



Transition of substance-induced psychosis to schizophrenia: a systematic review and meta-analysis

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Medicine

National Drug and Alcohol Research Centre

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Presentation

Overview of substance induced psychosis

Meta-analysis: what we did

Meta-analysis: what we found

Clinical and Service Implications

Overview of substance induced psychosis

Substance/drug induced psychosis

Brief psychotic syndromes triggered by substance use

Persisting for days or weeks after intoxication has resolved

Estimated incidence 1.5-6.5 per 100,000 person years

Up to 25% of first hospital admissions may include this diagnosis

Often excluded from studies of early psychosis



Substance/drug induced psychosis

A significant proportion of people **later transition** to a diagnosis of schizophrenia

Transition rate highly dependent on substance – **cannabis has higher rate of transition**



Substance/drug induced psychosis

66%

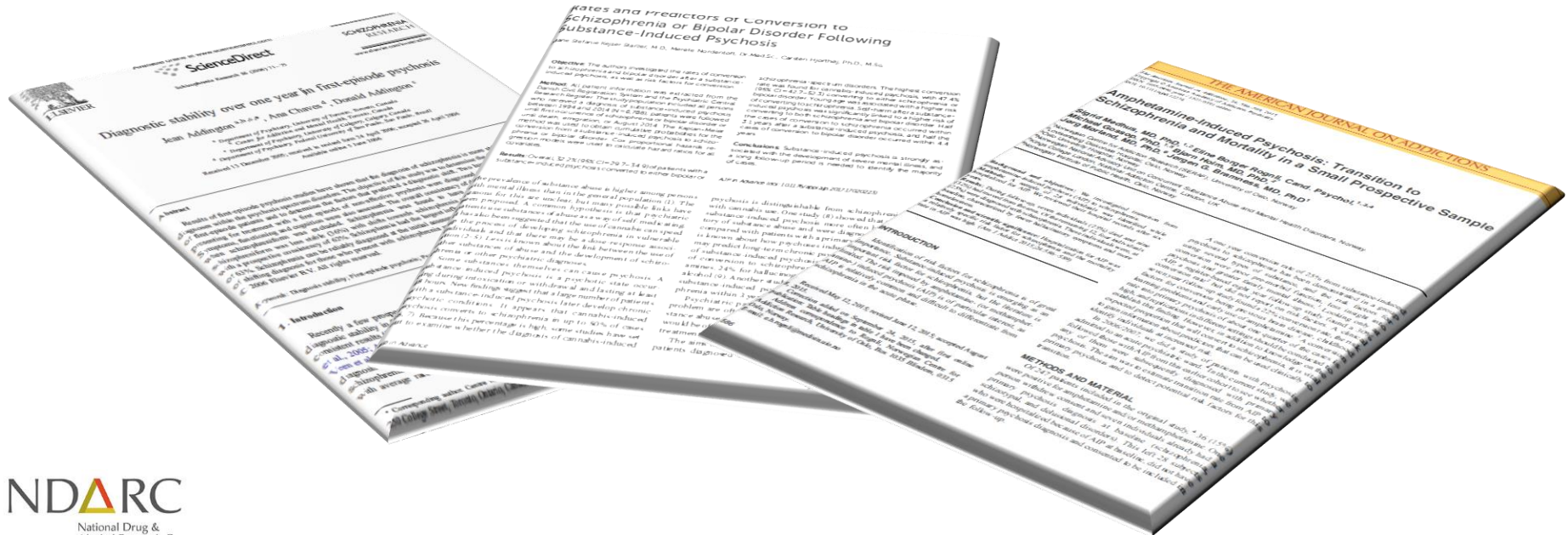
Addington et al 2006

33%

Medhus et al 2016

17%

Starzer et al 2017



Meta-analysis: what we did

Aims

- to synthesize the results of longitudinal observational studies of transition from substance-induced psychosis to schizophrenia
- to examine moderators for risk such as
 - substance type
 - gender
 - methodological issues e.g. follow-up periods



Methods - Search Strategy

PsychINFO, MEDLINE, and Embase searched – limited to between 1980-2018

first episode OR drug induced OR substance induced OR stimulant induced OR hallucinogen induced OR cannabis induced OR marijuana induced OR amphetamine induced OR cocaine induced OR LSD induced OR lysergic acid induced OR angel dust induced OR PCP induced OR phencyclidine OR psilocybin induced OR alcohol induced OR opioid induced OR benzodiazepine induced

AND

psychosis OR psychotic

AND

diagnostic stability OR outcome OR follow up OR course OR prognosis OR transition OR conversion OR longitudinal

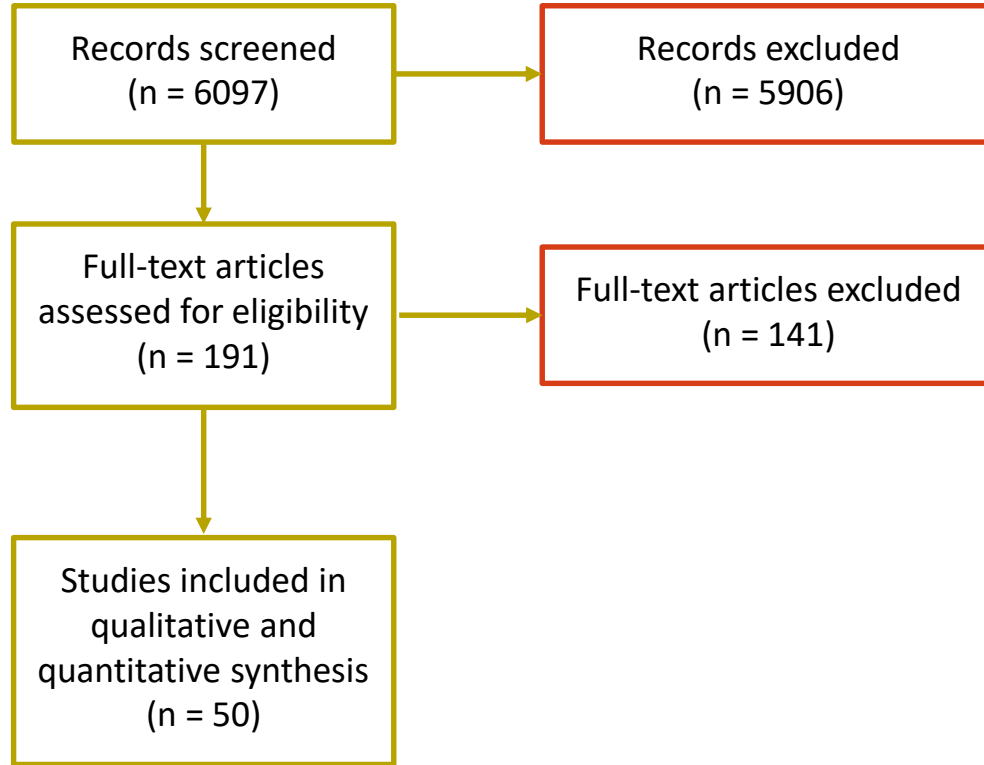
Methods - Inclusion/Exclusion Criteria

Papers that reported:

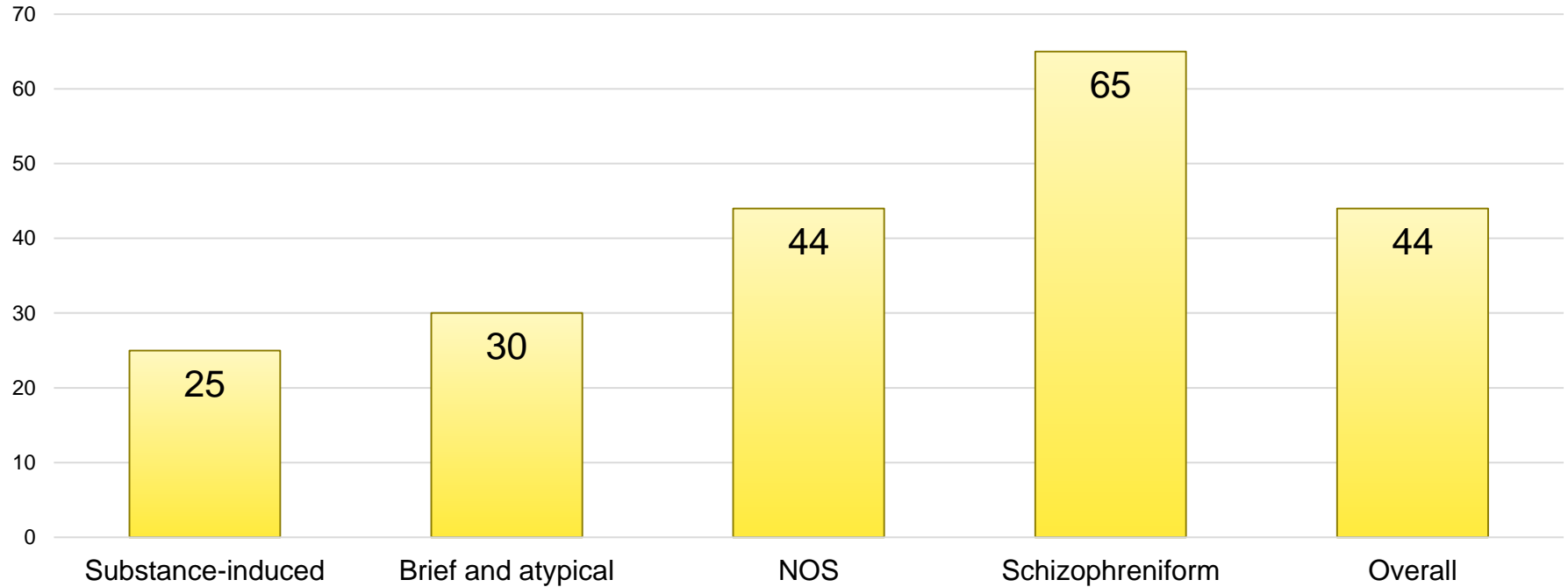
- **Baseline diagnosis** of substance-induced, brief, atypical, not otherwise specified (NOS) or schizophreniform psychoses
- **A follow-up diagnosis in the same subjects** – minimum 6 months
- **Number of persons** with a diagnosis of schizophrenia at the follow-up assessment
- Only case-series, case-control studies, cohort studies and RCTs were included

Meta-analysis: what we found

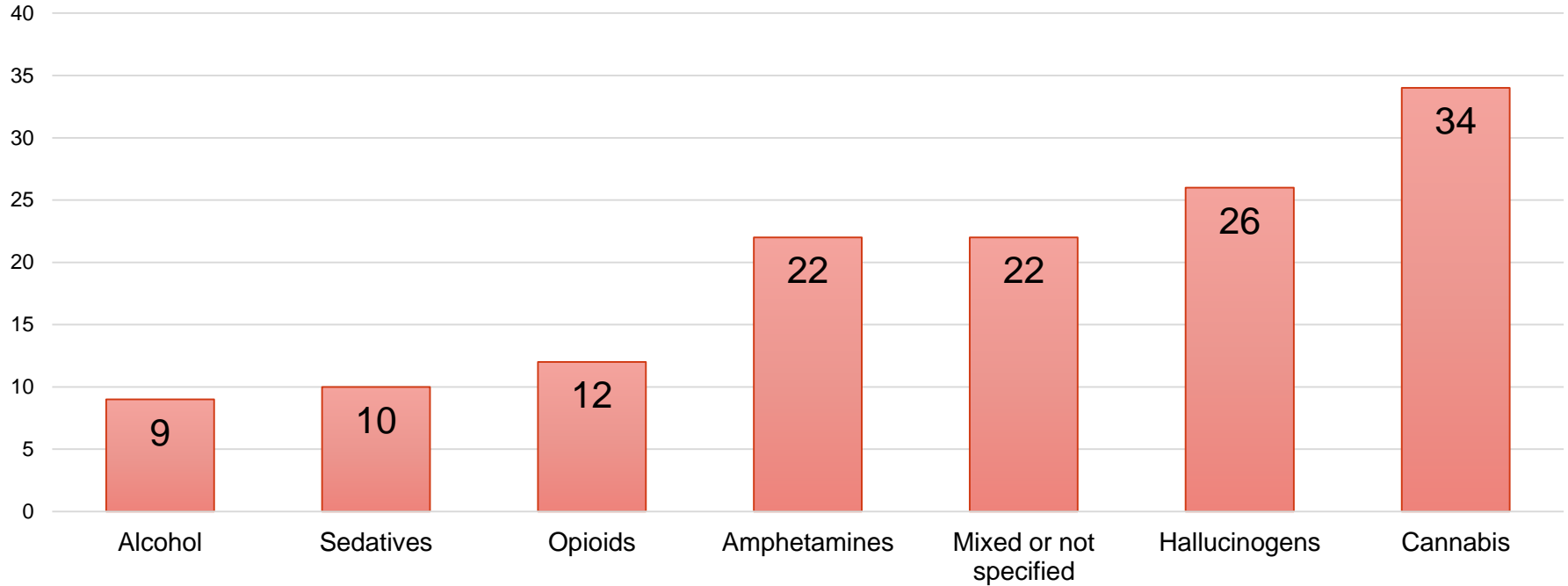
Search Results



Transition Rate % (Type of Psychosis)

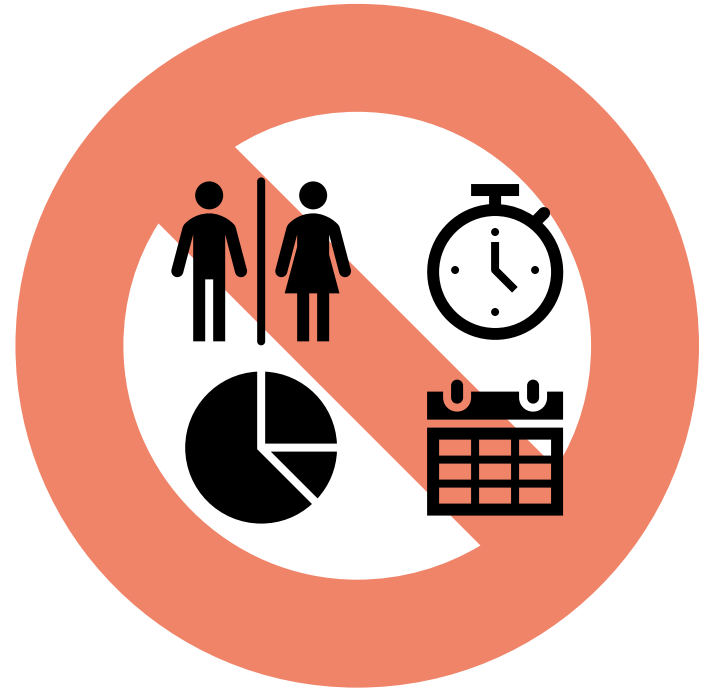


Transition Rate % (Substance Type)



Results – Subgroup Analysis of Substance-Induced Psychosis

- Studies of older people reported lower rates of transition to schizophrenia
- **No association** between transition rate and
 - Sex
 - Duration of follow-up
 - Proportion followed up or
 - Year of publication



Clinical and Service Implications

Substance Type

More than one third with cannabis-induced psychosis

Consistent with literature that cannabis use **doubles the risk** of developing schizophrenia in vulnerable people

Familial risk and genetic predisposition play a key role in the development of cannabis-induced psychosis and later transition to schizophrenia



Substance-induced psychosis is not a benign or self-limiting condition

Substance-induced psychosis is a common reason for seeking mental health care

> 1 in 5 first hospital admissions for psychosis in young Australians are substance-induced

Often excluded from early psychosis services due to perception that these self-resolve

Transition rate of substance induced psychosis similar to that of brief/atypical psychosis

Length of follow-up **not** associated with transition rate



Methamphetamine-related psychosis: an opportunity for assertive intervention and prevention

Methamphetamine-related psychosis is a growing public health concern. All individuals with transient amphetamine-related psychotic symptoms should be considered to be at risk for future development of an enduring psychotic illness, and prioritized for early intervention of integrated care across substance use and mental health services.

Addiction, 112, 927–928

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Contemporary views of psychosis challenge the simple categorical distinction between brief drug-induced psychoses and more enduring disorders such as schizophrenia. Psychoses are seen increasingly as heterogeneous disorders with a spectrum of illness profiles and course trajectories [11]. Substantial evidence exists that diagnoses of drug-induced psychosis have poor predictive validity. A high

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Substance-induced psychoses are not all equivalent

Care should be assertive early intervention, as for other brief psychotic disorders

Need for monitoring and ongoing support

Decisions regarding care should consider

- the different risks associated with each substance
- *for example* considering a heightened risk for transition from cannabis-induced psychosis versus alcohol-induced psychosis
- comorbid use of other substances
- individual risk factors for psychosis (family history, early life trauma)

Thank you
