



Trauma, substance abuse and psychosis

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RBWH





Overview of talk

- What is psychosis?
- Clinical significance of psychotic symptoms
- Ultra High Risk for psychosis (UHR)
- Trauma and psychosis.

Psychosis

- Broad Phenotype
- LTP 3%
- Genetic and environmental contribution
- Highly variable outcomes
- Includes syndromes such as
 - Schizophrenia
 - Bipolar Disorder
 - Drug Induced psychotic disorder

Positive and negative symptoms

⊙ Positive symptoms

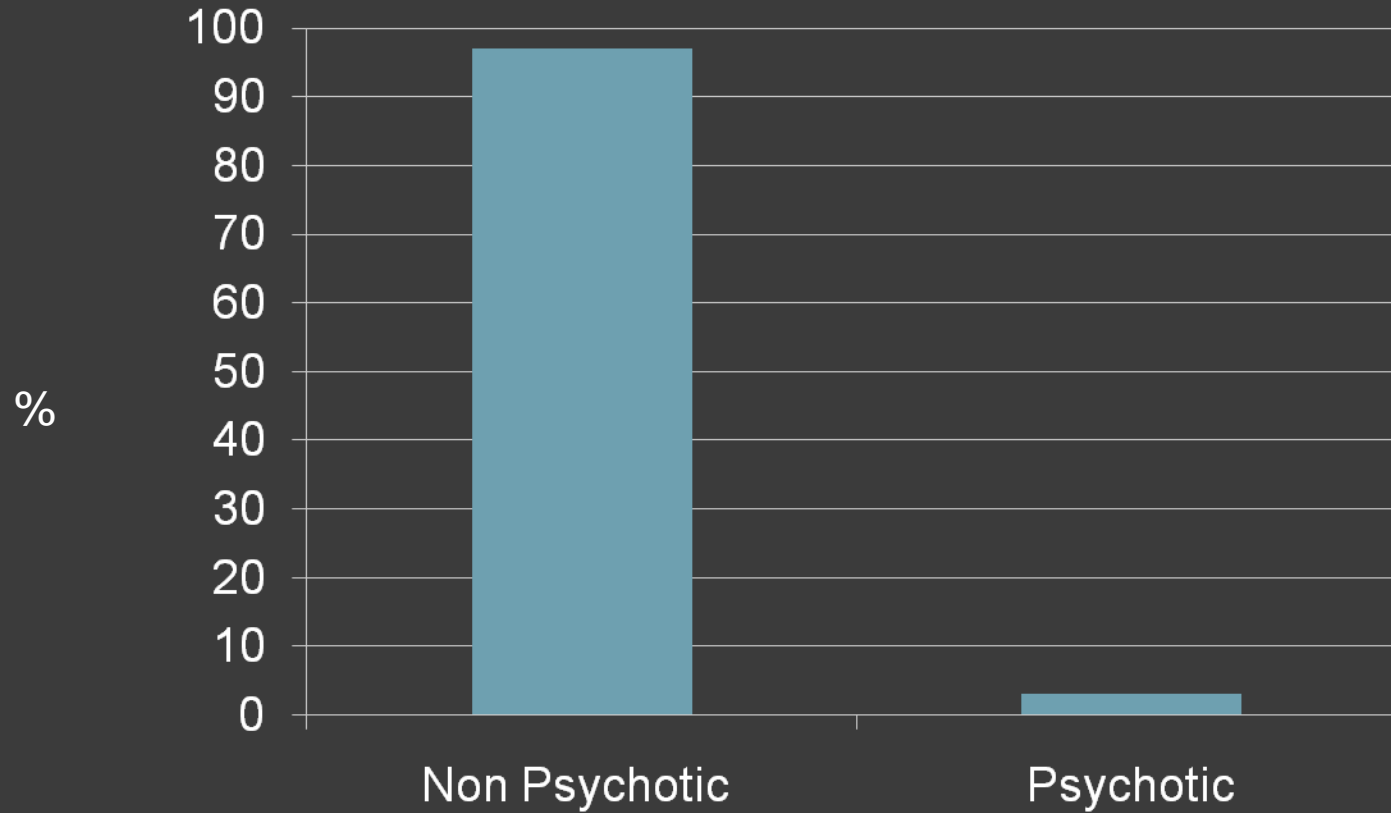
- Hallucinations
- Delusions
- Thought disorder

⊙ Negative symptoms

- Social Withdrawal
- Anhedonia
- Apathy and amotivation
- Loss of emotional Expression (blunted affect)



The historical view of psychosis



CIDI Screen items and Probes for Delusions



● *Item G1:*

- *In the past 12 months, have you felt that your thoughts were being directly interfered with or controlled by another person?*
- *If yes, G1A:*
 - *Did it come about in a way that many people would find hard to believe, for instance, through telepathy?*



CIDI Screen items for Hallucinations



- Have you ever seen something or someone that others who were present could not see – that is, had a vision when you were completely awake?
- Have you more than once heard things other people couldn't hear, such as voices?



Percentage Endorsement of Psychosis items



- 11.7% Australians endorsed a psychosis screen item
- 4.2% Australians endorsed a psychosis probe item

Endorsement to Screen and Probe items (n = 10,641)



Sum of items endorsed	0	1	2	3
Screen items (%)	88.3	9.5	2.0	0.2



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Screen items (%)	88.3	9.5	2.0	0.2
Probe items (%)	95.8	3.8	0.3	0.1

Scott et al (2006) *Psychological Medicine*

Psychosis items associated with



- Younger age
- Male gender
- Immigrants
- Unemployed/ low SES
- Social isolation
- Cannabis use disorders
- Psychological distress



Psychotic symptoms in adolescents

- ◎ Common
 - 8.4% of Australian Adolescents have auditory or visual hallucinations
- ◎ Associated
 - Depression and anxiety
 - Cannabis use
 - Suicidality



Outcomes of Psychotic Symptoms

- ◎ Dunedin Birth Cohort 761 children
 - At 11 years
 - 654 no psychotic symptoms
 - 95 had 'weak' psychotic symptoms
 - 12 had 'strong' symptoms
 - At 26 years
 - 25 (3.3%) had psychotic disorder
 - 13/ 654 (2%) of controls
 - 9/ 95 (9.5%) of 'weak' symptom group
 - 3/ 12 (25%) of strong symptom group

Mater- University of Qld study of Pregnancy (MUSP)



Hallucinations as predictors for future psychosis



◎ MUSP Birth Cohort

- Hallucinations at 14 years predicted psychosis at 21 years
- (Males OR 5; Females OR 2)

(Welham et al., 2009 Psychological Medicine)

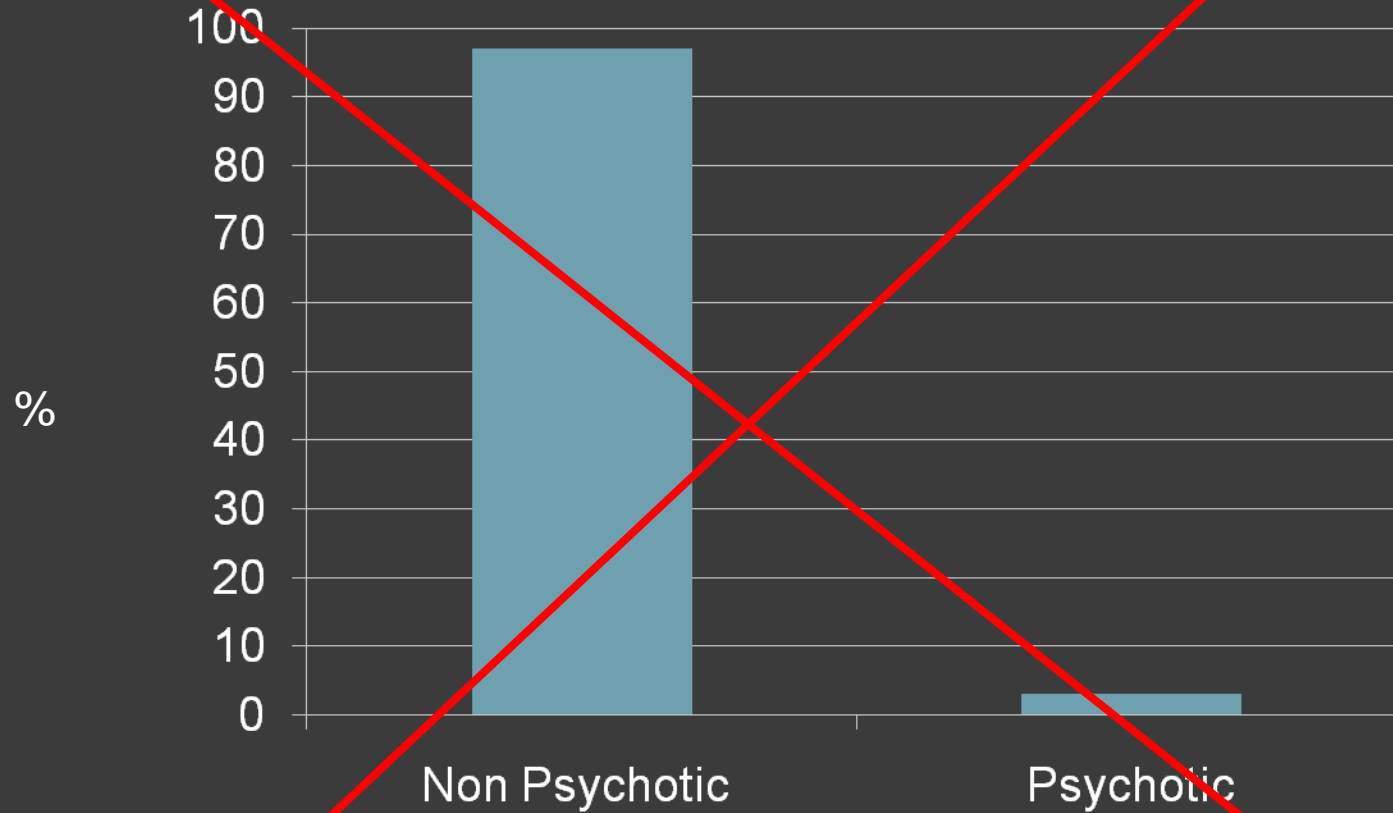


Case Vignette- Peter

- 14 yo male referred with auditory hallucinations
- Father had been ill
- Mother had depression
- “Overwhelmed” at school
- Extra support at school
- CBT
- Followed up for 2 years
- Complete recovery

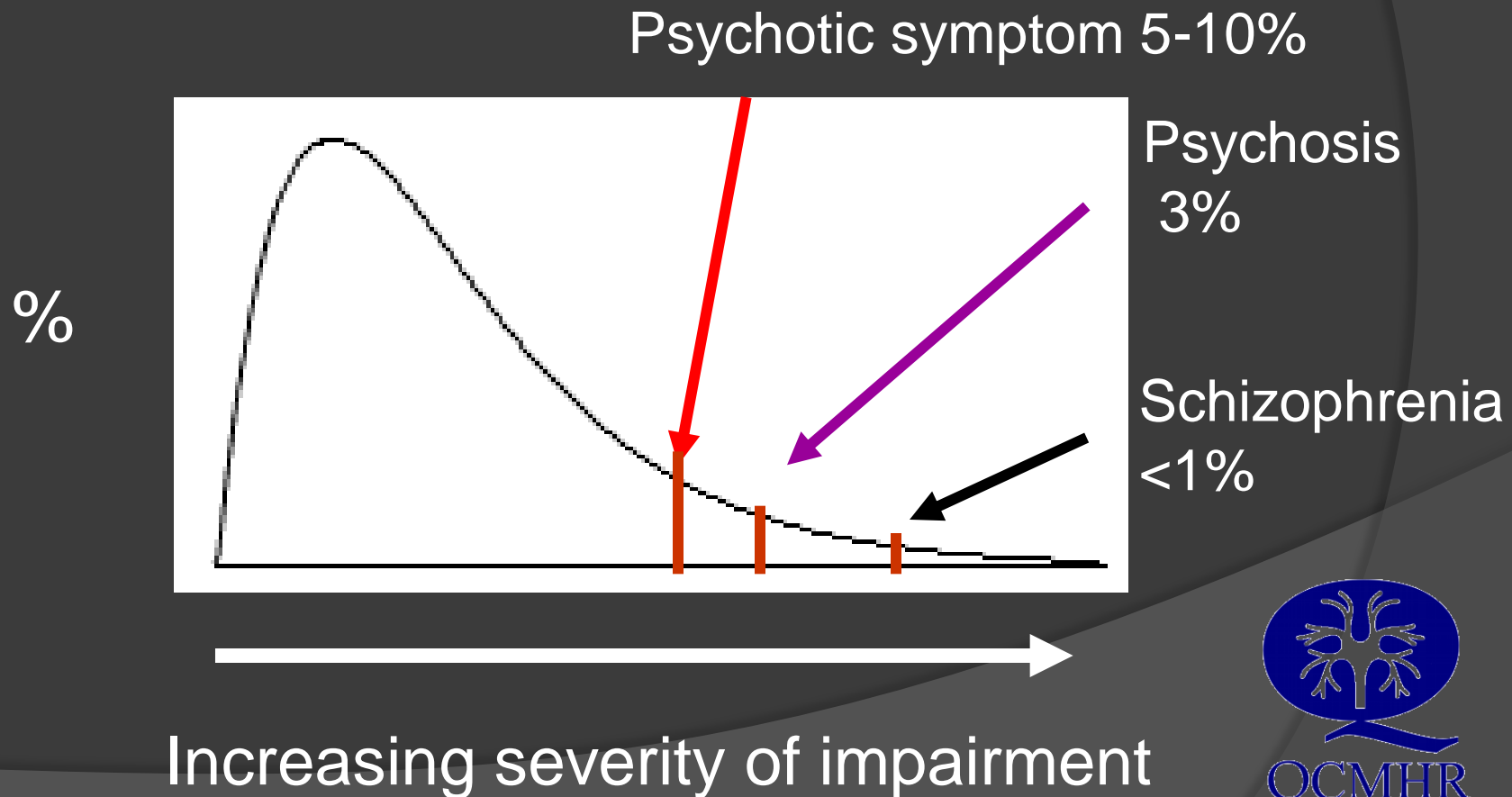


The historical view of psychosis





The continuum of psychosis





Case Vignette: Michael

- 16 Year old working in a labourer
- Referred for assessment of stealing money for cannabis use



Ultra High Risk of Psychosis (UHR)

- First described by Alison Yung (PACE Clinic)
- Well described clinical picture
- 3 criteria
 - Brief Limited Intermittent Psychotic Symptoms
 - Transient psychotic symptoms
 - Schizoid personality and genetic disposition
 - In 1999 40% converted in 1 year
 - In 2007 20% converted in 1 year



Case Vignette: Michael

- 16 Year old working in a labourer
- Referred for anxiety and depression



Case Vignette: Michael

Anxiety for > 1 year

Marked depressive illness

Paranoid intermittently

“it feels like I’m being watched all the time”

Left school to decrease stress

Work mates smoking cannabis heavily





Case Vignette: Michael

- Smokes to relax
- Has noticed that paranoia is increasing
- Starting to hear voices occasionally
- Retains insight
- Amotivation very prominent



Case Vignette: Michael

- Brother has schizophrenia
- Father uses cannabis
- Developmentally
 - Early Speech delays
 - Learning difficulties
 - Problems making friends



Case Vignette: Michael

Management

- Motivational interviewing about Cannabis
- Fluoxetine and fish oil.
- CBT for depression
- Psychotic symptoms resolved as mood improved.
- Father also ceased cannabis use
- Seen until 18 years, Mental state had improved. No psychosis



Cannabis and Psychosis

- Regarded as a component cause of psychosis
- Increases the risk of psychosis by about 2 fold
- Reduces the age of onset of psychosis by 2 years

(Casadiuo et al., 2011)

(Large et al., 2011)



Management of UHR

- Good mental health hygiene
- Cognitive and behavioural Therapy
- Address substance use
- Treat depression and anxiety
- Omega 3 fatty Acids (Fish Oil)
- Watch and Wait
- No evidence for antipsychotics



Trauma and psychosis

- Read (2001) proposed childhood trauma caused schizophrenia

Case Vignette Andrew

- ◎ 20 year old male
 - Homeless, unemployed father (1 daughter)
 - Presented to hospital May '11 after being found by police in a disorganised state
 - Presented with severe paranoia
 - Perplexed and Thought Disordered
 - Actively responding to hallucinations

Andrew

- Recently assaulted
- Some cannabis use- long standing
- Lots of stress about access to children

Andrew

- ⦿ Severely prejudicial childhood
- ⦿ Long standing homelessness with some cannabis and alcohol use
- ⦿ Petty crimes
- ⦿ Some violence (Reactive)

Andrew

- ⦿ Admitted to hospital
- ⦿ Psychotic symptoms resolved very quickly with antipsychotics
- ⦿ Discharged
- ⦿ Readmitted 2 days later after being found at RCH
- ⦿ Psychotic symptoms settled in hospital
 - UDS was negative

Andrew

- Discharged to early psychosis service
- Abstained from drugs
- Remained paranoid
- Florid PTSD
- Treated with zoloft, therapy and social supports
- Marked reduction in PTSD symptoms and paranoia

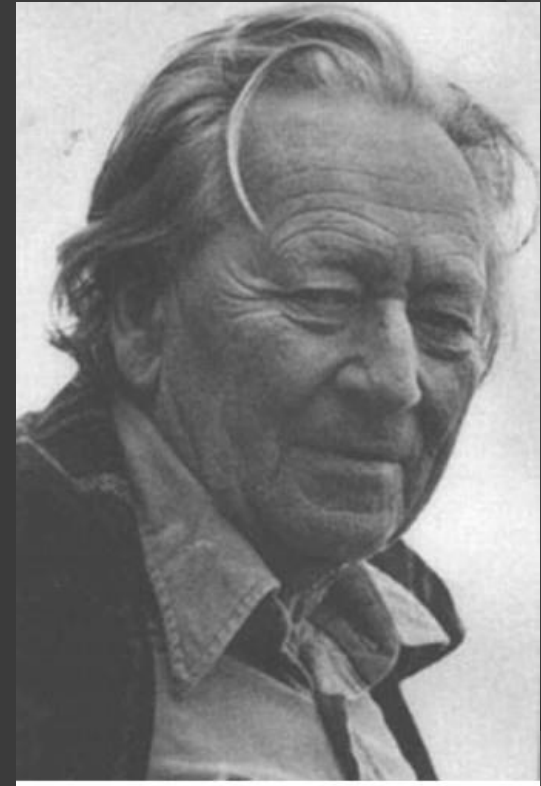
Andrew

- Now working as a barista
- Living with the his partner
- No psychotic symptoms
- Warm affect
- Treated with risperidone 2mg nocte and zoloft 50 mg mane

The Association Between Trauma and Psychosis



- Gregory Bateson
 - Double Bind Theory
 - Schizophrenogenic Mothers
 - *Toward a theory of schizophrenia (1956)*



Trauma and Psychotic Symptoms



- There are now many large community studies showing trauma is associated with increased prevalence and incidence of psychotic symptoms
 - Janssen et al 2004 (Netherlands)
 - Bebbington et al., 2004 (Great Britain)
 - Sareen et al., 2005 (United States)
 - Spauwen et al 2006 (Germany)
 - Scott et al., 2007 (Australia)
 - Saha et al., 2011 (Australia)





CIDI Trauma questions



- Broad range of trauma exposures
 - Combat/war
 - Fire, flood, natural disaster
 - Life threatening accident
 - Rape
 - Sexually molested
 - Physically assaulted
 - Threatened with a weapon,
 - Tortured
 - Other extremely stressful or upsetting event
- If yes, full diagnostic interview for PTSD

(Scott et al., 2007 British Journal of Psychiatry)



Trauma exposure and Delusion endorsement



- *At least delusion*
4.2%
- *At least one type of trauma exposure*
57.4%
- *At least one type of trauma and PTSD*
3.6%



Trauma and psychotic symptoms

Delusion endorsement (adjusted for sex, age, cannabis/alcohol, diagnosis of schizophrenia)

- Trauma without PTSD 2.11 (1.67-2.67)
- Trauma with PTSD 6.34 (4.49-8.94)



Dose response to different types of traumatic events?



Exposure to Trauma		Delusional Experiences Endorsement
Number of Different Types of Traumatic Events	N (%)	RR (95% CI)
No Trauma	4537 (42.6)	Reference level
1 or 2	4287 (40.3)	2.51 (2.02-3.13)*
3 or 4	1392 (13.1)	
5 or more	425 (4)	



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5 or more	425 (4)	



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1 or 2	4287 (40.3)	2.51 (2.02-3.13)*
3 or 4	1392 (13.1)	2.93 (2.22-3.86)*
5 or more	425 (4)	9.54 (7.26-12.53)*

*: Test for linear trend $\chi^2 = 26.74$, $df=2$, $p < .001$.



Trauma and Psychosis

- Bebbington et al., 2004 (Great Britain)
- Shevlin et al., 2007 (United States)
 - Any Childhood Trauma (OR 1.8)
 - Rape in Males (OR 5.8)
- Cutajar et al., 2010 (Australia)
 - CSA (OR 2.1)
 - Penetrative CSA in Adolescence and >1 Offender (OR 14.9)



Trauma and psychosis

- The association between childhood trauma and psychosis outcomes in adults is now well recognised
- Meta analysis of 36 studies showed an association between childhood adversity and psychosis outcomes
 - OR = 2.78 (95% CI = 2.34-3.31)

(Varese, Smeets et al., Schiz Bull 2012)



Varese, Smeets et al. Meta-analysis childhood adversity and psychosis outcomes

Type of Trauma	Odds Ratio	95% CI
Sexual abuse	2.38	1.98–2.87
Physical abuse	2.95	2.25–3.88
Emotional abuse	3.40	2.06–5.62
Bullying	2.39	1.83–3.11
Parental death	1.70	0.82–3.53
Neglect	2.90	1.71–4.92

Hallucinations in Adolescent Inpatients



CHILD AND
ADOLESCENT
PSYCHIATRY

Hallucinations in adolescents with post-traumatic stress disorder and psychotic disorder

James Graham Scott, Barry Nurcombe, Judith Sheridan and Margaret McFarland

Objective: The aim of the study was to compare the phenomenology of hallucinations in hospitalized adolescents diagnosed with post-traumatic stress disorder (PTSD) and psychotic disorder.

Methods: Diagnoses were ascertained in 66 adolescents consecutively admitted to an acute adolescent unit in Australia. Hallucinations were examined to compare their phenomenology in PTSD with psychotic disorder.

Results: On most measures, hallucinations did not differ significantly in form or content between those adolescents with PTSD and those with psychotic disorder. In a minority of patients with PTSD, the hallucinations reflected a previous traumatic experience.

Conclusions: Hallucinations were found to be unreliable in distinguishing adolescent inpatients with PTSD from those with psychotic disorder.



Hallucinations in Adolescent Inpatients



- Compared hallucinations in adolescents who had psychotic disorders with those who had PTSD

Scott et al., 2007



Hallucinations in Adolescent Inpatients



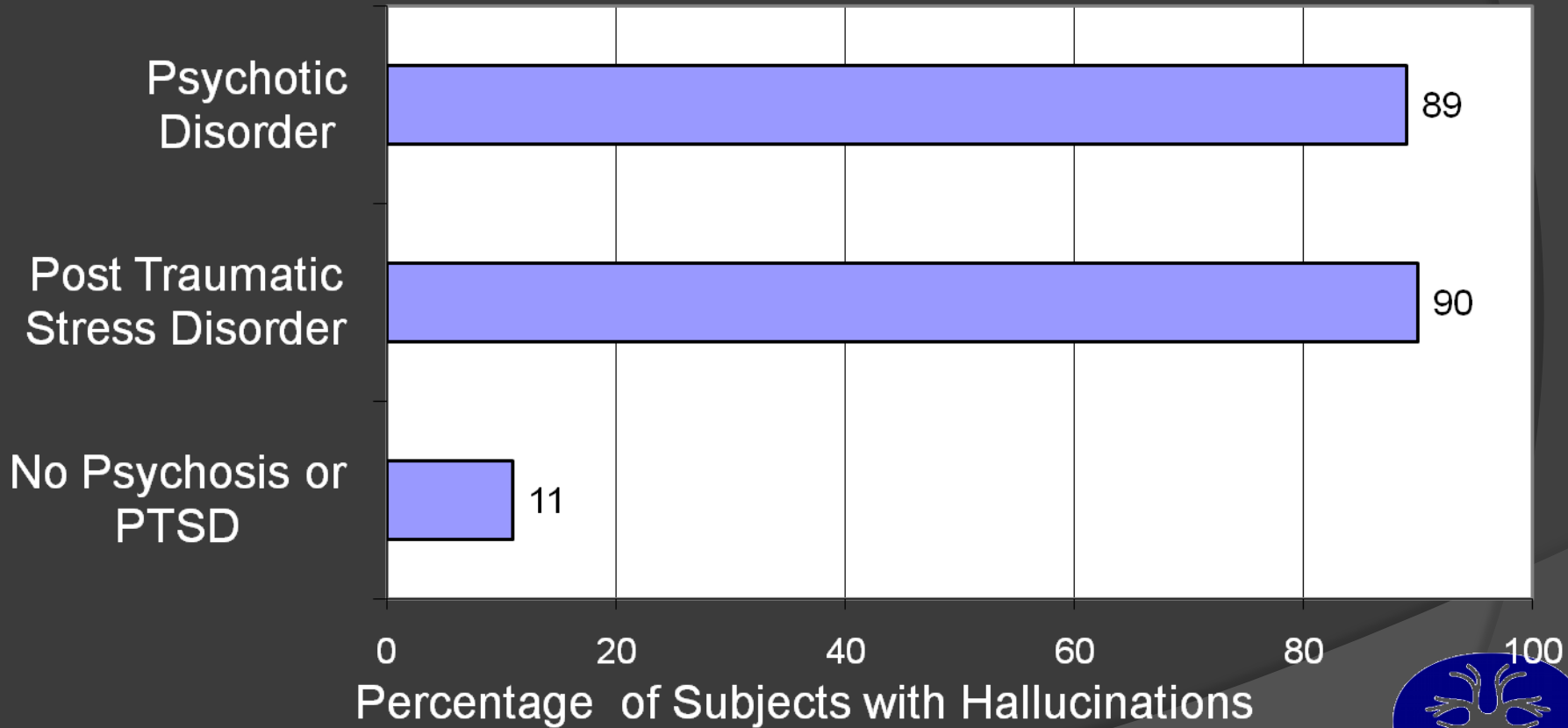
- 66 Subjects:
 - 47 Females; 19 Males
 - Mean Age 15.5; Range 13- 17 years
 - 2 were indigenous Australians

Hallucinations in Adolescent Inpatients



- 3 Comparison Groups
 - Psychotic Disorder ($N = 18$)
 - Post-Traumatic Stress Disorder ($N = 20$)
 - Other Disorder ($N = 28$)

Hallucinations and Diagnostic Group



Comparison of Hallucinations in PTSD and Psychotic Disorder



- Modality of hallucinations were the same in both diagnostic groups
- Auditory Hallucinations were very similar in both diagnostic groups
 - Location
 - 'Schneiderian'
 - Content of hallucinations

Hallucinations in Adolescent Inpatients



- Hallucinations were a non specific symptom in discerning psychosis from PTSD in adolescent inpatients
- Clinical Implications
 - Over diagnosis and delayed/ under diagnosis
- Cross Sectional

Childhood Trauma and Prodromal Symptoms



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ACTA PSYCHIATRICA
SCANDINAVICA

Experience of trauma and conversion to psychosis in an ultra-high-risk (prodromal) group

Bechdorf A, Thompson A, Nelson B, Cotton S, Simmons MB, Amminger GP, Leicester S, Francey SM, McNab C, Krstev H, Sidis A, McGorry PD, Yung AR. Experience of trauma and conversion to psychosis in an ultra-high-risk (prodromal) group.

Objective: We aimed to replicate a recent finding of high prevalence of trauma history in patients at 'ultra-high risk' (UHR) of psychotic disorder and to investigate whether trauma predicts conversion to psychosis in this population.

Method: A consecutive sample of UHR patients was assessed. History of trauma was assessed with the General Trauma Questionnaire. Cox regression models were used to explore relationship between conversion to psychosis and trauma.

Results: Of 92 UHR patients nearly 70% had experienced a traumatic event and 21.7% developed psychosis during follow-up (mean 615 days). Patients who had experienced a sexual trauma (36%) were significantly more likely to convert to first-episode psychosis (OR 2.96)

after controlling for meeting multiple UHR criteria.

A. Bechdorf^{1,2,3}, A. Thompson^{1,3},
B. Nelson^{1,3}, S. Cotton³, M. B.
Simmons^{1,3}, G. P. Amminger^{1,3},
S. Leicester^{1,3}, S. M. Francey^{1,3},
C. McNab^{1,3}, H. Krstev^{1,3}, A.
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Key words: schizophrenia; trauma; psychosis; prodrome

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Trauma in Ultra High Risk Population

- PACE Clinic (ORYGEN)
- Aims
 - Examine if trauma exposure was associated with conversion of UHR to psychotic disorder





Trauma in Ultra High Risk Population

- 92 patients with UHR (32 males)
- Mean Age 18.0 (S.D. 2.9)
- General trauma Questionnaire
- Followed up for approx 2 years
- 20 Converted to Psychosis (21.9%)





Trauma in Ultra High Risk Population

- 69.9% had been exposed to a traumatic event
- Patients who had been raped/ sexually molested were significantly younger
- History of Sexual Abuse increased risk of conversion to Psychotic Disorder three fold (OR 2.9; 95% CI 1.2-7.6)





Trauma and First Episode Schizophrenia

- 57 patients
- CTQ, SAPS and SANS
- Patients who had reported sexual abuse had more severe positive symptoms and more suicidality
- Negative symptoms unaffected

Trauma and Chronic Schizophrenia



- Childhood trauma assoc with
 - Higher levels of Anxiety and Depression
 - Poorer social functioning
 - Poorer Occupational Functioning



Summary

- Childhood and Adult Trauma is associated with Psychotic Symptoms
- Child Abuse is associated with increased risk of psychosis in population studies
- CSA increased risk of conversion to psychosis in one study (needs replic.)
- CSA increases severity of illness in one study
- Childhood Trauma in Schizophrenia is associated with poorer outcomes





Implications for Clinicians

- Clinicians need to ask patients with psychotic symptoms/ disorder about exposure to trauma
- Clinicians need to be cautious about assessments in patients with trauma and psychotic symptoms
- Clinical presentation and treatment are influenced by trauma exposure





Areas under investigation

- ⦿ Biological mechanisms
 - HPA Axis
 - Immune mediated
- ⦿ Psychological explanations



Implications for public policy

- Childhood Maltreatment accounted for
 - 44% of childhood mental illness
 - 32% of Adolescent mental Illness
 - 28% of Young Adult mental Illness
- Child maltreatment deserves a great deal more attention as a component cause of mental illnesses (including psychosis.)

(Green et al., 2010)



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