International Journal of Humanities and Social Science Invention
ISSN (Online): 2319 – 7722, ISSN (Print): 2319 – 7714
www.ijhssi.org Volume 2 Issue 12 ǁ December. 2013 ǁ PP.17-22

Overt Aggression and Suicidality in Schizophrenics and Depressives in Relation to Gender and Residential Location

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ABSTRACT: *An attempt was made to study the overt aggression and suicidality in schizophrenic and depressive males as well as females living in rural and urban locations in the state of Odisha, India. The clients reaching the outpatient department of the SCB Medical College, in Cuttack, Odisha, who were diagnosed as either schizophrenics or depressives by a psychiatrist, were administered the Overt Aggression Scale -Modified (OAS-M) developed by E. Coccaro and his collaborators. The sample consisted of 60 schizophrenics and 60 depressives evenly divided across gender (male and female) and residential location (urban and rural). The design was a 2 (schizophrenics and depressives) X 2 (male and female) X 2 (urban and rural) design with 15 subjects per cell. Subjects were individually administered the OAS-M by the author and interviewed in the presence of one of their family members, who also provided substantial information about the patients. The results of ANOVA performed on the composite overt aggression and composite* suicidality *scores revealed that schizophrenics exhibited more overt aggression compared to depressives while gender and residential location differences were not significant. The female patients showed more suicidal tendencies compared to males. The patients coming from rural locations exhibited more suicidal tendencies compared to urban patients possibly due to the fact that the rural patients had less education and more family conflicts. A great deal of heterogeneity in aggression and suicidality was observed thus implying that a universal approach to treatment would be less effective and that each patient needs to be treated through a person-centered approach with unique case orientation on the part of the service providers.*

KEY WORDS: *Depressives, Overt Aggression, Schizophrenics, Suicidal Tendency*

I. INTRODUCTION

Aggression is defined as threats or harmful actions directed toward another individual and can include threat displays, lunging, growling, snarling, snapping and biting. Aggression is a behavior or a disposition that is forceful, hostile or attacking. Research suggests that there is a relationship between mental illness and violent behavior **(Monahan, 1992)**. It was observed by **Tardiff and Sweillam (1980)** that 20% of patients in psychiatric emergency came with a history of violence and more than 50% of the outpatients showed hostility and aggression **(Bartels, Drake, & Wallach, 1991).** It appears that there is a relationship between violent behavior and a subgroup of psychiatrically ill. There seems to be a perceived danger of aggression, hostility and violence from these patients **(Kumar, Akhtar, Roy & Baruah, 1999).**

Aggressive behavior against self and others is a frequent symptom associated with schizophrenia. Violence, verbal threat and aggressive behavior occur more frequently among men than women. An increased risk of violence among patients with schizophrenia has also been repeatedly confirmed by evaluation of their criminal records (**Hodgins, 1992).** Research regarding aggression in relation to gender has documented that males diagnosed with schizophrenia commit severe acts of violence more frequently than females diagnosed with schizophrenia. Many aggressive acts among patients with schizophrenia take place within the family. In addition, there is some evidence in research that self-directed violence and suicidality are frequent complications among patients with schizophrenia.

However, the difference does not appear as pronounced with acts of minor severity. Some researchers have reported that less severe aggression is more frequent among women with schizophrenia than among men with the disorder. **(Binder & McNiel, 1990)**, whereas other researchers have found no gender differences in aggression among patients with schizophrenia **(Beck, White & Gage, 1991).** In general, much research has suggested that males diagnosed with schizophrenia express more physical aggression than females, while females diagnosed with schizophrenia express more verbal aggression than males. According to **Conner and Barkley (2004),** males have been found to be more aggressive than females across various types of cultures, scientific studies, and categories of aggression.

Oulis, Lykouras, Dascalopoulou, and Psarros (1996) used Overt Aggression Scale to clinically assess aggression among patients diagnosed with schizophrenia and found that verbal aggression was by far the

most frequent type followed -in decreasing order - by physical aggression, aggression against property and self-aggression. Study on male and female schizophrenics revealed that verbal aggression, aggression against objects, against self, and against others, among male patients was found to be higher compared to female patients with schizophrenia. However, the form of aggression typical of females differs from that of males. Females tend to use more subtle, non-physical forms of aggression, such as indirect aggression, relational aggression or social aggression**.** Aggressive behavior against self and others is a frequent symptom of schizophrenia in the first two years of illness and plays a major role in re-hospitalization. The higher risk for violent behaviour was associated especially with alcohol-induced psychoses and with schizophrenia with coexisting substances abuse. It is now accepted that people with schizophrenia are significantly more likely to be violent than other members of the general population. Strategies aimed at reducing this small risk require further attention, in particular treatment for substance misuse, **(Elizabeth, 2002).**

Aggressive behaviour is also closely associated with moderate to severe depression. It causes greater impairment in activities of daily living, sleep disturbance, and severity of cognitive impairment. Aggressive behaviours are highly prevalent in depressed youths, with similar types and levels evident in males and females ***(Knox, King, Hanna, Logan, & Ghaziuddin, 2000).*** While depression and aggression affect both males and females, gender differences in each of these conditions have frequently been noted in the literature. As it relates to depression in particular, **Piccinelli and Wilkinson (2000)** mentioned that, there is a female preponderance in the prevalence, incidence and morbidity risk of this disorder.

Heeren, Borin and Raskin (2003) concluded that verbal and physical aggression could be strictly connected with depressive symptoms. Research studies on the link between anger and depression have indicated either an increase in outwardly directed anger or a greater degree of suppressed anger in patients with depression **(Luutonen, 2007)**. It is found that patients with depression demonstrated a greater amount of total anger and anger expression than patients with anxiety disorders, somatoform disorders and healthy controls. The degree of anger correlates with the severity of depression, but patients expressed anger outwards or turned it inwards in equal numbers. Suicide is understood as intentional self-inflicted death. People with schizophrenia are known to die much earlier **(Saha, Chant, & McGrath, 2007)** than expected. Up to 40% **(Bushe, Taylor, & Haukka, 2010)** of this excess premature mortality can be attributed to suicide and unnatural deaths, with one authoritative review **(Palmer, Pankratz, & Bostwick, 2005)** estimating a lifetime suicide risk of 4.9% for people with schizophrenia. Analyzing 29 high-quality data-containing studies, **Han, Hawton, Houston, and Townsend (2005)** found that though many important individual risk factors for suicide in schizophrenia were similar to those in the general population, including mood disorder, recent loss, previous suicide attempts, and drug misuse, the few specific ones were fear of mental disintegration, agitation or restlessness, presence of hallucinations and poor adherence with treatment. **Tiihonen, Wahlbeck and Lonnqvist (2006)** also confirmed that not taking any regular antipsychotic medication was associated with a 12-fold increase in the relative risk of all-cause death and a worrying 37-fold increase in death by suicide. Of all the consequences of depression, suicide is the end consequence of the individual's feeling of hopelessness and debility. Although it is obvious that people commit suicide for reasons other than depression, depressed people are 20 times more likely to commit suicide than non-depressed people **(Bhattacharjee & Deb (2007).** About 10 - 15% of individuals with a diagnosis of major depressive disorder eventually kill themselves. According to **Phillips, Carpenter and Nunes (2004)** patients with both depression and drug dependence are at an elevated risk for suicide. Female gender, violent behaviour in the past thirty days and lifetime, less education, family conflicts and depression severity are correlated with a history of suicide attempts. Suicidal ideation is quite common in depressed youngsters, occurring in about two-thirds preadolescents, and adolescents. Psychiatric patients who attempt suicide have greater suicidal ideation compared with patients who do not attempt suicide. Suicidal ideation is present and appears to be a precondition for suicide attempts in patients with major depressive disorder. Age, sex and education failed to distinguish between suicide attempters and non-attempters **(Malone, Oquendo, & Haas, 2000**). **Srivastava and Kulshreshtha (2000)** found a positive correlation between suicide attempt and the severity of depression, male gender, being married, employed and above 35 years of age.
The present study seeks to examine aggression and suicidality in schizophrenic and depressive males as well as females living in urban and rural locations in the State of Odisha, India.

II. OBJECTIVES OF THE STUDY

1) To study the level of overt aggression in schizophrenics and depressives in relation to gender and residential location.
2) To ascertain suicidality among schizophrenics and depressives in relation to gender and residential location.

III. METHODOLOGY

Sample

The sample consisted of 60 schizophrenics and 60 depressives drawn equally for the male and female groups and urban and rural residential locations. The eight resultant groups were: (i) 15 rural male schizophrenics, (ii) 15 rural female schizophrenics, (iii) 15 urban male schizophrenics, (iv) 15 urban female schizophrenics, (v) 15 rural male depressives, (vi) 15 rural female depressives, (vii) 15 urban male depressives, and (viii) 15 urban female depressives. Subjects were taken from the outpatient department of SCB Medical College, Cuttack, Odisha and were included in the sample after being diagnosed by a psychiatrist using a Brief Psychiatric Rating Scale (BPRS) for schizophrenics and Montgomery Asberg Depression Rating Scale **(**MADRS) for depressive patients.

Tool

This Overt Aggression Scale – Modified (OAS-M) scale developed by E. Coccaro and collaborators in 1991 was used to measure aggressive behavior and suicidality in outpatients. The scale assesses aggression in four major domains: (i) verbal aggression, (ii) aggression against objects, (iii) aggression against others and (iv) aggression against self, and suicidality in three domains: (i) suicidal tendencies, (ii) suicidal attempt, and (iii) suicidal lethality. The scale has moderate reliability and validity and yields a total aggression score. In the present study, the summated aggression score and the summated scores on the three domains related to suicide were taken into account.

IV. RESULTS AND DISCUSSION

The purpose of the study was to ascertain the level of overt aggression and suicidality among schizophrenic males and females living in rural and urban locations.

Overt Aggression

The Overt Aggression Scale – Modified was used which provided composite measures on the two variables of overt aggression and suicidality. The means of different groups are presented in Table 1 and plotted in Fig. 1. The summary of ANOVA showing the effects of gender, residential location and type of disorder is presented in Table 2. The overall means of schizophrenics and depressives on overt aggression were 58.05 and 32.83, respectively. The ANOVA yielded an F vale of 14.51 which was significant at .001 level, showing a significant effect of the type of disorder on overt aggression. Results revealed that schizophrenics showed significantly more overt aggression than depressives. The average mean scores of all the males and females were 44.05 and 45.33 respectively. The main effect of gender was not found to be significant (Table 2); the obtained F value was less than 1.00. The mean of the rural and urban patients were 50.50 and 38.88 respectively suggesting that rural subjects exhibited more overt aggression compared to urban subjects but the obtained F value of 2.85 in respect of residential location was not found to be significant. None of the second-order or third-order interactions were significant (Table 2).

Table 1 . Means of Schizophrenics and Depressives on Overall Aggression in relation to Gender and Residential Location (N = 15 in each group)

Overall Aggression (a composite index of verbal aggression, aggression against objects, others and self)				
Gender	**Group**	**Rural**	**Urban**	**Total**
		Mean	Mean	Mean
Male	Schizophrenic	61.87	57.87	59.87
	Depressive	29.33	29.13	29.23
	Total	45.60	42.50	44.05
Female	Schizophrenic	64.20	48.27	56.23
	Depressive	46.60	22.27	34.43
	Total	55.40	35.27	45.33

Table 2. Summary of ANOVA Showing Effects of Gender, Residence Location and Type of Disorder on Overall Aggression of Outpatients

Source	Sum of Squares	*df*	Mean Square	*F*	Sig.
Gender (male/ female)	149.41	1	149.41	.11	.812
Residence (rural / urban)	4048.41	1	4048.41	2.85	.094
Disorder (schizophrenia / depression)	20619.41	1	20619.41	14.51	.001
Gender X Residence	2176.01	1	2176.01	1.53	.219
Gender X Disorder	585.21	1	585.21	.41	.522
Residence X Disorder	39.68	1	39.68	.03	.868
Gender X Residence X Disorder	279.08	1	279.08	.20	.659
Error	159220.40	112	1421.61		
Total	187117.61	119			

The overt aggression score obtained through Overt Aggression Scale –Modified Scale included four types of aggression shown by patients consisting of aggression against objects, others and self and verbal aggression. The findings revealed that schizophrenics were observably more aggressive than depressives, which also lends credence to other researchers (**Hodgins, 1992, Oulis et al., 1996)** from an Odishan perspective. Gender difference was not noticed suggesting that gender does not play a determining role in overt aggression either in schizophrenics or depressives or even among patients living in either rural or urban areas. **Beck, White and gage (1991)** also observed no gender difference among schizophrenics in overt aggression. The mean scores suggested that the rural patients exhibited more overt aggression compared to urban patients, but the difference did not turn out to be significant because the standard deviations of overt aggression scores was very high. The life environment of rural people possibly allows more for manifestation of aggression as compared to those living in urban areas. Hence the rural patients had a higher mean aggression score though it did not turn out to be significant because of the presence of a great deal of variability in the scores. The findings suggest a great deal of heterogeneity in overt aggression among patients classified into a particular category as either schizophrenics or depressives. There is reason to believe that each patient is unique in terms of manifested behaviors and a universal approach to dealing with the problem would prove less effective and that observable behaviors are influenced a lot more by person-centric factors that can hardly be captured by classifying them on the basis of gender or residential locations. The implication is that the observable aggression of patients particularly that of schizophrenics need to be psychologically dealt with through an intuitive and person-centered approach in addition to the pharmacological treatment offered.

Suicidality

The means of schizophrenics and depressives on suicidality in relation to gender and residential location are presented in Table 3, and the summary of the ANOVA is presented in Table 4. The means are plotted in Fig 2. ANOVA revealed significant mains effects of gender and residential location on suicidality. Neither the main effect of the type of disorder nor any of the interaction effects was significant. On average, the mean suicidality score of females was significantly higher than that of the males and people living in rural areas had a significantly higher mean suicidality score compared to those living in urban areas. Over all the groups, the means of the males and the females were 3.42 and 4.85 respectively, yielding an F value of 4.14 significant at .05 level. The patients from the rural and urban locations had suicidality means scores of 5.26 and 2.92 respectively yielding an F value of 10.03 which was significant at .01 level. The means of the schizophrenics and depressives were 3.42 and 4.76 respectively, which did not turn out to be significant.

Table 3. Means of Schizophrenics and Depressives on Suicidality in relation to Gender and Residential Location

Suicidality (a composite index of suicidal tendencies, suicide attempt and medical lethality)				
Gender	**Group**	**Rural**	**Urban**	**Total**
		Mean	Mean	Mean
Male	Schizophrenic	2.60	2.93	2.77
	Depressive	5.41	2.73	4.07
	Total	4.01	2.83	3.42
Female	Schizophrenic	6.07	2.07	4.07
	Depressive	6.95	3.93	5.44
	Total	6.51	3.00	4.75

Table 4. Summary of ANOVA Showing Effects of Gender, Residence Location and Type of Disorder on Suicidality

Source	Sum of Squares	*df*	Mean Squares	*F*	Sig.
Gender	83.63	1	83.63	4.14	.041
Residence	202.80	1	202.80	10.03	.002
Disorder	36.30	1	36.30	1.80	.183
Gender X Residence	24.30	1	24.30	1.20	.275
Gender X Disorder	2.13	1	2.13	.11	.746
Residence X Disorder	17.63	1	17.63	.87	.352
Gender X Residence X Disorder	48.13	1	48.13	2.38	.126
Error	2264.93	112	20.22		
Total	2679.85	119			

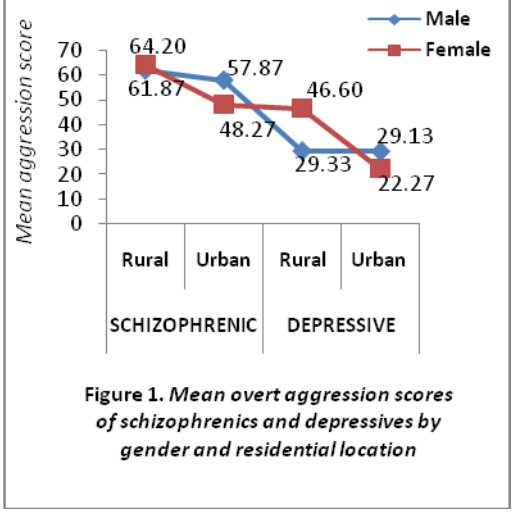

Figure 1. *Mean overt aggression scores of schizophrenics and depressives by gender and residential location*

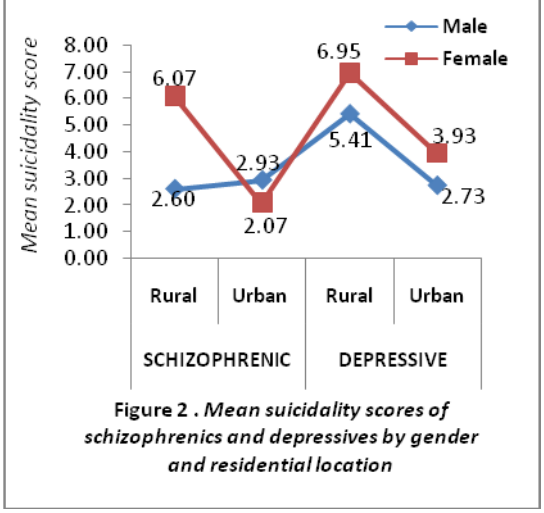

Figure 2 . *Mean suicidality scores of schizophrenics and depressives by gender and residential location*

The suicidality score was a composite index of suicidal tendencies, suicide attempt and the severity of physical condition following suicide attempt. The findings revealed significant main effects of gender and residential location on suicidality. The females (mean=4.85) exhibited more suicidality compared to males (mean=3.42). The rural patients (mean=5.26) were higher on suicidality compared to urban patients (mean=2.92). The main effect of the type of disorder was not significant though the mean score of depressives (mean= 4.76) was higher than that of the schizophrenics (mean=3.42). None of the interaction effects was found to be significant.

Srivastava and Kulashrestha (2000) pointed to gender differences in suicidality and **Phillips et al. (2004)** observed a strong relationship of suicide attempts with female gender, less education and family conflicts. The present findings also corroborate that female patients exhibited more suicidality compared to males. The patients coming from rural locations had less of education and lived in an environment of family conflicts arising out of economic issues and were less regular in following timely psychiatric treatment. As such, they were more prone to attempt suicide. The findings lend support to the description of **Phillips et al. (2004)** regarding the correlates of suicidality.

V. CONCLUSION

The findings suggest that schizophrenics exhibited more overt aggression compared to depressives. Gender and residential location differences in overt aggression were not significant. The female patients exhibited more suicidal tendencies compared to males and the patients from rural locations exhibited more suicidality compared those from urban locations possibly due to the fact that they had less education and more family conflicts. A great deal of heterogeneity in overt aggression and suicidality was observed which suggests that a universal approach to dealing with psychiatric problems would be less meaningful and less effective. The implication is that aggressive and suicidal tendencies of each patient need to be dealt through a person-centered approach with unique case orientation on the part of the service providers.

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