consent overshadowed by symptoms of illness- suspiciousness, persecution, delusions
- Generating research data
- Crucial period excluded due to lag in admission and assessment
- Prospective study to examine acute characteristics in acutely psychotic patients poses major challenge
  
- way forward
  - » only observation based measures
  - » initial psychopathological assessments are part of the “routine records”
- relationships between psychopathological variables and violence in PICU –
  - » No firm conclusions
  - » negative symptoms appear to reduce the risk of violence

# Clinical Implications

- Need recording system that lends itself to scientific research
- Benefits of routine use of SOAS as aggression monitoring tool
  - » measures frequency of aggression
  - » quantifies the severity of incidents,
  - » comparison of the general severity of reported violence rates.
  - » good inter-rater reliability and validity
  - » monitoring aggression on a unit over time
  - » wider use to allow local and national comparison to provide trends of inpatient violence.
  - » improve risk management procedures
- Recordkeeping framework to facilitate communication with patients
  - » progress over time with changes in nature and frequency of violence
  - » informing a patient why they have not been discharged

# Limitations & Strengths

- multiple single case design - weak external validity
- sample heterogeneity limits generalisability
- sample size small to consider which variable best predicts insight and violence relationship
- prospective nature of this study methodological strength  
-capture the richness of the relationship among violence risk factors in schizophrenic inpatients

# Conclusion

- Violence and schizophrenia – inherently difficult area for methodologically robust research
- Finding of high correlation among various insight scales confirms the findings of Sanz 1998
- Beneficial use of more than one measure to measure this complex concept
- Future research should include criminogenic variables

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