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Coercion in psychiatric inpatients with psychotic and mood disorders: Associations with trauma history, clinical characteristics, and short-term outcomes

Simge Ergün[1], Ezgi İnce Guliyev[2]

[1]Department of Psychiatry, Malatya Yeşilyurt Hasan Çalık State Hospital, Malatya, Türkiye
[2]Department of Psychiatry, İstanbul Faculty of Medicine, İstanbul University, İstanbul, Türkiye

Abstract

Objectives: Coercive measures are interventions imposed against an individual's will and may be experienced as traumatic by psychiatric inpatients. This study aimed to examine the association between exposure to coercive measures and trauma burden in psychiatric inpatients, and to investigate the short-term relationship between coercive measures, posttraumatic stress symptoms, and treatment adherence.

Methods: The study included 60 patients hospitalized in a psychiatric ward. Trauma burden was assessed using the Childhood Trauma Questionnaire (CTQ) and the Cumulative Trauma Scale (CTS). Perceived social support, illness severity, and functioning were evaluated using standardized clinician-rated and self-report measures. One month after discharge, follow-up interviews were conducted to assess posttraumatic stress symptoms and treatment adherence. Patients exposed to coercive measures were compared with those not exposed.

Results: Patients exposed to coercive measures had significantly higher levels of childhood trauma and lifetime cumulative trauma burden. They also demonstrated more severe psychopathology, lower functioning, and lower perceived social support compared to patients not exposed to coercive measures. No significant differences were observed between the groups in posttraumatic stress symptoms or treatment adherence at short-term follow-up.

Conclusion: Psychiatric inpatients exposed to coercive measures represent a subgroup characterized by higher trauma burden and greater clinical vulnerability. Assessing trauma history and clinical characteristics may contribute to the identification of patients at increased risk for coercive interventions and support the implementation of trauma-informed care approaches.

Keywords: coercive measures, trauma, posttraumatic stress disorder, treatment adherence, involuntary treatment

Introduction

Coercion is a complex phenomenon that has long been at the center of both clinical practice and ethical and legal debates in the field of psychiatry. In its most general definition, it refers to an individual being subjected to an intervention against their will [1]. In psychiatric practice, coercion may be applied to manage acute agitation, aggressive behavior, or serious risk of self-harm. However, coercive interventions are not

Corresponding author: Ezgi İnce Guliyev • **Email:** ezgi.ince@istanbul.edu.tr
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This study was derived from the medical residency thesis of Simge Ergün, titled "The effect of coercive measures on the risk of posttraumatic stress disorder and treatment compliance after discharge in patients hospitalized in psychiatric ward", conducted under the supervision of Ezgi İnce Guliyev at İstanbul University, Istanbul Faculty of Medicine, in 2024.

unique to psychiatry and are used in various conditions across different fields of medicine [2]. Official types of coercion include involuntary admission, involuntary treatment, seclusion, and chemical or mechanical restraint. Seclusion and restraint, in particular, are the subject of intense ethical debate because they directly restrict the individual's physical freedom of movement [1].

The frequency of coercion is reported to vary widely between countries and institutions. These differences are related not only to health systems and legislation, but also to the lack of standardization in the definition of coercion, heterogeneity in clinical practice, inadequacies in recording and reporting systems, and methodological difficulties [3]. This situation can lead to significant differences in practice, even between different hospitals within the same country.

Coercive measures are not only a form of clinical intervention but are also considered an ethical and legal issue that directly affects an individual's autonomy, freedom of movement, and physical integrity [4]. The approach that legitimizes these measures in certain situations is a paternalistic understanding grounded in the principles of "do no harm" and "do good." However, in clinical practice, the question of whether coercive measures benefit or harm the patient in the long term remains controversial. The literature suggests that such measures may be associated with impaired psychosocial functioning, worsening mental health symptoms, and reduced participation in community-based services [5]. It has been reported that coercive measures can be perceived as a traumatic experience by many patients and that post-traumatic stress symptoms may emerge after such measures [6].

Studies indicate that individuals who have been exposed to traumatic experiences, especially during childhood, may form a group that is more frequently exposed to coercion such as isolation or restraint in adulthood [7-10]. The type, frequency, and lifetime accumulation of traumatic experiences can create a cumulative effect that increases an individual's psychosocial vulnerability [11]. Recent research has shown that individuals who have experienced a traumatic event in the past may be at a significantly higher risk of isolation. Findings indicate that patients most frequently exposed to isolation and restraint measures are significantly more likely to have experienced physical or sexual abuse during childhood [12].

However, the reason why patients with a history of trauma are more frequently subjected to coercion has not yet been fully clarified. Factors that may be associated with coercion are thought to cluster in multiple areas, such as clinical indicators of violence, previous treatment and hospitalization history, and variables related to the social environment. However, studies that comprehensively address these variables are limited. The primary aim of this study was to examine whether there were differences in clinical, traumatic, and psychosocial characteristics between groups of inpatients in the psychiatric ward who were and were not subjected to coercive measures. As a secondary aim, the relationship between exposure to coercive measures and short-term post-traumatic stress symptoms and treatment compliance was investigated.

Materials and Methods

The study sample consisted of 30 individuals admitted to the inpatient ward of the Department of Psychiatry at Istanbul University Istanbul Faculty Medicine between January 2024 and June 2024 who had been diagnosed with a psychotic disorder or mood disorder according to DSM-5 and who had been subjected to at least one coercive measure (involuntary admission, isolation, mechanical restraint, chemical restraint) during their hospitalization; and met the inclusion criteria, and a group consisting of 29 patients who were not subjected to any coercive measures during their hospitalization and met the inclusion criteria. Exposure to coercive measures was determined retrospectively through a systematic review of discharge medical records. Documentation in nursing notes, physician progress notes, medication administration records, and discharge summaries was screened. When necessary, treating clinicians were contacted to clarify the indication for specific interventions. In the present study, chemical restraint was defined as the administration of psychotropic medication primarily for the purpose of rapid behavioral control (e.g., acute agitation, aggression, or imminent risk to self or others), rather than for routine therapeutic titration or scheduled pharmacological treatment. Medications administered as part of standard treatment were not considered chemical restraint unless explicitly documented as being used for behavioral control in an emergency context.

No a priori sample size calculation was performed, as the study employed a naturalistic, consecutive

sampling design based on inpatient admissions during the study period. However, similar observational inpatient studies examining coercive measures and trauma-related outcomes have reported comparable sample sizes, supporting the feasibility of research conducted in naturalistic psychiatric acute inpatient settings [13]. During the study period, all inpatients with mood or psychotic disorder diagnoses were screened for eligibility. Patients who did not meet the inclusion criteria or declined participation were excluded. The final sample consisted of patients who completed baseline assessments and follow-up evaluations. The research data collection process was approved by the Istanbul University Istanbul Faculty Medicine Clinical Research Ethics Committee (date: 12.01.2024, file no: 2023/2216) and conducted in accordance with the ethical principles outlined in the Helsinki Declaration. Participation was voluntary. After receiving verbal and written information about the study's purpose, methods, potential risks, and the rights of volunteers, participants who agreed to participate signed an Informed Consent Form. Patients who agreed to participate were clinically assessed according to DSM-5 to clarify their diagnoses and identify comorbidities. All patients were administered the forms and scales specified in the "Data Collection Tools" section. Information regarding the severity of the patients' hospitalization was obtained from the doctors who followed them during their stay, and two interviews were conducted upon discharge and one month after discharge. Each interview lasted an average of 50-60 minutes. To assess disease severity, the Clinical Global Impression Scale, Positive and Negative Syndrome Scale (PANSS), Young Mania Rating Scale, and Hamilton Depression Scale were applied specifically for diagnosis. The Multidimensional Scale of Perceived Social Support, the Cumulative Trauma Scale, and the Childhood Trauma Scale were administered prior to hospital discharge. One month after discharge, the Treatment Adherence Scale and the Impact of Events Scale were administered. During these processes, a form was used to collect the patient's sociodemographic information, psychiatric history, hospitalization details, and post-hospitalization follow-up information.

The study included patients aged 18–65, literate, admitted to the psychiatric ward with a diagnosis of psychotic disorder or mood disorder according to DSM-5 diagnostic criteria, who agreed to participate in the study and signed a written informed consent form. Individuals with mental (e.g., significant cognitive impairment, intellectual disability) or physical (e.g., severe visual, hearing, or motor impairment) problems that would prevent them from completing the clinical interview or reliably understanding and completing the self-report scales were excluded from the study.

Data collection tools

Positive and Negative Syndrome Scale (PANSS): Developed by Kay and colleagues [14] to assess the severity of symptoms in schizophrenia patients. This tool comprises 30 items and includes a 7-item positive symptoms subscale, a 7-item negative symptoms subscale, and a 16-item general psychopathology subscale. Each item is scored on a scale of 1 to 7. The total score obtained from the scale ranges from 30 to 210, with higher scores indicating more severe psychopathological symptoms.

Young Mania Rating Scale (YMRS): Developed by Young et al. [15] to measure the severity of manic symptoms in patients. This 11-item scale, which inquires about manic symptoms experienced in the last 48 hours, is completed by the clinician based on the patient interview and observations made during the interview. Scores on the scale range from 0 to 60, with higher scores indicating more severe manic symptoms.

Hamilton Depression Rating Scale (HAMD): Developed by Hamilton to measure the severity of depressive symptoms in patients [16]. This 17-item scale, which assesses depressive symptoms experienced over the past week, is completed by the clinician based on the patient interview and observations made during the interview. Scores on the scale range from 0 to 52, with higher scores indicating more severe depressive symptoms.

Global Assessment of Functioning (GAF): This scale assesses an individual's overall level of functioning over a specific period. The assessment is usually based on the last week, and the clinician scores the patient based on the interview, information obtained from the patient's immediate environment, or medical records. The scoring system ranges from 0 to 100, where 0 represents the most severe impairment and 100 the highest level of functioning [17].

Cumulative Trauma Scale-Short Form (CTS-S): Developed by Kira and colleagues [18], the CTS-S assesses the cumulative impact of all traumatic experiences reported by the individual. The scale has

35 items, each scored on four dimensions: type of trauma, frequency of occurrence, age at occurrence, and assessment of the event's impact. Accepting a four-factor structure for trauma types, the subscales are defined as Survival Trauma, Personal Identity Trauma, Collective Identity Trauma, and Family Attachment Trauma. The Turkish validity and reliability study of the scale was conducted [11].

Childhood Trauma Questionnaire-28 (CTQ-28): This scale assesses traumatic experiences during childhood and adolescence, up to age 20 [19]. This 5-point Likert-type scale consists of 28 items and includes physical abuse, emotional abuse, sexual abuse, physical neglect, and emotional neglect. High scores on each subscale indicate the possible presence of that type of maltreatment during childhood or adolescence. Subscale scores range from 5 to 25, and total scores range from 25 to 125. The validity and reliability of the scale in Turkish were examined by Şar and colleagues [20].

Multidimensional Scale of Perceived Social Support (MSPSS): Developed by Zimet et al. [21], the MSPSS assesses the extent to which an individual perceives social support from their environment. This 12-item scale is divided into three complementary subscales. Using a seven-point Likert-type scale, participants can score 1 for complete disagreement with a statement and 7 for complete agreement. Therefore, an increase in the score for any item indicates a corresponding increase in the perceived social support. An increase in the total score indicates that the person perceives the support resources around them as stronger. The Turkish adaptation was present [22].

Impact of Event Scale–Revised (IES-R): The IES-R includes seven additional items not found in the original IES, which relate to the hyperarousal symptoms of post-traumatic stress disorder (PTSD) [23]. The items correspond directly to 14 of the 17 DSM-IV symptoms of PTSD. Participants are asked to identify a specific stressful life event and then indicate how distressed or bothered they have been by each listed "difficulty" over the past seven days. Items are rated on a 5-point scale ranging from 0 to 4. The IES-R provides a total score (ranging from 0 to 88) and subscale scores for Intrusion, Avoidance, and Hyperarousal. The validity and reliability of the scale in Turkish were examined by Çorapçıoğlu et al [24].

Medication Adherence Reporting Scale (MARS): Developed by Horne and Weinman [25] to assess medication adherence, the MARS is a generic scale that can be customized by disease type. Participants are asked to indicate the frequency with which each of the 5 statements applies to them. The scale is rated on a 5-point Likert scale. The scores obtained from the scale range from 5 to 25. An increase in scores indicates compliance. The Turkish validity and reliability study was conducted [26].

Data analysis

Descriptive statistics results are presented as mean, standard deviation, percentage, and number. The normality of continuous variables was evaluated using the Shapiro–Wilk test and visual inspection of histograms and Q–Q plots. For variables following a normal distribution in the comparison of two independent groups, the independent variables t-test was used. For the comparison of categorical variables, the Pearson Chi-square test was used, and Fisher's exact test was used when more than 20% of cells had expected counts <5. For statistical significance, unless otherwise specified, a type I error rate below five percent ($p<0.05$) was accepted. Statistical analyses were performed using IBM SPSS (Statistical Package for Social Sciences) 29 software.

Results

A total of 60 patients, 33 men and 27 women, were included in the study. Thirty-one of these patients formed the group that was subjected to at least one coercive/involuntary medical practice during their hospital stay, while 29 formed the group that was not subjected to any coercive measures. The sociodemographic characteristics of both groups are presented in Table 1. No significant differences were found between the groups in terms of age, years of education, gender, marital status, and employment status.

Regarding diagnostic distribution, 26 patients (43.3%) were diagnosed with a primary psychotic disorder, and 34 patients (56.7%) with a mood disorder. Among patients with psychotic disorders, 19 met criteria for schizophrenia, 6 for unspecified schizophrenia spectrum and other psychotic disorder, and 1 for substance/medication-induced psychotic disorder. Among patients

Table 1. Comparison of patients' sociodemographic and clinical data

	Total (n=60)	Coercive Measures (+) (n=31)	Coercive Measures (-) (n=29)	t*	p
	mean±SD	mean±SD	mean±SD		
Age, *years*	36.91±13.04	35.96±12.88	37.93±13.37	0.579	0.565
Education, *years*	11.71±4.44	12.48±3.54	10.89±5.17	1.377	0.175
Duration of Hospitalization, *days*	25.25±11.80	28.19±13.07	22.10±9.52	2.050	**0.045**
Duration of Illness, *months*	137.28±123.00	127.15±117.88	147.72±129.50	0.633	0.529
Previous hospitalization	2.76±3.28	3.63±3.76	1.86±2.46	2.146	**0.037**
	n (%)	n (%)	n (%)	X2 †	p
Gender, *female*	27 (45.0)	14 (45.2)	13 (44.8)	0.001	0.979
Marital Status, *married*	21 (35.0)	9 (29.0)	12 (41.3)	1.034	0.596
Working, *yes*	19 (31.7)	10 (32.3)	9 (31.0)	2.031	0.362
Income, *low*	27 (45.0)	16 (51.6)	11 (37.9)	1.461	0.482
Diagnosis, *psychotic disorder*	26 (43.3)	13 (41.9)	13 (44.8)	1.529	0.466
Psychotic symptom, *present*	44 (73.3)	22 (70.9)	22 (75.9)	0.184	0.668
Suicide ideation at admission, *present*	25 (41.7)	12 (38.7)	13 (44.8)	0.231	0.631
Homicidal ideation at admission, *present*	22 (36.7)	16 (51.6)	6 (20.7)	6.170	**0.013**
Insight at admission, *absent*	41 (68.3)	26 (83.8)	15 (51.7)	7.165	**0.028**

* Independent samples t-test and †chi-square test were used. Statistical significance was set at $p < 0.05$. SD = standard deviation.

with mood disorders, 30 were diagnosed with bipolar disorder with the following current episode specifiers: 13 met criteria for bipolar disorder, current manic episode with psychotic features, 3 for bipolar disorder, current major depressive episode with psychotic features, 4 for bipolar disorder, current major depressive episode without psychotic features, 7 for bipolar disorder, current manic episode without psychotic features, and 3 for bipolar disorder, current manic episode with mixed features. The remaining 4 patients met criteria for major depressive disorder. Of the patients, 41.7% were involuntarily admitted to the hospital, 31.7% were isolated, 23.3% were subjected to mechanical restraint, and 33.3% were subjected to chemical restraint. Of the patients subjected to coercive measures, 32.3% were subjected to one measure, 19.4% to two measures, 12.9% to three measures, and 35.5% to four different measures. The mean number of coercive measures was 2.51±1.59.

Comparison of clinical characteristics

Findings regarding clinical characteristics are presented in Table 1 and Table 2. The total length of stay was significantly longer in patients subjected to coercive measures (28.19±13.07 days vs. 22.10±9.52 days; p=0.045). The rate of homicidal thoughts at the time of hospital admission was also significantly higher in the coercive measures group (72.7% vs. 27.3%; p=0.013). Of the 22 patients with a history of homicidal behavior, 18 (81.8%) were in the coercive measures group, and this difference is statistically significant (p=0.001).

Eleven of the 14 patients with a history of substance use (78.6%) were in the coercive measures group, and the difference between the groups was significant (p=0.021). The level of insight during hospitalization was significantly lower in the group exposed to coercive measures (p=0.028). Furthermore, previous experiences

of involuntary hospitalization, seclusion, mechanical restraint, and chemical restraint were significantly more common in this group (p=0.003, p=0.011, p=0.001, and p=0.007, respectively). The number of previous hospitalizations was also significantly higher in the group exposed to coercive measures (p=0.037).

The results of the scales related to disease severity and functioning are presented in Table 3. In the group exposed to coercive measures, global functioning at admission (p=0.004), and depression scores (p=0.001) were found to be significantly lower. In contrast, PANSS positive and YMRS scores were significantly higher (p=0.007 and p=0.015, respectively).

Table 2. Comparison between groups in terms of past clinical history

	Total (n=60)	Coercive Measures (+) (n=31)	Coercive Measures (-) (n=29)	X^2 *	p
	n (%)	n (%)	n (%)		
History of involuntary hospitalization, *present*	24 (40.0)	18 (58.1)	6 (20.7)	8.721	**0.003**
History of isolation, *present*	20 (33.3)	15 (48.4)	5 (17.2)	6.541	**0.011**
History of mechanical restraint, *present*	18 (30.0)	15 (48.4)	3 (10.3)	10.320	**0.001**
History of chemical restraint, *present*	23 (38.3)	17 (54.8)	6 (20.7)	7.392	**0.007**
History of medication non-adherence, *present*	38 (63.3)	20 (64.5)	18 (62.1)	0.039	0.844
History of suicide attempt, *present*	18 (30.0)	8 (25.8)	10 (34.5)	0.537	0.464
History of self-harming behavior, *present*	31 (51.7)	18 (58.1)	13 (44.8)	1.051	0.305
History of homicidal behavior, *present*	22 (36.7)	18 (58.1)	4 (13.8)	12.646	**<0.001**
Lifetime history of alcohol use, *present*	7 (11.7)	4 (12.9)	3 (10.3)	0.095	0.758
Lifetime history of substance use, *present*	14 (23.3)	11 (35.5)	3 (10.3)	5.293	**0.021**
History of psychiatric disorder in first-degree relatives, *present*	18 (30.0)	10 (32.3)	8 (27.6)	0.156	0.693

*Chi-square test was used. Statistical significance was set at $p < 0.05$. n = number.

Table 3. Comparison of clinical scales assessing disease severity, functionality, and improvement

		Total (n=60)	Coercive Measures (+) (n=31)	Coercive Measures (-) (n=29)	t*	p
		mean±SD	mean±SD	mean±SD		
GAF at admission		25.86±9.94	22.38±9.12	29.58±9.56	2.983	**0.004**
GAF at discharge		70.85±15.13	69.06±15.31	72.75±14.97	0.944	0.349
PANSS						
	Positive	21.35±10.59	24.87±11.64	17.58±7.91	2.814	**0.007**
	Negative	17.06±9.12	16.25±10.29	17.93±7.75	0.714	0.479
	General	41.30±9.95	43.29±11.11	39.17±8.21	1.623	0.110
	Total	79.38±23.22	83.77±27.19	74.68±17.32	1.553	0.127
YMRS		12.77±17.19	18.39±19.01	7.34±13.43	2.526	**0.015**
HAMD		11.44±11.84	6.44±8.84	17.13±11.52	3.432	**0.001**

*Independent samples t-test was used. Statistical significance was set at $p < 0.05$. Higher scores in GAF indicate better functioning, while higher scores in PANSS, YMRS and HAMD indicate greater symptom severity. GAF, Global Assessment of Functioning; HAM-D, Hamilton Depression Rating Scale; PANSS, Positive and Negative Syndrome Scale; SD, standard deviation; YMRS, Young Mania Rating Scale.

Comparison of past traumatic experiences and social support

Both childhood traumas (CTQ total and all subscales; all p<0.01) and lifetime cumulative trauma load (CTS total and frequency; all p<0.001) were significantly higher in the group exposed to coercive measures (Table 4). The family subscale (p=0.012) and total score (p=0.011) of the MSPSS were significantly lower in the group exposed to coercive measures.

Follow-up results

At the one-month follow-up, no significant differences were found between the two groups in terms of post-traumatic stress symptoms (IES–R score) and treatment compliance (Table 4).

Table 4. Comparison of traumatic experiences, social support, and medication adherence between groups

		Total (n=60)	Coercive Measures (+) (n=31)	Coercive Measures (-) (n=29)		
		mean±SD	mean±SD	mean±SD	t*	p
CTS						
	Survival	1.48±1.20	1.90±1.32	1.03±0.86	3.025	**0.004**
	Personality	2.30±2.14	3.67±2.13	0.82±0.71	7.027	**<0.001**
	Collective	0.56±0.87	0.83±1.03	0.27±0.52	2.677	**0.010**
	Family	1.75±1.29	2.29±1.27	1.17±1.07	3.672	**<0.001**
	Total	6.11±4.06	8.74±3.83	3.31±1.81	7.079	**<0.001**
	Frequency	14.73±12.48	22.45±12.52	6.48±4.88	6.583	**<0.001**
CTQ						
	Physical abuse	6.91±3.75	8.25±4.19	5.48±2.59	3.101	**0.003**
	Physical neglect	7.61±3.50	9.09±3.90	6.03±2.14	3.799	**<0.001**
	Emotional abuse	9.33±5.30	11.77±5.48	6.72±3.65	4.220	**<0.001**
	Emotional neglect	12.63±5.09	15.54±4.51	9.51±3.66	5.659	**<0.001**
	Sexual abuse	6.53±3.30	7.51±3.83	5.48±2.24	2.524	**0.015**
	Total	42.80±17.26	51.80±17.43	33.17±10.81	5.010	**<0.001**
MSPSS						
	Family	20.95±6.13	19.06±6.90	22.96±4.47	2.612	**0.012**
	Friend	14.80±8.15	12.83±7.69	16.89±8.24	1.972	0.053
	Significant other	9.01±6.42	7.58±6.13	10.55±6.47	1.826	0.073
	Total	44.75±16.97	39.45±16.76	50.41±15.54	2.621	**0.011**
IES–R		0.16±0.83	0.10±0.40	0.24±1.12	0.648	0.520
MARS		24.77±1.06	24.63±1.47	24.93±0.25	1.089	0.284

*Independent samples t-test was used. Statistical significance was set at p < 0.05. For CTS, CTQ, and IES-R, higher scores indicate worse trauma burden. For MSPSS, higher scores indicate better social support and for MARS higher scores indicate better compliance. CTQ, Childhood Trauma Questionnaire; CTS, Cumulative Trauma Scale; IES-R, Impact of Event Scale–Revised; MARS, Medication Adherence Reporting Scale; MSPSS, Multidimensional Scale of Perceived Social Support; SD, standard deviation.

Discussion

This study examined the exposure to coercive measures, past trauma burden, clinical characteristics, and psychosocial variables in patients hospitalized in the psychiatry ward with diagnoses of psychotic and mood disorders. The findings show that patients exposed to coercive measures had higher childhood and lifetime trauma burdens and presented a more severe clinical picture. In contrast, no significant difference was found between exposure to coercion and post-traumatic stress symptoms and treatment compliance in the short-term follow-up. These findings indicate that the complex relationship between coercion , trauma history, and clinical severity must be addressed holistically.

Our findings from the Cumulative Trauma Scale (CTS) and Childhood Trauma Questionnaire (CTQ) indicate that patients exposed to coercive measures have a higher past trauma burden. This finding is consistent with previous studies pointing to a relationship between past traumatic experiences and exposure to coercive measures [7,8,12,27]. The literature reports that traumatic experiences in childhood may have negative effects on social functioning and emotional regulation skills [28]. Furthermore, a history of childhood maltreatment has been shown to be associated with aggressive behavior and self-harm tendencies in adulthood [29]. It is thought that these characteristics may be seen alongside a clinical picture that could complicate management during hospitalization in psychiatric services, and that this situation may correspond to the profile of patients subjected to coercive measures. In our study, the more frequent occurrence of a history of harmful behavior toward others and thoughts of harming others during hospitalization in the group subjected to coercive measures can be evaluated within this framework. However, due to the cross-sectional design of the study, it is not possible to claim that exposure to coercive measures is a direct result of past traumatic experiences or that these measures lead to new traumatic experiences. In our study, patients exposed to coercive measures were also more frequently exposed to similar measures during their previous hospitalizations, which is consistent with findings reported in the literature [8]. However, this situation should be considered a reflection of a more complex clinical context involving clinical severity, disease course, and previous hospitalization experiences, rather than a causal cycle. In this context, it remains unclear whether repeated exposure to coercive measures reflects the traumatic impact of prior restrictive interventions or whether patients with more severe and persistent psychopathology are inherently more likely to be exposed to such measures over time. The present study cannot disentangle these possibilities. Future research should therefore aim to examine this question using longitudinal designs with larger samples and a more comprehensive assessment of potential clinical and environmental confounders.

Our study also addressed collective identity traumas, unlike previous research. Collective identity traumas, such as forced migration, immigration, and exposure to discrimination due to ethnic origin or sexual identity, were reported more frequently in the group exposed to coercive measures. The literature indicates that disadvantaged groups may be more likely to experience different types of traumatic experiences throughout their lives and may be in a more vulnerable position in terms of access to psychiatric services and treatment processes [8,30]. Our findings suggest that collective identity–related traumatic experiences may represent an additional layer of vulnerability among patients exposed to coercive measures; however, the mechanisms underlying this association require further investigation.

The literature includes a study examining whether exposure to any type of trauma, as well as the frequency of exposure to trauma, may be associated with exposure to coercive measures [12]. In our study, the frequency of exposure to trauma was also evaluated with the CTS, and it was found that the frequency of trauma was higher in patients exposed to coercive measures. This finding indicates that not only the presence of traumatic experiences but also their repeated occurrence throughout life should be considered in conjunction with the clinical picture. The Developmentally Based Trauma Framework (DBTF) emphasizes the importance of considering dimensions such as severity, frequency, and chronicity together when assessing the effects of trauma on individuals [18]. The findings obtained in our study are consistent with this conceptual framework.

Comparisons of clinical characteristics revealed that patients exposed to coercive measures had a more frequent history of substance use and more pronounced disease severity. In this group, PANSS positive subscale, and Young Mania Rating Scale (YMRS) scores were found to be higher compared to patients not exposed to coercive measures, although depressive symptom severity was lower. The literature reports that positive

psychotic symptoms, the severity of manic and depressive symptoms, can be seen in conjunction with a picture that complicates the clinical course and makes in-service management difficult [31,32]. The literature emphasizes that a history of substance use may also accompany this clinical picture and complicate clinical management during hospitalization [33]. Exposure to coercive measures during hospitalization is predicted by the presence of the most aggressive behaviors and hostility [2,34]. In this context, the clinical findings obtained in our study suggest that the group of patients exposed to coercive measures exhibited a more severe and complex clinical picture.

Our study also found that perceived social support, particularly family support, was lower in patients exposed to coercive measures. Social support is considered an important psychosocial variable that can reduce the negative effects of traumatic experiences on mental health [35]. Previous research has shown that perceived social support may be more limited in individuals with a history of trauma and that these individuals may encounter more psychosocial difficulties throughout their lives [36,37]. The results obtained in our study suggest that lower levels of social support in patients exposed to coercive measures should be evaluated in conjunction with the clinical and psychosocial vulnerability of this patient group.

Our short-term follow-up findings showed no significant difference between exposure to coercive measures and post-traumatic stress symptoms. Although studies in the literature report that coercive measures may increase the risk of post-traumatic stress symptoms [7-10], some longitudinal studies have shown that such a relationship does not exist or may weaken over time [38,39]. In our study, the low level of post-traumatic stress symptoms may be related to regular and structured interviews with patients during their hospital stay and close follow-up after discharge. Providing a safe therapeutic environment and a continuous follow-up process after discharge may contribute to mitigating the possible negative psychological effects of coercive measures.

Our findings regarding treatment compliance indicate that there is no significant difference in short-term treatment compliance between patients exposed to coercive measures and those who are not. The literature on this subject presents conflicting results; while some studies report that coercive measures may negatively affect treatment compliance [40], others have not found a similar effect [5]. The high treatment compliance found in both groups in our study may reflect the structured treatment environment provided by the service conditions and the therapeutic relationship maintained after discharge. However, evaluating treatment compliance with longer-term follow-up will contribute to a clearer understanding of this relationship.

Overall, from a clinical and ethical perspective, our findings underscore the importance of trauma-informed care approaches in psychiatric inpatient settings. Recognizing patients' trauma histories and psychosocial vulnerabilities may help guide the use of least-restrictive interventions and support efforts to minimize exposure to coercive measures.

One of the strengths of our study is that it included a comprehensive assessment covering not only the presence of past traumatic experiences but also their different types and frequency. Furthermore, the consideration of collective identity traumas alongside exposure to coercive measures is a distinguishing feature of our study. On the other hand, several limitations should be considered when interpreting the study's findings. The limited sample size and the non-homogeneous distribution of diagnostic subgroups represent important constraints; therefore, the findings need to be re-evaluated in larger, more diverse clinical samples. In addition, the single-center design and the inclusion of inpatients hospitalized within a specific time window limit the generalizability of the results. Due to the observational nature of the study, causal inferences regarding the association between exposure to restrictive measures and trauma history cannot be established, and residual confounding related to unmeasured or inadequately measured clinical or environmental factors may remain. It should be noted that the coercive measures included in this study differ in their clinical indications and levels of perceived intrusiveness. However, given the limited sample size, these measures were conceptualized as a composite exposure to reflect overall coercive experience during hospitalization. Future studies with larger samples may allow for the examination of differential effects of specific coercive measures. Finally, trauma history was assessed using self-report measures, which may be subject to retrospective recall bias; moreover, as trauma-related symptom measures were not anchored to a clearly defined index event, the interpretability of the findings may be reduced.

In conclusion, this study found that both the presence and frequency of cumulative trauma load showed significant differences between patient groups exposed to coercive measures and those who were not. Patients exposed to coercive measures were found to have a higher number of previous hospitalizations, thoughts of harming others during hospitalization, a history of harmful behavior toward others, a history of substance use, and previous coercion experiences; clinical severity was higher, and perceived social support was lower. In contrast, in the short-term follow-up, post-traumatic stress symptoms were found to be low, and treatment compliance was high in both groups. These findings suggest that the combined assessment of trauma history, clinical characteristics, and social support levels in hospitalized psychiatric patients may contribute to a better understanding of the profile of patients exposed to coercive measures.

Author contributions

Conception and design: S.E., E.I.G.; Data acquisition: S.E.; Data analysis: E.I.G.; Data interpretation: S.E., E.I.G.; Drafting of the manuscript: S.E.; Critical revision of the manuscript: E.I.G. All authors reviewed the results, approved the final version of the manuscript, and agreed to be accountable for all aspects of this study.

Ethical approval

This study was approved by the Istanbul University Istanbul Faculty of Medicine Clinical Research Ethics Committee (Date: January 12, 2024, Decision/Protocol No: 2023/2216). Informed consent was obtained from all participants involved in this study.

Data availability statement

The data that support the findings of this study are available from the corresponding author upon reasonable request.

Conflict of interest

The authors declare that this study was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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Generative AI statement

The authors declare that no generative AI or AI-assisted technologies were used in the writing or preparation of this study.

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