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A Study to Assess Prevalence of Aggression amongstthe Outpatients Attending General Hospital Psychiatric Unit ofa Tertiary-Care Hospital

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Abstract:
Background:*The American Psychological Association (A.P.A.) defines "aggression" as "behaviouraimed at harming others physically or psychologically".Various types of aggression have been described,with "affective aggression" being most commonly encountered by psychiatric professionals.Patientssuffering from psychiatric-disorders are inevitably thought to be aggressive in popular culture.However,most psychiatric patients are not aggressive. Nonetheless, epidemiological evidence points to an increasedrisk of aggression among individuals with a psychiatric-disorder, compared with the general population.Thisstudy was conducted with the intent to assess prevalence of aggression amongst psychiatric-patients attending a general hospital psychiatric unit of a tertiary-care hospital.*
Aims: *1. To assess the prevalence of aggression amongst psychiatric-patients on first visit at psychiatric O.P.D..*
2. To analyse and compare prevalence of aggression with respect to socio-demographic variables and various psychiatric diagnosis.
Materials and Methods: *The study was designed as a cross-sectional study conducted at Psychiatry O.P.D. of SreeBalaji Medical College and Hospital, Chennai.Sequential sampling technique was employed.Samplesizewas 1000.Presence or absence of aggression at O.P.D. presentation was decided upon by judgement of theprimary psychiatric-consultant of the respective patient.Patients below 18 years of age and those with dualpsychiatric-diagnosis were excluded from the study.Analysis of data was done using statistical tests.*
Results:*Prevalence of aggression in male patients was 27.61% and in female patients was 12%, with the difference being statistically significant (p-value < 0.00001).Amongst male patients prevalence of aggression was highest for alcohol use disorders with 48/233, whereas in female patients was highest for schizophrenia with 12/47.Amongst a single disorder, patients with alcohol dependence syndrome (A.D.S.) showed the highest prevalence of aggression with 49/235 (20.85%) patients.Aggression was found to be significantly less prevalent in age-group of 30-60 years, when compared to age-groups of 18-30 years and >60 years (p-value < 0.00001).Aggression was found to be more prevalent in patients of lower socioeconomic status, when compared to patients of upper and middle socioeconomic status (p-value < 0.00001).*
Conclusion:*Aggression is not a cardinal feature of a psychiatric disorder.Gender, age and socio-economic status are significantly linked to prevalence of aggression in psychiatric patients.*
Keywords:*Aggression, Psychiatric, Disorders*

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I. Introduction

According to the American Psychological Association (A.P.A.), "aggression" is defined as "behaviour aimed at harming others physically or psychologically".It is different from "anger" as the latter is oriented at overcoming the target but not necessarily through harm or destruction.Aggression can be classified into three types: Hostile, Instrumental and Affective.When primary goal of the behaviour is intentional injury or destruction, it is known as "hostile aggression".In case of "instrumental aggression", aggressive behaviour is targeted to achieve a goal against another person or group of people.*"*Affective aggression" involves an emotional response that tends to be targeted toward the perceived source of the distress but may be displaced onto other people or objects if the disturbingagent cannot be attacked.

Psychiatric patients have been thought to be aggressive and violent, irrespective of the type of illness and several other variables.Their depiction in popular culture is a testimony to this fact.[1]Despite this perception about psychiatric patients being far from reality, it is true that prevalence of aggression and violent behaviour is greater in this population subset compared to general population.[2]Though most studies on aggression have focussed on in-patients in psychiatric units, yet encounter with aggressive patients is very common for

psychiatrists in out-patient department and during emergency calls.[3]Available literature suggests that the likelihood of a psychiatrist being physically assaulted by a patient may be as high as 48%.[4]Data about psychiatric nurses is on same lines, with 80-90% of them having been threatened or abused verbally.16% of the psychiatric nurses had faced physical violence.[5]As a result of risk of encountering aggression, recent claims to mark psychiatric units as "occupationally hazardous" have picked up steam.[6]Though this set of information adequately describes the difficult situation psychiatric-health professionals face, but emphasis must also be laid on the aspect that psychiatric-illness does not equate to violent behaviour.It is also important to understand that aggression can be best managed when the factors leading to it are known and analysed.The current study precisely aims for this.

II. Materials And Methods

Study Design: Prospective, Cross-Sectional Study.

Study Setting: Out-Patient Department (O.P.D.) of Psychiatric Unit at Sree Balaji Medical College and Hospital, Chennai.

Study Duration: September, 2018 to June, 2019.

Sample Size: 1000.

Sample Size Calculation: Sample size was calculated using Cochran's formula.With a confidence level of 99% and a margin of error of 5%, the sample size was estimated to be around 663.It was decided to work with a sample size of 1000.

Sampling Technique: Sequential sampling.

Inclusion Criteria: Out-patients visiting the psychiatric O.P.D. of S.B.M.C.H. for the first time and consenting (could be obtained in subsequent visits) for inclusion in the study.

Exclusion Criteria: 1. Patients with age < 18 years.
2. Patients with dual psychiatric diagnosis.

Methodology: The steps of the study progression were as follows:

1. Patients visiting the O.P.D. were evaluated in detail as is the normal course of action.
2. Patients and their care-givers were informed about the intent and nature of the study.
3. Consent was obtained from patients who were willing to be part of the study.
4. Diagnosis of the patients based on I.C.D.-10/D.S.M.-5 criteria were recorded.
5. Presence or absence of aggression was decided upon by the primary psychiatric-consultant.
6. Statistical analysis of the data was done.

Statistical Analysis: Data was analysed using M.S. Excel.Chi-squaretest was performed to test for differences in proportions of categorical variables between two or more groups.P-value of <0.05 was considered as significant.

III. Results

A. Basic Demographic Parameters

Figure 1: Gender-wise Distribution of Study Sample

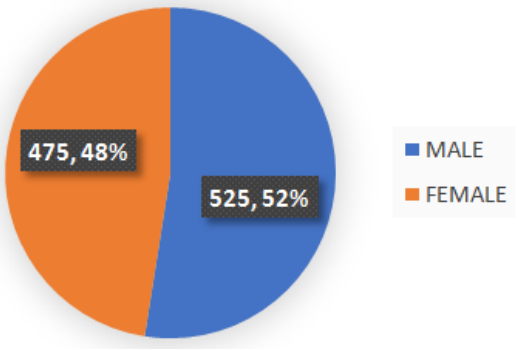

Figure 1 depicts gender-wise distribution of study sample.The study sample consisted of 525 females and 475 males.

Figure 2: Age-wise Distribution of Study Sample

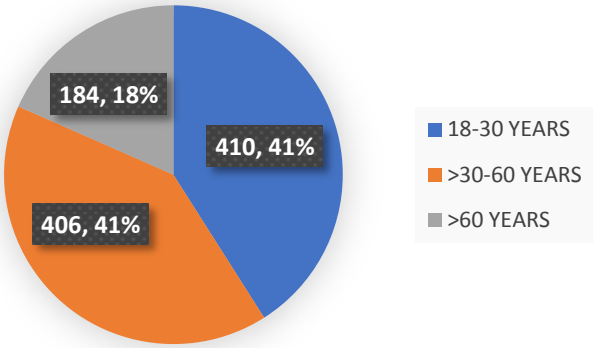

Figure 2 depicts the age-wise distribution of study sample.The study sample had 410 participants in age-group of 18-30 years; 406 participants aged >30-60 years; and 184 participants above 60 years of age.

Figure 3: Socio-Economic Status-wise Distribution of Study Sample

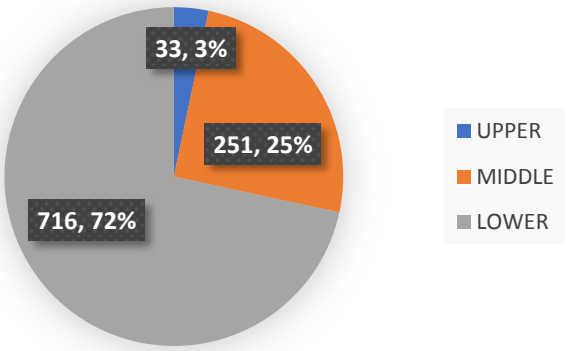

Figure 3 depicts the socio-economic status-wise distribution of study sample.Socio-economic status (S.E.S.) of participants was assessed using "Modified Kuppuswamy Scale, 2019".Categories of "upper middle" and "lower middle" were combined into "middle", "upper lower" category was combined into one with "lower" category.716 participants were from lower S.E.S. and 251 participants belonged to middle S.E.S..33 participants came from upper S.E.S..

Figure 4: Physical Comorbidities-wise Distribution of study sample

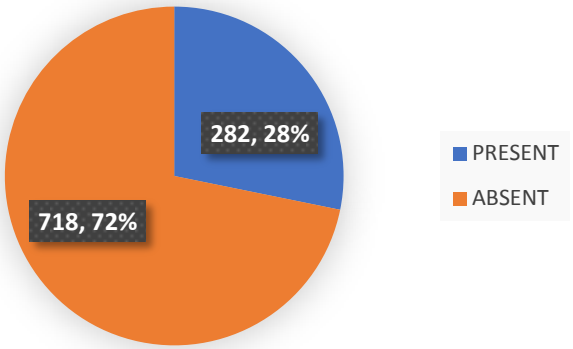

Figure 4 depicts physical comorbidities-wise distribution of study sample in which 282 participants suffered from physical comorbidities like Diabetes Mellitus, Hypertension and Thyroid-Related Disorders.718 participants did not suffer from any physical comorbidities.

B. Analysis of Prevalence of Aggression

Table 1: PsychiatricDiagnosis-wise Distribution of Study Sample

DIAGNOSIS	FREQUENCY	PERCENTAGE
Depressive Disorder	165	16.50%
Generalized Anxiety Disorder	64	06.40%
Alcohol Dependence Syndrome	235	23.50%
Mixed Anxiety Depressive Disorder	19	01.90%
Schizophrenia	98	09.80%
Other Substance-Abuse Disorders	12	01.20%
Bipolar Affective Disorder	25	02.50%
Acute Psychosis	24	02.40%
Other Diagnoses	358	35.80%
Total	1000	100%

Table 1 shows the psychiatric diagnosis-wise distribution of study sample.Participants were divided into following groups based on diagnosis: Depressive Disorder, Generalized Anxiety Disorder (G.A.D.), Alcohol Dependence Syndrome, Mixed Anxiety Depressive Disorder, Schizophrenia, Other Substance-Abuse Disorders, Bipolar Affective Disorder, Acute Psychosis and Other Diagnoses (consisting of diagnoses like Adjustment Disorder and Obsessive Compulsive Disorder).Overall, the group of "Other Diagnoses" had the highest frequency with 358 participants."Alcohol Dependence Syndrome" was the most frequent single diagnosis accounting for 235 participants.

Table 2: Gender-wise Prevalence of Diagnoses

DIAGNOSIS	Frequency in Males	Frequency in Females	TOTAL
Depressive Disorder	46(27.87%)	119(72.13%)	165(100%)
Generalized Anxiety Disorder	22(34.37%)	42(65.63%)	64(100%)
Alcohol Dependence Syndrome	233(99.14%)	02(0.86%)	235(100%)
Mixed Anxiety Depressive Disorder	09(47.36%)	10(52.64%)	19(100%)
Schizophrenia	51(52.04%)	47(47.96%)	98(100%)
Other Substance-Abuse Disorders	11(91.66%)	01(08.34%)	12(100%)
Bipolar Affective Disorder	13(52%)	12(48%)	25(100%)
Acute Psychosis	11(45.83%)	13(54.17%)	24(100%)
Other Diagnoses	129(36.03%)	229(63.97%)	358(100%)
Total	525(52.50%)	475(47.50%)	1000(100%)

Table 2 shows the gender-wise prevalence of diagnoses.The percentages in the brackets next to frequencies indicate the percentage of frequency within the diagnosis that the gender under which the cell lies accounts for.Most common single diagnosis in males was "Alcohol Dependence Syndrome" with 233 participants, whereas in case of females the most frequent diagnosis was "Depressive Disorder" with 119 participants.229 female participants also fell in the "Other Diagnoses" group.Proportion-wise, 'Alcohol Dependence Syndrome" was predominantly diagnosed in males compared to females (99.14% v/s 0.86%).On the other hand, "Depressive Disorder" was far more commonly diagnosed in females compared to males (72.13% v/s 27.87%).

Table 3: Prevalence of Aggression amongst Diagnoses

DIAGNOSIS	FREQUENCY	AGGRESSION FREQUENCY	AGGRESSION PERCENTAGE
Depressive Disorder	165	22	13.33%
Generalized Anxiety Disorder	64	05	07.81%
Alcohol Dependence Syndrome	235	49	20.85%
Mixed Anxiety Depressive Disorder	19	03	15.78%
Schizophrenia	98	27	27.55%
Other Substance-Abuse Disorders	12	10	83.33%
Bipolar Affective Disorder	25	08	32.00%
Acute Psychosis	24	15	62.50%
Other Diagnoses	358	63	17.60%
Total	1000	202	20.20%

Table 3 shows the prevalence of aggression amongst diagnoses.Amongst single diagnosis, aggression was most frequent in "Alcohol Dependence Syndrome" with 49 participants.In terms of percentage, aggression was most prevalent in "Other Substance-Abuse Disorders (including abuse of nicotine, opioids, cannabinoids and other substances)" with 83.33% of participants within the group.Overall, aggression was seen in 202 (20.20%) participants.

Table 4: Gender-wise Prevalence of Aggression amongst Diagnoses

Diagnosis	Frequency in Males	Frequency of Aggression in Males	Frequency in Females	Frequency of Aggression in Females
Depressive Disorder	46	14(30.43%)	119	08(06.72%)
Generalized Anxiety Disorder	22	03(13.64%)	42	02(04.76%)
Alcohol Dependence Syndrome	233	48(20.60%)	02	01(50.00%)
Mixed Anxiety Depressive Disorder	09	01(11.11%)	10	02(20.00%)
Schizophrenia	51	15(29.41%)	47	12(25.53%)
Other Substance-Abuse Disorders	11	09(81.81%)	01	01(100%)
Bipolar Affective Disorder	13	05(38.46%)	12	03(25.00%)
Acute Psychosis	11	08(72.72%)	13	07(53.83%)
Other Diagnoses	129	42(32.56%)	229	21(09.17%)
Total	525	145(27.61%)	475	57(12.00%)

Table 4 shows the gender-wise prevalence of aggression amongst diagnoses.The percentages in brackets next to frequencies indicate the percentage of frequency of aggressive participants of the gender under which the cell lies with respect to the frequency of the diagnosis in that gender. In males, aggression was most common in group of "Alcohol Dependence Syndrome" with 48 participants, whereas for females, aggression was most frequent in Schizophrenia with 12 participants.In terms of percentage, aggression was most prevalent in "Other Substance-Abuse Disorder" in both genders (81.81% in males and 100%% in females).

Table 5: Significance of Gender in Prevalence of Aggression

Aggression / Gender	Male	Female	Total
Present	145(27.61%)	57(12.00%)	202
Absent	380(72.39%)	418(88.00%)	798
Total	525(100%)	475(100%)	1000
Chi-square	**37.74**		
p-value	**< 0.00001**		

Table 5 shows the significance of gender in prevalence of aggression.27.61% of malepatients had aggression on evaluation compared to only 12.00% of female patients. p-value of < 0.00001 implies that gender is a statistically significant factor in prevalence of aggression.

Table 6: Significance of Age in Prevalence of Aggression

Aggression / Age	18-30 Years	>30-60 Years	> 60 Years	Total
Present	108(26.34%)	32(07.88%)	62(33.69%)	202
Absent	302(73.66%)	374(92.12%)	122(66.31%)	798
Total	410(100%)	406(100%)	184(100%)	1000
Chi-square	**68.60**			
p-value	**< 0.00001**			

Table 6 shows the significance of age in prevalence of aggression.33.69% of patients with age >60 years were found to have aggression, whereas in the age-group of 18-30 years 26.34% of patients had aggression.Aggression was prevalent in only 07.88% of patients in the age-group of >30-60 years.p-value of < 0.00001 implies that there is statistically significant link between age and prevalence of aggression.

Table 7: Significance of Socio-Economic Status in Prevalence of Aggression

Aggression	Socio-Economic Status	Upper	Middle	Lower	Total
Present		02(06.06%)	22(08.76%)	178(24.86%)	202
Absent		31(93.94%)	229(91.24%)	538(75.14%)	798
Total		33(100%)	251(100%)	716(100%)	1000
Chi-square		**34.10**			
p-value		**< 0.00001**			

Table 7 shows significance of socio-economic status in prevalence of aggression.Aggression was prevalent in 24.86% of patients from lower S.E.S., 08.76% of patients from middle S.E.S. and 06.06% of patients from upper S.E.S..p-value of < 0.00001 implies socio-economic status has a statistically significant impact on prevalence of aggression.

Table 8: Significance of PhysicalComorbidities in Prevalence of Aggression

Aggression	Physical Comorbidities	Present	Absent	Total
Present		48(17.02%)	154(21.44%)	202
Absent		234(82.98%)	564(78.56%)	798
Total		282(100%)	718(100%)	1000
Chi-square		2.46		
p-value		0.116		

Table 8 shows significance of physical comorbidities in prevalence of aggression.Presence or absence of medical comorbidities were not significantly linked to prevalence of aggression.

IV. Discussion

In Freud's view, aggression is an instinctive behaviour which results from redirection of self-destructive death instinct towards others.[7]While one may or may not agree with Freud's view on aggression, but it is commonly agreed upon that it is one of the major hazards faced by psychiatric health-professionals.

It is difficult to compare studies on aggression due to varying definitions of aggression as well as differences in methodology.[8]We particularly encountered this problem as despite extensive research we could not find a study which explored aggression in psychiatric out-patient setting.Even amongst the sparse literature which studied aggression in psychiatric inpatient settings most studies were limited to a single diagnosis.

Our study found the overall prevalence of aggression to be 20.20%, which is close to 19.50% that was estimated in a study by Chukwujekwu et al. in Nigeria.[9]Other studies have put prevalence of aggression in psychiatric patients in a range of 5%-20%.[10,11,12]

In our study, aggressive male and aggressive female patients accounted for 14.50% and 5.70% of the study sample respectively, compared to 11.70% and 7.80% respectively in the Nigerian study.[9]

In the current study, frequency-wise aggression was most prevalent in single diagnosis group of "Alcohol Dependence Syndrome" with 49 participants, whereas in terms of percentage aggression was most common in group of "Other Substance-Abuse Disorders" with 83.33% of the participants.These findings were similar to the study in Nigeria, which found the highest proportion (39%) of aggressive patients in category of "Substance Use Disorder".The findings are also reinforced by findings of the study by Bland and Orn, who concluded that risk of violence was greatly elevated among those diagnosed with comorbid alcohol abuse disorder.[13]

In our study, prevalence of aggression in terms of percentage was least in group of "Generalized Anxiety Disorder" with 7.81% followed by group of "Depressive Disorder" with 13.33%.In the Nigerian study, patients in category of "Depression" had the least proportion of aggressive patients with 5.70%.Their study did not have a category for patients with "Generalized Anxiety Disorder".

According to this study, in males, aggression was most common in group of "Alcohol Dependence Syndrome" with 48 participants, whereas for females, aggression was most frequent in Schizophrenia with 12 participants.In terms of percentage, aggression was most prevalent in "Other Substance-Abuse Disorder" in both genders (81.81% in males and 100%% in females).

Our study found that gender, age and socio-economic status were significantly linked (p-value = <0.00001) to prevalence of aggression in psychiatric patients presenting to O.P.D..Aggression was found to be more prevalent in patients of male gender and in those belonging to lower socio-economic status.In contrast, prevalence of aggression was found to be lower in patients aged >30-60 years.

V. Conclusion

This study comes to a conclusion that in psychiatric patients visiting O.P.D., frequency-wise aggression is most prevalent in group of "Alcohol Dependence Syndrome" amongst single diagnosis, whereas in terms of percentage aggression was most common in "Other Substance-Abuse Disorders" group.

Gender, age and socio-economic status were significantly linked (p-value = <0.00001) to prevalence of aggression in psychiatric patients presenting to O.P.D..

Also, aggression is not a cardinal feature of a psychiatric disorder as only about one-fifth (20.20%) of the patients were found to show aggression.

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