

# Are there any differences between sexes regarding the manifestations of aggression in psychiatric patients?

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## ABSTRACT

**Introduction.** Aggressive behavior within psychiatric units poses a complex challenge for both healthcare providers and patients. Understanding the multifaceted nature of aggression is crucial to enhancing therapeutic approaches and patient safety. This study aims to investigate the manifestations of aggression in psychiatric patients, with a specific focus on potential gender differences.

**Objective and methods.** The study analyzed data from 177 psychiatric patients admitted to a Romanian emergency psychiatric hospital over a four-month period. Demographic factors such as age, gender, educational background, socio-economic status, and clinical history were collected anonymously. Aggressive behavior within the past week was assessed using the Modified Overt Aggression Scale (MOAS). Statistical analyses were conducted to explore potential gender differences in aggression levels.

**Results.** The analysis of our cohort revealed a lack of statistically significant distinctions between males and females with respect to socio-economic variables, including stable housing, relationship status, background environment, and employment status. This finding implies the absence of overt gender-related disadvantages that could potentially contribute to the emergence of a tendency for aggressive behavior. Analysis of the MOAS scores revealed no statistically significant differences in the manifestation of aggression between men and women.

**Conclusion.** While various risk factors consistently predict aggression among psychiatric patients, this study suggests that gender may not be a significant factor influencing the manifestation of aggression. These findings challenge common stereotypes regarding gender and aggression and emphasize the need for a more nuanced understanding of this complex behavior within psychiatric settings. Future research should further explore the dynamics of aggression, including the roles of ward and staff environments, to enhance strategies for prevention and intervention in psychiatric care.

**Keywords:** aggression, sex, psychiatric, inpatients

## INTRODUCTION

The occurrence of aggressive behavior among patients within psychiatric units poses significant challenges for both healthcare providers and the patients themselves. This complex phenomenon not only jeopardizes the safety and well-being of individuals involved but also affects the overall therapeutic environment. As the field of psychiatry strives to provide effective care and support, it is imperative to search into the multifaceted nature of aggressive behavior, unraveling its underlying triggers, identifying patterns, and developing targeted interventions. This scientific article embarks on a comprehensive investigation of the various dimensions of aggressive be-

havior in psychiatric units, aiming to contribute to enhanced strategies for its understanding, prevention, and management.

The term “aggression” is marked by ambiguity, often used interchangeably with “agitation” and “violence,” blurring its boundaries. In psychiatric units, understanding these nuances is crucial. The DSM-5 defines “agitation” as excessive psychomotor activity with increased tension and irritability [1]. The WHO describes aggression as intentional physical force or power use with potential harm [2]. NICE guidelines define it as behavior causing harm, regardless of expression [3]. Within these definitions, agitation, ag-

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gression, and violence can be seen as a progression of intensity, where agitation transitions into aggression and eventually into violence. The distinction between violence and aggression lies in the level of severity and the deliberate nature of the actions.

Aggression in healthcare settings is escalating, leading the European Agency for Safety and Health at Work to identify healthcare as a sector with the highest violence rates [4,5]. Recognizing this, the “European Violence in Psychiatry Research Group” ([www.eviprg.eu](http://www.eviprg.eu)) was formed by experts to enhance understanding, prevention, and management of violence in medical contexts. The weighted average prevalence of aggressive incidents revealed in one analysis was 54% in psychiatric units, exhibiting a broad variability across studies (ranging from 7.5% to 75.9%) [6].

Studying aggression within psychiatric services is challenging due to numerous complexities. Variations in research methodologies, divergent definitions of aggressive behaviors, and differences in the way psychiatric facilities are structured, all contribute to significant discrepancies in reported aggression rates [7]. As a result, comparing and extrapolating findings becomes a demanding task. Although there are numerous reports published about aggressiveness, much of the available data remains inconclusive and occasionally presents conflicting information. Usually in studies aggressive behavior is described as physical, verbal, threatening (verbal or with some kind of improvised weapon), minor injuries, assault, bullying, and it can be directed towards staff members, other patients or it can be self-harm [6,8].

The relationship between psychiatric disorders and aggressive behavior is a subject of debate. Studies have sought to determine if psychiatric patients exhibit more aggression and if diagnoses can predict violence. The large-scale Epidemiologic Catchment Area (ECA) study, involving 20,000 subjects, provides essential data [9]. One study using ECA data found that individuals with psychiatric disorders like schizophrenia, mania, major depression, and bipolar disorder were five times more likely to have violent episodes than the general population. This risk increased to sixteen times when combined with alcohol or substance abuse [10]. Individuals with schizophrenia often display violent behavior, leading to a higher risk of criminal convictions. Among them, three profiles exist: Childhood-Onset Conduct Disorder, No History of Conduct Problems, and Late-Onset Severe Assault, the latter typically involving middle-aged men with chronic schizophrenia who suddenly commit severe violence often targeting a significant other [11–13].

As previously indicated, aggression can manifest in various ways within a psychiatric unit setting. It may be directed not only towards medical personnel but also towards fellow patients, or it might manifest as self-harming behaviors. The occurrence of various

forms of aggression against staff personnel, varies between 65% and 99% and when considering only instances of physical aggression, the prevalence ranges from 38% to 82% [6]. In another meta-analysis, it was revealed that nurses working in mental health treatment settings faced a risk of experiencing physical assaults while on duty that was approximately three times higher compared to their peers working in different environments [14].

Self-harm constitutes a significant aspect of aggressive behavior. The Cambridge Dictionary defines self-harm as “the act of hurting yourself, for example by cutting yourself, because you have emotional problems or are mentally ill”. This definition emphasizes that individuals within the psychiatric patient population are notably prone to a greater risk of recurrent self-harm and suicidal tendencies [15,16]. The primary self-harm method is drug overdose, particularly among women, involving minor tranquilizers, paracetamol, antidepressants, and mood stabilizers [16]. Consequently, in cases of suicide subsequent to self-harm episodes, self-poisoning stands out as the primary cause of death among women [15]. Lethal methods like hanging and drowning are less common, with hanging being the most common cause of suicide in men [15,16].

Most studies focus mainly on the diagnosis and patient risk factors that can contribute to aggression but numerous additional factors can influence the risk of patient aggression, including aspects related to medical staff, method of admission, and the ward environment [6]. Patients who are hospitalized against their will are 4.75 times more likely to show aggressive behavior [6]. This higher risk can be understood by considering that involuntarily admitted patients often have more severe disorders, typically lacking insight into their condition [17].

The interaction between nurses and patients emerged as a significant element in the occurrence of aggression, particularly when characterized by inadequate communication, absence of empathy, respect, and shared decision-making, but interestingly, the gender, age, and work experience of the staff did not demonstrate any significant contribution [6,18]. Psychiatric staff working with in-patients can reduce the likelihood of violence by employing therapeutic relationship techniques. These include effective communication, client advocacy, accessibility, proficient clinical assessment, patient education, and cooperative treatment planning [19]. Also, to mitigate violence against healthcare workers, various interventions have been experimented with, including aggression management training, ward structure reorganization, and efforts to shift organizational culture [20–22].

## METHODS

Because there is conflicting literature data regarding the link between demographic data and aggressiveness, the aim of this study was to explore the possible risk factors when it comes to patients admitted in a Romanian emergency psychiatric hospital. Our study focused exclusively on data collected from patients who were admitted to one of the many hospital's units. A comprehensive dataset was compiled, encompassing all patients admitted to this unit over the span of 4 months. Given the study's emphasis on elucidating the interplay between demographic variables and aggression among psychiatric patients, the diagnostic classifications of the subjects enrolled were not factored into the analysis.

The patients' data was collected anonymously. Data collection process involved obtaining information such as age, gender, educational background, and socio-economic status from each participant. The collected demographic data were utilized to explore potential associations between these factors and varying levels of aggression exhibited by the psychiatric patients within the study cohort.

To assess aggressive behavior occurring within the past week the Modified Overt Aggression Scale (MOAS) was used [23]. This scale classifies the most severe actions into four distinct categories: verbal aggression, aggression towards objects, self-directed aggression, and aggression towards others. Each action is assigned a score ranging from 0 to 4, with higher scores indicating greater severity. To calculate the overall score, the score in each category is multiplied by a specific factor: 1 for verbal aggression, 2 for aggression towards objects, 3 for self-directed aggression, and 4 for aggression towards others. Consequently, the total score can fall within the range of 0 to 40.

## STATISTICAL ANALYSIS

In our clinical study, we used both Microsoft Excel and the Statistical Package for the Social Sciences (SPSS) software to facilitate our data analysis. Excel served as a versatile tool for data organization, initial exploration, and visualization. We utilized Excel for tasks such as data entry, cleaning, and basic descriptive statistics. For more advanced statistical analyses and hypothesis testing, we turned to SPSS. Demographic characteristics of the participants were explored using descriptive statistics, which included mean scores and standard deviations. Aggressive behaviors were depicted using measures of central tendency (means) and measures of spread (standard deviation and ranges). To investigate variations in aggressive behaviors among male and female participants and in connection with specific demographic and personal factors, statistical tests such as the  $\chi^2$ -test and t-test were applied.

## RESULTS

A total of 177 participants were included in the study, comprising 101 males (57.06%) and 76 female (42.94%).

Among the participants, 57.71% (n=86) were admitted to the facility voluntarily, while 42.28% (n=63) were admitted involuntarily. Within the subgroup of voluntarily admitted patients, 46 individuals (53.48%) were male, and 40 individuals (46.51%) were female. In contrast, within the group of involuntarily admitted patients, 39 individuals (61.90%) were male, and 24 individuals (38.09%) were female. This distribution of genders and admission types offers an initial insight into the composition of the study's participants, which could potentially impact the results and conclusions drawn from the subsequent analysis.

The date corresponding to the types of aggression described in the Modified Overt Aggression Scale were analyzed for all the patients categorized by gender and the results are presented in Table 1. No statistical difference was observed in the manifestation of aggression between women compared to men.

TABLE 1. MOAS results divided by gender

Modified Overt Aggression Scale - MOAS	Male	Female	p value
	Mean (SD)	Mean (SD)	
MOAS Total	4.04 (6.28)	3.09 (4.74)	0.317
MOAS verbal aggression	0.71 (1.19)	0.5938 (0.94)	0.531
MOAS aggression against property	0.76 (1.69)	0.59 (1.22)	0.524
MOAS self-aggression	0.95 (2.82)	0.75 (2.78)	0.663
MOAS physical aggression	1.65 (3.22)	1.13 (2.41)	0.279

SD = Standard Deviation

P- significance of the differences between men and women

The same data from Table 1, were analyzed based on the admission status, voluntary or involuntary, and no statistically significant difference was observed in terms of the manifestation of aggression between voluntarily admitted patients and involuntarily admitted ones. When comparing the data both by admission status and by gender, it is once again observed that there is no statistically significant difference between the analyzed groups as illustrated in the Tabel 2.

The average age of male patients was 45.07 (SD=14.47) years, while that of females was 45.9 (SD=15.37) years (p value=0.714). Regarding the average education level of completed grades, men had 11.76 (SD=3.64) years of school completed, while women had 12.82 (SD=3.78) years of school (p value=0.069).

**TABLE 2.** The comparative data of MOAS results between voluntary and involuntary admission regimes divided by gender

Modified Overt Aggression Scale - MOAS	Voluntary admission			Involuntary admission		
	Male	Female	p value	Male	Female	p value
	Mean (SD)	Mean (SD)		Mean (SD)	Mean (SD)	
<b>MOAS Total</b>	0.35 (1.45)	0.63 (2.08)	0.471	9.38 (6.98)	7.21 (5.09)	0.477
<b>MOAS verbal aggression</b>	0.11 (0.38)	0.15 (0.53)	0.677	1.410 (1.43)	1.33 (0.92)	0.815
<b>MOAS aggression against property</b>	0.04 (0.29)	0.05 (0.32)	0.921	1.59 (2.21)	1.50 (1.59)	0.863
<b>MOAS self-aggression</b>	0.20 (1.33)	0.23 (1.42)	0.921	1.85 (3.75)	1.63 (4.05)	0.862
<b>MOAS physical aggression</b>	0	0.20 (0.88)	n.a	3.59 (3.98)	2.67 (3.27)	0.343

SD = Standard Deviation; P- significance of the differences between men and women

In terms of financial aspects, the study revealed that the average income for male participants stood at 1792.28 Romanian Lei (RON), with a relatively wide standard deviation of 2550.97 RON, indicating a considerable degree of income variability within this group. The average income for female participants was slightly lower at 1728 RON (SD=1913) (p value = 0.868).

The mean period between the disorder's diagnosis and the time of conducting this study was for men 8.48 (SD=9.66) years, while for women, it was 8.71 (SD=10.36) years (p value=0.886). The average number of hospitalizations was 1.28 (SD=2.16) for men and 1 (SD=1.87) for women (p value=0.377). This suggests that, on average, men had slightly more hospitalizations than women, indicating potential differences in healthcare utilization between the two genders within the study population.

On average, women spent fewer days in involuntary hospitalization compared to men as showed by the overall number of days spent in involuntary hospitalization that was 5.34 (SD=8.2) for men and 4.52 (SD=6.11) for women (p value=0.467).

The number of men without stable housing was equal to 6 (5.9%), and the number of women without stable housing was 1 (1.3%) (p value=0.690). Regarding the number of men living alone (n=20, 19.8%), it was equal to the number of women living alone (n=20, 26.3%), while the rest of the study participants live with someone else. The percentage of men who did not have a life partner at the time of the study was very close to the percentage of women in the same situation (68.3% for men and 68.2% for women, p value=0.961).

As for the background environment, the percentages were close. A total of 78 (77.2%) of men came from urban backgrounds, with 23 (22.8%) coming from rural areas, while 61 (80.3%) of women came from urban backgrounds, with 15 (19.7%) women from rural areas. There was no significant difference between men and women regarding their background environment (p value=0.762). Regarding employment status, 68 men and 56 women were employed and had a stable income with no difference between the two genders (p value=0.424).

Out of the total number of men, 65 had previously received psychiatric medical services, 12 had contact with other medical services, and 16 were at their first contact with medical services. Among women, 52 were receiving psychiatric medical services, 11 had contact with other medical services, and 8 were at their first contact. There was no difference between men and women when it comes to previous contact with medical care (p value=0.502). Regarding the manner of presentation at the hospital, 25 men and 12 women were brought in by the police. In terms of ambulance arrivals, 22 men and 15 women were brought to the hospital. Accompanied by a family member or friend, 28 men and 32 women arrived at the hospital, while a total of 2 men and 6 women came with a referral from another doctor. A number of 22 men came on their own, while only 11 women came to the hospital by themselves. The form of presentation to the hospital had no significant difference between men and women (p value=0.698).

Understanding these demographic nuances provides a foundation for a more comprehensive interpretation of the findings and their potential implications within the context of the study's exploration of aggression levels among psychiatric patients.

## DISCUSSIONS

While the findings related to aggression may vary among studies, certain risk factors consistently align in published data. Notably, previous instances of aggression, a history of violence, substance or alcohol abuse, involuntary admissions, younger age, single marital status, male gender, a higher number of prior admissions, and longer in-patient stays consistently emerge as noteworthy indicators of aggressive behavior [6,24,25]. When it comes to the relationship between aggressive behavior and distinct demographic elements, including age, gender, marital status, diagnosis, psychopathology, and type of admission in some studies there were an important link [25–27], while in others, age and gender have a minor impact [6].



In our study we focused on the differences between men and women regarding aggression. The idea that men are commonly more aggressive than women, is a widely held stereotype or perception in many societies [28]. This stereotype has been shaped by various factors, including cultural norms, historical roles, and scientific research. Studies in Finland on adolescent aggression by Lagerspetz et al. [29] and Björkqvist et al. [30] identified three aggression styles: physical, direct verbal, and indirect. While physical aggression is commonly associated with men, particularly supported by the testosterone hypothesis, it's essential to underscore that women are also capable of displaying inclinations for violence [31]. They found that girls tend to use indirect aggression more than boys, which involves social manipulation aimed at causing psychological or social harm to the target individual such as spreading malicious gossip or orchestrating maneuvers within the social network of a school class to diminish the victim's social status. Our study, however, focused exclusively on direct and physical aggression and did not assess indirect forms.

The analysis of our cohort revealed a lack of statistically significant distinctions between males and females with respect to socio-economic variables, including stable housing, relationship status, background environment, and employment status. This finding implies the absence of overt gender-related disadvantages that could potentially contribute to the emergence of a tendency for aggressive behavior. When examining the comparative results of aggression levels between men and women, it becomes evident that there is a notable absence of statistically significant distinctions between the genders across all categories assessed within the Modified Overt Aggression Scale (MOAS). These findings suggest that, irrespective of gender, individuals in our study cohort exhibited similar levels of aggression across various MOAS categories. When we researched similar paper that had a similar structure and methodology, our findings are consistent with a study conducted by Stanley R. Kay et al., which revealed no gender differences in specific categories of aggressive behavior as evaluated using the MOAS [32]. Our results aligns with the findings of Michael Grube's research, which also indicated the absence of significant gender-related differences

in terms of physical violence towards objects and self-harm [33]. However, Grube did observe a tendency for males to exhibit higher levels of verbal aggression compared to females.

Our study delved into the differences in aggression between men and women, challenging the prevailing stereotype that men are generally more aggressive than women. Our findings suggest that, within our study cohort, individuals of both genders exhibited similar levels of aggression, underscoring the need for nuanced perspectives when considering gender and aggression.

## RESEARCH LIMITATIONS

This study has several notable limitations that warrant consideration when interpreting the results. First, the sample size employed in this research was relatively small, which may limit the generalizability of the findings to a broader population. Furthermore, time constraints imposed limitations on the depth and comprehensiveness of data collection and analysis, possibly impacting the thoroughness of the study. These limitations should be taken into account when interpreting the findings and may serve as areas for improvement in future research endeavors.

## CONCLUSIONS

Aggression is a significant issue in psychiatric inpatient units for both medical staff and patients. Aggression must be seen within the agitation-aggression-violence continuum and arises from patient, staff, and ward factors. Current research focuses mainly on patient-related factors, neglecting the significant impacts of ward and staff contributions, which limits the effectiveness of interventions. Yet, while understanding violent behavior within psychiatric disorders necessitates a broader cultural, environmental, and social perspective, it remains evident that instances of violence among hospitalized psychiatric patients pose significant challenges concerning treatment, other patients, and staff. To improve prevention and intervention strategies, future studies should prioritize prospective research to reveal the dynamics of aggression, specifically exploring the influences of ward and staff environments.

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