

Aggressive Behavior in Psychiatric Hospitalized Patients: A Narrative Review of the Literature

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Abstract

To investigate multiple facets of aggressive behavior, both directed at oneself and toward others, exhibited by patients suffering from mental illnesses, admitted to psychiatric units. Aggressive behavior is often seen in psychiatric inpatients, especially those with psychotic, substance abuse, and personality disorders. We conducted a literature search to collect information regarding these aspects, which then were summarized under several subcategories. We also included studies focusing on forensic psychiatric care units and aggressive events upon emergency room (ER) presentation. The most commonly used classification of aggression is the instrumental and reactive types, both defined by specific neurobiological changes. Several risk factors, such as younger age, being a male, having a history of adversity in early life, or having reported self-harm, are linked to a higher risk of aggression. The psychiatric pathologies that accounted for higher aggression rates were psychosis, and affective disorders, as well as those involving substance abuse, personality disorders, and intellectual disabilities. There are tools available for assessing aggression risk that could help with the prediction, avoidance, and management of such threatening events. Aggression and violence are linked to several psychiatric disorders. More effort should be directed to the training of the medical staff to effectively identify and manage threatening situations thus avoiding escalation and more traumatizing management measures.

Keywords: Aggressive behavior, Suicide, Psychiatric in-patients, Risk factors, Risk assessment, Management

INTRODUCTION

Aggression and violence are serious problems that are becoming more and more visible in public discourse due to continuous development in media services and scientific research. Still, they are often wrongly portrayed, and therefore the perception of the general population continues to link most violence cases to mental health illness to an excessive extent while lacking scientific evidence to support this [1, 2]. However, violent events do occur in psychiatric healthcare regularly. Exposure to repeated or serious assaults, either through direct implication or vicarious incidents can leave negative traces on the healthcare workers' mental health, some of the personnel reported that after such events they started developing hypervigilance, anxiety, or even PTSD symptoms such as flashbacks. These experiences also negatively influence the personnel's motivation and interest in their daily duties and the workplace as a whole [3, 4]. Both in forensic and non-forensic services, medical staff with attention on nursing staff scored relevant levels of PTSD symptoms in relation to patient's disturbing behavior, of which violence towards others and self-injury were among the most impacting [5-7]. In a US study, approximately 70% of the clinical psychiatry staff workers reported having been assaulted in the previous year, leading to variable degrees of anger and depression [8].

A survey of US psychiatry residents focused on aggressive and violent events showed that up to 86% of the residents had received threats, and up to 71% had experienced physical intimidation, while 25% of them had experienced more serious incidents like physical assault. Additionally, more than half of respondents reported receiving unwanted advances, and a small minority reported experiencing inappropriate touching [9].

This review addresses several key aspects of this phenomenon for a better understanding and management of it.

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Definitions

To be able to study the multi-dimensional implications of aggressive behavior, it is necessary to understand the meaning of the terms "aggression" and "violence". Human aggression is defined as any intentional act initiated by individuals, to injure or harm one or several other individuals, which would be normally motivated to avoid its effects [10].

The term "violence", however, would describe an act of aggression that has extreme harm as its end goal. Thus, violence could be considered a subform of aggression, with additional characteristics. Whether it causes physical injuries (eg. important pain, mutilation, body function loss, death) or serious psychological trauma in another person, in a group of persons, or even on the aggressor himself, the relation between action and its end goal demarcates violence from exclusively aggressive behavior. Therefore, according to the definition proposed by the WHO, suicide would also qualify as a violent act, considering the finality of the process [11, 12].

Incidence of Aggression in Psychiatric Units

A prospective study in which the gravity of the aggression was assessed using scales, shows that the majority of incidents were committed by rather a small number of patients compared to the total number (20 patients out of 855 caused 67% of the total incidents). In addition to this, the nursing staff turned out to be the most frequent victim. The study also shows that more serious incidents tend to be underreported in the official data, due to the staff tolerating a large number of aggressive incidents without signaling them [13].

Homicide

Although rarely happening in psychiatric facilities, there are several homicides cited in the literature. One study gathered clinicians who had contact with homicide cases committed by psychiatric inpatients. The case files also allowed the researchers to take into account other variables related to the event, such as the age, diagnosis, location, victim, method, and the offender's treatment before homicide. Summing up the data, the authors classify psychiatric patients into three groups with a particular risk of lethal assault: 1. acutely disturbed newly admitted patients, 2. undertreated patients with a history of serious violence during acute exacerbations of illness, and 3. patients with dementia or intellectual disability who are held in low-security settings [14].

Types of Aggression

The Bimodal Classification

One classification of aggression divides it into reactive and proactive aggression. The reactive type has an impulsive, hostile, and more defensive character, lacking premeditation. It has a considerable level of affection involved and it is mainly manifested abruptly, as a response to a more primal motif such as a perceived threat or emotional state (e.g. isolation, environmental factors, limitation of activities),

manifested at a given moment. It involves an arousal that impairs cognition, resulting in behavioral outbursts. The other subtype, proactive aggression, similarly known as instrumental aggression, is usually rationally goal-oriented, as the offender is aiming for a given reward. It is more frequently initiated by the aggressor rather than a response to stimuli, and the degree of emotions involved in the reasoning and committing the act is variable [15-17].

In a study conducted on teenagers with high levels of aggression, instrumental and reactive-proactive aggression turned out to be negatively associated with affective and cognitive empathy, which strengthened the previous theories of emotional involvement, whereas, in the more reactive-aggressive subjects, a certain degree of empathy has been observed [18].

In certain cases, a dominant pattern of these two is manifested fitting the individual in a predominantly impulsive-hostile-affective aggression or a pattern of predominantly controlled-instrumental-predatory aggression, the latter one being less likely to refer to medical services [19].

By Target

Aggression and violence take place in different scenarios, involving a wide range of participants. Focusing on the characteristics of the offender-victim relation, WHO categorizes violence and aggression into self-direct abuse, in which the receiver and the aggressor are the same person (seen in autoregressive and suicidal behavior), interpersonal violence, in which aggression takes place between different individuals, and collective violence [12].

Neurobiology of Aggression

The two types of aggressive behavior seem to be controlled by different brain structures in animal models. According to A. Siegel, defensive aggression is mediated through stimulation of the medial hypothalamus (MH) or the dorsolateral region of the midbrain periaqueductal gray (PAG), while predatory attack behavior can be obtained through stimulation of the perifornical lateral hypothalamus (LH), ventral part of the PAG and dopamine-producing ventral tegmental region of the midbrain. Even though both pathways are under the control of the limbic structures, findings suggest that there is a reciprocal inhibition between LH and MH. This relationship allows either predatory attack or defensive rage to occur at a given time. Other studies on conditions of the limbic system such as temporal lobe epilepsy, sclerosis of the temporal lobe, tumors of the temporal lobe, other regions of the limbic system, and the hypothalamus correlate them with various forms of aggression dysregulation. This underlines the importance of the limbic formations in regulating aggression [20].

The three most probably involved neurotransmitters are serotonin (5-HT), norepinephrine (NE), and dopamine (DA), of which lower levels of serotonin seem to play the largest

role in aggression, alongside lower levels of dopamine, determined poor control of impulsivity in animal models [21].

A disputed topic is the hereditary study of aggressive-prone personalities, with special regard to psychopathy. Several candidate genes have been proposed to be involved in the genesis of aggressive individuals. One of them is the Monoamine oxidase A (MAOA) gene, more precisely the MAOA-L allele, which is involved in low self-control, impulsivity, and negative emotionality, seen in individuals with antisocial traits [22].

Other candidate genes that add up to the risk of aggressive behavior through their influence on neurological pathways that modulate aggression are the 5HTTLPR and the MAOA-uVNTR, also associated with antisocial behavior [23]. The Catechol-O-methyl transferase (COMT), an enzyme responsible for the degradation of dopamine and norepinephrine, was identified to have a polymorphism (COMT Val158Met) that might lead to tendencies toward physical violence and increased aggressivity [24].

The General Context of Aggression

It is yet to be determined whether the psychiatric staff is the most susceptible to victimization. There is a debate about whether nursing staff or other patients are at higher risk of becoming victims [13, 25]. It has been shown that in the ER, the medical staff is not the primary target of aggression [26].

Increases in violence rates were reported during busy meals, medication, and shift change times if we consider the general circumstances in which aggressive or violent events do occur. These statistics could help determine whether severe assaults are unplanned, premeditated acts of predation or reactive, impulsive acts [25].

More severe aggressive incidents appear to happen during swing shifts. Additionally, the absence of clinical staff after regular working hours may have a say in the matter. Therefore, to prevent aggressive acts before they escalate, the afternoons and evenings may call for more structured activities or increased staffing [25]. The most prevalent mean of assault did not seem to differ from the ER compared to the ward, with punches being the most commonly used [26].

Triggers for Aggressive Reactions

A meta-analysis stated that in most of the cases, an interaction between the patient and staff was the cause for aggressive behavior (39% of all incidences involved an interaction between patients and staff members). Further analysis shows that limiting patients' freedoms (by physical restriction or request denial) was the leading cause for such reaction (approximately 25% of all antecedents). The request to smoke a cigarette was more frequently met, although other basic needs requests have also been involved in sparking an aggressive reaction. More notable was the denial of requesting to leave the ward, or requesting "off the ward

privileges", which puts the closed-door policy under a question mark when dealing with potentially aggressive patients [27].

A longitudinal study addresses the open-ward versus closed-doors ward dilemma more directly, concluding that the type of hospital had no direct relation to the frequency of aggressive events. Considering the ward type, the results show that any accounted aggressive behavior during treatment had a significantly lower occurrence in open wards compared to locked wards, whereas the risk of damage to property and physical harm was increased in partially locked versus locked wards [28].

Considering the types of admission, patients who were involuntarily admitted to psychiatric hospitals would have a higher resistance dimension (hostility, uncooperativeness, suspiciousness) and would have a higher tendency to manifest hetero-aggressive behavior than those who were voluntarily admitted, the latter group however being more likely associated with auto-aggressive behavior [29].

Risk Factors

Younger patients, those having records of violent behavior, expressing intentions of harming others, who report having used psychoactive substances, who have a diagnosis of schizophrenia, schizoaffective disorder, intellectual disability, or bipolar disorder with manic symptoms have higher odds of manifesting aggressive behavior upon presentation in the ER [26].

Demographic Characteristics

Regarding age, different results have been reported in the literature. Some studies suggest that younger patients, within the 18–29 age group, have higher chances of being violent and those in the 18-29 and 30-39 intervals are more likely to commit assaults [30]. Other data suggest that older inpatients tend to be more aggressive to reduce social distance [31].

Although the literature provides us with information pointing towards male patients as being more aggressive than females [32], some studies that specifically analyzed the aggression exhibited by psychiatric inpatients reveal the opposite. In a 4-year longitudinal study in a Dutch forensic facility, where both civil and forensic psychiatric patients are admitted, the researchers noted that female patients were the most aggressive [33]. A meta-analysis of the demographic characteristics of aggressive psychiatric patients revealed that in non-forensic hospitals, aggressive behavior is exhibited more commonly by male patients, while in forensic hospitals the risk of these events was overcome by female patients [34]. In female patients, aggressive manifestations were more often exhibited to force compliance, to reduce tension, to obtain tangibles, or to seek attention [31].

There is some evidence suggesting that being unmarried is associated with higher aggressivity [34]. Also, the majority

of the more aggressive individuals experienced psychiatric symptoms before they were teenagers [35].

Pathologies

Higher prevalence has been noticed in individuals diagnosed with a cluster B personality disorder [30]. Patients with Borderline Personality Disorder (BPD) and those with Antisocial Personality Disorder (APD) have the highest risks of becoming hostile and aggressive during hospitalization in psychiatric units [36]. APD is more strongly associated with instrumental aggressivity, while BPD has several traits linked to explosive violent behavior represented by anger, impulsivity, lower tolerance to threats, and defective interpersonal relationships [36, 37]. Antisocial patients use aggression as a tool to obtain an unfulfilled demand. Narcissistic personality disorder boosts the chances of exhibiting aggressive behavior, especially in those with low self-esteem or unstable high self-esteem [36].

Concerning psychosis, positive symptoms seem to play an important role in one's aggressive behavior. Studies show that higher levels of disturbance in one's social behavior, having severe auditory hallucinations, and being more thought-disturbed, are associated with a higher risk of aggression [31]. Antipsychotic medication has been shown to reduce aggressive behaviors in the aforementioned patients [26, 38, 39]. Comorbid substance use disorder was correlated with a higher prevalence of aggressive behavior [40]. In the ER, disorganization and paranoia were more commonly associated with assaults [26].

Substance abuse may also play an important role in some individuals manifesting aggressive behavior, although it frequently overlaps with other psychiatric disorders, and therefore studying its connection with behaviors is complicated by confounders. Alcohol may promote impulsive aggression by decreasing function in the frontal lobe and minimizing fear, thus precipitating more exaggerated and inappropriate responses in certain situations [41]. However, due to the lack of access to alcohol during hospital admission, violence in these in-patients is less frequent [42]. Substances with a high risk of developing psychosis have been observed in aggressive cases. Cocaine and other stimulants, such as amphetamines, together with cannabis, hallucinogenic drugs, or even steroid use were frequently incriminated in patients with violent or aggressive history [40-43].

Many of the patients with intellectual disabilities present to psychiatric units for different forms of aggressive behavior, both directed towards others or self-harm. Data from the literature suggests that both those who suffer from intellectual deficits from an early age and those with acquired cognitive loss later in life have higher odds of exhibiting physical aggression towards other patients or the medical staff [30]. Furthermore, the severity of the intellectual impairment correlates with the chances of developing physical aggression, boosted also by the presence of a comorbid

psychiatric condition such as autism, psychosis, or depression [36].

Dementia is highly associated with aggressive behavior, especially if depression, anxiety, delirium, or psychosis are present [44, 45]. Although depression and psychosis are rarely comorbid with dementia, it seems that delirium stands out because of its high association with aggressive outbursts in hospitalized patients with dementia [45, 46].

Individuals with a diagnosis of unipolar depression were rarely involved in aggression incidents in the ER [26]. In most cases, aggression takes place during manic episodes, possibly due to prefrontal cortical dysfunction, especially if it is associated with mood-incongruent psychotic symptoms [36]. Compared with inpatients with schizophrenia or unipolar depression, those with schizoaffective disorder showed the highest rates of patient and staff-oriented acts of aggression [30].

History of Abuse and Self-Harm

According to a study on female patients from a forensic psychiatry unit, almost all of the patients in the high-aggression trajectory group had been removed from their homes before they were teenagers and most of them had experienced some form of sexual or physical abuse. These findings imply that many of these patients have been exposed to inappropriate environments as young children [35].

An association between a history of adversity early in life (foster care placements and trauma) and higher chances of involvement in criminal actions has been identified by some researchers. Such interaction could be based on the early development of poor coping mechanisms and maladaptive relational patterns towards other people and society, as a result of experiencing attachment disruption [47].

Higher levels of aggression and emotional dysregulation during admission were predicted by frequent records of self-harm, suicide attempts, and aggressive behavior in previous institutional settings [35].

Hospital Environment Factors

Some factors regarding unhygienic conditions in the ward, a poor living environment, a stressful atmosphere in the ward, or shortages of personal hygiene items have been identified by patients as problematic [48].

Regarding their fellow ward mates, the situations in which they were disturbing or provocative, or the case of patients with different diagnoses being placed in the same ward, as well as overcrowding, all contribute to various levels of dissatisfaction which can later contribute to manifesting aggression. As a result, if an optimal balance is maintained between density, privacy, and control, the chances of violent events are reduced [48].

Another aspect is the dissatisfaction felt by patients as a response to some inflexible limiting rules, change of rules depending on the ward, and lack of activities which led to boredom in the ward [48].

Staff who exhibited rigid, provocative, abusive, rude, or impatient attitudes, or who frequently neglected and ignored the patients' needs were pointed out by them to be a cause of conflicts and outbursts of anger. In more serious cases, patients pointed out staff's bullying, intimidation, and threats (with injections, seclusion, or a return to the locked wards or delayed discharge) to fuel anger and aggression [48].

Coercive measures such as seclusion, although mandatory in selected cases, might hurt patients and further fuel their aggressive reactions [49].

Other Risk Factors

Dyslexia and neuropsychological impairment have been associated with a potential risk of violence. Cognitive impairment, in addition to older age and a history of suicide attempts during hospitalization, was associated with long-term chronic aggression.

More aggressive behavior was more likely to be displayed by patients who were socially reclusive to avoid engagement or activity and maintain their isolation. In contrast, patients who were diagnosed as depressed were more likely to act aggressively (for attention seeking) to close the social gap [31]. On the other hand, in forensic patients, an excessive degree of social isolation, such as the one imposed by the forced by SARS-Cov-2 pandemic, led to a rise in several violent behaviors which resulted in various types of trauma, at the peak of the pandemic.

Assessment of Aggression

Several measurement tools have been designed across time to evaluate aggression in patients. Some of the scales frequently used in psychiatry also assess aggression and agitation in patients, as a part of their overall structure. These composite scales, such as the Positive and Negative Syndrome Scale (PANSS), the Neuropsychiatric Inventory (NPI), or the Cohen–Mansfield Agitation Inventory (CMAI), could generally identify aggressive components in one's behavior, but they usually limit themselves to a few of them. A series of them have been summarized in the tables below (**Tables 1 and 2**).

Table 1. Scales used in aggression evaluation

Parameters	Interpretation
confusion, irritability, boisterousness, physical threats, verbal threats, and attacking objects.	Each of the 6 parameters is marked either 1=present or 0=absent. A score >2 indicates that the risk of violence is very high
items regarding the patient's behavior	The software calculates a risk score ranging from very low risk (Category 1) to very high risk (Category 5)
irritability, impulsivity, unwillingness to follow directions, sensitivity to perceived provocation, anger when requests are denied, negative attitudes, verbal threats	Each item is marked 1 if present or 0 if absent; A total score >3 represents a high risk of aggression
physical abuse, socially inappropriate behavior, resisting care	Scores ranging from 0 to 12; 4 groups: none (ABS = 0), moderate (ABS = 1, 2), severe (ABS = 3–5), and very severe (ABS = 6–12) [17]
verbal aggression, aggression against property, self-aggression, and physical aggression	Each parameter is scored from 0 to 4; A total weighted score ranges from 0 to 40, indicating the level of aggression
10 historical factors (past) 5 dynamic clinical factors (present) 5 dynamic risk management factors (future)	Each item is scored from 0 to 2; Higher overall scores indicate a higher risk of violence

Table 2. Scales used in aggression evaluation

Parameters	Interpretation
20 items based on subjective (emotion, attitudes) and objective information (history, behavior)	Each item is noted with 0 to 2 depending on how well it applies to the subject; the cut-off score of 30 indicates the presence of psychopathy
21 items regarding the presence, frequency, or severity of specific behaviors	Scoring differs between items; scores vary from 0 to 61, with higher scores linked to greater levels of aggression
5 aspects of Aggressive Events and Their Severity	Evaluate aggressive events and their characteristics (scored from 0 to 4 according to the severity); the obtained score (2-12 pts.) marks the event as mild, moderate, or severe
20 dynamic risk and strength-related factors	A 3-point Likert scale rating from 0 to 2; items can be coded as strength or vulnerability; assessing evolution and helping in decision-making
several risk factors	The software calculates a risk ranging from 1% to 76% chance of committing a violent act in the following several months

Scale	Type	Objective
The Brøset Violence Checklist (BVC)	observational	predicts the risk of a violent incident
Classification of Violence Risk (COVR)	self-report software analysis	estimates violence risk after discharge
The Dynamic Appraisal of Situational Aggression (DASA)	observational	predicts the risk of aggression in the following 24 hours
The Aggressive Behavior Scale (ABS)	observational	frequency and number of aggressive behaviors in the previous 7 days
Modified Overt Aggression Scale (MOAS)	observational	evaluates the severity of aggression in the previous week
The Historical Clinical Risk Management-20 (HCR-20)	self-report	evaluates the risk of a violent event

Scale	Type	Objective
Psychopathy Checklist-Revised (PCL-R)	observational and self-report (interview)	evaluates psychopathy in individuals
The Rating Scale for Aggressive Behavior in the Elderly (RAGE)	observational	assessing aggressivity level in elder patients on 3 days
Staff Observation Aggression Scale (SOAS)	observational	assess the intensity and frequency of violent and assaultive acts from psychiatric and psychogeriatric in-patients
Short-Term Assessment of Risk and Treatability (START)	observational and self-report (interview)	Evaluate risk to others, suicide, self-harm, self-neglect, unauthorized leave, substance abuse, and victimization Helps in treatment planning
Classification of Violence Risk (COVR)	self-report and observational (software)	predicts the likelihood of violence in patients

Management of Aggression

De-Escalation

A fast and non-invasive of acute aggression situations is the use of verbal and non-verbal de-escalation techniques. The aims of this are to avoid degeneration into a harmful event, to reduce the severity of a violent situation, and to reduce as much as possible the need for seclusion or physical restraint. Several tools are available, ranging from aggression risk assessment scales for avoiding incidents, to de-escalation models, to settle the conflict through communication and non-provoking body language, as well as through environmental changes. To benefit more from these techniques, medical staff should receive special training, thus more resources should be directed towards de-escalation techniques education in medical staff.

Pharmacological Therapy

The efficacy and indication for pharmacotherapy depend greatly on the type of aggression that is manifested, with the best effects in impulsive, less premeditated aggression.

When choosing the right therapy, drug interactions, and comorbidities should be taken into account. A commonly accepted treatment for agitation is represented by benzodiazepines, such as Lorazepam (IM). In patients with

schizotypal traits or mania, a combination of benzodiazepines and first or second-generation antipsychotics is often the standard therapy. Aggression secondary to a psychiatric pathology is often managed by treating the pathology itself, which might be the only course of action needed. Other pharmacological agents have proven efficacy in managing aggression, mainly the impulsive type, while still considering the underlying psychiatric disorder. Such medication includes phenytoin, carbamazepine/oxcarbazepine, valproate/divalproate, lithium, and fluoxetine.

Seclusion and Restraint

In most extreme cases when de-escalating techniques and pharmacological treatment fail other measures such as seclusion and physical restraint may need to be applied to avoid the event. However, seclusion can have a negative psychological impact, while restraint has a series of serious downsides potentially causing the patient physical and emotional trauma. These negative aspects can also affect the medical staff; therefore, it should be turned to only if and when necessary.

Prevention

In some cases, violent events can be avoided by precocious intervention. If increased irritability and agitation are more obvious states that often precede aggressive actions, they are not necessarily co-occurring. In these situations, the staff

must notice changes in patients' behavior that could signal an eventual outburst. Lastly, given the fact that in particular cases the patients who manifested aggressive behavior it was due to them being provoked, making them victims, it is highly important to take into consideration having a psychiatric forensic expertise carried out in order. Thus, concluding the mental capacity and vulnerability of the patient. Special attention should be paid to those suffering from mental disability spectrum disorders, such as intellectual disability and dementia, as they more often than not react aggressively in response to perceived abusive acts. In these given cases, the commission would be able to give restraining orders to protect the patient, designating legal guardianship where considered necessary to avoid future occurrences from happening.

Suicide

As self-harm is also considered a form of aggression, its most extreme form, suicide, is an alarming problem, especially in cases of patients with a history of suicidal ideation/attempts. Despite hospitalization being considered a rather safe environment, approximately 1 in 676 patients commit suicide, with variations depending on the country.

Data suggests that a higher risk of suicide is present during the first week of admission and one week after being discharged and that it is correlated with shorter hospitalization time. Affective disorders are the most susceptible to suicide risk, followed by schizophrenia spectrum disorders, and in both cases, the risk drops more rapidly after treatment than in substance abuse disorders. Gender (female), history of prior admissions to psychiatric facilities, and history of drug misuse are correlated with an increased risk of suicide during hospitalization. Besides clearly expressed suicidal ideation and typical depressive symptoms, elements such as reduced levels of aggression at hospital presentation, few or absent plans made during admission, and having a history of attempts to leave the ward unnoticed for made-up reasons have been identified as predictors of high suicide risk. This last factor further reinforces the fact that a great number of accomplished suicides take place outside the hospital, underlining the need for permanent and close surveillance of this category of patients.

At higher risk of suicide are patients with major depressive disorder who respond well to treatment and the psychotic, agitated patient who responds poorly to treatment.

Management should focus on prevention as much as possible, by assessing risk and noticing alarming signs and symptoms, and by providing the patients psychological support through various forms of psychotherapy and communication models, as well as guaranteeing them a safe environment.

When pharmacological intervention is needed, drugs such as lithium and clozapine were proven to have anti-suicide effects. Recently, ketamine and esketamine have been

introduced as having both antidepressant and anti-suicidal effects, with the advantage of a rapid onset of effect on suicide ideation, and some studies identified an anti-suicide effect in low-dose buprenorphine, especially in patients with BPD traits. Other available non-pharmacological therapies include chronotherapy, Transcranial direct current stimulation, Repetitive transcranial magnetic stimulation, and Electroconvulsive therapy, each with variable beneficial effects on suicide risk.

CONCLUSION

Harmful behavior is not an uncommon issue in psychiatry. Considering the variables and differences in psychiatric patients, it is not surprising that the data provided by scientific literature is so heterogeneous. There is however strong scientific evidence that aggression and violence are linked to several psychiatric disorders and related risk factors. Even though medical staff cannot predict all cases of violence, great emphasis should be put on preventing any aggressive behavior rather than focusing on managing it. More effort should be directed to the training of the medical staff to effectively identify and manage threatening situations thus avoiding escalation and more traumatizing management measures.

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