Review

F. Mayoral[1]
F. Torres[2]
Group EUNOMIA[3]

Use of coercive measures in psychiatry

[1] Psychiatry Section
Hospital Carlos Haya
Málaga (Spain)

[2] Psychiatry Section
Universidad de Granada
Granada (Spain)

[3] European Evaluation of Coercion in Psychiatry and Harmonisation of Best Clinical Practise Group

Introduction. The use of coercive measures in the treatment of medical patients dates back to the origins of psychiatry. The difficult balance between patient protection and safety, patient rights and freedom to choose treatment has provoked strong discussion in the psychiatric practice since the age of Pinel and Moral Treatment. Their short and long-term effectiveness and their influence on treatment adherence as well as the subjective perception of patients submitted to coercive measures and their relationship with the awareness of illness are only some of the questions for which we still have few answers.

Objectives. This article reviews and updates the topic on the use of coercive measures in psychiatric treatment. It forms a part of the EUNOMIA project, a European study evaluating the use of coercive measures in the treatment of psychiatric patients in twelve countries.

Conclusions. *a)* The use of coercive measures (seclusion, physical and chemical restraint) in the treatment of psychiatric patients is very common in psychiatric hospitalization; *b)* there is a remarkable lack of experimental studies concerning the use of these measures, and *c)* from the legal viewpoint, ambiguity still exists in the regulation of the application of these measures.

Key words:
Coercive treatments. Coertion. Psychiatric treatments.

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La utilización de medidas coercitivas en psiquiatría

Introducción. La utilización de medidas restrictivas en el tratamiento de los enfermos mentales se remonta a los orígenes mismos de la psiquiatría. El difícil equilibrio entre la protección y seguridad de los pacientes y el respeto a la elección de tratamiento y a la libertad del individuo ha suscitado un profundo debate en la práctica psiquiátrica desde los tiempos de Pinel y de la Terapia Moral. La efectividad de su aplicación, tanto a corto como a largo plazo, su repercusión sobre la adherencia al tratamiento, la percepción subjetiva de los propios pacientes que han sido sometidos a las mismas y su relación con la conciencia de enfermedad son sólo algunas cuestiones sobre las que aún existen pocos datos en la literatura.

Objetivos. El trabajo realiza una actualización y revisión sobre la utilización de medidas coercitivas en el tratamiento psiquiátrico y forma parte del proyecto EUNOMIA (estudio europeo sobre evaluación de las medidas coercitivas en el tratamiento psiquiátrico).

Conclusiones. *a)* La utilización de medidas coercitivas (aislamiento, contención física y química) son procedimientos ampliamente extendidos en la hospitalización psiquiátrica; *b)* llama la atención la ausencia de estudios empíricos sistematizados sobre la evaluación de la utilización de tales medidas, y *c)* desde el punto de vista jurídico aún existe una gran ambigüedad en el marco regulador de su aplicación

Palabras clave:
Tratamiento coercitivo. Coerción. Tratamientos psiquiátricos.

Correspondence:
Fermín Mayoral
Servicio de Psiquiatría
Hospital Carlos Haya
Avda. Gálvez Ginachero, s/n
29007 Málaga (Spain)
E-mail: fermin.mayoral.sspa@juntadeandalucia.es

> «When the patient is lying down in a warm room, without bright light, and the walls have no paintings or other decoration, the space should remain calm, avoiding the presence of other persons, especially strangers.... instructing the servants to avoid the patient's behavior aberrations while listening to him/her empathically... and if the patient begins to want to get up or leave the room and cannot be controlled, use enough servants to restrain him/her by the limbs while giving massages. In this way, he/she will be prevented from hurting him/herself... If the patient becomes excited on seeing the persons, a blindfold could be applied without causing injuries...»
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> SORANUS, II AD

The use of coercive measures in the treatment and management of mental patients has been documented since ancient times. Foucault, in his *Historia de la locura en la*

época clásica[1], instructs us with the multiple methods used until the XVIII century to reduce, calm and/or punish mental patients who, considered possessed or deviated, had to be confined and secluded.

With the arrival of the Illustration and birth of Moral Treatment inspired by physicians such as William Cullen (1710-1790) and Tuke in England, the strictness of such measures began to be relieved and reduced. However, the fact that mental disease was considered as a maladaptation of passions continued to recommend the need for their use:

> «Restricting mental patient's rage and violence is always necessary to prevent them from hurting themselves or others; however, such restriction should also be considered as a remedy. Passions of range become more violent due to indulgence...»
>
> W. CULLEN

However, Philippe Pinel, father of modern psychiatry, and his disciple Esquirol, with the symbolic abolition of the chains and release of the insane from the hospital of Bicêtre and of Salpétrière in Paris, may be the figures recognized most for a greater contribution to the transformation of the custodial paradigm and seclusion that had dominated the treatment of mental disease until that time.

With the organization and regulation of the therapeutic procedures applied to the patients in the institutions two centuries ago, Pinel established the bases to apply the restrictive measures such as seclusion and mechanical restraint, stressing the balance between the patient's safety and rights and abolishing their punitive use.

Since then, use of coercive measures in psychiatry has continued to be the object of debate. On the one hand, these include those who consider the use of some type of pressure to make some patients accept treatment or to prevent them from causing physical harm to themselves or to a third party as necessary and unavoidable and, on the other, those who consider the use of coercive measures as a barometer of the ethic nature of the psychiatric treatments, questioning all the attention and care system given the mental patient.

Until recently, this debate was almost totally carried out in abstract terms, focused on philosophical, ethical or legal aspects, with its daily practice having been scarcely studied empirically. From this perspective, following a more empirical or experimental approach, three features regarding the subject can be distinguished:

- Epidemiological features of the coercive measures in psychiatry. How often are these measures applied? Who are they used in most often? Are there sociodemographic factors (age, gender, race, social class) associated to the application of these measures?
- Clinical features and assessment of results. What clinical or diagnostic variables may be related with the application of coercive measures? How effective are these measures? What consequences do they have in subjects who receive them in regards to the course of their symptoms or later treatment compliance? What negative physical or psychological effects may be begun in the short and middle term in the subjects to whom these measures are applied? And can they also cause any type of effect in the subjects to whom they are applied?
- Normative, ethical and legal features. Are there clear indications for their application? And contraindications? Are they applied by protocol? What procedures are used? Are they adequately registered? What legal framework regulates these interventions?

There were no specific studies on the use of coercive measures in psychiatry until the end of the 90's. Most of the available data came from retrospective studies, with small samples and significant methodological gaps. The subjective dimension had not been examined systematically and there were also no validated instruments to measure coercion perceived by the patients or their relatives. There have been new studies in recent years, both in the USA[2] and Europe[3]. With a rigorous methodology, they have provided information on effectiveness and consequences of the application of coercion measures in different clinical contexts (psychiatry hospitalization units, emergency wards, psychiatric hospitals, geriatric wards, etc.). The European Evaluation of Coercion in Psychiatry and Harmonisation of Best Clinical Practise (EUNOMIA) project, presently being developed in twelve European countries, is included in this line. This project is aimed at assessing the application of coercive measures in psychiatry, analyzing the factors that influence their application and measuring effectiveness and their results, in order to provide basic recommendations for the harmonization of their practice in Europe.

CONCEPTUAL DEFINITION

The term coercive in the Spanish language is applied to that which serves or is used to «repress or not permit»[4]. In the context of treatment application, we could define it as «the use of physical pressure, psychological pressure or any type of measures to achieve the acceptance or application of a treatment in benefit of the patient or safety of others.»[5]

From an operative point of view, we can distinguish between:

1. Coercive measures for treatment application:
   - Involuntary hospital admission.
   - Seclusion or confinement in a space used for this purpose.
   - Use of any other type of procedure or measure against the patient's will to guarantee the treatment application.
     - Physical restraint.
     - Mechanical restraint of one or more limbs.

2. Application of forced or involuntary treatments by pressure or any other force such as use of injectable medication or other therapeutic interventions against the individual's will.

Although these measures do not include all the «pressure» or «restriction» forms that psychiatric patients may suffer, they are the most usual procedures that may be recorded and identified in the hospital setting.

EPIDEMIOLOGY OF THE USE OF RESTRICTIVE MEASURES IN PSYCHIATRY

Frequency

One of the first questions that may be asked regarding the application of coercive measures could be on the frequency of their use in psychiatry, versus other medical and surgical specialities of the hospital. In absolute terms, there is a large variability in the studies reviewing, almost always retrospectively, the frequency of the use of some restrictive measure in hospitalized patients. The definition and accountability method of the restrictive measures is among the limitations found to obtain comparative results.

Three forms have been used in general

— Percentage of coercive procedures applied (seclusion or mechanical restraint) over all the admission episodes or patients in a time interval. This interval ranges from 6 weeks to 30 months. The time interval in some studies is that of the hospital stay. It is generally applied in short and middle stay hospital units. One study performed during three years in the 1970's by the National Institute of Mental Health (NIMH) in the USA found that 66 % of the patients admitted to a university hospital had received coercive practices[6]. Later studies, performed in state hospitals of the USA[7,8], estimated the percentage of patients who received any restrictive procedure during their admission at between 15 % and 51 %. Another study performed in the United Kingdom during one year found that only 2.6 % to 3.3 % of hospitalized patients received any type of restriction[9]. A recent study performed in Finland[10] on 1,534 consecutive admissions in psychiatric hospitalization units found that 32.3 % of the patients received some restrictive measure, 9.5 % of which were seclusion or restraint (table 1).

There is also not much information regarding the frequency of their use in the hospital emergency services, in which greater use of physical and chemical restraint measures can be expected. One study performed in the USA on 50 psychiatric emergency wards found that 37.5 % of patients suffered some type of restrictive measures but only 8.5 % underwent physical restraint[11].

Table 1 Percentage of patients who had restraint measures

Author	Country	Percentage
Wadeson, 1976	USA	66
Okin, 1985	USA	15-51
Thompson, 1986	UK	3.3
Kaltiala-Heino, 2000	Finland	32.3

— Percentage of patients receiving some coercive measure in a time period compared to all the hospitalized patients. This method is used in some long stay or residential units and the time period generally goes from 1 to 18 months. In New York State, several studies found a range going from 0.94 % to 9.4 % of all the hospitalized patients[12,13].

— Number of restriction hours (seclusion or mechanical restraint) applied per patient (using the mean number of patients in the unit) or per episode. This may be the easiest method and thus it is that which is generally used administratively as reference to compare different units or services.

Sociodemographic factors

An extensive review study on the correlation between the application of restrictive measures and sociodemographic variables such as age, gender and race found no clear association[14].

There are other studies that have found greater frequency in the use of coercive measures among the young than in older subjects, correlating age negatively with the use of these measures[7,9,12,15,16].

Regarding gender, some studies found a more frequent application of coercive measures in men[7,17]. Only one study found greater application in women[13], the majority of them not finding any association[7,15,16,18].

Regarding race, it is also impossible to reach clear conclusions. While some studies found a positive correlation with the black race[17,19,20-22], others found no relationship[7,15,16,18].

CLINICAL FEATURES AND EFFECTIVENESS OF RESULTS

It may be asked what are the conditions or clinical characteristics in which coercive measures are applied in psychiatry or if one can speak about some situations in the health care setting that make their use more frequent.

Although generally any agitation picture with a psychiatric or non-psychiatric origin, may lead to the application of restrain measures in emergency or hospital wards, most of the studies stress psychosis, behavior disorders associated to mental retardation and mania as the syndromic diagnoses in which coercive measures are most frequently applied[8,12,23].

In regards to health care «contextual» conditions, overusage of restraint measures has been related with staff/patient ratio reduction[24], crowding of the unit[25] and afternoon and night shifts[26]. On the contrary, factors such as greater staff/patient ratio and greater time of programmed activities in the unit seem to be related with less use of such measures[27].

To evaluate effectiveness, first it would be necessary to distinguish if the measures fulfill the objective they are applied to and in the second place, their effects or consequences on the patient and staff, beyond the situation that justified their application.

In regards to the most frequent causes motivating the use of coercive measures, agitation, followed by aggressiveness towards persons or objects, threats towards the staff or other patients, lack of cooperation and behaviors that mean some risk for the patient or others stand out in the literature[14,27].

Although there are studies that quantify the effectiveness of physical restraint measures at 60 %[28] and seclusion at 70 %[29], not only what measure best reduces what type of agitation or behavior must be evaluated but also if gradual sequencing or the combination of, for example, seclusion and/or mechanical restraint is better. Furthermore, it should be evaluated if the use of a sedative should always be associated or this option should be reserved only for the cases where administration of the treatment is not possible in any other way.

Review studies published up to now[14,27] stress the lack of control studies and the great variability in the clinical practice between the different types of intervention (psychological, physical or pharmacological) does not make comparisons possible. Thus, it has not been possible to know the benefits of one upon another or the risks of their use up to now.

One dimension that has elicited more interest in the recently appearing studies on coercive measures and forced treatments in Psychiatry is the subjective perception of the subjects on those applied and their psychological consequences. Until now, the Kjellin and Westrin Study in Sweden[30] may be the study that has contributed more along this line. They studied a sample of 100 consecutive admissions in two psychiatric hospitalization units of Upssala and Vastmanland respectively. This study was performed in 1985-86 and later replicated in 1991 by the same authors. The first study compares 100 patients with involuntary hospital admission with others who had voluntary admission. In the second study, the sample is made up of 84 involuntary hospital admissions and 84 voluntary ones. A similar methodology is used in both, applying the same exclusion criteria: age under 18 years and above 65, diagnosis of mental retardation or dementia and drug dependence and patients who are re-admitted within three days of the discharge. The Brief Psychiatric Rating Scale (BPRS) and Global Assessment Scale (GAF) were also used to collect symptoms and social functioning. In the first study, a follow-up was made of the sample with three cut-offs: on admission, on discharge and at three weeks of it, applying the same instruments. The study distinguishes between coercion on admission and coercive measures used during the stay in the unit. The data collection sources were reports and registries of these measures performed in the unit and the information supplied by the patients who were asked about their opinion regarding the degree of coercion perceived during admission and stay in the unit.

The difference found between the recording or formal reporting of the use of any coercive measure or one contrary to the patient's wishes and the information given by the patient stands out among the results. Although 80 % of those hospitalized involuntarily admit they were forced to enter into the hospital, less than 40 % of them perceive coercion during their admission. The use of any restriction measure (seclusion, physical restraint or forced medication) was reported in 23 % of the episodes of this group, the patients themselves stated they had suffered some of these measures in 65 % of the cases. Seven percent of the voluntarily admitted patients stated they had been forced to enter the hospital and 28 % stated they had been subjected to some coercive measure during their stay in the hospital.

Other interesting data found in this study have been the change produced between 1986 and 1991. When the two studies are compared, an increase is observed in the percentage of patients who perceived coercion during admission, going from 38 % to 55 %. On the contrary, the subjective perception of the coercive measures perceived by the patients during their stay decreased from 65 % to 23 %.

Finally, in relationship with effectiveness, it would be necessary to study the effect that the use of middle and long-term coercive measures has, that is, the relationship existing between the degree of coercion perceived and the evaluation of the clinical results. The few studies performed up to now also do not provide conclusive results, there being large differences between Europe and the USA. In a study performed on 825 patients, Rain et al.[31] did not find any relationship between the degree of coercion perceived at the time of admission with the later treatment compliance at one year of having been discharged. Similarly, another study by Nicholson[32] regarding hospitalization duration, perception of its benefit and social functioning measured with the GAF also does not find any difference between those perceiving a high degree of coercion during admission and those who perceive a low one. On the contrary,

studies performed in Europe, mainly in Scandinavian countries, have found a relationship between the degree of coercion perceived and negative factors of the result. Thus, the study performed by Kaltiala-Heino in Finland[3] found that high levels of coercion perceived by patients during their admission was associated with worse expectations regarding treatment usefulness, worse therapeutic relationship and higher rates of treatment non-compliance and drop-out.

LEGAL AND REGULATORY ASPECTS

Although involuntary treatments in psychiatry continue to be a source of debate in almost all the Western legal systems to the extent that they involve a type of deprivation of individual freedom and of infringing on the person's fundamental rights, and in the worst of the cases, a way of punishment and control on deviated behaviors, in practice, they are widely extended procedures that are necessary to reduce agitation and prevent harm to both the patient and others.

As Barrios[33] points out in an extensive and recent review on the subject of Spanish law, the limited, and in some aspects, non-existent, body of laws on the material is surprising. Following this author, the regulation on the use of restrictive measures (coercive) in psychiatry has the following legal references in the Spanish legal framework:

- The Constitution that establishes protection of the right to individual freedom as a superior value of the legal regulation (art. 1.1).
- The General Health Law (Law14/1986) which, in its art. 10 recognizes the right to free choice for the patient among the different therapeutic options, requiring his/her previous consent, except in cases in which the patient is not capable of making decisions or in which the emergency does not allow for any delay.
- The recently approved Law 41/2002, in force since 2003, regulator of the patient's autonomy and rights and obligations in clinical material and documentation. Article 2.2 establishes the general principle of previous consent of the patients or users, a principle that has presided over, since some years ago, the area of health care interventions[34] and art 2.4 establishes that «every patient or user has the right to reject treatment, except in the cases determined by the law», a question that has been studied in the Spanish legal doctrine[35,36].
- Civil Procedure Law which, in art. 763, heir of the old Civil code art. 211, regulates involuntary confinement due to psychic disorder, obtaining the legal authorization for its fulfillment, except in emergency cases. In the latter, it grants a 24 hour period to report the admission, to the competent Court, that should ratify it in a maximum of 72 hours.

In regards to the application of restrictive measures other than confinement, that is, seclusion or physical restraint, there is no explicit rule in Spanish law, or in regard to suppositions of application, nor to its duration, nor to personnel authorized to prescribe it, nor to the obligation of recording or reporting it nor, in all, on its control or guarantee that the general principles justifying them will be fulfilled: protection of the patient or his/her setting, medical indication or impossibility of substituting the measure for another less restrictive alternative.

The poverty of positive regulation and legal doctrine corresponds with a limited scientific basis that serves as a guide to give action recommendations or guidelines on the health care level. Standing out among the few official technical documents existing on restriction in psychiatry, is the «Agreement on the procedures for seclusion and restraint» made by the American Psychiatric Association (APA) and the National Association of Psychiatric Health Systems[37] in which each one of the restrictive measures is defined and some general principles are given on their use, listing the following indications:

- Prevention of imminent harm to oneself or to others, when other measures have been demonstrated ineffective.
- Prevention of destruction or substantial harm of the physical setting.
- Prevention of a serious interruption of the treatment program.
- As a contingency in the behavioral therapy of the aggressiveness and violence.
- To decrease the overstimulation/agitation.
- On request of the patient.

DISCUSSION

In spite of its unpopularity and that it continues to provoke visceral reactions in individuals outside of the health care psychiatric practice, the application of restrictive measures, such as restraint and seclusion, continue to be usual procedures in certain clinical contexts, such as emergency wards and psychiatric hospitalization units.

Variability in the samples and terminology differences make it very difficult to have an idea on the frequency of its use. The percentage range of patients who are secluded goes from 0 % to 66 % according to different studies[38] and of those who have been subjected to some form of physical or mechanical restraint during their hospitalization goes from 0.4 % to 9.4 %[12]. In any event, the differences found seem to depend more on the characteristics of the institutions or hospitals where the studies have been carried out than on the patient's characteristics. Regarding the correlation with sociodemographic variables, the data existing up to now

also are biased due to the sample characteristics and the characteristics of the places where the studies have been performed, so that it has low external validity.

In relationship with the reasons or causes leading to the use of restrictive measures in the hospitalized patient, even though there is a large variability, most of the studies mention the reduction of agitation as the main reason when some risk of harm to the patient or others is observed and other less restrictive alternatives have been used up for the treatment application. The complexity of this situation in which an individual is denied his/her fundamental rights in order to treat him/her «for their own good» or to preserve safety of third parties, causes philosophical, ethical, clinical and health care policy principles to be mixed. The rationale for their use will depend, on the one hand, on the balance between prevention of harm that the patient may cause him/herself or others and the physical and psychological harm associated to their application, and, on the other, of their inevitability due to the use of other alternative measures. This second condition is not always recognized as an essential requirement before its application. In a survey performed in the USA to directors of state psychiatric establishments on the reason for use of seclusion or physical restraint in their patients, most responded that the principal cause was danger towards others, no agreement being reached on the nature of the «last resort» of the measure before carrying it out[39].

On the other hand, as indicated in a recent review of the Cochrane collaboration on the use of coercive measures in patients with psychiatric disorders[40], it is surprising that, in spite of the «invasiveness» of these procedures, there are still no clinical trials that contribute an «evidentiary base» on its efficacy. The extensive use and continuity in the use of these measures may make it seem they are the best test of their effectiveness, but even so, we do not know the effects on different types of patients or the comparison between different methods or with alternative procedures.

However, the event that may have had the greatest impact on public opinion and on the regulatory authorities in the USA during recent years, even motivating legislative changes, has been the impact that the death of an adolescent in Connecticut in October 1998 while he was undergoing mechanical restraint in a psychiatric unit had in the media. The appearance of a series of reports in the press on this event[41] gave rise to a later investigation, on a large scale, in 50 states to try to identify other deaths produced under similar circumstances. An investigation team formed by user association representatives, members of the health care administration, journalists and independent observes were able to identify and accredit the death of 142 patients in psychiatric hospitals and other institutions in the decade prior to the death of this young individual for causes related with the application of seclusion measures and mechanical restraint. The investigating committee wrote a report, the Hartford report in which an annual rate of mortality due to the use of coercive measures of between 50 and 150 cases in all the nation was calculated with an estimation method. In its conclusions, it accused the regulatory health care authorities (Joint Commission on Accreditation of Healthcare Organizations) and the legal system, of not complying with their obligations to investigate rigorously all those deaths that may have occurred due to any type of negligence. As a result of the debate that arose in the communication media, several legislative changes have been introduced by the Senate in the USA to restrict the use of restrictive measures exclusively to those cases in which the physical safety of the patient or other persons is at risk; maximizing their control and supervision, by previously requiring a written medical order, except when there is an emergency, in which a one hour maximum period is given to ratify the indication[42].

The regulatory authorities (Health Care Financing Administration) have written a new guideline for all the hospitals that receive financing from federal funds. This precisely defines each one of the restrictive measures (seclusion, physical, mechanical and chemical restraint) that may be applied, more strictly regulating the reasons for their indication, forms of use and type of medical supervision necessary for their application[43]. The impact produced by these measures can be seen in a study performed by Currier[44] in a university hospital of New York three months after this new guideline was established. In this study, the number of restraint episodes was decreased by 50 % and the number of hours of its duration by 40 %, without increasing aggressions to the staff or other patients during this time period.

CONCLUSIONS

- Using coercive measures (seclusion, physical and chemical restraint) are extended procedures for the treatment of agitation and prevention of harm production in the patient and his/her setting.
- The existing studies on the application of coercive measures do not make it possible to draw conclusions regarding relative risks in relationship with sociodemographical or clinical variables. Their results are associated more to the characteristics of the centers where they are performed than to population groups or defined clinical diseases.
- There are no studies that evaluate the results of the application of the restrictive measures in the treatment of patients who suffer psychiatric disorders with a sufficient scientific base to be generalized and to make it possible to obtain a «recommendations guide» for their use.
- In the regulations and legal system, there is still a great ambiguity in the identification and distinction between the different restrictive measures that can be applied in psychiatric treatment. In the Spanish legal framework, for example, only confinement and invo-

luntary treatment are regulated. However, there is no explicit guideline for the use of other coercive measures, such as seclusion and physical or mechanical restraint, or in regards to application suppositions or in regards to time validity, or to the personnel authorized for its indication or supervision or any other type.

— Controlled and randomized studies are necessary on populations that are representative of those seen in the usual clinical practice, to be able to obtain results that serve to give good practice recommendations on their application.

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