

Research Article

Coercive Measures on Elderly People while being Hospitalized

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Abstract

Since the second half of XX century there is a growing concern about the unregulated practice of restraining elderly people admitted at hospital and not only in geriatric wards. Several articles reviewed coincide in pointing out that coercive measures are not harmless and, therefore it would be convenient to think it out before using them. Rates of morbidity and mortality increases in parallel with the prolonged restrain. "Mobility rather than immobility" sentenced one of the reviewed authors.

We have carried out a case control study on a sample of 279 case patients and 510 case-controls. The analysis shows several factors with significant association ($p < 0,001$): age, sex, type of hospital wards and staff work shift in four big Spanish hospitals.

And we conclude that restraining should not be applied without previous information of the patients. Once patients have been informed, the applications should not be used without their consent. An alternative could be the consent given by his/her tutor or representative.

We recommend that every hospital should developed a protocol regulating who should prescribe any type of restraining; in what condition the measure should be applied; and a register of the measure: when and by who it was prescribed, for how long it was applied and what incidences occurred during the time of application, if any.

A thoughtful debate should be opened on the ethical and legal aspects of the coercive measures.

INTRODUCTION

This work is part of a long standing research line continued over several years. It started with EUNOMIA study [1,2] where different European legislations were compared. It was followed, among others, by the "Study of the bioethical and legal consequences of the application of coercive measures on non-psychiatric patients in Spanish public hospitals" granted by the Spanish Ministry of Education and Science [3]. The present article is uses unpublished material out of the last mentioned study.

The dramatic changes in mental health care over the last four decades in Western countries were focused mostly on the reduction of hospital beds number [4-6]. Smoothly throughout this time, the focus was reoriented from bed to patient, it is to say: toward the guiding principles of the process by taking into consideration the Universal Human Rights and strengthening the patient's empowerment and giving priority to individual needs and wishes. These new points of view reach great concern within international institutions and the researchers centred theirs

interest on psychiatric hospital conditions for the mentally ill people.

Some consequent questions did come up: what is happening on non mentally ill patients admitted at ordinary general hospital?. Do patients suffer serious restrictions of their rights when admitted at medical, chirurgurgical or emergency wards?

Above and beyond the mental illness care, the patients' admission under other diagnosis to a general hospital merits to be considered independently. That is the case of the elderly people admitted at geriatric wards; but not only them, statistical is showing how in other medical, chirurgurgical or emergencies wards the patient's mean age is growing.

In parallel, a certain consensus grows up on managing elderly people at hospital: restrain measures needs to be applied, at least as a temporary care tool to affront a particular clinical situation. And, likely, the topical and commonest clinical situation would be to preventing bed-falls.

In any case, it is absolutely crucial to distinguish between aiming to prevent bed-falls from a restraining measure in itself. And the better way to discriminate it is to know the reason lying behind the measure adoption. The interventions of coercive character might be associated with factors which would be others than therapeutic objective. For example, they might be due to prejudices related to the age and pathology of the patient, or can be influenced by the cultural and social beliefs about how to look after elderly people.

However, sadder it would be if the lack of adequate training of medical and nursing staff is the reason behind the coercive act. Dejectedly would be the word if adoption of the restrain measures can be carried out on the purpose to serve other intentions: like to annul the annoying patient, or to reduce the needs of control and monitoring, or to reduce the needs of attention on patient without familiar companions, or, if the cause is an insufficient staff/patient ratio, it would ethically be much worse.

The interest for this topic is not recent. In 1986 Frengley JD and Mion LC [7], operating at acute medical wards with all adult ages, did find an overall incidence of restraining of 7,4%. Patients over 70 years old or more were restrained more frequently, up to more than 20%. They considered the possibility of a "relationship between the severity of an illness and the use of physical restraints".

Shortly after, Lofgren RP, Macpherson D et al. [8], opened the question about the eventual safety of mechanical restrain devices. They followed a cohort of 102 mechanical restrain cases, out of which those restrained for more than 4 days developed significantly more nosocomial infection (12%) and new pressure sores (22%). In general, the cohort suffered high rates of mortality and of morbid events. They concluded that mechanically restrained patients need to be closely monitored.

The same team [9] came back to the topic offering a case control study (restrained and unrestrained cases) on a cohort of 121 consecutive patients admitted to an acute general medical ward and two acute rehabilitation medical wards. Up to 34% of patients at rehabilitation wards suffered from restraining and commonly the restriction was applied for longer along their hospital stay, whereas only 13% of those admitted in general medical wards were restrained, but they tend to suffer more than one type of restraint at a time. This second group showed a higher mortality and morbidity rates than the counterparts. It seems that as longer are the elderly people' stay in hospital, the greater is the risk of suffering a persisting coercive measure. While elderly admitted at ordinary type of wards are not so much at risk of be coerced, but more at risk of suffering it more than one restrain measure.

Item more, a group of Yale University [10] concluded in 1992, after studying the association between mechanical restraint use and the episode of injurious falls among persons residing in skilled nursing facilities, that mechanical restraints were associated with sustained events of serious fall-related injuries after controlling for other injury risk factors. They concluded questioning whether restraints provide adequate protection, if any at all. Analogous study carried out by Capezuti E, Evans L et al. [11], finished off with similar conclusions: restraints were

not associated with a significantly lower risk of falls or injuries in subgroups of residents liable to be restrained. They suggested to focusing new efforts on developing a variety of approaches capable to reduce risk of falls and injuries and promote "mobility rather than immobility".

It seems clear up to now that the use of restrain measures is not harmless and whenever applied on patients they must be closely supervised. It is equally clear that a reiterative topic of debate has been present during the last three decades: nursing staff sense afraid of elderly patients to bed- fall and as a consequence they feel safer restraining them.

Several authors, Sullivan-Marx EM, Strumpf NE et al. [12], among them, did suggest to promoting singular training on nursing staff about how to take care of elderly.

The Dutch researchers Hamers JP and Huizing AR [13] launched an open question in 2005: "Why do we use physical restraints in the elderly?"; and it was their own answer: because the evident adverse effects of restraints and the growing evidence that physical restraints are no adequate measure for the prevention of falls. Most of these papers conclude requiring more research on the matter.

We close this partial review mentioning the Cochrane Database Syst. Rev., published in 2011 by Möhler R, Richter T et al. [14]. According to these authors, not all studies offered sufficient information for an aggregated data meta-analysis, and therefore the study results are presented in a narrative form. They founded inconsistent results. So much that they conclude that there is insufficient evidence supporting the effectiveness of educational interventions targeting nursing staff for preventing or reducing the use of physical restraints in geriatric long-term care.

It seems evident that the use or restraint measures require to be regulated. And in order to assure one better clinical practice the peoples' rights must be a key objective. This regulation would entail also a greater security in the exercise of Medicine. Even more: restraint-free care should be the aim of high quality nursing care.

Definition of the restrain/coercive measures for this study

From the Human Rights standpoint and within the present study frame, coercion means any action taken on a patient against his/her will with or without his/her consent. However, it is necessary to restrict the potential coercive measures meaning by reducing them to only 5 actions. And it was convenient to define them as to avoid bias or misinterpretation.

- A. Mechanical restrain: by using without the patient's consent, mechanical devices in such a way that it is impossible for the patient to hurt himself; or, at least, one limb of the patient. It this definition includes those situations where patients can be held by staff using physical force applied to at least one limb.
- B. Chemical restrain: administering medication unjustified by the diagnosis; in order to restrict patient's capacities (mobility, communication, reaction).

- C. Seclusion: patient's isolation in a room in order to restrict the freedom.
- D. Forced medication: administering to patient without having previously obtained the informed consent or from the tutor if it is the case; or administered it against patient's will.
- E. Involuntary detainment in a hospital motivated by public health reasons or serious risk for patient's life.

Nevertheless, only two restrain measures (A and B) will be considered at the analysis in the present article.

Objective

Aims of the Study, considered at the present work:

- a. To know how frequent coercive or restrain measures are used.
- b. To learn what are the common structural factors associated with their application: wards.
- c. To see the relation between restraining and staff structure.
- d. To identify the commonest associated variables with the patient's profile.

MATERIALS AND METHODS

Method [Design]

After an exhaustive survey of the legal frame and the specialized literature, two complementary approaches were used:

- a. Qualitative: since the field researchers or actors' opinion is essential, techniques of focal groups were applied in order to obtain their global vision. However, the outcome from the qualitative work has not been used at the present article.
- b. Quantitative: most of the study did follow statistical analysis, though, the present article only includes part of the statistical analysis

Case control study design and universe sample

- a. **Universe sample:** each and every one patient having been admitted, during the ten months of cases recruitment to the further mentioned wards.
- b. **The total sample was divided in two groups:** cases and control-cases in order to make possible a proper statistical analysis and, as a consequence, to identifying concluding significant associated factors to restriction.

The study sample was recruited out of the universe sample by taking into consideration every one patient having been object of a coercive or restrain measure and as long as being able to give its consent according to mentioned criteria.

Out of the universe sample, a total of **279 patients' cases** were chosen. They represent the total of first consecutive incidences (cases) of coercion. Cases-control were randomly recruited following these steps: once a patient case was included, the immediate a posterior patient admitted to the unit without

coercion was invited to participate on the study in the control group; a total of **510 cases-controls** were gathered.

Source sample

The study was carried out in four big size public Spanish general hospitals:

- ✓ University Hospital San Cecilio in **Granada**. In wards of: emergencies, ICU and Internal Medicine.
- ✓ University Hospital Carlos Haya in **Malaga**. In wards of: elderly, emergencies and Internal Medicine.
- ✓ General Hospital of Asturias in **Oviedo**. In wards of: elderly, emergencies, and Internal Medicine.
- ✓ Gregorio Marañón Hospital of **Madrid**. In wards of: elderly, emergencies Internal Medicine, and Paediatrics.

Criteria of inclusion and exclusion and study sample

- a. **Inclusion:** only patients with capacity to give its consent were admitted and they freely granted their permission, after having been informed about the nature of the study. Legal parents or tutors were entitled to grant it in cases where the subject has not the age related legal capacity.
- b. **Exclusion:** those patients being admitted due to a mental disease were excluded from the study. In the same way, those judicially controlled or sentenced were excluded.

Succinct profile of the cases sample: (n cases/% of the whole case sample)

- a. **Source:** Granada 99 (35, 48%), Oviedo 67 (24, 01%), Malaga 57 (24, 43%). Madrid 56 (20, 07%)
- b. **Gender:** 154 were women (55, 19%) and 125 were men (44, 81%)
- c. **Age:** only 36 (12, 90%) out of them were ≤60 years old; 112 (40, 14%) were between 61-80 years old; and 121 (43, 26%) were more than 81years old. It is to say that more than 83% of patients were older than 61 years.

The cases-controls show a similar profile. As an example: 232 people were between 61-80 years old (45, 49%).

Recruiting the sample (field study procedure)

A **coordinator (*)** was designated for the field study at each of the four hospitals. He/she was connected with his/her Hospital Ethic Committee and was the responsible for the accuracy of sample recruitment along all steps at his/her centre.

The coordinator did supervise the **collectors** who were present at each of the wards included in the study of every hospital.

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The collectors recruit the cases and compiling all necessary

data, following the information given by medical and nursing staff of the participating wards. Once the possible case was located, collector did require consent to the patient candidate to be a case. Consent for the participation in the survey and for the personal data collection.

DESIGN, INSTRUMENT AND STRUCTURE OF THE SURVEY

The research team was constituted by the authors of this article and the above mentioned four coordinators. Matched by Prof. Claudio Hernández, the survey questionnaire was designed by the research team, after a deeply reviewing of the available literature on the matter. It consisted of a brief part of case filiations' followed by an open interview implemented by the collectors previously and duly trained.

The questionnaire was digitalized as a computer application. And each case data was registered through a Microsoft Excel program developed ad hoc and complemented by the collectors on a table. The tables were configured to systematize the data for the further statistical analysis.

The data collection was structured through the following items:

- Identification data:** including patient's name, validation code, case identification number, date of interview, place where it was done.
- Socio-demographic and clinical profile:** sex, age, civil state, ethnic origin, first language, educational level, family situation, labour situation, relatives and social relationship network.
- Case type of admission:** time of admission, incoming ward and final ward of hospitalization, judicial situation at admission time, diagnosis and treatment at the way in, past history pathology, previous hospitalizations, and type of coercive measure applied along the process of admission.

STATISTICAL METHOD

- Data were shown by using the frequency allocation of the different variables and, whenever possible, using basic measures like average, mean, quarters, range and statistical deviation.
- Package SPSS 13.0 was used so as to carry out the statistical analysis.

RESULTS

Coercive or restrain measures which were elicited during the study

The final register accounted 279 patients or cases, but 354 coercive measures were drawing out; 75 more restrain incidents than individual.

Mechanical restrain was responsible for 59,8% of the cases. Bed sheets or gauze were the commonest means to patients' physical restrain.

Chemical coercion meant 60,6%, being tranquilizers and hypnotics 66,34% the most common drugs used.

Commonest associated variables with restrain measure related to patient's profile

a. Age: 59,50% of cases who suffered coercion were between 71 and 90 years old. As much older is the patient larger is the risk and the association between age and restrain was significant ($p < 0,001$).

Equally, the number of measures applied to the same patient increases in association with age [$p < 0,001$].

b. Sex: women received more frequently restrain than men [154 ♀ (55, 19%) and 125 ♂ (44, 81%)] and this association is also significant ($p < 0,001$).

c. Civil status and family context: 30% out of coerced group was widows and 28% lives on his/her own.

d. Employment: 69,5% of restrained patients were retired.

Common structural factors associated with their application

a. Nature of the medical ward: 41,57 happened at the emergencies boxes and 38,04% in Internal Medicine wards. Out of them more than 70% were cardiovascular, neurological, oncologic and infectious disease wards. The association was significant ($p < 0,001$). Length of time spending at hospital is other structural factor. As longer it is the stay the bigger is the risk of being restrained one or more times (table 1).

b. Staff work shift: the labour turn in hospital daily work is crucial, mostly within the nursing staff. It is part of the structural frame of a hospital functioning and it is the reason because the study focused its attention on what was happening during the work shifts.

It could be observed that the coercive measures were administered with more frequency (68%) between 0 to 3a.m. and between 20 to 24p.m. phases of time coinciding with the work shifts. This association is also statistically significant ($p < 0,001$)

DISCUSSION

It is patent that in our study those patients more at risk of been restrained would be those with age between 61 and 80 years old, specially if they are women, retired and living alone. And the risk would increase if he/she is admitted to Internal Medicine (cardiovascular, neurological, oncologic, infectious disease) and

Table 1: Cases of restrain related to hospital stay length.

Length of stay	Cases	%
<1 day	36	13,00
1-7 days	35	12,70
>7 days - 1 month	86	30,75
> 1 month	93	33,30
Unknown	29	10,25
TOTAL	279	100

emergencies wards. Our profile is quite similar to those located by Fletcher M [15]. A similar profile was found by Ramos-Brieva JA [16] who aggregated other factors to consider like confusing mental estate, patients under vital support or severe clinical condition. A similar consideration was pointed out by Frengley JD and Mion LC [7] in 1986. Theirs suggestion was mentioned *ut supra*: a feasible association between the severity of the illness and the fact of being restrained. Unfortunately, we did not check the clinical condition and progress of patients included in the sample, but other authors as Lofgren RP, Macpherson D [8], and Hamers JP and Huizing AR [13] have been launching the idea that coercive measures are not harmless and, even more, they could signifying more nosocomial infection, more pressure sores and, in general, higher rates of morbid events and of mortality. After a case control study the same team [9] concluded that as longer is the elderly people' stay in hospital, the greater is the risk of suffering a persisting coercive measure, as we have elicited on patients admitted at rehabilitation wards. Around this debate we could mention again the over hall conclusion that Capezuti E and Evans L [11] offered: mobility is better than immobility.

For decades the debate has been rounding about the staff fear to bed-fall of patients and consequently about the risk prevention by restraining the patient's mobility. The need for a better nursing training has been the understandable corollary. However, Möhler R and Richter T [14], after their exhaustive review, concluded that there is insufficient evidence supporting the effectiveness of these educational interventions.

Perhaps it would be convenient to open the focus towards the diverse hospital structural factors and not only on the nurse's level of training. There might be other factors, such as the peculiar ward culture which is maintained throw successive relief of professionals, routinely care practice, insufficient medical doctor implication and others.

The present article shows evidences that the nursing staff work shift was associated with the use of coercive measures. What is the reason behind of significant frequency increase of the coercion during the work shift? Is it to restrict the freedom of noisy and restless patients? In our view it is not a question of training, it is a question of attitude; it is a question of increment the personal control and providing a close monitoring of each patient along the 24 hours per day.

The divers risks linked to the restraining practices should be considered by the clinician, throughout the clinical sessions, among the relevant issues. And all the team (especially doctor and nurses) must, additionally, should be aware that restraining might be a contravention of the patients' rights. As the Article 25, part 1 of the Universal Declaration declares that "everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food, clothing, housing and medical care and necessary social services, and the right to security in the event of unemployment, sickness, disability, widowhood, old age or other lack of livelihood in circumstances beyond his control. (Universal Declaration of Human Rights of 1948) [17]. It is to say in other words: respect to freedom, to dignity, to intimacy, and to self image and so on. The patients' rights do not decline only because is sick, is elderly or both things at the same time when being admitted to a hospital. It is needed

to take into account that the presence of a sickness *per se* does not change the judicial status of the sick person; item more, the sickness weakens down patients' abilities to defend his/her civil rights. For this reason, in case that the clinical situation does not allow patient to decide by him/her, the tutor or a close relative would act deciding on his/her benefit.

CONCLUSION

- a. **Clinical:** The use of restrain or coercive measures on elderly patients is not harmless, since the prolonged application of these measures increases the rates of morbidity (multifunctional disorders) and mortality.
- b. **Ethical:** Restraining should not be applied without patients acknowledge that they have been informed about the measures. Once patients have been informed, the applications should not be used without his/her consent. Alternative by his/her tutor or representative.
- c. **Protocol:** Every hospital should developed a protocol regulating who should prescribe any type of restraining; in what condition the measure should be applied; and a register of the measure: when and by who it was prescribed, for how long it was applied and what incidences occurred during the time of application, if any.

REFERENCES

1. European Evaluation of Coercion in Psychiatry and Harmonization of the Best Clinical Practice", supported within the EU V Frame (Ref.: QLG4-CT-2002-01036)
2. Kallert TW, Torres-González F. Legislation on Coercive Mental Health Care in Europe: Legal Documents and Comparative Assessment of Twelve European Countries. *Br J Psychiatry*. 2008; 193: 519.
3. Ref.: SEJ2004-02932
4. World Health Organization. Mental Health Services in pilot study areas: report on a European study. Copenhagen: WHO Regional Office for Europe. 1987.
5. Pan-American Health Organisation. Caracas Declaration. Adopted in Caracas, Venezuela, on 14 November 1990 by the Conference on the Restructuring of Psychiatric Care in Latin America within the Local Health Systems convened by the Pan American Health Organization/World Health Organization (PAHO/WHO).
6. The Brasilia Principles Guiding Principles on the Development of Mental Health Care in the America. 2005.
7. Frengley JD, Mion LC. Incidence of physical restraints on acute general medical wards. *J Am Geriatr Soc*. 1986; 34: 565-568.
8. Lofgren RP, MacPherson DS, Granieri R, Myllenbeck S, Sprafka JM. Mechanical Restraints on the Medical Wards: Are Protective Devices Safe? *Am J Public Health*. 1989; 79: 735-738.
9. Mion LC, Frengley JD, Jakovcic CA, Marino JA. A further exploration of the use of physical restraints in hospitalized patients. *J Am Geriatr Soc*. 1989; 37: 949-956.
10. Tinetti ME, Liu WL, Ginter SF. Mechanical restraint use and fall-related injuries among residents of skilled nursing facilities. *Ann Intern Med*. 1992; 116: 369-374.
11. Capezuti E, Evans L, Strumpf N, Maislin G. Physical restraint use and falls in nursing home residents. *J Am Geriatr Soc*. 1996; 44: 627-633.
12. Sullivan-Marx EM, Strumpf NE, Evans LK, Baumgarten M, Maislin

- G. Predictors of continued physical restraint use in nursing home residents following restraint reduction efforts. *J Am Geriatr Soc.* 1999; 47: 342-348.
13. Hamers JP, Huizing AR. Why do we use physical restraints in the elderly? *Z Gerontol Geriatr.* 2005; 38: 19-25.
14. Möhler R1, Richter T, Köpke S, Meyer G. Interventions for preventing and reducing the use of physical restraints in long-term geriatric care. *Cochrane Database Syst Rev.* 2011; 16: CD007546.
15. Fletcher M. Use of restraints in the elderly. *AACN Adv Crit Care.* 1996; 7: 611-620.
16. Ramos Brieva JA. Contención Mecánica: Restricción de movimientos y aislamiento Manual de uso y protocolos de procedimiento. *Rev Bras Psiquiatr.* 1999; 21: 1515-4446.
17. United Nations. Universal Declaration of Human Rights. 1948.

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