Pattern of the Use of Physical Restraint on Psychiatric Inpatients in University Malaya Medical Centre

Gan CK, Jambunathan ST, Jesjeet SG
Department of Psychological Medicine, Faculty of Medicine, University Malaya, 50603 Kuala Lumpur.

Restraint and seclusion is a commonly used management technique In many psychiatric Institutes worldwide. However, this practice is viewed by many as a violation of human rights.In order to understand the circumstances surrounding this practice, a descriptive study on this subject was conducted at the University Malaya Medical Centre over a three month period, analyzing the socio-demographic characteristics, diagnoses, patterns of restraint and the indications. Results showed that patients with Schizophrenia were the most frequently restrained (42.5%) and the commonest indication for restraint was for being physically assaultative (25.3%). Approximately 50% of patients on electroconvulsivetherapy (ECT) werealso restrained prior to ECT. Most restraints occurred during the night shift with the four point restraint being the commonest method. The above results are discussed critically and based on these findings suggestions are made how physical restraint in psychiatry can be reduced.

Keywords: Physical restraint, psychiatric Inpatients

Malaysian Journal of Psychiatry March 2003, Vol. 11, No. 1

Introduction

Almost 200 years ago, Philippe Pinel stressed the balance between safety and patient's right in use of physical restraint and stated that one must "dominate agitated madmen while respecting human rights" (1). There should be a balance between respecting the liberty of the patient and providing the greatest benefit to thepatient (2). However, physical restraint remains an issue ofcontroversy in modem psychiatry as physical restraining removes the patient's autonomy, self-determination, dignity and rights.

The current practice of physical restraining implies that we still are not able to reach Pinel's standard of human rights. Some have argued that physical restraints belongs to museums and are still used because of staff ignorance, fear, and anger and administrative convenience (3). Klinge quoted "this traditional technique of physical restraint is used routinely in psychiatric hospitals and that there is no trend toward newer, superior techniques" (4).

Correspondence:
Dr. 5. T. Jambanathan, Lecturer, Department of Psychological Medicine, Faculty of Medklne, University Malaya, 50603 Koala Lumpur.
Email: koyaka@botmall.com Fax: 03-79568841 Tel: 03-79564422

Despite this, literature reviews still support that physical restraints are basically efficacious in preventing injury and reducing agitation. It is argued that it is almost impossible to manage severely symptomatic individuals without some form of seclusion orphysical restraint (5). However, physical restraint should always be considered as the last resort when other means have failed in managing the patient. Verbal, chemical and other interventions such as socialization and recreation should be considered first to prevent loss ofcontrol (6). The use ofphysical restraints should be only based on clinical ground, individual needs and status of the patients.

Is physical restraint common? The rate ofphysical restraint varies significantly across different hospital and unit settings, and by the method ofineasurements. Way and Banks found the rate of seclusion and restraint ranged from 0.4 - 9.4% of patients in public psychiatric hospitals (7), where else Okin found 15% - 41% of patients admitted to state hospitals were restrained or secluded (8). Philips and Nasr reported a 51% rate in the well-staffed research ward of a university affiliated state hospital (9), and Schwab and Lahmeyer reported a 37% incidence in another university hospital (10).

What are the profiles ofpatients that end up being restrained? One study found a younger age, involuntary admissions, female gender, and a diagnosis of mental retardation all increases the likelihood of a patient being restrained (7), where else another noted that psychosis, character disorder and manic symptoms are among the stronger predictors of restrain (5). Schizophrenia appears to be the disorder most frequently associated with restraining. Betemps et al found that schizophrenia contributed to 59.6% of restraining incidences at 82 medical centres (11). In. a local study among female inpatients in Kuala Lumpur, schizophrenics contributed to 62.4% of those restrained (12).

Danger to self or others is usually the primary indication for restraining a patient. A review of literature showed agitation, uncooperativeness, disorderly conduct and disruption of therapeutic milieu, history ofviolence, violence against unspecific target, staffs and other patients, threat ofviolence and pars-suicide are among the common reasons of restraints (5).

Though it can be argued that physical restraining has abeneficial role to play, itisnotwithoutsubstantial deleterious physical and psychological effects on both patients and staffs (5). Most patients will experience negative feelings, such as fear, hostility, abandonment, humiliation, guilt, paranoia and loss of dignity. Furthermore, physical restraint may have a negative effect on therapeutic alliance as the patients may lose whatever trust they had towards their therapists. Staffs on the other hand have reported feelings of guilt, embarrassment, frustration and ambivalence toward physical restraint (13). Physical complications as a result of physical restraining can be serious and even fatal. The Joint Commission on Accreditation of Health Care Organization reviewed 20 cases of physical restraints related deaths and found the common causes ofdeathwere asphyxiation, strangulation and cardiac arrest (14).

Realizing the potential problems associated with physical restrains, a descriptive study on this subject was conducted. The aims of the study were to describe the pattern of physical restraint used and the socio-economic characteristics and diagnoses of patients that eventually need physical restraint. It was timely to conduct this study because of limited data of restraint in local setting. Specific data on patient characteristics and physical restraint use may highlight meaningful patterns that can be the focus of education initiative with ultimate aim of physical restraint reduction. It should serve as an eye opener for the staff in our hospital specifically and policy makers in Malaysia generally regarding the neglected issue of physical restraint.

Methodology

This was a descriptive study carried over a 3-month period, from I April2001 to 30 June 2001. The study was carried out in both male and female psychiatric wards in University Malaya Medical Centre, which is a university hospital situated in Kuala Lumpur that caters to mostly acutely ill mental patients. All psychiatric inpatients that required physical restraint andwerd admitted over the study period were included in the study.

Physical restraint was defined as mechanical devices, which restrict freedom of movement and normal access to one's body. These "devices" can be body restrainers, tied arms restrainers (2-point) or tied arms and legs restrainers (4-point). An episode of restraint was defined as any period of time spent in above-mentioned mechanical devices.

Data were collected from patients' case notes and the "Nursing Report On Restraint" Patient forms (see Appendix). Data on socio-demographic profiles, type of admission, length of stay, history of substance abuse(s), diagnoses and the use ofelectro-convulsive therapy were collected. Diagnoses were based on Diagnostic and Statistical Manual of Mental Disorders, fourth edition (DSM-IV), which were made by treating medical officer after consulting the psychiatrists. Reason, timing, duration and type of restraint were obtained from "Nursing Report On Restrained Patient" forms, which would be filled each time the patient is restrained.

Results

40 male patients and 33 female patients were restrained (at least once) out of 229 admissions during the study period, giving arate of31.9%. Out ofthese 73 patients,

nearly two third (48 patients) were admitted involuntarily, and the remaining 25 were voluntary admissions. Almost half of the samples were only restrained once within one admission period as showed in the Table 1. The average number of times each subject was restrained was 2.22.

Table 2 shows the age groups of the study population where the majority of the patients (63%) were in the age range of20 to 39. Sample$ had a mean and median age of 33.9 ± 12.7 years and 34 years respectively. Chinese contributed to about halfofthe samples that were followed with almost equal amount of Malays and Indians (see Table 3). Table 4 shows the highest educational level obtained by the study population. Two third of the samples had secondary education, where else one fifth of them had only obtained primary education. About one-fifth of the patients had obtained tertiary education. Unemployment and being single seem to be over presented in the samples (see Table 5 and 6).

Table 7 shows the length of stay of the patients of which the was 17.6 ± 8.1 days. 76.7% of samples had two or fewer previous admissions (see Table 8). Table 9 shows the diagnoses ofthe samplepopulation, where schizophreniaand bipolardisordercontributed two third ofthe samples. Table 10 shows the number ofpatients from the studypopulation given ECT, and interestingly almost exactly half of the restrained samples were subjected to it.

Verbal violence and physical assaultis contributed to 37% ofthe reasons for restraining, as illustrated in Figure 1. 22.8% of the patients were restrained to ensure that they would be fasted for ECT.

More samples were restrained during night shift than other shifts as stated in Table 11. 18.5% of the samples were restrained on night shift as preparation forECTs, which were performed on the next morning.

Three quarter of the samples were restrained for less than 8 hours and the commonest type ofrestraint was tied arms and legs see Table 12 and Figure 2 respectively.

Table 1. Frequency of restraint within a single admission.

Frequency of restraint	Number of samples	Percentage (%)
1	39	53.4
2	12	16.4
3	7	9.6
4	6	8.2
5	5	6.8
6	0	0
7	3	4.1
8	1	1.4
Total	73	100

Table 2. Age group distribution of sample population.

Age (years)	Number of samples	Percentage (%)
10-19	9	12.3
20-29	20	27.4
30-39	26	35.6
40-49	12	10.4
350	6	8.2
Total	73	100

Table 3. Ethnic distribution of sample population

Race	Number of samples	Percentage (%)
Malay	16	21.9
Chinese	37	50.7
India	18	24.7
Other	2	2.7
Total	73	100

Table 4. Education level of sample population

Level of education	Number of samples	Percentage (%)
None/ Primary	8	10.9
Secondary	44	60.3
Tertiary	21	28.8
Total	73	100

Table 5. Occupation of sample population

Occupation	Number of samples	Percentage (%)
Professional	4	5.5
Non-professional		
-Skilled	7	9.6
-Non-skilled	21	28.8
Housewife	6	8.2
Student	6	8.2
Unemployed	29	39.7
Total	73	100

Table 6. Marital Status of Sample Population

Marital status	Number of samples	Percentage (%)
Single	48	65.8
Married	17	23.3
Divorcee	7	9.6
Widowed	1	1.4
Total	73	100

Table 7. Length of ward stay-of sample population

Length of stay (days)	Number of samples	Percentage (%)
1-10	15	20.5
11-20	34	46.6
21-30	20	27.4
31	4	5.5
Total	73	100

Table 8. Number of previous admissions of each patient

Number of previous admissions	Number of samples	Percentage (%)
Nil	34	46.6
1-2	22	30.1
3-4	8	11.0
5-6	6	8.2
7	3	4.1
Total	73	100

Table 9. Diagnosis of each patient

Diagnosis	Number of samples	Percentage (%)
Schizophrenia	31	42.5
Bipolar disorder	18	24.7
Major depression	12	16.4
Other	12	16.4
Total	73	100

Table 10. Number of patients receiving ECT

ECT Given	Number of samples	Percentage (%)
Yes	36	49.3
No	37	50.7
Total	73	100

Table 11. Timing of restraint

Timing of restraint (hour)	Number of samples	Percentage (%)
0700-1400	51 (7)	31.5 (4.3)'
1400-2100	41	25.3
21 00 = 07 00	70 (30)'	43.2 (18.5)'
Total	73	100

Samples were restrained for ECT.

Table 12. Duration of restraint

Duration (hours)	Number of samples	Percentage (%)
Less than 4	76 (32)'	46.9 (19.8)'
4-8	44 (5)'	27.2 (3.1)'
8-12	13	8.0
12-16	10	6.2
16-20	5	3.1
20-24	7	4.3
More than 24	7	4.3
Total	73	100

• Patients were restrained for ECT.

Figure 1. Reason of restraint

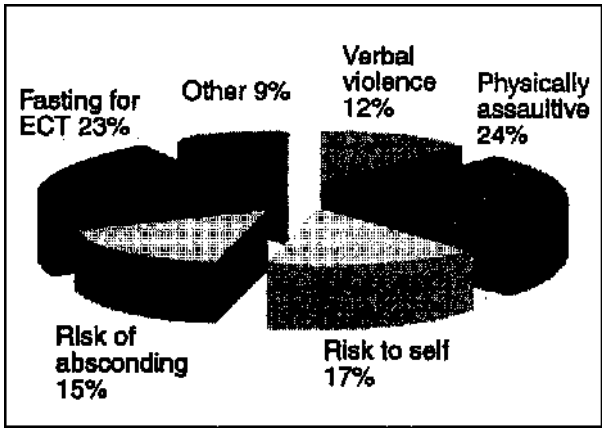
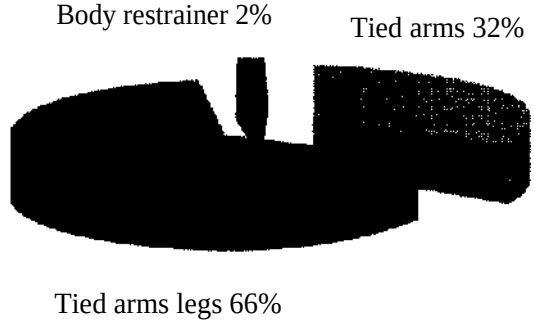


Figure 2. Type of Restraint Used



Discussion

The rate of physical restraining 31.9% in this study was comparable to 37% reported by Schwab and Lahmeyer, but lower than the rate DO1 % reported by Philips and Nasr (9,10). Our finding of 2.22 on the mean frequency ofrestraint was lower than the figure reported by Okin where a 3.27 mean frequency of restraint or seclusion was quoted (8). These differences could be explained by the administrative, staff-patient ratio, patients' clinical presentation and cultural differences among different settings.

Males contributed to 54.8% ofphysical restrained patients in our study, which is comparable to other studies (8,15). Similarly, the age group distribution was also in keeping with other reported studies (15).

Though Chinese made up more than half(50.7%) of the restrained patients, this probably reflects the racial composition of admissions, where 48.5% of the total admissions are Chinese, rather than any significant relationship between rate of physical restraining and ethnicity.

Only about a fifth of the patients in this study were married, similar to other studies where low rates were reported (8). However this finding doesn't necessarily conclude that unmarried patients are more likely to be restrained. The rates observed might merely be due to the fact that the likelihood of the mental patients to get or stay married is low.

Higherpercentages of involuntary patients were restrained, which is consistent with other studies (7,16), which may imply that the subgroup ofpatients are more ill to begin with. The mean length of stay of restrained samples in our study was relatively short when compared to other settings (8). This shorter hospital stay could be explained by the fact that we have a high turn over ofpatients buta limited number of beds, which leads us to employ more intensive management methods to shorten the length of hospital stay. This would also explain the high rate of ECT seen in our unit.

A majority of the restrained patients were schizophrenics (42.5%), followed by those with bipolar disorders (24.7%), rates which are similar to that of other studies done locally and internationally (12,17).

Large proportions of the samples were restrained for of verbal violence (12%) and physical assault behaviour (24%) in our study, which is consistent with other studies where, for example, Betemps et al reported rate of! 0.5 % and 18.1% for verbal violence and physicall assault respectively (11). Risk of absconding contributed to 14.8% in reasons for initiating physical restraint, a relatively high figure that is probably due to the fact that our unit has an open ward setting. Physical restraint as a pre ECT precaution was unusually high in this study. Almost 50% of patients prepared for ECT were restrained. The reasons could be multi-factorial, such as, shortage ofstaffand unavailability ofspecial waiting rooms for ECT.

More restraints were applied on night shifts (43.2%) than other shifts, which was consistent with other studies (17). The shortage of staff on night shifts might explain the higher use of restraints and restraining as a pre ECT precaution would also contribute to the high figure.

53.1% of our samples spent more than 4 hours per episode of restraint which is high compared to other settings. Okin reported the mean hours spent per episode of restraint was 2.9 hours to 3.6 hours (8) and Carpenter et al reported only 1.4% to 11.0% samples spent more than 4 hours per episode of restraint (15). Shortage of staff in our setting might explain this finding, and furthermore there is no legal limit on duration of restraint in our country.

Should measures be taken to reduce the use of physical restraints?. In United States, the National Alliance for the Mentally Ill stated that "the use of involuntary mechanical or human restraints or involuntary seclusion is only justified as an emergency safety measure in response to imminent danger to one's self or others" (18). Physical restraint should not be used as a form ofpunishment, as a substitute for treatment, as a response to refusing treatment or activities, as a response to obnoxious behaviour and for staff convenience (5,6). This standard emphasizes using restraint as an absolute last resort.

From the results ofthis study, several recommendations can be made to reduce the incidence of physical restraints. Firstly, a proper "Restraining Protocol" should be employed to standardize the indications for restraining and its methods. This includes proper indications and clearly documented policies and procedures. Documentation of predictive factors would help target the potentially disturbed patients and early intervention could be done to prevent the use of physical restraint. For these reasons, the "Nursing Report On Restraint" Patient forms (see Appendix) was introduced and used in this study, and was subsequently modified and has now been included as a standard operating procedure (SOP) when a patient is to be restrained. This would also facilitate review of the practice of restraining from time to time and allow changes to be made to the"Restraining Protocol" when deemed necessary.

In this study it was found that there was a high incidence ofrestraint among patients fasted for ECT. The use ofspecial waiting rooms for patient awaiting ECT wound reduce the use of restraint. The fact that more patients were restrained over the night shifts further suggests that the number of staff on duty is directly related to the number of restrained patients. However shortage of staff and finances should not be seen as a stumbling block. One should push for changes in policies for the benefit of both patients and staff by presenting evidence for such changes.

Pharmacotherapy should also be optimized to prevent the escalating agitation often seen in the psychotic patient. "Chemical Restraints" should always be tried first before any attempt is made to physically restrain a patient. It must be pointed out that physical restraint is only acceptable because of the in-availability ofbetter more humane methods of treatment. Physical restraint when used, should provide a safe and secure environment for patients and others. In this study the types and dosages of medicines used was not documented as the differences in cummulative doses and the individual responses would have been influencing factors on the outcome. As mentioned earlier, it is however a very important aspect to look into.

The relatively high rate of physical restraint for those with a high risk of absconding probably can be reduced with other measures such installing certain type of security devices such as "Closed circuit TVs (CCTV) near the exit doors like, ensuring security personnel to be always present in the ward exits 24 hours a day. Here again it must be pointed out that optimizing pharmacotherapy is the first and most important option.

In order to minimize the use of physical restraint and its potential psychological and physical harmful effects extensive staffand patient education programs are needed in order to enable a calmer environment in the wards emphasizing collaboration, empowerment to the patient and ethical issues.

The findings in this study shows that the use of physical restraint is an issue in psychiatry that needs to be addressed urgently. Ethical issues, not to mention safety ofthepatient may be overlooked due to factors such as shortage of staff, inadequate medication, lack oftraining and outdated policies. With adequate training especially in understanding the psycho-dynamics of a disturbed patient perhaps verbal violence and physical assaultativeness could be prevented. Dealing with emotions of the hospital staff towards disturbed patients may help prevent the escalating aggression and hostility that often leads to physical restraint of the psychiatric patient. Apart from the Restraint Order Forms, policy changes and adequate training are imperative for the reduction of physical restraint in psychiatry.

Limitations

Werecognize several limitations in our study. Firstly, a study in a teaching hospital setting might not represent other hospital settings such as general hospitals and district hospitals where the patient and staff compositions may differ. Secondly, the introduction of the "Nursing Report On Restraint" Patient forms at the onset of this study and the knowledge that a study was being carried out may unknowingly cause staffand doctors to practice their restraining acts differently than they usually would have.

References

Weiner DB. Philippe Pinel's "Memoir on Madness" ofDecember 11, 1794: A Fundamental Text ofModern Psychiatry. American Journal of Psychiatry 1992; 149:725-732.

2. Elliott C. Ethics and Treatment. Current Opinion in Psychiatry 1988;1: 638-643.

3. Guirguis EF. Management ofDisturbed Patients: An Alternative to the Use of Mechanical Restraints. Journal Clinical Psychiatry 1978;39:295-299.

4. Klinge V. Staff Opinions about Seclusion and Restraint at a State Forensic Hospital. Hospital and Community Psychiatry 1994;45:138-141.

5. Fisher WA. Restraint and Seclusion: A Review ofthe Literature. American Journal ofPsychiatry 1994;151:1584-1591.

6. TardiffK.AcuteManagementofViolentPatients. In: Tardiff K (ed). Medical Management of the Violent Patient: Clinical Assessment and Therapy. New York: Marcel Dekker Inc, 1999:237-254.

7. Way BB, Banks SM. Use of Seclusion and Restraint in Public Psychiatric Hospital: Patient Characteristic and Facility Effects. Hospital and Community Psychiatry 1990;41: 75-8 I.

8. Okin RL. V ariation Among State Hospital in Use of Seclusion and Restraint. Hospital and Community Psychiatry 1985;36:648-652.

9. Philips P, Nasr SJ. Seclusion and Restraint and Prediction of Violence. American Journal of Psychiatry 1983;140:229-232.

10. Schwab PJ, Laymeyer CB The Use of Seclusion and Restraints on A General Hospital Psychiatric Unit. Journal ofClinical Psychiatry 1979;40:228-231.

11. Betemps EJ, Somoza E, Buncher CR. Hospital Characteristics, Diagnoses and Staff Reasons Associated with Use of Seclusion and Restraint. Hospital and Community Psychiatry 1993; 44:367- 371.

12. NorharlinaB, Jesjeet SG, Toh CL. Restraining of Patients in a Female Psychiatric Ward. Kuala LumpurHospital Journal ofQualityImprovement 2000;4(2):7-12.

13. Lamb KV, Mion LC, Palmer R, et al. Help The Help Care Team Release Its Hold on Restraint. Nursing Management 1999;30:19-24.

14. Joint Commission on Accreditation of Health Care Organization. Comprehensive Accreditation Manual for Hospitals: Restraint and Seclusion Standards. Oakbrook Ter ace, Illinois: JCAHO 2001.

15. Carpenter MD, Hannon VR, McCleery G. Variation in Seclusion and Restraint Practices by Hospital Location. Hospital and Community Psychiatry 1988;39:418- 423.

16. Soloff PH, Gutheil TG, Wexler DB. Seclusion and Restraint in 1985: A Review and Update. Hospital and Community Psychiatry 1985; 36:652-657.

17. Whitman GR, Davidson LJ, Sereika SM, et al. Staffing and Pattern ofMechanical Restraint Use Across a Multiple Hospital System. Nursing Residence 2001;50:356-362.

18. Charatan FF. US reconsiders use of seclusion and restraint in psychiatric patients. British Medical Journal 1999;319,77-.80

Appendix (Nursing Report On Restrained Patient" form.)

Nursing Report For Patient on Restraint

To be filled every time patient is restrained

Date:
Time:

Patient's sticker

Reason(s) for Restraint Intervention:
(One or more and please explain)

- Verbally abusive
- Threatening
- Physical assault
- Risk to self
- Destructive to property
- Sedated
- Confusion
- Risk of falling
- Others

Has Doctor's Order Form Being Filled **Yes** **No**
(If not, please inform doctor in charge.)

Measure(s) Taken Prior To Restrain:

- Inform doctor
- Eye contact
- Touch
- Calm voice
- Reassurance
- Active Listening
- Explaining consequences
- Clear directions
- Offer medication(s)
- I/M or W medication(s)
- Others

Complication(s):

- Nil
- Abrasion(s)
- Dehydration
- Others

Type of restraint:

- **Locked arms**
- **Locked arms and legs**
- **Body restraint**
- **Others**

Reviews time:

Removal of restraint:
Date: **Time:**
Reason(s):
Comment: