

INCIDENCE, SEVERITY AND CHARACTERISTICS OF PATIENTS' AGGRESSION IN ACUTE PSYCHIATRIC WARDS: DATA FROM A SLOVENIAN NATIONAL SURVEY

POJAVNOST, RESNOST IN ZNAČILNOSTI AGRESIVNEGA VEDENJA PRI PACIENTIH V AKUTNIH PSIHIATRIČNIH ODDELKIH: PODATKI IZ SLOVENSKE NACIONALNE RAZISKAVE

Andreja ČELOFIGA¹ , Jure KOPRIVŠEK¹ , Hojka GREGORIČ KUMPERŠČAK² , Blanka KORES PLESNIČAR³ 

¹ University Medical Centre Maribor, Department of Psychiatry, Ljubljanska 5, 2000 Maribor, Slovenia

² University Medical Centre Maribor, Child and Adolescent Psychiatry Unit, Ljubljanska 5, 2000 Maribor, Slovenia

³ University Psychiatric Clinic Ljubljana, Chengdujska 45, 1260 Ljubljana, Slovenia

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ABSTRACT

Aim: To evaluate the incidence, severity and characteristics of aggressive behaviour in patients hospitalized in acute psychiatric wards, as well as the association between patient characteristics and the incidence of recurrent aggressive behaviour.

Keywords:

Aggression
Incidence
SOAS-R
Mental disorders
Acute psychiatric wards

Methods: A multicentre prospective study included all twelve acute wards in Slovenian psychiatric hospitals with a total capacity of 232 beds. Over five consecutive months, data on the number of treatment episodes involving aggressive behaviour and the number of aggressive incidents, their severity and characteristics were obtained using the Staff Observation Aggression Scale-Revised (SOAS-R). Patient- and event-based incident rates of verbal and physical aggression were calculated. The association between patient characteristics and recurrent aggressive behaviour was analysed. Patient characteristics data were extracted from hospital databases.

Results: 3,190 treatment episodes were included during a 5-month period. Aggressive behaviour was observed in 13.4% of treatment episodes, and 922 aggressive incidents were recorded, which resulted in 3.98 incidents per 100 occupied bed days and 9.48 incidents per bed per year. 74.1% of incidents were severe, and more than half of incidents included physical aggression. 75.5% of incidents were directed against medical staff. 5.9% of treatment episodes were involved in multiple aggressive incidents. Compared to patients with single incidents, patients with recurrent aggression had a less frequent main diagnosis of substance use disorders and a longer duration of hospitalization.

Conclusion: Monitoring the frequency and characteristics of aggressive behaviour allows comparisons with other studies and, more importantly, it is necessary for planning and assessing the effectiveness of preventative aggression management strategies.

IZVLEČEK

Namen: Oceniti pojavnost, resnost in značilnosti agresivnega vedenja pri pacientih, ki so hospitalizirani v akutnih psihiatričnih oddelkih in ugotoviti povezavo med demografskimi in nekaterimi kliničnimi značilnostmi pacientov in pojavnostjo ponavljajočega se agresivnega vedenja.

Ključne besede:

agresija
incidenca
SOAS-R
duševne
motnje
akutni
psihiatrični
oddelki

Metode: V multicentrično prospektivno raziskavo so bili vključeni akutni oddelki vseh slovenskih psihiatričnih bolnišnic. V obdobju petih zaporednih mesecev so bili pridobljeni podatki o številu hospitalnih obravnav z agresivnim vedenjem in številu agresivnih incidentov, njihovih resnosti in značilnostih. Za beleženje incidentov, njihovih značilnosti in oceno resnosti, je bil uporabljen slovenski prevod opazovalne lestvice za oceno agresivnega vedenja: angl. The Staff Observation Aggression Scale - Revised (SOAS-R). Predstavljene so incidenčne stopnje verbalne in fizične agresije na ravni hospitalnih obravnav in dogodkov. Analizirana je povezava med značilnostmi pacientov in ponavljajočimi se agresivnimi incidenti. Demografski podatki pacientov in podatki o vodilni diagnozi, komorbidnih diagnozah, protivoljni hospitalizaciji in dolžini hospitalizacije so bili pridobljeni iz bolnišnične dokumentacije. Statistična analiza podatkov je bila izvedena z uporabo statističnega programskega paketa IBM SPSS 25.

Rezultati: V 5-mesečnem obdobju je bilo vključenih 3190 hospitalnih obravnav. Agresivno vedenje je bilo prisotno pri 13,4 % obravnav, zabeleženih je bilo skupno 922 agresivnih incidentov, kar predstavlja 3,98 incidentov na 100 dni zasedenih postelj in 9,48 incidentov na posteljo na leto. 74,1 % incidentov je bilo ocenjenih kot hudi, več kot polovica incidentov je vključevala fizično agresijo. 75,5 % incidentov je bilo usmerjenih proti zdravstveno-negovalnemu osebju. Pri skoraj polovici incidentov ni bil prepoznan sprožilec agresivnega vedenja, med ugotovljenimi sprožilci pa je bila najpogosteje opisana zavrnitev pacientovih zahtev in želja. Za zaustavitev agresivnega vedenja je bilo večinoma uporabljenih več ukrepov hkrati, najpogosteje pogovor s pacientom v kombinaciji z uvedbo omejitve s pasovi ali aplikacijo zdravila. 5,9 % hospitalnih obravnav je bilo vključenih v več agresivnih incidentov. Pacienti s ponavljajočimi se agresivnimi incidenti so imeli v primerjavi s tistimi z enkratnimi incidenti v manjšem deležu prisotno vodilno diagnozo duševna motnja, povezana z uporabo psihoaktivnih snovi ter daljše povprečno trajanje hospitalizacije.

Zaključek: Agresivno vedenje pri pacientih, hospitaliziranih v akutnih psihiatričnih enotah, je pogosto povezano s poslabšanjem duševne motnje in je lahko neposreden vzrok za sprejem na oddelek. Pričakovanja, da bi lahko agresivno vedenje v takem okolju popolnoma odpravili, so najverjetneje nerealna. Zagotovo pa je smiselno spremljanje incidence in značilnosti agresivnega vedenja pacientov v psihiatričnem hospitalnem okolju, saj tako pridobljeni podatki omogočajo primerjavo z drugimi državami, še pomembneje pa je, da predstavljajo izhodišče za načrtovanje preventivnih strategij obvladovanja agresivnega vedenja in spremljanje njihove učinkovitosti.

*Correspondence: acelofiga@yahoo.com

1 INTRODUCTION

In patients with mental disorders, aggressive behaviour is three to five times more common than in the general population (1, 2). A recent systematic review of studies found that the prevalence of aggressive behaviour in psychiatric wards varied from 8-76% (3). Aggressive behaviour most commonly occurs in a hospital setting, often immediately upon admission to a psychiatric emergency room or an acute psychiatric ward. Data from a meta-analysis of 35 studies showed that the prevalence of aggressive behaviour in acute psychiatric units in developed countries ranged from 3 to 44% (4). Recurrent episodes of aggression are common, and studies show that only a minority of patients are responsible for more than half of all incidents (3).

Most of the aggressive behaviour is directed at medical staff (4, 5). In psychiatric hospitals, 89% of the staff experience verbal aggression and more than half experience physical aggression (6). Verbal aggression is the most reported form of aggression, described in more than 80% of incidents, however, about half of the incidents involve physical aggression (5, 7). In a recent survey in Swiss psychiatric hospitals, almost 30% of nurses reported they had experienced a severe aggressive attack during their professional lives (8).

Risk factors for aggressive behaviour can be categorized into intrinsic factors related to the patient, and extrinsic factors related to the ward environment, staff and patient-staff relationships (2, 9). Intrinsic risk factors include patient diagnosis, history of psychiatric treatment and aggressive behaviour, involuntary admission, length of hospital stay, psychopathological phenomena, biological factors, and sociodemographic factors (2, 3). A recently published systematic literature review found that high bed capacity occupancy, ward crowding, lack of daily structure or privacy, smoking and a restrictive environment were the most important ward factors associated with aggressive behaviour (3). Limitation of the patient's requests or wishes, most often the desire to leave the hospital, is one of the most common triggers of aggression (10). On the other hand, interactions between patients and staff are often the main factor in the escalation and maintenance of aggression (3).

Aggressive behaviour affects patient and staff safety, has a negative influence on their mental and physical health, and can lead to a bad reputation for the hospital (11). Both patients and staff feel victimized, but for different reasons. Patients report being victims of staff control within the restrictive ward environment, and staff feel victimized by patient aggression and an inappropriate work environment and organization. Such feelings have a significant negative impact on the therapeutic relationship (12, 13). The consequences for patients are longer hospital stays, more frequent use of coercive measures, and higher

doses of psychotropic drugs, all of which are associated with more complications (13, 14). Staff exposed to aggressive behaviour often experience feelings of anger, anxiety, guilt, shame, helplessness and disappointment. Decreased motivation and job satisfaction are common consequences (6, 7). Staff exposure to aggression is associated with mental disorders such as depression, anxiety symptoms, sleep problems, post-traumatic stress disorder and burnout syndrome, which occur primarily with chronic exposure and by inexperienced staff (11, 15, 16). A recent study by Italian authors showed that exposure to verbal or physical aggression increased the incidence of burnout among mental health professionals (17). Absenteeism is more common among staff exposed to physical aggression and sexual harassment, and leaving or changing jobs are also common consequences (15, 18). The economic consequences associated with aggression and its management should not be overlooked. A Spanish study estimated the cost of specific interventions related to the management of aggression in an acute psychiatric ward to be 6.87% of the total annual hospitalization costs (19).

1.1 Aim of the study

To assess the incidence, severity and characteristics of patient aggressive behaviour in all Slovenian acute psychiatric wards.

2 METHODS

The study was the initial part of a large project of the Slovenian Psychiatric Association, which was carried out from 2018 to 2020, and was aimed at reducing aggressive behaviour in acute psychiatric wards. The study was approved by the Slovenian National Medical Ethics Committee (0120-74/2018/4).

2.1 Sample/participants/subjects

A multicentre, prospective study included acute psychiatric wards in Slovenian psychiatric hospitals, which serve inpatient psychiatric treatment for all inhabitants. There are two acute psychiatric wards in each hospital, one for male and one for female patients. The total bed capacity of all wards during the study period was 232 beds.

2.2 Questionnaire/measures/data collection

During the study, the revised Staff Observation Aggression Scale (SOAS-R) was used in all hospitals to monitor aggressive incidents (20). In 2017, SOAS-R was translated into Slovenian in collaboration with the two authors of the original SOAS-R and was published in the journal of the Slovenian Psychiatric Association (21). SOAS-R defines aggression as any form of aggressive behaviour that threatens or harms the patient, others, or property.

The scale has five columns that cover specific aspects of aggressive behaviour: provoking factors, type of aggression, target, consequences and the measures used to stop aggression. At least one statement is marked in each column. Staff members witnessing aggressive behaviour complete the scale, and this takes about 1 minute. SOAS-R is freely available for use in clinical practice and for research purposes (20).

2.3 Data analysis

Data on the number of aggressive patients, the number of aggressive incidents and the severity of aggressive incidents were obtained. In our study, the term patient represents a hospitalization or treatment episode, as some patients were admitted more than once during the study. Incident severity was measured using the SOAS-R scoring system, ranging from 0 to 22 points (20). Incidents with a severity greater than 8 points were regarded as severe incidents, according to the scoring algorithm that has been developed over the years and is used by most research in which SOAS-R is used (22, 23). Severe incidents include physical attacks causing fear of harm to the victim, as well as attacks with dangerous objects directed at a person and incidents that cause pain or physical injury (24). Data on multiple aggressive incidents in an individual patient were obtained. Incidence rates for all aggressive incidents, severe incidents, verbal aggression and physical aggression were calculated. Physical aggression refers to incidents in which parts of the body, ordinary objects or potentially dangerous objects were used against things, people or oneself. Patients' data were taken from the hospital databases and included demographic data, the main psychiatric diagnosis, comorbid diagnoses, data about involuntary hospitalization and length of hospitalization.

Aggressive patient and incident characteristics were analysed using descriptive statistics. Categorical variables were presented as frequencies and percentages, whereas quantitative variables were provided as mean and standard deviations, or median and interquartile range. Patient-based incidence rates were expressed as the proportion of patients with at least one aggressive incident and as the average number of incidents per patient. Event-based incident rates were expressed as incidents per 100 occupied bed days with a 95% confidence interval (95% CI), incidence per bed per year, and incidence per 100 patients. Differences in the severity of various forms of aggression and differences in incident severity between shifts were analyzed using the Kruskal-Wallis H test. The relationship between aggressive patient characteristics and occurrence of recurrent episodes of aggression was assessed using Pearson Chi-square and Mann-Whitney U tests and logistic regression. The significance level of all statistical tests was determined at $p < 0.05$. Statistical analysis was performed using IBM SPSS 25 (25).

3 RESULTS

3.1 Sample characteristics

Over a five-month period, 3,190 patients were included. 53.4% of patients were male, the mean age was 48.86 years (SD 18.317, range 14-97), the mean length of hospital stay was 9.68 days (SD 13.418, range 1-153), and the total number of occupied bed days was 30,895. 17.1% of patients were involuntarily hospitalized. The most common main diagnosis was schizophrenia, schizotypal and delusional disorders (F2), present in 35% of patients, followed by diagnoses of mental disorders due to the use of psychoactive substances (F1) in 20.2%, affective disorders (F3) in 17.5%, and organic mental disorders (F0) in 12.1%. A comorbid diagnosis of F1 was present in 20.7% of patients, and a comorbid personality disorder (F6) in 9.5%.

3.2 Frequency of aggressive incidents

During the study, aggressive events were recorded in 427 patients (13.4%). Among aggressive patients, 187 (43.8%) were involved in multiple aggressive incidents. 96 (22.5%) patients caused two incidents, 32 (7.5%) three and 59 (1.4%) four or more incidents. The latter group was responsible for 394 (42.7%) incidents. Over five consecutive months, 922 aggressive incidents were recorded. The largest proportion of incidents was recorded during the day: 346 (37.5%) in the morning and 325 (35.2%) in the afternoon shift. 191 (20.7%) aggressive incidents were recorded during the night shift. Time data was missing in 60 (6.5%) aggressive incidents. The average number of incidents per patient with aggressive behaviour was 2.2, ranging from 1 to 24. Patient-based and event-based aggression incidence rates are shown in Table 1.

Table 1. Patient-based and event-based aggression incidence rates.

Aggressive behaviour	All	Severe	Verbal	Physical
Patients, n	427	352	370	260
Proportion of patients with aggressive behaviour, %	13.4	11.0	11.6	8.2
Average number of incidents per patient	2.2	1.9	1.9	1.9
Incidents, n	922	683	718	494
Incidence per 100 occupied bed days, 95% CI	2.98 [2.80;3.18]	2.21 [2.05;2.38]	2.32 [2.16;2.50]	1.60 [1.46;1.75]
Incidence per bed per year	9.48	7.02	7.38	5.08
Incidence per 100 patients	28.90	21.41	22.51	15.49

3.3 Severity of aggressive incidents

At least one severe incident was reported in 11.0% of patients. Incident severity ranged from 0 to 21 points (mean 11.35, SD 4.262, median 12.00). 683 (74.1%) aggressive incidents were rated as severe. The severity of incidents involving physical aggression or both physical and verbal aggression was significantly higher than the severity of verbal incidents ($H=192,665$, $df(2)$, $p<0.001$) (Figure 1). A statistically significant difference in the severity of aggressive incidents was observed between shifts ($H=11.454$, $df(2)$, $p=0.003$). The average number of SOAS-R points was higher in the night and afternoon incidents than in the morning (Figure 2).

3.4 Characteristics of aggressive incidents

In 47.9% of incidents, the reason for the aggressive behaviour could not be determined. Among the identified triggers, rejection of the patient's request and other types of provocations not specifically defined in SOAS-R were most frequently described. Verbal aggression was present in 718 (77.9%) incidents, while physical aggression was identified in 494 (53.6%) incidents. Verbal and physical aggression were present simultaneously in 290 (31.5%) of the aggressive incidents. 696 (75.5%) incidents were directed against staff, while 199 (21.6%) involved multiple targets, most often staff and patients or staff and objects. Several measures were usually taken simultaneously to stop aggression, the most common being talking to the patient in combination with physical restraint (47.2%), parenteral medication (19.6%) or oral drugs (18.3%). Detailed characteristics of aggressive incidents are shown in Table 2.

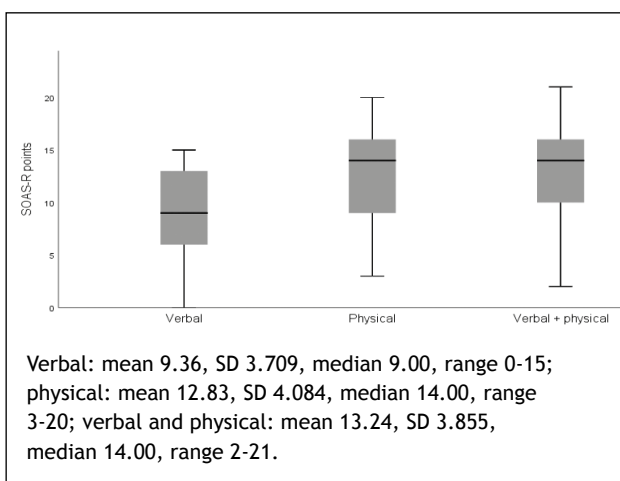


Figure 1. Severity of different types of aggressive behaviour.

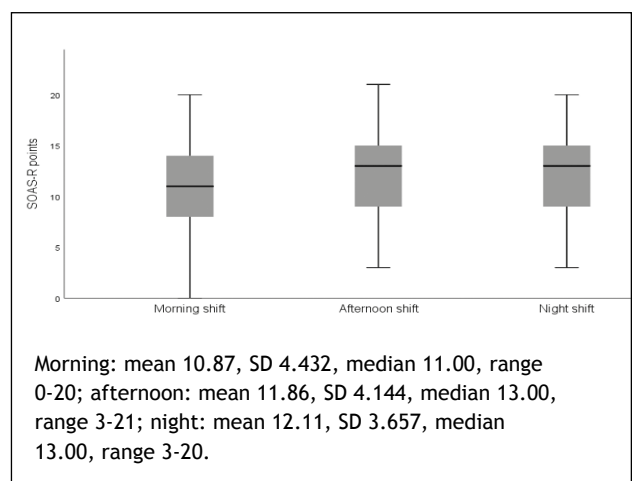


Figure 2. Time-of-day variations in the severity of aggressive incidents.

Table 2. Characteristics of aggressive incidents.

Characteristics of aggression	Aggressive incidents: n (%)
Provocation	
No	442 (47.9)
Other patients	68 (7.4)
Help with ADL	50 (5.4)
Patient being denied something	179 (19.4)
Required taking medication	79 (8.6)
Other ¹	130 (14.1)
Means used by the patient	
Verbal aggression	718 (77.9)
Ordinary objects:	
Chair, glass	47 (5.1)
Other ²	125 (13.6)
Parts of the body:	
Hand, foot, teeth	475 (51.5)
Other ³	33 (3.6)
Dangerous objects:	
Knife	1 (0.1)
Strangulation	4 (0.4)
Other ⁴	12 (1.3)
Target of aggression	
Nothing	39 (4.2)
Objects	170 (18.4)
Other patients	161 (17.5)
Patient self	71 (7.7)
Staff members	696 (75.5)
Other persons	23 (2.5)
Consequences for victims	
No	314 (34.1)
Objects	53 (5.7)
Persons:	
Felt threatened	539 (58.5)
Pain	55 (6.0)
Visible injury	36 (3.9)
Need for treatment	9 (0.9)
Measures to stop aggression	
None	13 (1.4)
Talk to patient	749 (81.2)
Calmly brought away	137 (14.9)
Oral medication	197 (21.4)
Parenteral medication	214 (23.2)
Held with force	96 (10.4)
Seclusion	22 (2.4)
Physical restraints	570 (61.8)
Other measures ⁵	6 (0.7)

¹ Involuntary admission, loss of personal belongings, visits, lack of cigarettes, telephone conversation, court hearing.

² Door, tray, ashtray, painting, wheelchair, window, trashcan, plate, serving trolley, bottle, bedside table, bench.

³ Spitting, head.

⁴ Lighter, scissors

⁵ Transfer to another ward, discharge.

3.5 Recurrent aggressive incidents

Recurrent incidents accounted for 53.7% of all reported incidents. Severe aggression was observed in 90.9% of patients with recurrent aggressive incidents and in 75.8% of patients with a single aggressive incident. A comparison of sociodemographic and clinical characteristics of patients with single and recurrent aggressive incidents showed no difference in gender ($\chi^2(1)=1.821$, $p=0.177$), age ($U=22023.500$, $p=0.742$), involuntary hospitalization ($\chi^2(1)=0.960$, $p=0.327$), main diagnoses F0 ($\chi^2(1)=0.004$, $p=0.950$), F2 ($\chi^2(1)=2.686$, $p=0.101$), F3 ($\chi^2(1)=0.130$, $p=0.719$), and F6 ($\chi^2(1)=0.390$, $p=0.532$), or comorbid diagnoses F1 ($\chi^2(1)=1.442$, $p=0.230$) and F6 ($\chi^2(1)=0.195$, $p=0.659$). The differences between patients with a single and recurrent incident were in the main diagnosis F1 (single: 23.8%, multiple: 13.4%, $\chi^2(1)=7.300$, $p=0.007$) and in the average duration of hospitalization (single: median 6.00, range 1-113; multiple: median 14.00, range 1-153, $U=14772.500$, $p<0.001$). These findings were also confirmed by logistic regression ($\chi^2(1)=47.504$, $p<0.001$, Nagelkerke $R^2=0.141$). Holding other predictors constant, with each additional day of hospitalization, the odds of repeated incidents increase by 3.6% (OR=1.036, 95% CI [1.021;1.051], $p<0.001$). The presence of the main diagnosis F1 represents a protective factor for multiple aggressive incidents, and the odds were 69% lower than in patients with other diagnoses (OR=0.310, 95% CI [0.129;0.741], $p=0.008$).

4 DISCUSSION

The first Slovenian data on aggressive behaviour for all acute psychiatric wards are presented. Although the frequency of aggressive behaviour in acute psychiatric settings in developed countries varies greatly (3, 4), on average the data are comparable to our national data. The proportion of aggressive patients in our sample was 13.4%, which is comparable to the results of the Swiss study by Abderhalden et al. (26) but slightly lower than a meta-analysis of 35 studies conducted in acute psychiatric wards in developed countries (17%) showed (4). The incidence of aggressive events per bed per year was 9.5, which is comparable to the average rate (9.3) observed in European acute psychiatric wards (27). Compared to the study from Abderhalden et al. (26), the incidence rate per 100 treatment days was 40 to 60% higher in the Slovenian population. The lower incidence in the Swiss survey may reflect the fact that, in addition to closed wards, there were also part-time closed wards included and, to a lesser extent, wards without seclusion rooms, where the patients with the most severe pathology, who are most often aggressive, are less likely to be treated. In Slovenia, acute psychiatric wards are closed wards, and patients are treated for a variety of psychopathology, including organic mental disorders and delirium, which are known to

be associated with aggressive behaviour (28). Aggression risk assessment and staff de-escalation training are still sporadic, and a systematic prevention strategy is lacking in all hospitals.

A large proportion of aggressive incidents were severe, with the mean severity of aggression slightly higher than in other similar studies (5, 26). The high proportion of severe incidents in our study may be due to the underestimation of less severe incidents without clear perceived consequences. Staff working with patients with severe mental disorders often perceive mild, especially verbal forms of aggression, as normal behaviour of patients with an acute mental disorder rather than as a distortion (11). Increased tolerance of aggressive behaviour and the perception of aggression as “part of the job” are particularly pronounced among staff working with patients with mental disorders, the elderly population and in emergency rooms (13, 29). Psychiatric nurses reported lower levels of stress after being verbally attacked than other nurses (30). Therefore, it is possible that the high proportion of severe incidents in our study is due to the underestimation of less severe incidents. On the other hand, the high rate of severe incidents may also be related to the subjective perception of a greater proportion of aggressive behaviour as threatening. According to some researchers, the item “being threatened” in the SOAS-R scale is unclear, as it is not further defined to whom the threat refers (5). The assessment of being threatening is subjective, but at the same time, this item contributes a high proportion (6 points) to the total score on the SOAS-R. Thus, most incidents that cause a feeling of danger are assessed as severe. Feeling threatened is one of the most frequently described consequences of aggressive behaviour (10), which is confirmed by our findings.

Abderhalden et al. found that up to 46% of incidents of verbal aggression were classified as severe, and 43% were followed by the use of coercive measures (26). Our study found an even higher rate of severe verbal incidents (59.8%). Approximately half of the incidents assessed as severe were followed by the introduction of physical restraints, which indicates the seriousness of these incidents, as the decision to introduce restraints is usually made within the staff team with the psychiatrist’s approval and is not based on a risk assessment by an individual staff member. Seclusion is almost never used in acute psychiatric wards in Slovenia, mainly due to inadequate room capacities and the inability to adequately monitor such patients.

In almost half of the incidents in our study, staff did not identify a trigger for aggressive behaviour, which is consistent with findings from other researchers (5, 26). Some authors report that the reason for the high proportion of unrecognized causes may be due to the limited number of possible trigger items listed in SOAS-R (5). However, the staff who complete the scale could list

other causes that they recognize. In fact, the staff in our survey entered specific causes of aggression under the item “other provocations” on the SOAS-R in 14% of incidents. The attitudes of staff and patients related to the causes of aggressive behaviour differ. From patients’ perspectives, aggressive behaviour is associated with staff attitude and interpersonal skills, inadequate communication, the use of coercive intervention or a controlling approach, ward structure and treatment procedures (31). On the other hand, staff often do not recognize their involvement in the process of escalating aggression and attribute aggressive behaviour to internal patient factors (9). However, the systematic review of seventy-one studies revealed that staff-patient interaction was the most frequent antecedent of aggression, precipitating 39% of all incidents (32). Among the identified triggers, in our research, rejection of the patient’s requests was the most frequently described, as some other authors also noted (10). This fact could be important in the planning of interventions aimed at reducing aggressive behaviour, as most de-escalation programmes involve interventions focused on this issue.

In our study, the highest proportion of aggressive incidents were recorded during the day, but these were rated as less severe compared to incidents in the afternoon and night shifts. More frequent aggressive behaviour during the day may be related to more staff on the ward, more activities, court hearings and visits. During the day, patients are more often faced with various rejections of their requests, such as being discharged, reducing therapy, or transferring to an open ward, which are the most common triggering factors of aggressive behaviour identified in our and other studies (24). Among incidents on the night shift, a sense of threat was more commonly reported, which may also be due to subjective experience associated with fewer staff on the ward at night. The staff-to-bed ratio during the study ranged from 0.1 to 0.3, which is low compared with some other European countries (33). Weekend and night shifts have the lowest ratio.

Consistent with previous studies, approximately 20% of aggressive patients accounted for nearly half of all incidents (3). Among patients with recurrent incidents, the proportion of those with a main diagnosis of F1 was lower compared to patients with a single incident. This can be explained by the temporary and transitory effect of intoxication on aggressive behaviour. Patients with recurrent incidents had on average longer hospitalizations, as shown by the results of other studies (34). However, the cause-and-effect relationship is not entirely clear. Patients with longer hospitalizations often have severe mental disorders associated with an increased risk of aggression. On the other hand, patients with longer hospitalizations have a longer period in which incidents may occur.

4.1 Strengths and limitations

This is the first study in Slovenia to examine the frequency and characteristics of aggressive behaviour in patients in the acute psychiatric wards. Due to the large and representative sample size, the five-month prospective study design, and the use of a standardized reporting instrument, the incidence rates could be representative for acute wards in Slovenia and useful as a reference for comparative research and studies aimed at reducing aggression.

The study has some limitations. Our findings cannot be generalized outside the acute settings of Slovenian psychiatric hospitals. Possible victims of the patient's aggressive behaviour were staff, other patients, themselves and objects. However, if not hospitalized, the same patients usually have a wider range of potential victims in their home or workplace, where violence is common, particularly in the period before hospitalization (35). Nurses' reports of incidents are subject to potential observer bias, and the lack of inter-rater reliability assessment limits the study's power. Underreporting incidents and incorrect completion of the SOAS-R may affect the outcomes, which were minimized by introducing the scale into clinical practice before the study and by checking the consistency between reported incidents and patient records. The high percentage of serious incidents may be a sign that verbal-only incidents are underreported. The problem with the severity assessment, on the other hand, is the inability to exclude the subjective component of the threat experience. We examined the effect of primary diagnosis and comorbid diagnoses F1 and F6 on the occurrence of recurrent aggression. It should be emphasized that the choice of the main diagnosis may be influenced by several factors, such as insurance policy or the psychiatrist's own judgment. 40.9% of our sample had an F1 diagnosis, which is important to note as substance use disorders have the highest population-level impact in terms of interpersonal violence (36).

4.2. Implications for practice and further research

Monitoring the frequency and characteristics of aggressive behaviour helps identify high-risk situations and implement preventative measures, and it can be useful for planning individualized treatment with targeted interventions. Optimizing the use of resources, such as allocating additional personnel, safety measures or de-escalation training, where aggressive behaviour is common, may be another potential benefit. Tracking the frequency of aggression is beneficial for quality improvement as it allows investigation of the impact of different treatment approaches, and development of specific interventions to prevent or manage aggressive behaviour. Assessing the effectiveness of interventions for managing aggression and monitoring the long-term outcomes of patients with aggression are interesting areas of research.

5 CONCLUSION

In Slovenia, preventive strategies and mechanisms for managing aggression should be introduced in all psychiatric hospitals. Assessing the frequency, characteristics and long-term monitoring of aggressive behaviour may be a good start to this challenging task.

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CONFLICTS OF INTEREST

The authors declare that no conflicts of interest exist.

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ETHICAL APPROVAL

Ethical approval to conduct the study was obtained from the National Medical Ethics Committee of the Republic of Slovenia (NMEC), No. 0120-74/2018/4.

AVAILABILITY OF DATA AND MATERIALS

Data used in this study are available upon request.

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