

## INTRODUCTION

- ▶ Global prevalence data from 2017 estimated a total of ~20 million people with schizophrenia and ~45 million people with bipolar disorder worldwide [GBD 2017].
- ▶ It is estimated that approximately 40% of individuals with schizophrenia or bipolar disorder experience episodes of acute agitation [BioXcel data on file] characterized by excessive and/or inappropriate verbal and motor behaviors, as well as features such as mental unease, restlessness, irritability, uncooperativeness, anxiety, and excitement [Zeller 2016; Roberts 2018].
- ▶ There are an estimated 387,000 schizophrenia-related US emergency department (ED) visits per year during 2009-2011 [Albert 2015], and 236,000 bipolar-related ED visits in 2017 [Rui 2017].
- ▶ Episodes of acute agitation pose challenges for the patient and staff in emergency settings, complicate care, and may escalate into situations with risk of harm to the patient and others (Zeller 2016).
- ▶ Epidemiologic data specific to agitation in emergency settings are scarce.

## OBJECTIVE

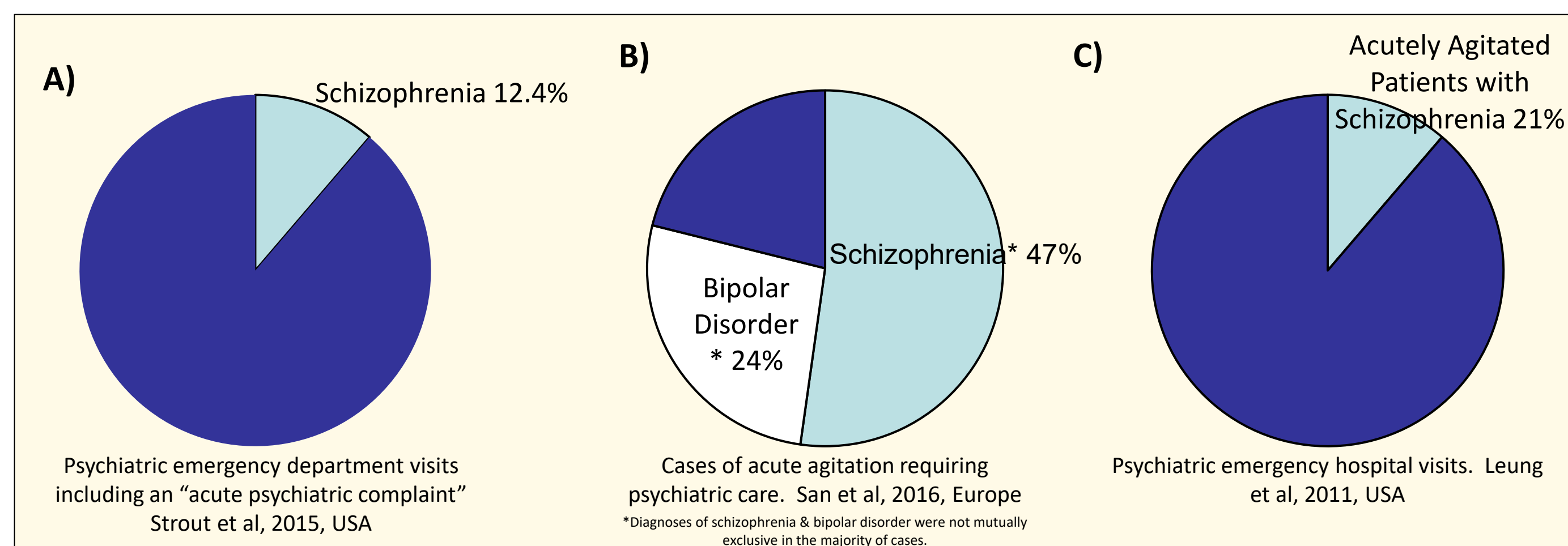
The objective of this systematic literature review was to characterize the epidemiology of acute agitation episodes in emergency settings, including the contribution of schizophrenia and bipolar disorder to such episodes.

## METHODS

- Using pre-defined Boolean literature search strategies for each database, MEDLINE, Embase, and PsychInfo were searched for epidemiologic data on acute agitation in patients with schizophrenia and bipolar disorder in an emergency setting published between January 1, 2000 and September 1, 2020.
- All identified studies were eligible for consideration regardless of publication status (published, unpublished, in press, or in progress).
- Two independent reviewers, blinded to each other's activities, performed a first-stage screening of article titles and abstracts identified in the initial search against the inclusion/exclusion criteria (Table 1).
- In the second screening, remaining publications were obtained in full text and reviewed by two independent, blinded reviewers against inclusion/exclusion criteria; those that met criteria were reviewed in detail and relevant data were extracted.
- Outcome measures of interest were limited to incidence and prevalence findings.

## RESULTS

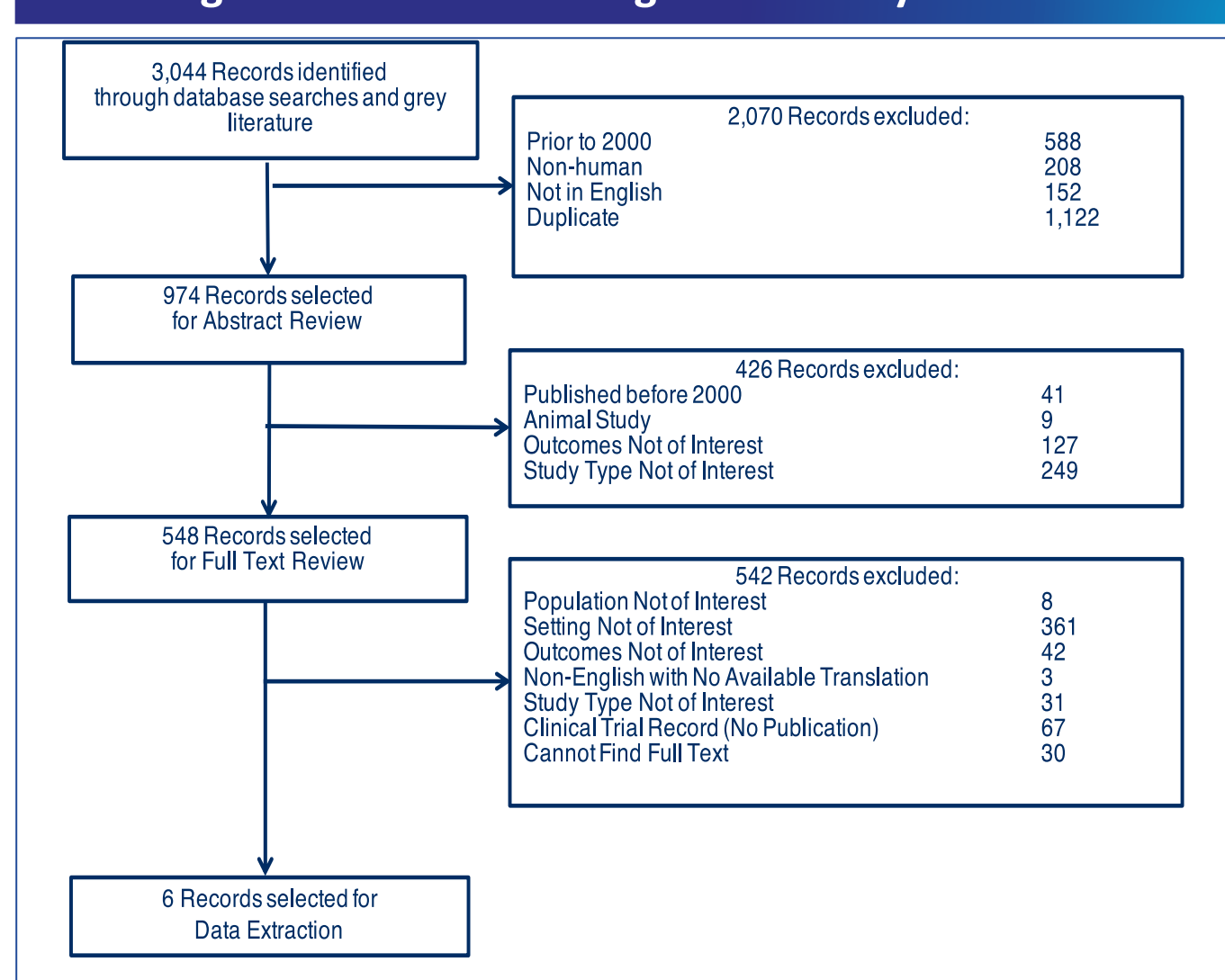
Publication (Region or Country)	Incidence/Prevalence of Agitation in General Emergency and Psychiatric Emergency Populations		Incidence/Prevalence of Schizophrenia or Bipolar Disorder Among Emergency Setting Agitation Cases	
	Epidemiologic Statistic	Value	Epidemiologic Statistic	Value
Zeller et al, 2010 (USA)	Prevalence of agitation/violence in patients seen in psychiatric emergency settings	Up to 10%		
Leung et al, 2011 (USA)			Proportion of psychiatric emergency hospital visits that are acutely agitated patients with schizophrenia	21%
Strout et al, 2015 (USA)			Prevalence of schizophrenia as the primary diagnosis among psychiatric emergency department visits including an "acute psychiatric complaint"	12.4%
San et al, 2016 (Europe)	Prevalence of acute agitation episodes among 7295 psychiatric emergencies (27 hospitals in 6 European countries) in a 7-day period	4.6%	Prevalence of schizophrenia among acute agitation cases	47%
Casado-Florez et al, 2017 (Spain)	Incidence of acute agitation among all emergencies attended by Spanish EMS during 1-year period	Rate per 1000 (total population)	1.9%	Proportion of cases with a schizophrenia diagnosis among all acute psychiatric emergencies characterized by agitation attended by Spanish EMS personnel during 2013
			2.0%	
Miner et al, 2018 (USA)	Prevalence of agitation among patients presenting to an urban county ED	2.6%		



**Fig 2.** Publications reporting prevalence of schizophrenia or bipolar disorder diagnoses among A) psychiatric emergency department visits with an "acute psychiatric complaint," B) cases of acute agitation requiring psychiatric care, and C) psychiatric emergency hospital visits

Table 1. Inclusion and Exclusion Criteria	
Inclusion	Exclusion
<ul style="list-style-type: none"> <li>• Publication date 2000 through 2020</li> <li>• Human, clinical studies</li> <li>• English language full-text</li> <li>• Included epidemiology data regarding acute agitation in an emergency setting</li> </ul>	<ul style="list-style-type: none"> <li>• Animal, non-human/preclinical studies</li> <li>• Non-English language with no English translation</li> <li>• Case reports or case series</li> <li>• Studies with only patients &lt;18 years</li> </ul>

## Fig 1. PRISMA Flow Diagram of Study Selection



## SUMMARY & DISCUSSION

- ▶ This systematic literature search revealed a clear evidence gap regarding the emergency healthcare system burden posed by acutely agitated patients with schizophrenia and/or bipolar disorder, despite the known prevalence of these conditions and the general volume of emergency care interactions.
- ▶ The small number of studies that were identified varied in terms of emergency setting (general hospital emergency department, psychiatric emergency settings, emergency medical calls), study focus, population definition (overall agitation versus agitation in patients with schizophrenia or bipolar disorder), and reporting data by prevalence or incidence, limiting the possibility of cross-study comparisons.
- ▶ Despite these shortcomings, the available published data reviewed here suggest that acute agitation requiring emergency medical attention is a frequent phenomenon in patients with schizophrenia and bipolar disorder, with some studies reporting schizophrenia as the diagnosis in almost half of such cases.
- ▶ Additional research to more accurately determine the incidence and prevalence of acute agitation in patients with schizophrenia and bipolar disorder and the severity of such episodes presenting to emergency care settings could be helpful in improving management for both patients and staff.

## REFERENCES

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