

# PSYCHIATRIC IN-PATIENT VIOLENCE: USE OF CHEMICAL AND PHYSICAL RESTRAINT AT A UNIVERSITY HOSPITAL IN KARACHI, PAKISTAN

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## ABSTRACT

**Objective:** To study the frequency of inpatient-violence and use of physical and chemical restraints in its management.

**Design:** Prospective observational study.

**Place and duration of study:** The Department of Psychiatry, Aga Khan University Hospital, Karachi between January 2004 and December 2004.

**Subjects and Methods:** Information on socio-demographic characteristics, psychiatric diagnoses, routine and as required psychotropic medications was collected for all patients admitted to psychiatric unit. An incidence reporting form was filled for each patient requiring physical restraint.

**Result:** Out of all the patients admitted (n=393) over the one-year period, 44% (n=175) patients required P.R.N. psychotropic medication. Intramuscular anti-psychotic medication was used in 50% cases, benzodiazepines in 33% while 16% required both. 14% (n=57) required physical restraints. 4-point restrain was used in 31 (54%) cases while 2-point restrain was used in 23 (40%) cases. No serious injury was noticed in any case. According to these two proxy indicators the frequency of violence in this in patients psychiatric setting is estimated to be 14%.

**Conclusion:** Incidence figures of inpatient violence in our psychiatric setting are alarmingly high. This requires systematic research related to the risk factors and determinants of inpatient violence.

**Key words:** Violence, Chemical restrain, Physical Restrain, Pakistan.

## INTRODUCTION

Elevated rates of violence are seen in people with mental disorder<sup>1-3</sup>. Due to complexity of this phenomenon and different definitions, existing research includes violence in community<sup>4,5</sup>, in-patient<sup>6,7</sup> and forensic settings. Although various studies have been conducted on in-patient violence, they lack methodological vigor and findings are contradictory<sup>8</sup>. No study has been carried out in Pakistan. Inpatient violence is determined by various factors such as patient characteristics, number, habits and specific interventions of staff<sup>9,10</sup>, characteristics

of hospital organization and even mental health care<sup>11</sup>. Incidence varies widely from 0.07 to 7.9 violent incidents per patient per year<sup>12</sup>. A multi-center study on Australian population reported 13.7% aggression among inpatients<sup>13</sup>.

Management of violence by inpatient staff includes coercive measures such as seclusion, physical restraint and medication-based restraint<sup>14</sup>. A number of factors determine which technique is applied when managing violent incidents. Possible influence of patients' behavior, clinical diagnoses and available clinical supervision remains unexplored in Pakistan.

In a developing country such as ours where psychiatric inpatient care is mostly unregulated and unsupervised, adequate policies and legislation are needed as patients are at risk for abuse.

The objective of this study was to find the incidence of inpatient violence and look at the various methods used for its management.

## SUBJECTS AND METHODS

The Aga Khan University Hospital is a 500-bedded facility that has a 15-bedded psychiatry ward. The Psy-

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chiatry Unit is designed to be a locked ward where routine movement of both personnel and property are regulated by a single door with electronic access cards. There is a close circuit central video monitoring system backed by 24-hour shift duties of security personals.

Patients are admitted either through the psychiatry clinics, emergency unit or transferred from general medical floors. Admission procedure mandates prior information to the ward staff. Seriously disturbed, violent and aggressive patients are initially admitted to one of the two seclusion rooms that also serve as observation rooms as they are situated in front of to the nursing station. Such patients are monitored closely with fifteen minute observations. In case of behavioral de-compensation consultant/resident on call is immediately informed.

First-line management is an attempt to de-escalate the crisis by psychological interventions. Second-line approaches include the use of psychotropic per requisite need (P.R.N) medication other than routine drugs and physical restrain. Second-line interventions are carried out only after orders of the consultant. Explicit documentation and incidence reporting for any form of restraint is required as part of hospital policy. Specific data collection forms for P.R.N psychotropic use and physical restraints were designed for the sake of studying violence in psychiatric in-patients' settings. These forms were filled by on-duty nursing staff and physician. Data was entered and analyzed on SPSS (version 13).

**RESULTS**

Out of all the patients admitted (n=393) over one year period, 44% (n=175) patients required P.R.N psychotropic medication for management of violent and disturbed behavior. 14% (n=57) required physical restrain. Thus according to two proxy indicators the incidence of violence in inpatients psychiatric setting is estimated to be 14%. The characteristics of these incidences are discussed in following sections.

**Physical restrain / Seclusion:**

Among the 57 patients requiring physical restrain, 69% were males while 31% were females. 64% patients were less than 35 years of age. Table 1 shows psychiatric diagnoses of patients restrained. The most common condition among these patients was schizophrenia (31%) followed by Bipolar disorder (30%). Violent, threatening and agitated behavior was the most common reason for physical restrain. Of the 57 patients, 6 patients were restrained because of confusion and agitation resulting from their underlying clinical condition or psychotropic medications.

Table 2 gives type and timing of restraint. Four-point restrain was used in more than half (54%) of patients. About 80% patients were restrained for less than half an hour. Most incidences of restrain were reported in the evening shift (42%). In 56 cases written physician orders were available prior to restrain while in one case verbal

**Table 1: Restrain pattern across different Psychiatric Diagnoses**

Psychiatric Diagnoses	% Physically Restrained	% Chemically Restrained
Schizophrenia	31%	21%
Bipolar Affective Disorder	30%	17%
Affective Disorder (Depression)	15%	27%
Substance Abuse	9%	5%
Co-morbid psychiatric diagnoses	15%	—

**Table 2 : Characteristics of Physical Restrain**

<b>Type of Restrain</b>	Four-point	54%
	Two-point	40%
	One-point	5%
<b>Shift when restrain took place</b>	Morning Shift	35%
	Evening Shift	42%
	Night Shift	23%

**Table 3 : Medications used for Chemical Restraint**

Medication Used	Percentage (%)
Zuclopenthixol Acetate (Clopixol ) Acuphase	27.6
Haloperidol	23
Benzodiazepines	33
Combination of Haloperidol and Benzodiazepine	16

orders were taken. In 70% cases family members of the patients were present in the ward and were notified/explained prior to the restrain, the rest were not available at the time for restrain. Skin condition of the limbs and peripheral pulses were checked periodically in all the cases. No serious injury was noticed except for minor abrasions and bruises in two cases.

**Medications-Based Restraint:**

In the patients requiring P.R.N medications male to female ratio was 3:1. 42% patients were less than 30 years. Depressive disorders (27%), followed by schizophrenia (20%) were the two most common clinical con-

ditions requiring P.R.N medication (Table 1) Overt violence was the commonest presentation in 15% of cases.

Table 3 gives frequency of P.R.N. medications used, with conventional anti-psychotics, intramuscular Zuclopenthixol (27.6 %) and Haloperidol (23%) being the most commonly used, followed by benzodiazepines (33%).

All patients who required restrain (medications or/ and physical) were already on first line therapy for their primary disorder. These included anti-psychotic medications (55%), anti-depressants (23%), mood stabilizers (16%) and benzodiazepines (26%).

## DISCUSSION

We believe this is the first study from Pakistan that looks at one-year prevalence of violent and disturbed behavior in psychiatric inpatients setting. From our study we have estimated it to be 14%. This figure appears to be an over-estimate compared to other studies. This may be due to the fact that at AKUH relatively more disturbed patients are admitted and hence a greater number requiring restraint. Only approximately 2% of patients seen in the outpatients setting (average attendance 7000/year) in a given year are admitted to the unit. The vast majority of the admissions are through the emergency room where the more disturbed patients in states of acute emergency tend to present. In our study the typical patient who is likely to be restrained is male, less than 35 years of age with acute psychotic symptoms.

Our study confirmed the higher risk of violence in psychiatry inpatients with the diagnosis of Schizophrenia as shown in previous studies<sup>2,3</sup>. Two factors heighten the risk of violence in patients with schizophrenia: comorbid substance abuse<sup>15</sup> and acute psychotic symptoms<sup>16</sup>. Taylor et al<sup>17</sup> estimated that 46% of sample of psychotic offenders were definitely or probably driven by delusions. Male gender is related to higher rates of violence<sup>15</sup> and constituted majority of both chemically and physically restrained groups.

An important issue is how violence is defined because it varies greatly and reporting rates differ, depending on the levels of violence measured. Our study sample included both patients' verbal threats as well as physical contact, hence the relatively higher reported violence. This highlights the need for the development of a standardised, validated and reliable rating instrument to screen for violence.

Drugs commonly used to manage agitation and violence in emergency situations include anti-psychotics, benzodiazepines or their combination<sup>18-20</sup> as both are equally effective in controlling violent behavior<sup>21</sup>. Our study findings confirm this.

In managing inpatients' aggression clinicians face the dual challenge of managing the patient's violence while preserving the treatment alliance. Chemical restraint is a controversial issue<sup>22</sup> in psychiatry and raises impor-

tant issues for patient autonomy and infringement of human rights.

In the UK National Institute of Clinical Excellence (NICE) guidelines 2005<sup>23</sup> recommend the need for staff training in intermediate life support, availability of emergency resuscitation equipment, and the avoidance under all circumstances of applying pressure on the neck or thorax during manual restraint.

In Pakistan, where there is little regulation of psychiatric practice, the potential of abuse of disturbed psychiatric patients by inappropriate and excessive use of both physical and chemical restraint is huge. Unfortunately, the recently introduced Mental Health Ordinance, 2000 does not address the issue of physical and chemical restraint adequately.

At AKUH, policy and procedure documentation serves as a guideline in staff training and patient management. Physical restraint cannot be initiated without a comprehensive multidisciplinary risk assessment and patient-carer's involvement. Once restrained, patients' peripheral pulses and skin is assessed periodically. In all circumstances a nursing staff aid keep the patient under observation throughout the period the patient is restrained.

It is important to keep in mind this is a descriptive study and inferences should be made in light of its strengths and weaknesses. We have drawn some empirical conclusions without focusing on any specific predictors of violence. Also our sample of patients may not be representative of the mentally ill population of Karachi, hence generalizations should be made with caution.

## CONCLUSION

Inpatient violence in psychiatric setting is a frequent occurrence and its proper management is a major concern. More research is needed in measuring risk factors and determinants of inpatient violence in Pakistan. Based on findings, practice guidelines and policies need to be developed at organizational, institutional and national level. Academic bodies like College of Physicians and Surgeons, Pakistan (CPSP) and Pakistan Psychiatric Society (PPS) could organize research forums and conferences in liaison with other stake holders in order to facilitate this process.

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