

Application of direct coercive measures. Report of medical staff's opinions (Part 1)

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ABSTRACT

Introduction: Our research aimed to assess the application of direct coercive measures based on the opinions of medical staff.

Materials and methods: A cross-sectional study was held using an original questionnaire, implemented in 2019 and 2020, with 205 medical staff as respondents (including 170 nurses and 23 doctors) in 3 hospitals in Poland.

Results: According to healthcare staff opinions, the most frequent reason for the application of direct coercive measures involved the patients' aggression directed at themselves (active self-abuse, 70.73%) or others (67.80%). Other reasons for coercion (such as damaging or throwing things, disturbing the operation of the facility, and passive self-abuse) accounted jointly for 80.04% of the cases. The main reason for the significantly more frequent application of coercion (once a month or more often) involved alcohol consumption (25.6%) and consumption of other psychoactive substances (18.84%; $p < 0.001$). It was significantly more frequently used (once a month or more often) for mentally ill patients (24.15%) than for patients with intellectual disabilities (5.8%; $p < 0.001$). The most frequently

used measure was immobilisation (once a month or more often: 37.68%), and the rarest one was seclusion (6.76%).

Conclusions: The most frequent reason for the application of coercive measures involved self-abuse or aggression caused by the consumption of psychoactive substances. Frequent application of the measures for other reasons that do not directly threaten human life or health requires further research. In particular, the frequent use of immobilisation compared to the infrequent use of seclusion requires further research. To protect patients' rights, it is urgently needed to clarify ambiguous terms used to describe reasons for the application of coercive measures by the legislator. Preventing violent behaviour through architectural solutions and preparing staff and wards for crisis intervention would benefit patients and staff. The public funding of the hospital-type facilities from which the respondents came highlights the need for government investment in treatment facilities where people with mental disorders and mental illnesses are located.

Keywords: coercion; behaviour control; seclusion; physical restraint; aggression.

INTRODUCTION

Coercion is defined in psychiatry as an application of medical intervention against the subject's will [1]. Direct coercion in medicine is applied basically in people who display mental disorders and aggression against themselves or others. Aggression is a broad category covering both the concept of violence and safety in mental health protection. Violence is defined very broadly as it may cover acts without physical force, e.g., verbal threats, and the application of physical force (spitting, pinching, scratching, slapping, hitting, kicking, and biting). Medical staff may experience various forms of violence, and the largest share of violations of bodily integrity occurs in psychiatric care – from several up to over 10% of subjects admitted to psychiatry wards in western states have used physical violence [2, 3, 4].

The main objective of the application of direct coercion is to protect patients and medical staff from damage caused by violence [5]. Thus, coercive measures are applied for the

patients' good (safety of patients of the entire ward) and to ensure the safety of the staff.

Coercion measures applied include seclusion, restraint, and compulsory medication [2]. Compulsory admission to a hospital is a slightly different measure (as a decision by an authorised organ/person) and coercion is used to implement it. Non-voluntary admission is used in various European states and it accounts for 21–59% of all admissions. Poland is one of the leading countries in terms of the share of non-voluntary admissions [1, 6].

In Poland, the application of direct coercion by medical staff is regulated by the Act of 19 August 1994 on mental health care [7]. According to this act, direct coercive measures may be used concerning a person with a mental disorder, who is legally defined as:

1. a mentally ill person displaying a psychotic disorder, or
2. a person with an intellectual disability (named mental retardant), or
3. a person who displays another disorder of mental functioning, classified according to current knowledge as a mental

disorder, and requires medical services or other forms of help and care, necessary for living in their family or social environment [7].

According to the Act on mental health protection [7], direct coercion may be applied in subjects with a mental disorder if such a person meets at least one of the following criteria classified by medical staff as aggressive behaviour (art. 18 section 1 item 1–3):

1. they commit an assault against the life or health of another person or themselves or against general safety,
2. they violently damage or destroy objects in their surroundings,
3. they seriously disrupt or hamper the functioning of the medical facility where they obtain medical services of mental health care, another medical facility, or a social welfare unit.

The above circumstances concerning the application of direct coercion were not exhaustively described in the Act. Above all, their broader definition is missing – to define their severity and potential results – especially in the case of the second and third reasons. For instance, the destruction of the subject's property may be included here, while in general, this is the patient-owner's right (second reason). A misinterpretation by the medical staff of the reasons and the resultant wrong or unnecessary application of coercive measures may infringe on the patient's rights, as well as human rights [8].

Further, according to art. 34, the Act allows yet another situation of application of direct coercion – concerning a person admitted to the psychiatric hospital without their consent, including when it is necessary to perform therapeutic measures provided for in art. 33 (compulsory treatment) [7]. Coercion can be used also to prevent the subject's unauthorised leaving the psychiatric hospital.

According to the provisions of the Act on mental health protection, direct coercion can be applied by 3 groups of medical staff: doctors, nurses, or persons managing a medical emergency action. Its application is usually decided by a doctor, who determines the type of the measure and supervises the procedure in person (art. 18 section 2 of the Act) [7]. At psychiatric hospitals and social welfare units, if an immediate decision by a doctor cannot be obtained, a decision on the application of coercion measures may be taken by a nurse, who is obliged to notify a doctor immediately of the fact. The same concerns actions within medical rescue operations – the decision on coercion is taken by a paramedic who is obliged to notify an emergency medical dispatcher. The Act on mental health protection lists and defines 4 measures of direct coercion: holding down, compulsory pharmacotherapy, immobilisation, and seclusion (isolation) – art. 3 item 6 of the Act [7]. Holding down signifies a temporary, short-lasting restraint of a subject by the physical strength of staff. Compulsory pharmacotherapy may be temporary or elective according to a therapy design – it involves the administration of drugs into a subject's body without their consent. Immobilisation means restraining

a subject by using at least one of the following: belts, grips, sheets, or a straightjacket. Finally, seclusion involves placing the subject, individually, in a closed and specifically adapted room (isolation room) while ensuring constant control of their condition through audiovisual monitoring and checking the patient's health by a nurse every 15 min.

Until recently, coercion was believed to have a therapeutic effect on violent patients. Currently, it is believed that measures of coercion have no therapeutic value for the patient, as they may cause a range of negative psychological or physical effects and destroy the therapeutic relationship that is the basis of recovery [1, 9].

Seclusion and restraint are now widely regarded as unknown risk, problem-prone interventions that can be dangerous for both patients and staff in hospital mental health treatment settings [10, 11]. The independent Care Quality Commission (England) is particularly critical of coercion in care services for people with a mental health condition, a learning disability, or autistic people [12].

However, in psychiatric practice, coercion is still used as a traditional measure, not based on scientific evidence [1, 13]. The tradition developed from Guthiel's concept of 1978 [10], providing for the therapeutic effect of seclusion, later referred to by other scholars, even though it is not based on rich evidence-based material [1].

The objective of our research was to verify the application of coercion procedures considering provisions of the Polish law based on the opinions of medical staff.

MATERIALS AND METHODS

The study included 205 healthcare employees (including 180 women) aged 21–66. The mean age was 45.55. The full sociodemographic characteristics of the sample can be found in Table 1.

Procedure and tools

The cross-sectional study was held in 2019 and 2020 among the healthcare staff of 3 hospitals in Poland. The original selection included 9 voivodeship hospitals of the III referral level based on data available from the Ministry of Health by ensuring random selection rules (randomisation). The facility selection is considered the "territorial" selection of voivodeships located at the borders of Poland. Response to the invitation to take part in the study was received from directors of only 3 facilities. The questionnaires were collected by the hospital's employees assigned for cooperation by the hospital. The survey was anonymous and respondents obtained no remuneration for filling in the questionnaire.

The survey applied an original questionnaire developed by the authors and assessed and modified at a meeting with an advisory group of experts in various areas: psychiatrists, policemen, social welfare employees, and psychologists. The questionnaire was based on provisions of Polish law. The questionnaire included questions related to the use of direct coercion and respondents' particulars.

Statistical analysis

The statistical analysis was performed using Statistica v. 13.3 software. The Kolmogorov–Smirnov test was used to assess the normality of the distribution of quantitative traits. To compare independent groups, χ^2 and test Z (the non-parametric z-test for 2 independent groups) were applied. The statistical significance indicator was defined at $p < 0.05$.

RESULTS

According to the respondents, the most frequent reason for the application of direct coercion involved active self-abuse, where the patient is aggressive against themselves, thus threatening their health or life (70.73%), and the patient's aggression against others, threatening their life or health (67.80%). However, other reasons for applying coercion, unrelated to the direct threat to human life and health, constituted a total of 80.04% of the cases (indicated by 163 of the respondents) – see Table 2. The catalogue of potential answers provided to the respondents was based on the list of reasons to apply direct coercion as shown in the Act on mental health protection. A vast majority of the respondents claimed that the catalogue should be modified (91.71%).

Answers concerning the frequency of application of coercion at the respondents' place of work varied. The most frequent choices were "several times a year" (41.46%) and "several times a month" (33.66%) – Table 3.

The respondents were asked how frequently the circumstances listed (health problems involving selected aspects of mental health) in Tables 4 and 5 were the underlying cause of aggressive behaviour which requires the application of direct coercion.

It was decided to verify the impact of these health problems on the frequency of use of direct coercion. It was statistically significantly more frequently used (once a month or more often) for mentally ill patients (24.15%) than for patients with intellectual disabilities (5.8%; $p < 0.001$) – Table 4.

The effect of health problems, related to the use of varied psychoactive substances, on the frequency of the use of direct coercion was then examined. It was statistically significantly more frequently used (once a month or more often) for patients after alcohol consumption (25.6%) than for patients after taking medicines causing temporary disturbance of consciousness prescribed by a doctor (10.15%; $p < 0.001$) – Table 5.

The frequency of the use of individual direct coercive measures in the workplace was verified. Immobilization was the most frequently used form (once a month or more often: 37.68%), while isolation was the rarest (never: 36.71%). The differences were statistically significant ($p < 0.001$) – Table 6.

Table 7 presents the distribution of responses concerning the frequency of compulsory drug administration by mode.

Statistical analysis revealed statistically significant differences ($p < 0.001$) in the frequency of compulsory administration of medicines based on the circumstances of administration (mode of administration). The administration of medications using direct coercion was implemented once a month or more

often, with the highest frequency for "the emergency mode in the case of a subject admitted without their consent and on a different legal basis – voluntary admission" (15.95%) – Table 7.

On the other hand, in cases such as "based on a court ruling on compulsory treatment in the case of addiction to psychoactive substances, a court ruling on compulsory treatment in the case of alcohol addiction, and a court ruling on compulsory treatment in the case of mental disorders", the direct coercion procedure was most often used very rarely or not at all (Tab. 7).

DISCUSSION

In the original survey, the catalogue of potential answers provided to the respondents was based on the list of reasons to apply direct coercion as shown in the Act on mental health protection. A vast majority of respondents believed that the catalogue required modification (91%) – however, they did not use the open question to explain what modifications were needed. It seems that as the catalogue is very extensive, and the terminology used in it is equivocal, a more precise definition is required to avoid abuse (e.g., a definition of "serious interruption of functioning of the facility" is needed). The most frequent reasons for the application of direct coercion involved self-abuse and aggression toward other people (70.73% and 67.80% respectively). However, some of the circumstances were not classical reasons to apply coercion (circumstances with no open aggression, but with some forms of disobedience, e.g., the patient significantly interrupted or hampered the functioning of the medical facility). The remaining reasons for applying coercion, unrelated to a direct threat to human life and health, constituted a total of 80.04% of the cases. Meanwhile, in other European states, the most frequent reason for prescribing coercive measures was patient aggression against others [2, 6].

In our study, direct coercion was statistically significantly more common for mentally ill patients than for intellectually disabled patients ($p < 0.001$) and for patients after drinking alcohol than for patients after taking medications that cause temporary disorders of consciousness prescribed by a doctor ($p < 0.001$). Systematic reviews from 2013 and 2020 show that restraint is more often used against patients with schizophrenia than against patients with anxiety, personality or mood disorders, or alcohol or substance abuse disorders [2, 14, 15].

A 2009 prospective study by Benjaminsen et al. on 250 psychiatric patients found that half of the violent patients had a dual diagnosis of psychosis and alcohol or drug abuse [16]. However, our study did not check whether patients with psychotic disorders were also those who abused psychoactive substances.

The application of direct coercion is designed to eliminate aggressive behaviour which threatens the life or health of the patient or other people. However, as shown in the scientific literature, coercion itself is a factor that may pose a threat to health or life. The latest systematic review of 2019 by Chieze et al. listed coercion's negative effects on mental health, including

post-traumatic stress disorder, recurrence of former trauma, prolonged hospitalisation, and hallucinations. Patients' subjective opinions are varied. Subjects who were in seclusion or under movement restraints, experience negative emotions most frequently – especially a feeling of suffering, perceiving the applied measures as a punishment. Sometimes, however, patients report positive opinions on the applied measure, associated with feelings of safety and help, some also display clinical improvement and evaluation as necessary. Further, some experts argue that a correct therapeutic relation affects the patient's reception of the applied measures, and thus it may help avoid the negative effects [1]. Coercion may also lead to severe physical injury in the patient, including thrombosis [2]. The use of coercion in the form of restraint or seclusion is also dangerous for people with disabilities, as it increases the risk of death and serious accidents [17]. Therefore, the international community takes an effort to prevent the application of coercive measures or even to withdraw coercion as a measure of "last resort" [2]. The members of the National Association of State Mental Health Program Directors believe that seclusion and restraint, including "chemical restraints", are not treatment interventions [17].

The attitudes and opinions of the staff who apply coercive measures are very important, as they play a significant role in making relevant decisions. As noted in the latest systematic review of 2020 by Doedens et al., "the attitude of nurses shifted from a therapeutic paradigm (coercive measures have positive effects on patients) to a safety paradigm (coercive measures are undesirable, but necessary for the wards' safety)" [2]. This finding indicates a complete change in nurses' attitudes compared to earlier years. It seems that the change in these attitudes has only just begun. A 2010 systematic review of nurses' attitudes toward restraint [18] found a contradiction between the practice of seclusion and nurses' attitudes regarding its effectiveness and appropriateness. Nurses believed that seclusion had a negative impact on patients, yet the occurrence of violence in the hospital justified its use [18]. Similarly, in the 2013 review, nurses reported the therapeutic value of seclusion and claimed that wards would not operate correctly without this measure [5].

In subsequent reviews in 2016 and 2019 [19, 20], the authors concluded that coercive measures are still seen as a necessary measure of "last resort", although nurses' attitudes toward their use are becoming increasingly negative. In addition, it seems that nurses' attitudes are important in the decision-making process regarding the use of coercive measures [19]. The original survey showed quite frequent application of coercive measures, as about 1/3 of the respondents applied coercion "several times a month" (33.66%).

Within the paradigm of safety, medical staff should treat coercive measures as a final resort, preferring less invasive interventions. However, there is no unanimity in defining the least invasive interventions, as some employees indicate seclusion, while others suggest mechanical immobilisation [2]. Meanwhile, surveys of patients' opinions show that they think better of seclusion than other coercive measures (e.g., compulsory

TABLE 1. Sociodemographic characteristics of the sample (n = 205)

	Variable	n	%
Gender	women	180	87.80
	men	25	12.20
Education	secondary	55	26.82
	post-secondary	30	14.63
	university	109	53.17
	a scientific degree or title	3	1.46
Profession	doctor	23	11.21
	nurse	170	82.92
	other	8	3.90
Type of medical facility where the work is performed	admission room	11	5.36
	emergency ward	16	7.80
	psychiatry ward	58	28.29
	neurology ward	14	6.82
	surgery ward	21	10.24
	intensive therapy ward	10	4.87
	another ward	70	34.14
Place of work – the name of the city	Szczecin	76	37.07
	Gorzów Wlkp.	60	29.26
	Przemyśl	69	33.65

treatment), seeing it as a non-invasive measure. Restraint, on the other hand, is less tolerated than other measures [21, 22]. Contrary to the quoted patients' opinions, the most frequently used coercive measure at the respondents' workplaces was immobilisation (37.68%), and the least frequently used was seclusion (6.76%).

The main reason for the significantly more frequent coercive measures (several times a week) shown in the original survey included the consumption of psychoactive substances (25.60% alcohol, 18.84% other substances), which may enhance aggressive behaviour, as well as other anti-social behaviour (e.g., locking up in a room). However, it should be noted that in the case of a patient's illegal action, the staff may always request law enforcement intervention with a broad catalogue of reasons for the application of direct coercive measures to ensure the safety of people and property.

Meanwhile, coercion in medicine should be clearly described and defined. So far, an increase in the application of coercive measures in the European Union Member States [23] has been reported, as well as a high share of non-voluntary admissions to psychiatric hospitals [6]. Admissions with no consent are associated with the application of coercive measures. Studies included in 2 systematic reviews show that forced admission was a variable associated with more frequent use of restraints [2, 15].

The original survey showed that for compulsory administration of medicine, one of the highest frequencies (the answer "once a month or more often" chosen by approx. 13% of the respondents) was recorded for the emergency mode in the

TABLE 2. Respondents' opinions on what they consider to be the most frequent reasons for using direct coercion

The most frequent reasons to apply direct coercion to a patient	n	%
The patient's self-abuse threatening their health or life (active self-abuse)	145	70.73
Aggression against others, threatening their life or health	139	67.80
The patient violently damaged or destroyed objects in their surroundings	91	44.39
The patient seriously disrupted or hampered the functioning of the medical facility where they obtain medical services of mental health care, another medical facility, or a social welfare unit	45	21.95
The patient refusing meals, drugs, or other services necessary to maintain their health or life (passive self-abuse)	27	13.17
I have never applied or witnessed the application of direct coercion	4	1.95

case of admission of the patient without their consent. However, drugs were most often administered because of a threat to the life or health of the staff or other people in the case of

TABLE 3. Frequency of application of direct coercion witnessed by the respondents

Frequency of application of direct coercion	n	%
Several times a week	8	3.90
Several times a month	69	33.66
Once a month	24	11.71
Several times a year	85	41.46
Once a year or less frequently	24	11.71

voluntary admission (approx. 16% of the respondents chose the answer "once a month or more often").

It should be noted that international law advises against legal representation and treatment without consent – this concerns especially provisions of the United Nations Convention on the Rights of Persons with Disabilities [24, 25].

To conclude the discussion, we would like to highlight an important strand of research in the literature on the impact of the external environment, including architecture, on the reduction of coercive use. As reported in a rapid systematic review from 2021 by Oostermeijer et al., the changes that can be undertaken are primarily aimed at the users of psychiatric services, not for staff. A patient-friendly environment should be created, available for general use (e.g., access to gardens or recreational facilities) as well as for private use (e.g., sensory or comfort rooms, uncrowded and quiet spaces) [26]. Such environmental elements are designed to minimize environmental stress (e.g., minimizing noise, ensuring calm) and introduce stress-reducing elements (e.g., communing with nature). Thus, minimising the

use of restraints depends largely on an environment in which the patient will not be susceptible to overstrain and related acts of aggression.

Creating such a recovery-oriented environment is particularly difficult on wards where patients are admitted involuntarily and where several safeguards and architectural solutions are restricting human freedom [27]. It is not just about a comfortable space but also about enabling choice, including choice of treatment, safety, connection with others, and respect for human rights [28].

These considerations are reflected in the 2020 guidelines issued by the Substance Abuse and Mental Health Services Administration (U.S. Department of Health and Human Services), which recommend actions within the functioning of staff in crises to provide safety and security [29]. These primarily include:

- staff training on crises and an appropriate ratio of staff to clients served;
- non-institutional and welcoming physical space and environment for people in crisis, rather than Plexiglas observation rooms and locked doors;
- procedures emphasising 'no force first' before implementing secure physical restraint or seclusion procedures;
- strong relationships with law enforcement and emergency services [29].

The prevention of violent behaviour through architectural solutions and the provision of staff and wards prepared for crisis intervention would benefit both patients and staff. The public funding of the hospital-type facilities from which the respondents came highlights the need for government investment in treatment facilities where people with mental disorders and mental illnesses are located.

Limitations and future research

The study included the entire medical personnel; however, the nursing personnel predominated in the study group. The limitation of our study was also the fact that it concerned the opinions of the staff (self-report questionnaire); therefore, it is not possible to conclude whether the direct coercion procedures were properly performed. However, Polish law provides for reporting and monitoring of coercive procedures undertaken. Therefore, an interesting direction for future research would be to analyse such documentation, which includes a detailed diagnosis of the patient, and the reason, form, and duration of the coercive measure.

CONCLUSIONS

The respondents applied coercion quite frequently. The reason for the application of coercive measures involved self-abuse or aggression caused by the consumption of psychoactive substances, which is listed as a reasonable cause in scientific literature. The frequent application of the measures for other reasons which do not pose a direct threat to human life or health requires further research. In particular, the frequent

TABLE 4. Circumstances underlying aggressive behaviour which requires application of direct coercion (part 1)

Health problem	Frequency of application of direct coercion					
	once a year or less frequently		several times a year		once a month or more often	
	n	%	n	%	n	%
The patient was mentally ill (displaying psychotic disorders)	48	23.19	72	34.78	50	24.15
The patient had an intellectual disability*	74	35.75	33	15.94	12	5.8
The patient displayed other disorders of mental functioning, classified according to current knowledge as mental disorders, and required medical services or other forms of help and care, necessary for their living in their family or social environment	33	15.94	64	30.92	23	11.11
Test χ^2 ; p-value	$\chi^2 = 48.483$; $p < 0.001$					

* The equivalent term used in the acts on mental health protection is "mentally retarded".

TABLE 5. Circumstances underlying aggressive behaviour which requires application of direct coercion (part 2)

Health problem	Frequency of application of direct coercion					
	once a year or less frequently		several times a year		once a month or more often	
	n	%	n	%	n	%
The patient had consumed alcohol	27	13.04	72	34.78	53	25.60
The patient had consumed other psychoactive substances	43	20.77	55	26.57	39	18.84
The patient had consumed drugs causing temporary disturbance of consciousness, as prescribed by a doctor (e.g. general anaesthesia, painkillers)	57	27.54	51	24.64	21	10.15
Test χ^2 ; p-value	$\chi^2 = 26.467$; $p < 0.001$					

TABLE 6. Frequency of application of particular measures of coercion at the respondents' workplace

Measure	Frequency of application					
	never		rarely		frequently	
	n	%	n	%	n	%
Holding down (temporary movement restraints by the physical strength of staff)	13	6.28	96	46.38	66	31.88
Immobilisation (movement restraints by various measures, e.g., belts)	4	1.93	115	55.56	78	37.68
Seclusion in an isolation room	76	36.71	76	36.71	14	6.76
Compulsory pharmacotherapy	17	8.21	107	51.69	50	24.15
Test χ^2 ; p-value	$\chi^2 = 173.158$; $p < 0.001$					

TABLE 7. The respondents' responses concerning how frequently they witnessed compulsory administration of drugs to a hospitalised subject

Mode of administration	Frequency of compulsory administration							
	never		once a year or less frequently		several times a year		once a month or more often	
	n	%	n	%	n	%	n	%
In the emergency mode in the case of a subject admitted without their consent (no court ruling)	66	31.88	29	14.01	29	14.01	28	13.53
Based on a court ruling on compulsory treatment in the case of alcohol addiction	87	42.03	24	11.59	27	13.04	5	2.42
Based on a court ruling on compulsory treatment in the case of addiction to psychoactive substances	96	46.38	30	14.49	11	5.31	13	6.28
Based on a court ruling on compulsory treatment in the case of mental disorders	84	40.58	24	11.59	27	13.04	15	7.25
On a different legal basis – voluntary admission (e.g. due to a threat to the life or health of the staff or other people)	49	23.67	41	19.81	46	22.22	33	15.95
Test χ^2 ; p-value	$\chi^2 = 70.376$; $p < 0.001$							

use of immobilisation compared to the infrequent use of seclusion requires further investigation.

To protect patients' rights and human rights, it is urgently needed to clarify ambiguous terms used to describe reasons for the application of coercive measures by the legislator.

International recommendations to reduce the use of coercive measures should be taken into account, and efforts should be made to prevent acts of aggression by creating a recovery-oriented environment, especially for patients with mental disorders and mental illnesses. This is particularly important in wards where patients are admitted involuntarily, where privacy, contact with others, and communing with nature should be ensured where possible, despite the safeguards used. Ensuring that staff and departments are prepared for crisis (e.g., through staff training, communication with other services) is essential. The public funding of hospital-type facilities, where the respondents came from, highlights the need for government investment in treatment facilities where people with mental disorders and mental illnesses are located.

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