Interpersonal Relatedness in Patients with Schizophrenia on Rorschach Ink Blot Test

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Abstract

This study investigated interpersonal relatedness in patients with schizophrenia on Rorschach Ink Blot Test. A sample of 30 patients with schizophrenia, diagnosed on the basis of ICD- 10 diagnostic criteria were selected using purposive sampling technique from out- patient and in- patient departments of the Post Graduate Institute of Behavioural and Medical Sciences, Raipur (C.G.). A control group of 30 persons from general population were screened out using GHQ-5 and taken as per the inclusion and exclusion criteria. Patients with schizophrenia and control group were assessed on socio-demographic data sheet and Rorschach Ink Blot Test. Result of the present study shows that patients with schizophrenia had poor interpersonal relatedness as compared to the control group as assessed on Rorschach Ink Blot Test.

Keywords: Interpersonal relatedness, Schizophrenia, Rorschach Ink Blot Test.

Introduction

Interpersonal relationship is a term used to denote a broad range of associations between two or more persons. Common types of interpersonal relationships may be based on family, friendship, faith career or romantic association between people. Healthy interpersonal relationships are characterized by one or more mutually felt sentiments such as affinity, attraction, care, respect and trust, while poor relationships may suffer from a host of problems. The interpersonal perceptions are distorted in the more serious states by delusional and hallucinatory material. In the most serious and disorganized forms of Schizophrenia, withdrawal into a fantasy life takes place and is associated with serious disorders of thought and profound habit deterioration in which the usual social customs and personal care are disregarded. Thus the disturbance of personality involves its most basic functions which give the normal person his feeling of individuality, uniqueness and self-direction. Duberstein & Talbot (1993), found that there is a subgroup of low orals who were not interpersonally secure but who, instead, are insecure and interpersonally anxious; and unlike the quality of the Human response, the number of Human responses may not reflect preoccupations with themes of dependency, attachment, and interpersonal relatedness. Lysaker, et al., (1998), results indicated that subjects with impaired insight had significantly poorer QOL interpersonal relation and intrapsychic foundation scores than unimpaired

subjects, despite having equivalent deficit symptoms. Unawareness of the social consequences of illness was found to be the component of insight more closely linked to social dysfunction. This suggests that impairments in insight may be uniquely associated with social dysfunction. Vaz, Bejar, & Casado (2002), results support the idea that insight is a complex and multidimensional phenomenon. In this respect, the study of the psychopathological dimension of insight should be accompanied by the consideration of interactional and social factors, because awareness of illness can be considered ultimately as an index of concordance between patients' views of the illness and cultural standards regarding mental disorders. Berant et al., (2005) found that self-reports of attachment anxiety were associated with Rorschach scores thought to indicate difficulties in regulating and controlling emotions and self-perceptions of being relatively helpless and unworthy. Self-reports of attachment avoidance were associated with Rorschach scores thought to reflect lack of acknowledgment of need states and maintenance of a grandiose self. Broeking, (2007), investigated the Rorschach response variables from child abuse victims to better understand the impact that physical and sexual trauma has on a child's interpersonal relations, particularly in regard to patterns of attachment. In a study by Schneider, Huprich, & Fuller (2008), Five of the predicted correlations approached statistical significance and included the following Rorschach variables: T, Food, Egocentricity Index, and M%. Lysaker, Vohs, & Tsai (2009),

research has suggested that negative symptoms in schizophrenia may be closely linked to impairments in schizophrenia. Another study by Resende, Viglione, &Argimon, (2009), showed statistically significant genders differences in cognitive, affective and interpersonal interaction aspects. These results support earlier findings that found gender differences in schizophrenia: the disorder in male individuals tend to be more severe than in female, which affects adversely the behaviour and social functioning of male patients. Cassella & Viglione (2009), using attachment theory, in this research, they explored the construct validity of the Rorschach (Exner, 1974) Texture (T) response as a measure of interpersonal closeness and contact. Berant, Mikulincer, Shaver, and Segal (2005) using a nonclinical sample of 89 Israeli adults. They found significant associations between attachment orientations and Rorschach indexes dynamically related to anxiety. Another study by Iwasa & Ogawa, (2010), results indicated that – at least in Japan – T should be regarded as a sensitive measure of attachment anxiety. Another study by Soenning, Fireman, & Clopton (2010), evaluated the validity of Rorschach variables in assessing interpersonal competence in children. Gomila (2011), on 245 schizophrenic patients concluded that in the two refined acutely aggravated and chronic groups, the presence of the mechanisms of splitting, loss of perceptual accuracy, dissociated and delusional thought, isolation and deficient interpersonal relationships was confirmed in 100% of cases and all of them complied with the six criteria of the Schizophrenia Index and the five criteria of the Perceptual Thinking Index.

Objectives

- To see the interpersonal relatedness in patients with schizophrenia on Rorschach ink blot test.
- To see the differences, if any, in interpersonal relatedness in patients with schizophrenia & control group on Rorschach ink blot test.

Hypotheses

- There will be significant impairment in interpersonal relatedness in patients with schizophrenia
- There will be significant difference between patients with schizophrenia and control group in interpersonal relatedness.

Method

Sample

A sample of 30 patients with schizophrenia, diagnosed on the basis of ICD- 10 diagnostic criteria were selected from out- patient and in- patient departments of the Post Graduate Institute of Behavioral and Medical Sciences, Raipur (C.G.). The sample was selected using purposive

sampling method. Patients with schizophrenia of any subtype diagnosed according to ICD – 10 criteria, age range from 18-65 years were selected and those cases were excluded from the sample who had any past history of psychosomatic, psychiatric or intrinsic problem. A control group of 30 persons of the same age range and education were also selected who did not had any history of psychosomatic, psychiatric or any intrinsic problem.

Tools

Socio- demographic data sheet

A Specially designed proforma containing necessary and basic information like name, age, sex, religion, marital status, education etc. was used.

Rorschach Inkblot Test (Rorschach, 1921)

The Rorschach inkblot test (Rorschach, 1921) is one psychological assessment instrument, which measures functioning across a wide range of indices perceptual, cognitive, affective, and interpersonal and others. It also gives information about one's personality. The Rorschach inkblot test is very popular instrument among clinicians (Lubin et al., 1984) as well as among researchers, with over 6000 research studies published by early 1980 (Aiken, 1993).The utility of this instrument in quantitative research has improved by the work of Exner, whose Comprehensive system (Exner, 1991, 1993, 2003) has distilled the several older, competing methods of scoring and interpretation into one uniform systematic and empirically validated system. Its reliability as investigated with different methods is between 0.85 to 0.94 (Mattlar, 2004) and validity is also reported to be high (Weiner, 1997, 2000 and 2001).

Procedure

This study was conducted at the out-patient and in-patient Department of Post Graduate Institute of Behavioural and Medical Sciences, Raipur (CG) on the sample group of 30 patients with schizophrenia diagnosed as per the ICD-10, DCR criteria and meeting the inclusion and exclusion criteria. Normal control group were screened out from the general population as per their inclusion and exclusion criteria by using General Health Questionnaire (GHQ). After taking the consent of the patients, the primary information regarding demographic variables of all the patients was collected on semi- structured proforma designed for the study. Rorschach test was administered on both the groups individually. Administration, scoring and interpretation of Rorschach was done according to Exner's comprehensive system.

Table 1: Comparison of the Age of the Patients with schizophrenia and Control group

Variable	Groups	N	Mean±SD	t
Age (in years)	Patients with Schizophrenia	30	27.36±9.89	
	Control group	30	29.83±11.36	0.897

Table 2: Comparison of socio-demographic details of Patients with Schizophrenia and Control groups

Variable		Groups				
		Patients with Schizophrenia N=30		Control group N=30		Chi-square
		Frequency	Percentage	frequency	Percentage	
Sex	Male	19	31.7%	22	36.7%	0.693
	female	11	18.3%	8	13.3%	
Education	Illiterate	3	5.0%	0	.0	7.775
	Primary education	4	6.7%	3	5.0%	
	Secondary education	6	10.0%	3	5.0%	
	Graduation	15	25.0%	16	26.7%	
	P.G. and above	2	3.3%	8	13.3%	
Marital status	Married	10	16.7%	14	23.3%	1.924
	Unmarried	19	31.7%	16	26.7%	
	Divorced	1	1.7%	0	.0	
	separated	0	0	0	0	
Occupation	Government service	1	1.7%	3	5.0%	4.205
	Private job	6	10.0%	7	11.7%	
	Not working	2	3.3%	0	.0	
	Business	1	1.7%	1	1.7%	
	Housewife	6	10.0%	5	8.3%	
	Student	13	21.7%	14	23.3%	
	Daily wager	1	1.7%	0	.0	
Religion	Hindu	27	45.0%	28	46.7%	.218
	Muslim	3	5.0%	2	3.3%	
Domicile	Rural	10	16.7%	2	3.3%	6.667**
	Urban	20	33.3%	28	46.7%	
Type of family	Nuclear	11	18.3%	9	15.0%	.300
	Joint	19	31.7%	21	35.0%	
Monthly family income	Upto 10,000	10	16.7%	4	6.7%	10.958**
	11,000 to 20,000	14	23.3%	8	13.3%	
	21,000 to 30,000	3	5.0%	5	8.3%	
	Above30,000	3	5.0%	13	21.7%	

** Significant at the ≤0.01

Results and Discussion

Table 1 with regards to their age, did not show any significant difference between the patients with schizophrenia and control groups.

The present study was done in an attempt to see the interpersonal relatedness in patients with schizophrenia and control group on Rorschach. In the present study the mean age of the schizophrenia patients was 27.36 years (SD 9.89) and that of control group was 29.83 years (SD 11.36) **(table 1)**. No significant difference was found between the groups regarding **age.** It is in congruence with the fact that both the groups were matched with respect to age. Majority of patients in treatment for schizophrenia are between 15 and 55 years old. (Kaplan & Sadock's 2007).

Table 2 shows the socio-demographic details of both patient and control groups. Variables such as sex, education, marital status, occupation, religion, domicile, type of family, and monthly family income are shown. There is significant difference between patients with schizophrenia and control groups on domicile and monthly family income variables at 0.01 level.

With regards to other **socio-demographic details**, it is known that Schizophrenia is equally prevalent in men and women. In our research, 31.7% patients were males and 18.3% were females. Similarly, in control group 36.7% were males and 13.3% were females. No significant difference were seen in terms of sex. Regarding education, majority of person among both groups were graduates i.e., 25% of schizophrenia patients and 26.7% of control group. With regards to their marital status majority of person among both the groups were unmarried. 16.7% schizophrenia patients were married

and 31.7% schizophrenia patients were unmarried, 23.3% control group were married and 26.7% were unmarried. However, no significant difference between two groups regarding marital status, it has been found in a study of marriage and fertility rates of individuals with schizophrenia compared with the general population showed that on average, by the age of 45 years, three times as many of those with schizophrenia as of the general population are still unmarried (40% of men and 30% of women with schizophrenia are still single by age 45) (Slater et al. 1971). Most of the subjects in patient and control groups who have been taken were student (21.7%, and 23.3% respectively), in private job (10.0% and 11.7% respectively), and house-wife (10.0% and 8.3% respectively). Most of the persons in both the groups were Hindu, i.e, 45% schizophrenia patients and 46.7% control group. The reason for this might be that the area from which the sample has been collected was Hindu dominated region. Majority of the persons in both the groups belonged to joint family i.e, 31.7% schizophrenia patients and 35% control group. Regarding domicile, schizophrenia patients were mostly from urban area (33.3%). Control group were 3.3% from rural area and

46.7% from urban area. There was significant difference regarding domicile ($p<0.05$) between the two groups. With the increasing presence of the mentally ill on the streets of modern urban locations, the question has often been raised of whether urban life, or industrialized society, is a risk factor for the development of schizophrenia. In fact, there seems to be data suggesting that people in urban areas have a higher relative risk for schizophrenia than those in rural areas (Torrey 1980, Eaton 1974, Mortensen et al. 1999, Allardyce et al. 2001). Regarding monthly family income most of the schizophrenia patient's family income ranged between rs. 11000- 20,000 (23.3%) and most of the control group's family income were above rs. 30,000/ (21.7%). For many years, epidemiological studies revealed a higher incidence and prevalence of schizophrenia in groups with lower socio-economic status (Mishler and Scotch 1963). With these findings came the hypothesis that lower social class could be considered a plausible risk factor for schizophrenia, possibly because of a higher risk of obstetrical complications, poorer nutrition, increased exposure to environmental toxins or infectious disease, or exposure to greater life stressors.

Table 3 Comparison of CDI index of Patients with Schizophrenia and control group

Variable		Groups				Chi-square
		Patients with Schizophrenia N=30		control group N=30		
		Frequency	Percentage%	Frequency	Percentage%	
CDI	Present	12	20.7	13	22.41	.070
	absent	17	29.3	16	27.6	0
Criteria1	Present	23	38.3	17	28.3	2.700
	Absent	7	11.7	13	21.7	0
Criteria2	Present	29	48.3	20	33.3	9.017
	Absent	1	1.7	10	16.7	0
Criteria3	Present	20	33.3	24	40.0	1.364
	Absent	10	16.7	6	10.0	0
Criteria4	Present	19	31.7	17	28.3	.278
	Absent	11	18.3	13	21.7	0
Criteria5	Present	10	16.7	7	11.7	.739
	absent	20	33.3	23	38.3	0

This table shows the comparison of CDI index between the two groups. No significant difference found between two groups on CDI Index.

Coping deficit index (CDI) and Hypervigilance are two of the special indices, used in Exner's comprehensive system of Rorschach. It describe a person's capacity to control stress. It contains 5 conditions out of which 4 or 5 conditions has to be fulfilled to meet the whole criteria of CDI. A review of scores on the CDI for several other groups were calculated. The results indicated that 4% of a non-patient adult sample had values of 4 or 5, although the percentages were higher among non-patient children (6% to 24%), between 20% and 25% of a schizophrenic sample had values of 4 or 5, as did nearly 50% of no

adjudicated character disorders. On comparing the **CDI index (table 3)**, of both the groups on all five criterion, there was no significant difference found between the two groups. In majority of the patients and control group 4 conditions were present, whereas in 29% and 27.6% of schizophrenic patient group and control group respectively. CDI total was absent.

Table 4 shows the comparison of HVI index between Patients with Schizophrenia and control groups. The results show that there is significant difference between the two groups on HVI condition1 at 0.01 level. Schizophrenia patients have high on HVI criteria.

On comparing the **HVI index**, **(table 4),** of both the groups on all eight criterion.

Table 4 Comparison of HVI index of Patients with Schizophrenia and Control groups

Variable		Groups				Chi-square
		Patients with Schizophrenia N=30		Control group N=30		
		F	%	F	%	
HVI	PRESENT					0
	ABSENT	30	50.0	30	50.0	
HVI1	PRESENT	21	35.0	11	18.3	6.696**
	ABSENT	9	15.0	19	31.7	
HVI2	PRESENT	5	8.3	5	8.3	.000
	ABSENT	25	41.7	25	41.7	
HVI3	PRESENT	3	5.0	3	5.0	.000
	ABSENT	27	45.0	27	45.0	
HVI4	PRESENT	1	1.7	1	1.7	.000
	ABSENT	29	48.3	29	48.3	
HVI5	PRESENT	6	10.0	10	16.7	1.364
	ABSENT	24	40.0	20	33.3	
HVI6	PRESENT	4	6.7	2	3.3	.741
	ABSENT	26	43.3	28	46.7	
HVI7	PRESENT	0	.0	2	3.3	2.069
	ABSENT	30	50.0	28	46.7	
HVI8	PRESENT	0	.0	3	5.0	3.158
	ABSENT	30	50.0	27	45.0	

** Significant at the ≤0.01

Table 5 Comparison of interpersonal relatedness of Patients with Schizophrenia and Control groups

Variable	Groups		t
	Patients with Schizophrenia N=30	Non-patient N=30	
	Mean ± SD	Mean ± SD	
Eb pervasive	4.06±2.25	2.63±2.03	1.047
Active	4.96±3.03	6.72±4.00	1.821
Passive	3.04±2.97	3.71±2.52	.883
Fd	1.00±.000	1.00±.000	0
Sum T	0	0	0
Sum of human content	3.73±3.57	5.10±3.99	1.399
Pure H	2.63±2.03	3.38±2.08	1.18
GHR	2.09±1.51	3.05±2.43	1.179
PHR	1.66±.577	1.46±.660	.493
PER	1.92±1.26	3.00±2.35	1.566
COP	1.50±.527	2.50±1.35	2.231*
AG	1.40±.894	1.62±.806	.532
Isolation index	.175±.13868	.1527±.126	.652
M and FM responses that contain a pair	3.05±1.89	5.19±2.65	2.934**

* Significant at the ≤0.05, ** Significant at the ≤0.01

It was found that there was significant difference between the two groups only on criterion 1 at 0.01 level. In our result, it was also found that Hypervigilance index (HVI) was absent in almost all the cases of patient group as well as control group. Inspite of meeting the first criteria, most of the schizophrenia patients were not fulfilling other conditions. But in control group no conditions of HVI were fulfilled. It was found that HVI related more to the hyper vigilant aspect of the paranoid style rather than paranoid itself (Exner, 1986).

This table shows the comparison of interpersonal relatedness between the two groups. The results show that there is significant difference between the two groups for COP at 0.05 level and for M and FM responses that contain a pair at 0.01 level.control groups have high COP, M and FM responses.

On comparing the **interpersonal relatedness (table 5)** shows various variables involved in the interpersonal relatedness in Rorschach. In the table, it was found that no significant difference was present in any other

variables, other than COP ($p<0.05$) as well as Human movement and animal movement responses with pairs ($p<0.01$). It was found that with respect to EB pervasive (EB per) score schizophrenia patient showed higher mean (4.06± 2.25) than control group (2.63±2.03). EB per is a crude indicator of how pervasive or dominant the introversive or extratensive style is. High score (i.e., more than 2.5) indicates that one of the styles is quite pervasive, perhaps to the point of suggesting rigidity in problem solving style (Exner, 1993). This high scores also indicate that emotions will almost always have a considerable influence on patterns of thinking, even in situations when this approach may be less effective. Active passive ratio concerns with the flexibility in ideation and attitudes. It deals with the extent to which attitudes or values may be well fixed and as such will affect the conceptual process. In our findings it was found that active responses of schizophrenia patients were less (4.96) as compared to that of control groups (96.72), which means that control group is more active. For passive responses it was found that no distinctive difference could occur between the two groups. However it is stated that individuals having higher number of passive responses are likely to be correspondingly more passive in other situations. Our findings are similar to that of Exner (1978), who found higher passive responses in 14% of 1600 adults in the non-patient sample as contrasted to 32% of 535 outpatient, 32% 279 inpatient depressives and with 35% of 328 inpatient schizophrenia. It seems that in non-patient group introversives may be higher than extratensives, because introversives are more prone to rely on their working of their inner life. Food responses typically signal the presence of a dependency orientation that can affect interpersonal relations. The value of Fd is expected to be 0, except in the record of children, in which the presence of 1 food answer is not uncommon. In our results both the groups have shown similar value for food response (i.e., average of 1.00 for schizophrenia patient and 1.00 for control group). Pure Texture responses represent painful emotional experiences combined with needs for supportive interpersonal relationship (Beck, 1945, 1968, Klopfer et al., 1956). In our findings no texture response has been given either by schizophrenia patient or control group. However, form dominated texture responses (FT) and texture dominated form responses (TF) were given by both the groups. Human content responses provide some information about interest in people. When the human contents are subdivided into those which are Pure H versus those that are Hd or parenthesized human figures, the result affords some indication about whether the conceptions of people, including the self, are based on actual experience, or are derived more from imaginary conceptions or distortions of experience. In addition, the actual substance of human content answers often provides useful projected information about how people and the self, are conceptualized (Exner, 2003). In our

findings, the mean of sum of all human contents for schizophrenia patients was 3.73 and for control group, it was 5.10. However, there was no significant difference found, but sum of human contents responses were higher in control group as compared to that of schizophrenia groups. Lower level of human contents in schizophrenia patients suggest that they are less interested in people and are prone to withdraw from social intercourse. Pure H is the only human content coding for real persons. Thus, when Pure H answers constitute the greater proportion of human content answers, it is reasonable to assume that the individual's perceptions of others probably are reality based. Conversely, when they constitute only a minor proportion of human content responses, it is likely that the individual does not understand people very well. (Exner, 2003). In our findings, Pure H responses were responses were higher in control groups (mean 3.38) as compared to that of schizophrenia patient groups (2.63), showing low level of empathy and withdrawal from interpersonal relationships. (Allison et al., 1968, T. Kahn and Giffen, 1960). Human representational responses are those answers that contain any human content coding, human movement (M) determinant, or animal movement (FM) responses having cooperative (COP), or aggressive responses (AG) as special scores. GHR answers correlate with interpersonal histories that are usually considered to be effective and adaptive whereas on the other hand PHR responses correlate highly with patterns of interpersonal behaviour that are ineffective or maladaptive. (Exner, 2003). In our study, the mean of GHR for schizophrenic patient group was 2.09 and for control group was 3.05. The mean of PHR for schizophrenic patient group was 1.66 and for control group was 1.46. The patient had less GHR and more PHR as compared to control group. Thus the high PHR and lower GHR in patient group is indicative of their interpersonal difficulties. The mean of PER responses in our study for schizophrenia patient group was 1.92 and for control group it was 3.00. It has been found that as compared to the patient group, control group has given more PER responses that does not necessarily mean that they have impaired interpersonal relations. However, it merely signifies that the control group may be less secure in situations involving challenges than might be preferred (Exner, 2003), as they were asked to participate in the research work inspite of being healthy. Cooperative movement (COP) is assigned to any movement responses (M, FM, m) involving two or more objects in which the interaction is clearly positive or cooperative. COP responses convey the notion that interpersonal exchange will be positive. In our study, the schizophrenia group showed mean of 1.50 (SD=0.527) whereas control group showed mean of 2.50 (SD=1.35). There has been found significant difference at 0.05 level among both the groups in relation to COP. Presence of more COP responses suggest that non-patient group are prone to be outgoing and they seem to have an optimistic

approach to interpersonal relations (Exner,2003). According to Exner (2003), about 40% of control group give more than two COP responses which is in accordance with our findings. Aggressive movement (AG) is used for any movement responses (M, FM, m) in which the action is clearly aggressive. AG answers imply that the individual anticipates such exchanges will be marked by some form of aggressiveness and competitiveness. Our study shows that both the groups did not differ significantly in their AG responses i.e., the mean for schizophrenia patient was 1.40 with 0.89 SD and mean for control group was 1.62 with .806 SD. The mean of schizophrenia patient group was .175 and for control group, it was .152. The final step in interpersonal relatedness was to see Human and animal movement responses that contain a coding for a pair (M and FM responses with pairs). It is to determine if there is any consistency or patterning in the way interactions are described and also to search for unusual words or words usage concerning the interactions. Our findings has shown high significant difference in this variable among both the groups i.e., with mean for schizophrenia patient to be 3.05 (SD=1.89) and non-patient group to be 5.19 (SD 2.65). lower scores in this variable for the patient group suggest that they seem to be confused about their interpersonal relations, and may view them more ominously than seem to have been previously, providing more accurate picture of experiencing considerable disorganization in their psychological life (Exner, 2003).

Poor interpersonal relatedness is considered as a distinctive feature of schizophrenia, present study has not found much deterioration in terms of the interpersonal relatedness in patient group and control group as there was significant difference only regarding COP as well as M & FM responses containing pairs.

Conclusion

The result of the present study revealed that patient group has difficulty in relating and establishing healthy interpersonal relationship with others. They have difficulty in delaying responses, uncontrolled affective reaction with highly impulsive by nature. They have deficit in social cognitive functioning and skills with poor interpersonal relationship. Thus it can be concluded that nature of Patients with schizophrenia had poor interpersonal relatedness as compared to the non-patient as assessed on Rorschach.

Limitations

- Sample was limited to one institute only.
- Duration of the treatment has not been considered specifically.

Future Directions

- Sample size can be increased for generalization of results.

- To see the effectiveness of Rorschach for determining interpersonal relatedness in schizophrenic patients, inpatients and outpatients, chronic and acute patients can also be taken separately.
- Other psychiatric groups like, severe depressives, alcoholics groups etc. could be considered in future.

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