Sarcouncil journal of Medical Sciences

ISSN(Online): 2945-3526

Volume- 04| Issue- 05| 2025

Research Article

Received: 02-04-2025 | Accepted: 20-04-2025 | Published: 11-05-2025

# Assessment of Aggression in Psychiatric Indoor Patients using SOAS-RE Scale

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**Abstract:** **Introduction**- Aggressive behaviour in psychiatry ward is fairly common and often threatens the safety of patient, relatives and staff. It determines the duration of hospitalization, burden on the caregivers, outcome and prognosis of illness and increases the usage of coercive measures like seclusion and restraint. **Aim**-To study the prevalence of aggression in various psychiatric disorders and correlation of socio-demographic factors with the severity of aggression. **Method**-A retrospective record-based study design in the psychiatry indoor setting was used on 210 consecutive patients out of which 100 having aggression were selected. The severity of aggression was measured and graded by using Staff Observation Aggression Scale- Revised Emergency (SOAS-RE). **Results**- 47.6% of patients had aggression. Patients ≤35 years, married had more severe aggression (p value- 0.018 and 0.049 respectively). 60% of schizophrenia, 52.7% of bipolar, 39.13% of substance withdrawal, 85.71% of brief psychotic, 100% of Intellectual disability disorder and 40% of schizoaffective patients admitted had aggression. **Conclusion**- This study concluded that aggression is more common in males but severity is approximately equal in both the genders. Aggression was more commonly seen in patients who were not on any pharmacotherapy. Chemical restrain was required for every aggressive patient and physical restraint was required for patients with severe SOAS-RE score. Comorbid substance use was found to be an aggravating factor.

**Keywords:** Aggression, SOAS-RE, psychiatry indoor.

## INTRODUCTION

Aggression has been defined as a psychological state, a hostile physical or verbal act, or a behaviour resulting in injuries to people or damage to objects (Abderhalden, *et al*., 2007). Aggressive behaviour in psychiatric wards is fairly common and often threatens the safety of patients, relatives, and staff. It increases the use of coercive measures like seclusion and restraint (Busch & Shore, 2000). Evidence-based assessment procedures have been developed for measuring aggressive incidents, and the Staff Observation Aggression Scale – Revised (SOAS-R) is a widely used and valid instrument developed for psychiatric wards (Nijman, *et al*., 2005). Due to differences between emergency primary health care and psychiatric hospital settings, the scale was modified to the SOAS-RE (Morken, *et al*., 2018). In the *Indian Journal of Psychiatry*, Gautam, *et al*. (2023) mention the prevalence of aggression in psychiatric wards as 18–25%. Aggression also determines the duration of hospitalization, outcome, prognosis of patient and burden on the caregivers. The aim of this research was to study the prevalence of aggression in various psychiatric disorders and correlation of various socio-demographic factors with the severity of aggression.

## MATERIALS AND METHODOLOGY

This retrospective record-based study was conducted in a psychiatry indoor patient department of a tertiary care hospital. Records of 210 consecutive patients admitted in the last 8 months were screened out of which 100 patients having aggression were included in the study. Patients with record of head injury, unstable medical/surgical conditions and having incomplete records were excluded from the study. Approval from the departmental authorities and institutional ethics committee dated 25/4/2024, with reference number NKPSIMS & RC and LMH/ IEC/ 3/ 2024 was obtained.

The data abstraction was done for age, sex, occupation, marital status, education, pharmacotherapy, need for physical and chemical restrain, comorbid substance use, diagnosis according to DSM5 and Staff Observation Aggression Scale- Revised Emergency (SOAS-RE) score from the records.

**Tools-**

Staff Observation Aggression Scale- Revised Emergency (SOAS-RE)-

The staff observation scale was first used in 1987 by Palmstierna and Wistedt for monitoring frequency, nature and severity of aggressive

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DOI-https://doi.org/10.5281/zenodo.15380871

incidents in psychiatric wards. [Palmstierna, T., *et al*., 1987] The scale was revised in 1999 to SOAS-R. [Nijman, H. L. I., *et al*., 1999] For adapting the SOAS-R into emergency setting various adaptations were made based on input from nurses and doctors working in emergency primary health care to form SOAS-RE. SOAS-RE includes domains like- provocation of the aggressive behaviour (0-2), means used by the aggressor (0-3), the target of aggression (0-4), the consequences for victims (0-9), measures to stop aggression 0-4), person involved in stopping the aggression. In column 1 new options like the person had to wait, the person disagreed about assessment and involuntary assessment of health condition were added. In column 2, used/had weapon and used/ had pointed weapon were added. In column 3, physician, nurse, security guard, police and ambulance personnel, were added. In column 4 psychological/emotional stress and needs to be taken off duty were added. In column 5 withdrew from situation/ended call, complied with the person's wish and asked the person to leave the site were added. A sixth new column was added for information about persons involved to stop the aggression. It is applied within the first 24 hours of admission and graded as mild (0-7), moderate (8-15) and severe (16-22). [Morken, T., *et al*., 2018]

**Statistical Analysis-**

Descriptive statistics included summary measures like Mean & Standard Deviation for quantitative variables. Frequency and percentages were used to summarize qualitative (Categorical) variables. The severity of aggression was compared with variables using chi square test and p value was calculated. P value < 0.05 was considered statistically significant for all the comparisons.

## RESULTS

100 patients out of 210 had aggression (47.6%).

**Table 1:** Frequency table of patients with aggression according to socio-demographic factors

| Variable | Frequency | Percentage |
|---|---|---|
| **Age** | | |
| ≤35 years | 64 | 64% |
| >35 years | 36 | 36% |
| **Sex** | | |
| Male | 66 | 66% |
| Female | 34 | 34% |
| **Marital status** | | |
| Married | 60 | 60% |
| Unmarried | 40 | 40% |
| **Education** | | |
| Primary/secondary | 42 | 42% |
| Graduation/post-graduation | 58 | 58% |
| **Occupation** | | |
| Unemployed | 33 | 33% |
| Skilled/semiskilled | 67 | 67% |
| **Pharmacotherapy** | | |
| On treatment | 25 | 25% |
| Off treatment | 75 | 75% |
| **Comorbid substance use** | | |
| Present | **80** | **80%** |
| Absent | 20 | 20% |

The mean age group of patients with aggression was 26-35 years. As per table 1, most of the patients belonged to the category of ≤35 years, were males, married, had formal education degrees, were off treatment and had comorbid substance use.

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**Table 2:** Frequency distribution of patients with aggression according to their psychiatric diagnosis

| Diagnosis | Frequency |
|---|---|
| Schizophrenia | 48 |
| Bipolar mania | 19 |
| Alcohol withdrawal | 18 |
| Brief psychotic disorder | 6 |
| Intellectual disability disorder | 5 |
| Schizoaffective disorder | 4 |

Out of the aggressive indoor patients, most of them had schizophrenia, followed by bipolar disorder. (table 2)

All aggressive patients required chemical restrain **(100%)** and all moderate- severely aggressive patients required physical restrain **(80%).**

**Table 3:** Assessment of severity of aggression (according to SOAS-RE score) and its correlation with the socio-demographic factors

| Category | Mild aggression | Moderate aggression | Severe aggression | P value |
|---|---|---|---|---|
| Age ≤35 years | 7 | 17 | 40 | $X^2$- 7.96 |
| Age >35years | 6 | 18 | 12 | P value- 0.018 |
| male | 8 | 23 | 35 | $X^2$ – 0.003 |
| female | 4 | 12 | 18 | P value- 0.99 |
| married | 8 | 26 | 26 | $X^2$ – 5.84 |
| unmarried | 4 | 9 | 27 | P value- 0.053 |
| Primary/secondary education | 6 | 13 | 23 | $X^2$ – 0.69 |
| Graduation/post-graduation | 6 | 22 | 30 | P value- 0.70 |
| unemployed | 3 | 8 | 22 | $X^2$ - 3.71 |
| Skilled/semiskilled | 9 | 27 | 31 | P value- 0.15 |
| Off treatment | 10 | 26 | 39 | $X^2$ – 0.51 |
| On treatment | 2 | 9 | 14 | P value- 0.77 |
| Comorbid substance use | 7 | 21 | 29 | $X^2$ – 0.24 |
| No substance | 5 | 14 | 24 | P value- 0.88 |

P value ≤ 0.05 is statistically significant, $X^2$- chi square test

The mean SOAS-RE score in our study was 14.61. Patients ≤35 years had more severe aggression (**p value- 0.018** – statistically significant) as per table 3. The other socio-demographic details were clinically relevant but statistically non-significant. In this study, only verbal aggression was reported in 19 % individuals (parameters from mild scoring in the scale).

**Table 4:** Prevalence of aggression in various psychiatric diagnosis

| Diagnosis | No. of patients who required admission (out of 210) | No. of Patients who were aggressive (out of 100) | Prevalence of aggression |
|---|---|---|---|
| Schizophrenia | 80 | 48 | **60 %** |
| Bipolar- mania | 36 | 19 | **52.7%** |
| Alcohol withdrawal | 46 | 18 | **39.13%** |
| Brief psychotic disorder | 7 | 6 | **85.71%** |
| Intellectual disability disorder | 5 | 5 | **100%** |
| Schizoaffective disorder | 10 | 4 | **40%** |

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**Table 5:** Prevalence of severe aggression according to SOAS-RE in various psychiatric diagnosis

| Diagnosis | Number of patients with severe aggression | % of severity of aggression |
|---|---|---|
| Schizophrenia | 26 | 54.16% |
| Bipolar mania | 10 | 52.6% |
| Alcohol withdrawal | 7 | 38.88% |
| Brief psychotic disorder | 5 | 83.33% |
| Intellectual disability disorder | 4 | 80% |
| Schizoaffective disorder | 1 | 25% |

The severity of aggression was highest for brief psychotic disorder and intellectual disability disorder, followed by schizophrenia, bipolar mania, alcohol withdrawal and schizoaffective disorder according to table 5.

## DISCUSSION

The prevalence of aggression was 47.6 % in psychiatry indoor patients, 66% were males and most common diagnosis was schizophrenia. Study by Christina George, *et al* showed 19.9% prevalence, 60% males and most common diagnosis being schizophrenia. [George, C., *et al*., 2016]

100 out of 210 patients had aggression- 53 severe and 35 moderate, 19% only verbal aggression, mean SOAS-RE score-14.61. Study by Grethe E Johnsen, *et al* showed mean score of 9.7 with 31.6 % having only verbal aggression. [Johnsen, G. E., *et al*., 2020]

Out of 100 aggressive patients, 48 had schizophrenia and 19 had manic episode with prevalence of 60% and 52.7% respectively, no statistically significant correlation between education, employment and aggression (most likely due to less sample size and only 1 inpatient setting of a tertiary care centre was assessed). Study by Yi-Zhu Pan, *et al* showed 54.8% prevalence, 48% in schizophrenia and 61.8% in mania with statistically significant correlation with lower education and unemployment. [Pan, Y. Z., *et al*., 2022]

This study showed increase in the severity and prevalence of aggression in patients with comorbid substance use. Study by Shiv Gautam, *et al* gives prevalences of aggression in schizophrenia, affective disorder and comorbid psychiatric disorder with substance use – 16.1%, 35% and 43.6% respectively. [Gautam, S., *et al*., 2023]

Medical comorbidities like seizure disorder, other neuropsychiatric conditions like dementia were also taken into consideration but the correlation with aggression was statistically insignificant most likely due to lesser number of admissions in those domains and in discrepancy of presenting symptoms.

## CONCLUSION

It was seen in this study that comorbid substance use was commonly found in patients with aggression and it also led to increase in its severity. Aggression and its severity were more common among younger age group. (table 1 and 3)

Here, aggression was more common in males but severity was approximately equal in both the genders. It was more commonly seen in patients who were treatment naive or were completely off treatment. (table 1 and 3)

Schizophrenia and related disorders showed more aggression than bipolar and substance withdrawal patients according to table 2 and 4.

In our study, it was found that the need for restrains is directly proportional to the severity of aggression. As observed during the application of scales, most common targets of aggression were the security guards, nurses, physicians and family members and the most common consequences for the victims were emotional/psychological stress and feeling of being threatened.

## LIMITATIONS

- Small sample size
- Restricted to a single ward
- Limited predictors studied
- Non randomized study
- Aggressive behaviour is an important factor for admission hence disorder wise interpretation can be biased
- Interpersonal variability during application of the scale

## FUTURE IMPLICATIONS

- As observed in the study nearly 50% of psychiatric patients had aggression and it was an important indicator for admission.
- Thus, giving adequate attention to aggression is very important especially in younger males with comorbid substance use.

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- Such studies in future will help us recognize the correlates of aggression and aid in early identification and better management of such episodes.

## ACKNOWLEDGEMENT

I am deeply grateful to all my teachers for their invaluable guidance and support throughout the study. Their expertise and encouragement have been instrumental in its success.

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**Source of support:** Nil; **Conflict of interest:** Nil.

**Cite this article as:**
Tejeswini, V.R., Hetvi, S.D., Sushil, G.D, and Sudhir, B.H. "Assessment of Aggression in Psychiatric Indoor Patients using SOAS-RE Scale." *Sarcouncil journal of Medical sciences* 4.5 (2025): pp 08-12.

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