



## Pattern and correlates of agitation in an acute psychiatry in-patient setting in a teaching hospital



Christina George\*, Tisha Rachel Jacob, Arun V. Kumar

Department of Psychiatry, Dr. SMCSI Medical College, A1, Aiswarya Nagar, Kesavadasapuram, Pattom PO, 695504 Thiruvananthapuram, Kerala, India

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### ABSTRACT

Agitation among psychiatry inpatients can be a distressing and burdensome entity for patients, caregivers and staff. It has been poorly studied in low-middle income countries such as India both within acute care as well as long stay settings.

272 psychiatry admissions had 19.9% prevalence of agitation with the most common form being non goal directed physical agitation (13.6%). Episodes of agitation were most likely to occur on the 3rd or 2nd day of admission. Substance abuse [O.R. = 2.51(1.05–5.99)] and the presence of persecutory delusions [O.R. = 2.62(1.34–5.15)] were independently associated with agitation. It is difficult to predict violence in acutely ill individuals and there is evidence that the emergence of more serious aggression may be preceded by milder forms of agitation. Therefore, there is a need to identify various forms of agitation and its correlates. An understanding of these factors may assist in planning appropriate interventions that could improve patient outcomes and reduce the burden on caregivers.

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## 1. Introduction

Agitation within psychiatry inpatient settings is not well studied in India. There is evidence of a high prevalence of agitation (Barlow et al., 2000; Foster et al., 2007) within psychiatry inpatient settings and its adverse effects in western countries (Foster et al., 2007; Hankin and Bronstone, 2011).

Elucidating the pattern of agitation may assist in planning more effective intervention strategies within inpatient settings. Recognition of the correlates of agitation will help in early identification and even in prevention of episodes of agitation.

Agitation is conventionally conceptualized by health care professionals as a commonly occurring, highly disabling set of emotions and behaviours (Yudosky et al., 1997). It has been variously described. According to experts, it involves extreme forms of arousal that is associated with increased verbal and motor activity (Stewart, 1995; Zayas and Grossberg, 1996). Agitation has also been defined as “excessive verbal and/or motor behaviour” that can be loud, disruptive, hostile, sarcastic, threatening, hyperactive, and/or combative. Agitation can be due to a general medical condition, intoxication and withdrawal, and decompensated psychiatric disease (Barlow et al., 2000; Chukwujekwu and Stanley, 2011).

Associated motor activity is usually repetitive and non-goal directed and may include wringing, hair pulling, and fiddling with clothes or other objects (Yudosky et al., 1997). Agitation has been described to exist on a continuum from anxiety to high anxiety, to agitation, to aggression.

Aggression also has various definitions. It has been defined as a “psychological state or as a hostile physical or verbal act or as behaviour resulting in injuries of persons or damage to objects” (Abderhalden et al. 2007). The term “aggression” has been used interchangeably with agitation, with agitation scales describing both physical and verbal aggression (Cohen-Mansfield et al., 1989), though the term “agitation” is usually employed for more innocuous disturbances.

### 1.1. Prevalence and predictors of agitation in psychiatry inpatients

Agitation among psychiatry inpatients is common (Barlow et al., 2000; Hankin and Bronstone, 2011; Karson and Bigelow, 1987), and, unless recognized early and managed effectively, may rapidly escalate to potentially dangerous behaviours, including physical violence (Hankin and Bronstone, 2011). There are varied findings on the prevalence of aggression in acute inpatient settings with 13.7% being reported in Australia (Barlow et al., 2000), while James and colleagues reported a prevalence of 23% (James et al., 1990). In a multicentric retrospective evaluation, Carr et al reported 25–30% of

\* Corresponding author. Tel.: +91 04712250233.  
E-mail address: [mukkath@yahoo.com](mailto:mukkath@yahoo.com) (C. George).

admissions were associated with aggressive incidents, with more serious in 11.2% and less serious in 15% (Carr et al., 2008). In a review of 110 studies, by Witt et al. (2013), involving 45,533 individuals with predominantly schizophrenia, 18.5% were reportedly aggressive. In a meta analysis from China involving 3941 schizophrenia patients, the prevalence of aggressive behaviour in psychiatric wards ranged between 15.3% and 53.2%, with a pooled prevalence of 35.4% (Zhou et al., 2015). This brings to the fore the varying prevalence rates of agitation described in literature, with most studies focusing on physical aggression (Cornaggia et al., 2011) or violence only in select patients (Witt et al., 2013).

Risk factors described are comorbid substance abuse (Volavka, 2013; Witt et al., 2013), a diagnosis of schizophrenia, male gender, younger age, history of self destructive behaviour and history of previous aggression (Davis, 1991; Amore et al., 2008; Dack et al., 2013). Carr et al described serious aggression as being associated with younger age, personality disorders, long hospitalisation and the presence of less serious aggression (Carr et al., 2008). In a study from Switzerland, involuntary admission, longer length of stay, and a diagnosis of schizophrenia was associated with a higher risk for aggression (Abderhalden et al., 2007). In an Italian sample of 1324 patients, variables associated with aggression were: male gender, <24 years of age, unmarried status, receiving a disability pension, having a secondary school degree, compulsory admission, hostile attitude at admission, and a diagnosis of schizophrenia, bipolar disorder, personality disorder, mental retardation, organic brain disorder or substance/alcohol abuse (Biancosino et al., 2009). Patients with bipolar affective disorder and schizophrenia reportedly had a 2.81 and 1.96 significantly increased risk of aggression, respectively (Barlow et al., 2000). Alcohol and benzodiazepine withdrawal may cause disorientation, agitation and hallucinations (Bayard et al., 2004; Grover et al., 2013).

In some samples, aggression was most likely to occur within 2 days of admission, with length of stay being greater for aggressive than non-aggressive patients. The most frequent form of aggression was physical and the greater number of incidents occurred on day shift (Barlow et al., 2000).

## 1.2. Rationale for study

Agitation and aggression are a common occurrence in psychiatry settings, and cause added burden and distress to the patient, family and staff. There are no studies examining agitation in acute inpatient psychiatry settings in India. Agitation is reported with varying frequencies across high income and middle income countries (Zhou et al., 2015) with higher rates in the US compared to Europe (Davis, 1991; Biancosino et al., 2009). Literature on the correlates of agitation have also been inconclusive with results varying depending on study design, populations studied and contextual factors (Cornaggia et al., 2011). In contrast to the commonly held view that inpatient violence occurs without warning or may be predicted by risk factors, such as patient demographics or clinical characteristics, research indicates that violence is usually preceded by observable behaviours, especially non-violent agitation (Hankin and Bronstone, 2011). Therefore, it may be necessary to recognize the pattern and correlates of various types of agitation, including seemingly innocuous types, among inpatients in the Indian context. This may assist in early recognition and appropriate intervention for agitation, as well as, possibly prevention of aggression within inpatient settings.

The aim of the study was to determine the prevalence, pattern and correlates of agitation in psychiatry inpatients.

## 2. Methodology

### 2.1. Setting and sample

The study was set in DR.S.M.C.S.I. Medical college, a multi-specialty 500 bedded teaching hospital, in South India. The Department of psychiatry provides outpatient and inpatient services, as well as 24 hr emergency services. The department has an acute 30 bedded inpatient facility where patients are admitted with at least one family member being required to be present in the ward. The ward is staffed with 7 staff nurses and trainee nurses, the number of which may vary. Patients are assessed and managed by both the junior resident (psychiatry trainee) and the consultant psychiatrist, and other members of the multidisciplinary team where indicated. There is an open ward system where patients may be allowed to go out with their family depending on the nature of their symptoms. Clinical records are maintained by the psychiatry residents and nursing staff, under the supervision of the consultants and includes both demographic and clinical details. Clinical notes are made at least twice a day and more often where necessary. Detailed reports and plans for treatment are made during the weekly case conference.

#### 2.1.1. Sampling

Clinical records of consecutive patients admitted in the acute inpatient psychiatry ward of Dr. SMCSI Medical College, Karakoram from 01.6.2013 to 01.4.2014 were included for the study.

### 2.2. Study assessments

A Semi structured proforma was designed to obtain information from the clinical records on agitation variables (see Table 2). Items were derived from rating scales such as Overt Agitation Severity Scale (Yudosky et al., 1997), the Brief Agitation Rating Scale (Finkel et al., 1993) and the Cohen–Mansfield Agitation Rating Scale (Cohen–Mansfield et al., 1989). A review of 20 charts was also conducted to arrive at the final 17 items detailing the agitation variables. The 17 items were divided into 3 subscales –verbal agitation (6 items), non goal directed physical agitation (4 items) and goal directed physical agitation (aggression) (7 items). Information was also collected on sociodemographic and clinical variables which were deemed as being possible putative risk factors for agitation.

### 2.3. Procedure for data collection

The study was commenced after obtaining consent from the Institutional Review Board of DR.S.M.C.S.I Medical College. A psychiatry resident (TRJ) collected data from the clinical records employing the semistructured proforma. 20 proformas were randomly cross checked for accuracy by the consultant psychiatrist (CG).

### 2.4. Sample size

Assuming the alpha error at 0.05, power at 80% and considering the prevalence of agitation to be approximately 23% (James et al., 1990), with a precision of 5% the sample size estimation was 272. Therefore 272 study subjects were recruited.

$$\text{The formula employed was } SS = \frac{Z^2 * (P) * (1-P)}{C^2} \\ = \frac{(1.96)^2 * 23(100-23)}{5^2} = 272$$

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