



# Restraints Practices on Patients of the Psychiatric Wards in a Selected Hospital, Mangalore

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## Abstract

**Background** Restraints are one of the common procedures performed in various medical settings, especially intensive care units, and psychiatric wards. There are various forms of restraints, including chemical, physical, and mixed restraints. The primary reasons for using restraints are to prevent injury to the patient and others, and to reduce violent behavior in psychotic patients.

**Objectives** The aim of this article was to identify the types of restraints used for psychiatric patients and current restraint practices for patients in psychiatric wards of selected mental health facilities.

**Methods** This was a descriptive cross-sectional study conducted among 100 psychiatric patients selected using purposive sampling techniques. An observational checklist was used to assess restraint practice in patients who met study criteria.

**Results** The majority of patients (44%) received chemical restraints, some (28%) received physical restraints, but a minority (28%) used mixed restraints. In terms of practice, most patients (91%) received reasonably safe restraint care. An association was found between practice of restraints and restraints type with a *p*-value (0.001) less than 0.05 at a significance level of 0.05.

**Conclusions** The development of mandatory practice protocols is critical for better nursing care.

## Keywords

- ▶ mental healthcare setting
- ▶ protocol
- ▶ psychiatric nurse
- ▶ restraints
- ▶ restraints practices

## Introduction

Restraints originated as a natural response to the danger emanating from mentally ill individuals.<sup>1</sup> People with mental disorders may pose a danger to themselves, others, or property, which may warrant urgent compulsory intervention.<sup>2</sup> In healthcare systems, patient safety is considered one of the top priorities and is also a key component of an effective and efficient healthcare system where quality is paramount.<sup>3</sup>

The Joint Commission on Accreditation of Hospital Organization “Provision of Care, Treatment, and Services standard” define restraints in two categories: (1) physical, or “any method of physically restricting a person’s freedom of movement, physical activity or normal access to his or her body” and (2) chemical, or “inappropriate use of a sedating psychotropic drug to manage of control behavior.”<sup>4</sup>

The term restraint includes restrictions, geriatric chairs with tables, attached to chairs and beds, immobilization of a person’s range of motion by devices such as seat belts and

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bed rails, or the use of drugs such as benzodiazepines to sedate a patient. Other drugs include lorazepam, and midazolam. As a last resort, physical and chemical restraints can be used to control violent situations.<sup>5</sup>

Violence and aggression are prevalent in the inpatient psychiatric setting. Despite the almost universal prevalence of restraints, there are few publications on the practice of restraining patients. This is especially problematic given that mental health professionals aim to achieve noncoercive environmental goals.<sup>6</sup>

In a survey, it has been found that most clinicians use restraint as a method of control in violent and agitated, suicidal, and delirious patients. Restraints are used temporarily for a period not exceeding 8 to 10 hours on an average, in conjunction with sedatives, when the verbal intervention fails. In the nursing home setting, the prevalence rates range from 19 to 84.6% and a rate of 34% has been reported in the rehabilitation setting.<sup>7</sup>

Restraint use in mentally ill patients is regulated by Mental Healthcare Act 2017 in India. Restraint as a matter of policy should be implemented after attempting alternatives, only under extreme circumstances as last resort and not as a punishment. It should be an intervention focused on managing the concerned behavior for a given point in time. Restraint should always result in safety and should ensure that the human rights of mental healthcare users are upheld.<sup>1</sup>

Restraint may be used only when all less intrusive or restrictive methods have been ineffective or determined to be inappropriate. They must be performed in a manner that is safe, proportionate, and appropriate to the service recipient's age; size; gender; physical, medical, and psychiatric condition; and personal history. The use of restraint must be evaluated continuously and ended at the earliest possible, based on an assessment of the service recipient's condition and behaviors.<sup>1</sup>

A review by Mohr et al 2003<sup>8</sup> concluded that the use of restraints puts patients at risk for physical injury and death. A survey of 142 patients identified the frequency of potentially harmful events and associated psychological distress. This clearly shows that commonly used interventions are traumatic to patients, cause emotional effects, and in some cases may also lead to death. This procedure further stimulates aggression among patients and damages the therapeutic relationship between the healthcare personnel and the patient. It is also contrary to the treatment principles and patient dignity.<sup>2</sup>

Nurses are using restraints to prevent the patients and others in the ward environment. Indian nurses using restraints may not consider other physical physiological complications related to restraints and cessation of restraints. Because there are fewer studies available in India regarding psychiatric ward practices on restraints, there is a need to observe practices through scientific research. This study will also give a base to develop ethical restraint policy in psychiatric ward settings.

## Materials and Methods

This study was descriptive and cross-sectional in nature. The sample comprised 100 patients admitted to the psychiatric

ward of a selected hospital selected using purposive sampling method. Patients having violent behavior undergoing restraining procedures (physical, chemical, or mixed) were selected for the study. Those patients who are getting similar medications in place of chemical restraints were excluded from the study. The study protocol was approved by the Institute's Ethics Committee. An observational checklist was used to assess the practice of restraints on psychiatric patients. The observational checklist was developed by the investigator based on the current literature, to assess the practice of restraints that included a total of 33 items. The prerestraint practice had 6 items, during restraint practice had 11 items, and the postrestraint practice had 16 items. Responses were marked as "Yes" or "No" and were scored in frequency and percentage. The baseline proforma had variables such as age, gender, religion, diagnosis, the reason for restraints, presence of family members during restraints, type of restraint, and health personnel who performed the restraining procedure. The content validity of the tool was assessed by a panel of seven experts from the department of psychiatry, clinical psychology, and psychiatric nursing. Panel members were asked to rate each question for its appropriateness. The spearman rank correlation coefficient was used to assess the reliability of the practice observation checklist. The reliability of the tool was 0.96. The applicability of the instrument was assessed on five psychiatric patients. Formal permission was obtained from the concerned authority before the data collection. The average time taken to assess the practice on a single patient was between 15 and 20 minutes. Data were analyzed using descriptive and inferential statistics.

## Result

The sociodemographic characteristics of the study participants are as follows: Majority of the patients (56%) belonged to the age group of 30 to 39 years and 19% of patients were between the age group 20 to 29 years. Eighty-one percent participants were males and 19% were females; 49% were Hindus, 27% were Christians, and 24% were Muslims. The restraints for patients were performed by the nurses of the psychiatric ward. The other sociodemographic characteristics of the participants are presented in **Table 1**.

In terms of types of restraints used, the majority of the patients underwent chemical restraint (44 subjects; 44%) and twenty-eight (28%) subjects were restrained using physical and mixed restraints, respectively. Out of 44 patients who were chemically restrained, 32 were administered oral medications, and 12 patients were administered both oral and intravenous (IV) medications. The oral drugs used were tab Lorel 2 mg and the IV drugs include inj Seranace 10 mg and inj Lorel 2 mg.

The overall practice of restraints among psychiatric patients was measured in terms of their safety. The practice level was categorized into five categories: very safe care practice (score more than 22), safe (score between 17 and 21), moderately safe (score between 12 and 16), unsafe practice (score between 7 and 11), and dangerously unsafe

**Table 1** Percentage distribution of subjects according to their baseline characteristics,  $n = 100$ 

Sl. no	Variables	(%)
1.	<b>Condition/diagnosis</b>	
	• Alcohol dependence syndrome (ADS)	20
	• Bipolar disorder (BPAD)	16
	• Schizophrenia	11
	• Substance abuse	10
	• Maniac	14
	• Organic mental disorder (OMD)	3
	• Depression	12
	• Delusion disorder	6
	• BPAD, mania	5
	• ADS, BPAD	3
	2.	<b>Reasons for restraints</b>
• Self-harm		11
• Harm to others/properties		9
• Uncooperative and requires medical treatment		11
• Wandering behavior/increased psychomotor activity		45
• Making noise/shouting	24	
3.	<b>Types of restraints applied</b>	
	Physical	28
	Chemical	44
	Mixed	28
4.	<b>Presence of family members during restraints</b>	
	Yes	
	No	

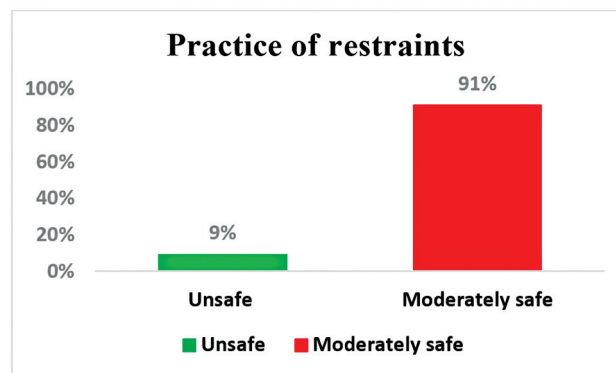
(score less than 6). The results of restraint practices are presented using descriptive statistics as depicted in ► **Fig. 1**.

The mean  $\pm$  SD (standard deviation) of the overall practice score was  $13.06 \pm 1.48$  (maximum possible score was 33). The mean  $\pm$  SD of prerestraint, during restraint, and post-restraint practice is depicted in ► **Table 2**.

**Table 2** Area wise mean, standard deviation, and mean percentage of practice score,  $n = 100$ 

Area	Item	Maximum score	Range	Mean $\pm$ SD
Prerestraint care	6	6	3	$4.16 \pm 0.59$
Care during restraint	11	11	6	$4.93 \pm 1.39$
Postrestraint care	16	16	3	$3.96 \pm 0.49$
Overall restraint practice	33	33	9	$13.06 \pm 1.48$

Abbreviation: SD, standard deviation.

**Fig. 1** Practice of restraints among psychiatric patients.

The results also showed that there was an association between restraint practice score and type of restraints used with  $p$ -value equal to 0.001 and less than 0.05, at 0.05 level of significance.

## Discussion

Nurses working in mental healthcare settings use a variety of therapeutic and nontherapeutic approaches to care for patients exhibiting violent and maladaptive behaviors and to manage these behaviors. This study described the use of different types of restraints and restraint practices.

This study showed that 56% were between the age group of 30 to 39 years and 19% of participants were females. A similar study conducted in Hamburg Germany showed that the mean age of the residents was 86 years and 81% of participants were females.<sup>9</sup> This study was supported by another study conducted by Belete in Ethiopia revealed that the mean age of the patients was 32 years with an inter-quartile range of 14, and 57% of participants were females.<sup>9</sup>

In this study, 11% of patients were restrained because they were harmful to self and attempted to commit suicide, and 9% were harmful to others or others property. Forty-five percent participants were restrained due to their wandering behavior/psychomotor activity and 24% were sedated as they were restless and making noise. It was also found that 20% of patients were diagnosed with alcoholic dependence syndrome, 16% with bipolar disorder, 14% were diagnosed with mania, and 12% with depression. A similar study in Ethiopia reported that 75.8% of them had more than one episode of bipolar disorder; and 56 (21.5%) of them had more than four episodes and 223 (85.8%) of them had a history

of aggressive behavior. Regarding comorbid illness of the total participants, 133 (33.3%) had comorbid illness (schizophrenia [27], epilepsy [23], substance-related problems [30], mental retardation [25], and brain injury [28]).<sup>10</sup> John et.al in 2019 at Mangalore conducted a study that showed similar findings. The reasons for restraints were restlessness (53.7%), aggressiveness (17%), violent behavior (12.8%), and protecting medical instruments and patients' position (8.5%).<sup>3</sup> The reasons for physical restraint in a study conducted in 2022 by Marietta et al included violent behavior ( $f=990$ , 47%), self-harm ( $f=122$ , 6%), and absconding ( $f=109$ , 5%). Other reasons were also reported ( $f=901$ , 42%), such as poor self-control, agitated mood, or displayed temper.<sup>11</sup>

In this study, 28% of the patients underwent physical restraints, 44% had chemical restraints, and 28% with mixed restraints. A study conducted in Germany showed that the prevalence of residents with at least one physical restraint was 26.2%. Center prevalence ranged from 4.4 to 58.9%. Bed rails were most often used (in 24.5% of residents), while fixed tables, belts, and other restraints were rare. The prevalence of residents with at least one psychoactive drug was 52.4%.<sup>9</sup> A similar study in Ethiopia showed that all 400 patients were chained either on their hands or legs or both.<sup>10</sup> Another study in China by Välimäki et al in 2022 showed that physical restraint types included a safety vest ( $f=4$ ), waist belt ( $f=281$ ), limb holder ( $f=1690$ ), and magnetic shoulder traps ( $f=11$ ).<sup>11</sup>

In this study, 91 patients underwent moderately safe restraint care and 9 had unsafe restraint care. A study conducted by the University of Netherlands in 2009 revealed edema and cyanosis on wrist and arm regions, pressure ulcers on various regions, and aspiration and breathing difficulties in relation to physical restraints. Moreover, it also reported nine deaths of patients in chest restraints and concluded actions to reduce the use of and complications from physical restraints should include attention to nurse staffing and education about the use of restraints.<sup>12</sup> Another study conducted by Ertugrul and Özden at Turkey in 2020 revealed neurovascular complications with regard to physical restraints such as redness ( $p < 0.001$ ), limb movement ( $p < 0.001$ ), edema ( $p < 0.001$ ), and color complication ( $p < 0.001$ ) increased, whereas pulse strength ( $p < 0.001$ ) decreased in physically restrained sites on the arm from day 1 to day 4.<sup>13</sup>

This study showed there was a significant association between restraints practice score and type of restraints with  $p=0.00$  and  $<0.05$  level significance. Another similar study conducted in Karnataka by Rentala et al showed that there was a significant association between age and the number of patients cared at  $p$ -value less than 0.05 level for the three age groups.<sup>1</sup>

This study showed that there is no protocol for the use of restrained patients in the ward. It is important for healthcare workers to be aware of and follow appropriate protocols and procedures when restraining patients to ensure patient safety. Failure to follow proper protocol can lead to legal problems for medical professionals. All mental health facilities should have standard protocols and train staff to use safe enforcement measures.<sup>1</sup>

The results of this study throw light on the limitations regarding care during restraints practices. This could be on account of lack of knowledge regarding the effectiveness of alternative methods to deal with patients. A lack of adherence toward protocol of retraining the patients was noticed in this study. It is important that healthcare professionals are aware and follow proper protocol and measures when restraining a patient to ensure the safety of the patient. Failure to follow proper protocol leads to legal consequences for healthcare professionals. All mental healthcare organizations need to have standard protocols and train their staff in adopting alternatives to restraints.

Some of the suggestions from this study are as follows: (1) restraints become therapeutic only when the practice of restraints on patients is done safely and healthcare personnel such as a doctor, nurses, and ward boys must be aware of the consequences before administering the restraints; (2) administrative staff must be aware of the practice of restraints before they make any policy or procedures; (3) training for healthcare personnel who provide restraints is essential in preventing future complications which occurs due to restraints; (4) conducting periodical in-service education for mental healthcare professionals about the restraints, its administration would improve the quality of the care given to patients, and (4) psychiatric nurse is the important member in healthcare team where principal aspect of psychiatric nursing is therapeutic communication and interpersonal relationship with the patient. She/he should take necessary action to train the subordinates about all the aspects of restraints.

This study was delimited to a selected mental healthcare setting of a selected tertiary care hospital. The finding of the study was based on the observation checklist that has strengthened the validity of the study.

## Conclusion

This study revealed that restraining is a highly preferred practice in psychiatric wards. The use of alternative procedures before restraining the patient is minimal. Mostly violent patients are subjected to restraining. All healthcare professionals in psychiatric setup must have training on an annual basis at a minimum on verbal de-escalation techniques and the prevention and management of violent behavior. A protocol that describes the ways of applying restraints must be developed. Educating nurses about restraint practices will reduce the misuse of restraints in psychiatric setups.

### Authors' Contributions

C.S.J (primary investigator) was involved in study design, data collection, and analysis. C.B. provided guidance. S.K.L.S contributed to study design, data analysis, and manuscript preparation.

### Conflicts of Interest

None declared.

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