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Temperament and Character of Schizophrenics: A Study on Indian Population

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ABSTRACT: *This study was attempted to explore the temperament and character of schizophrenic patients and compared with normal controls. Total 102 schizophrenic patients and 50 normal controls were included in this study. The mean age of Schizophrenic patients was 32.073(SD ± 10.205) and normal controls mean age was 30.14 (SD ±12.048). Temperament and Character Inventory was used to assessed personality of the Schizophrenic patients. Findings revealed that out of four temperament novelty seeking and persistence were significantly differed from normal controls. Both were found low in Patients than normals. All three Character domains were found significantly difference in comparison of both group. Self directedness and cooperativeness were found low in schizophrenia than normals. Self transcendence was found high in patients group than Controls. Findings of this study can help to understand the personality of Schizophrenic patients.*
Keywords: *Temperament, character,*

I. INTRODUCTION

Personality of an individual is complex and unique. Personality can be defined as "the dynamic organization within the individual of those psychobiological processes by which an individual uniquely adapts to changing internal and external environments" (Cloninger et.al.1993). Personality includes the full range of human adaptation in which a person interacts milieu and changing external environment. The internal and external environments vary as a result of changes in biopsychosocial context, such as, age, illness, and various opportunities and challenges, which operates at the time scale varying from milliseconds, circadian cycle, monthly cycles, on up through to whole life span (Stephen, 2006).Cloninger (1987a, 1991) proposed a taxonomy of seven basic traits. The first four may be viewed as fundamental dimensions of human temperament. These are novelty seeking (NS), harm avoidance (HA), reward dependence (RD) and persistence (P). Cloninger suggests that individual difference in these four dimensions can be seen in very young children and are likely to have a very strong biological base (Sadock et. al 2007). Temperament refers to differences between individuals in their automatic responses to emotional stimuli, which follow the rules of associative conditioning or procedural learning of habits and skills. Temperament traits include basic emotional response patterns, such as, fear versus calm, thrill, versus anger, disgust versus attachment and tenacity versus discouragement. Temperament has been defined as those components of personality that is heritable, fully manifest in infancy, and stable throughout the life (Goldsmith Alanky 1987). **Novelty seeking** reflects a heritable bias in the initiation or activation of appetitive approach in response to novelty , approach to signals of reward, active avoidance of conditioned signals of punishment, and escape from unconditioned. Novelty seeking is observed as exploratory activity in response to novelty, impulsiveness, extravagance in approach to cues of reward, and active avoidance of frustration. Individuals high in novelty seeking are quick tempered, curious, easily bored, impulsive, extravagant and disorderly. Adaptive advantages of high novelty seeking are enthusiastic exploration of new and unfamiliar stimuli, potentially leading to originality, discoveries, and reward. The disadvantages are frequent and easy boredom, impulsivity, angry outbursts, potential fickleness in relationships, and impressionism in efforts. Persons low in novelty seeking are slow tempered, un-inquiring, stoical, reflective, frugal, reserved, tolerant of monotony, and orderly (Ebstein et. al, 1996).**Harm avoidance** involves a heritable bias in the inhibition of behavior in response to signals of punishment and frustratitve non-reward. It is observed as fear of uncertainty, shyness, social inhibition, passive avoidance of problems or danger, rapid fatigability, and pessimistic worry in anticipation of problems even in situations that do not worry other people. Adaptive advantages of high harm avoidance are cautiousness and careful planning when hazard is likely. The disadvantages occur when hazard is unlikely but still is anticipated, which leads to maladaptive inhibition and anxiety. People low in harm avoidance are carefree, courageous, energetic efforts with little or no distress. The disadvantages are related to unresponsiveness to danger or unrealistic optimism, with potentially severe consequences when hazard is likely. The psychology of harm avoidance is complex. **Reward dependence** reflects a heritable bias in the maintenance of behavior in response to cues of social reward. Reward dependence is characterized by sentimentality, social sensitivity, attachment, and dependence on approval by others. Individuals high in reward dependence are tender hearted, sensitive by dedicated, dependent and sociable. One of the major adaptive advantages of high reward dependence is the sensitivity to social cues that

facilitates affectionate social relations and genuine care for others. The disadvantage is related to suggestibility and loss of objectivity frequently encountered with people who are excessively socially dependent. Individuals low in reward dependence are practical, tough minded, cold, socially insensitive, irresolute, and indifferent if alone. The advantages of low reward dependence are personal independence and objectivity that is not corrupted by effort to please others. Its adaptive disadvantage is related to social withdrawal, detachment, and coldness in social attitudes (Cloninger,1987b). **Persistence** reflects a heritable bias in the maintenance of behavior despite frustration, fatigue and intermittent reinforcement. It is observed as industriousness, determination, ambitiousness and perfectionism. Highly persistent people are hard working, persevering and ambitious overachievers who tend to intensify their effort in response to anticipated reward and perceive frustration and fatigue challenge. Individuals low in persistence are indolent, inactive, unstable, and erratic, they tend to give up easily when faced with frustration, rarely strive for higher accomplishments, and manifest a low level of perseverance even in response to intermittent reward (Cloninger, 1987a).

In contrast, **character** refers to individual differences in own voluntary goals and values, which are based on insight learning of institutions and concepts about ourselves, other people and other objects. Character traits describe individual differences in our self object relationships. Character is what we make of ourselves intentionally. The major difference between temperament and character is their psychobiological process and rules of operations. Character involves individual differences in self concepts and object relations that reflect personal goals and values. In other words, character is what a person makes of himself or herself intentionally. Character is rational and volitional, whereas temperament involves basic emotions, such as purposeful moderation, empathy, patience, and in even more mature individuals, hope, love and faith. As a result, character can be described as mental self government, which involves executive, legislative and judicial functions (Cloninger,1998). Character (refers to the mind, that is the conceptual core of personality) involves higher cognitive functions, which include abstraction, symbolic interpretation, and reasoning. The executive, legislative, and judicial functions of mental self government can be measured as three distinct character traits, which are called self- directedness, cooperativeness and self transcendence, respectively. These character traits are adaptive, but their low ends are less advantageous because of a limited spectrum of circumstances in which immaturity, especially low self directedness and cooperativeness, means better adaptation than maturity (Cloninger, 1986). **Self directedness** quantifies differences in the executive competence of individuals. A highly self directed person is self sufficient, responsible, reliable, resourceful, goal oriented and self accepted. The most advantageous summary feature of self directed individuals is that they are realistic and effective, that is they are able to adapt their behavior in accordance with individually chosen, voluntary goals. Individual's lows in self directedness are blaming, helpless, irresponsible, unreliable, reactive, and unable to define, to set and to pursue meaningful internal goals. Such poor executive function, manifest as unrealistic behavior and lack of internal guidance, is rarely advantageous to the individual. **Cooperativeness** quantifies differences in the legislative functions of individuals. Highly cooperative people conceptualize themselves as integral parts of human society. Such highly cooperative persons are described as empathetic, tolerant, compassionate, supportive and principled. These features are advantageous in teamwork and social groups but not individual who must live in a solitary manner. People who are low in cooperativeness are self absorbed, intolerant, critical, unhelpful, revengeful and opportunistic. They primary look out for themselves and tend to be inconsiderate of other people's rights or feelings. **Self transcendence** quantifies individual differences in the judicial functions of people. Self transcendence reflects the extent to which people conceptualize themselves as an integral part of the universe as a whole. Self transcendent individuals are described as judicious, insightful, spiritual, unpretentious, and humble. These traits are adaptively advantageous when people are confronted with suffering, illness or death, which is inevitable with advancing age. They may appear disadvantageous in most modern societies in which idealism, modesty and a meditative search for meaning might interfere with the acquisition of wealth and power. People low in self transcendence tends to be pragmatic, objective, materialistic, controlling and pretentious. Such individuals appear to fit in well in most western societies because of their rational objectivity and materialistic success. However, they consistently have difficulty accepting suffering, failures, personal and material losses and death, which leads to lack of serenity and adjustment problems, particularly with advancing age (Cloninger et.al.1997).

II. REVIEW OF LITERATURE

Personality and psychopathology has been assessed by many of the researches to investigate its relationship. Cloninger (1987b) focused their researches on personality and psychopathology of schizophrenia. Personality of schizophrenics has been of interest ever since the pioneering works of Bleuler (1950) and Krepline (1919). Personality is considered to be an important aspect of schizopherenia primarily because it may influence symptoms expression (Guillem e.t al. 2002 and Lysaker et. al., 1998) and social functioning (Eklund et. al. 2004 and Lysaker et. al. 1998). Aschauer et. al. (1994) tested temperament of 243 subjects from the general population of Vienna and in 59 schizophrenics. They found Schizophrenics were lower in novelty seeking and higher in harm avoidance than controls. Guillem et. al. (2002) did not found any relationship between gender, age, and

socio economic status with schizopherenia patients and healthy controls. Only significant difference was found in educational level between both groups. They revealed three of the four temperament dimensions are affected. schizophrenia patients have low novelty seeking, high harm avoidance low persistence. Szoke et. al. (2002) compared 45 schizophrenia patients (26 men and 19 women) with 126 controls (82 men and 04 women). They found Schizophrenia patients had significantly higher harm avoidance score than the controls. Ritsner and Susser (2004) also found in their study that persons with schizophrenia have higher harm avoidance and lower reward dependence and self directedness than controls. Vandamme and Nandrino (2004) conducted a study to assess the personalities of 13 murderer schizophrenics by using Cloninger's Temperament and Character Inventory. They included schizophrenia patients involved in homicide, schizophrenic with no past violent behavior, paranoid murders and imprisoned murders with no psychiatric history. Results of this study showed that murderer schizophrenics had significantly higher scores on the subscale, self-transcendence, than other groups, which suggests that self-transcendence as measured may be aggravating factors for schizophrenia. Calvo et. al. (2006) found that schizophrenia patients had significant reduction in reward dependence, self directedness and cooperativeness, increased harm avoidance and reduced persistence compared to controls. Bora et. al. (2007) included 94 first degree biological relatives (including 68 parent and 26 siblings had no history of psychiatric treatment) of 52 patients with schizophrenia and 75 healthy subjects. The relatives had higher scores on two dimensions of character (self -directedness and cooperativeness). Females had higher scores on harm avoidance and reward dependence scores of control subjects. Females had higher scores of self directedness and cooperativeness in relatives. Novelty seeking and reward dependence were only correlated with negative schizotypal scores in relatives. Their findings suggested that harm avoidance was a vulnerability indicator of schizophrenia. Some character features like self -transcendence might be also associated with schizotypal features. Fresan et. al. (2007) compared 102 violent and non-violent schizophrenia patients on their temperament and character. They found novelty seeking was significantly higher in the violent when compared to the non-violent patients. The cooperativeness score was significantly lower in the violent patients. Low cooperativeness, suggest that individuals that are socially intolerant, disinterested in other people, unhelpful, revengeful and destructive behavior, these characteristics that are very important for social adaption Their results suggested that schizophrenic patients with high novelty seeking are more violent and this dimension confers a higher risk for violent behavior in schizophrenia. Hiroaki et. al. (2008) studied personality of 86 Japanese patients with chronic schizophrenia with the Temperament and Character Inventory (TCI, Cloninger et al, 1993). The personality variables novelty seeking, harm avoidance, self directedness and self transcendence of both male and female patients significantly differed from controls. Patients showed significantly higher score on harm avoidance and self transcendence and lower scores on novelty seeking, reward dependence, self directions and cooperatives than controls. In six personality dimensions except persistence, there were significant differences between patients and controls. Smith et. al. (2008) found harm avoidance was higher in schizophrenia patients than their siblings, control siblings and control groups. They also found a higher prevalence of schizophrenia configured as having high harm avoidance and low reward dependence, when compared to schizophrenic's siblings, control and control's siblings. This indicated that individuals with schizophrenia have a higher prevalence of personalities characterized as socially detached and motivated. They also found that schizophrenia patients had lower self directedness and cooperativeness than controls, which was indicative of a struggle with identity, lack of empathy, and greater magical ideation.

Gonzalez (2009) studied on 61 schizophrenia or schizophrenia spectrum disorders and general population. Schizophrenia patients scored significantly higher than controls in harm avoidance and self transcendence and lower in self directedness and cooperativeness. First degree relatives showed a tendency to lower novelty seeking and self transcendence than controls. Cortes et al (2009) conducted a study to know the psychopathology and personality traits in psychotic patients and their first- degree relatives. Results suggested that all patients had different personality dimensions from the control group, but in relatives, these scores were not different from controls. Temperamental traits such as harm avoidance and self transcendence would be associated with the appearance of psychotic symptoms. Cortes et. al. (2010) found harm avoidance to be vulnerability marker for psychosis. Self- transcendence found to be associated with the appearance of psychotic symptoms in all kind of patients.

Objectives

The objectives of the present study were to compare schizophrenia with normal controls on four temperament and three character dimensions.

Hypotheses

The following were the hypotheses of the present research:

- There will be no significant difference between temperament profile of schizophrenics and normals.
- There will be no significant difference between character profile of schizophrenics and normals.

III. RESEARCH DESIGN AND METHODOLOGY

The present study was a cross sectional comparative hospital based study. The sample was selected by purposive sampling technique. A sample of one hundred and nine (109) patients of schizophrenia was taken from Psychiatry Department of Dr. Ram Manohar Lohia Hospital, New Delhi as per DSM -IV-TR criteria and 50 normals taken from general population. Formal permission for data collection has been taken from Institutional Research Board of Dr. Ram Manohar Lohia Hospital. The data collection was done after written informed consent from the schizophrenia patients and their parents or care takers.

Inclusion Criteria for Patient Group

- The patients with diagnosis of Schizophrenia according to DSM-IV-TR,18- 60 years of age and both male and females were included. They were educated upto at least high school and given the written informed consent for the participation in the study.

Exclusion Criteria for Patient Group

- The patients those were excluded in the study who had history of all other psychiatric illness accept Schizophrenia, history of mental retardation, head injury or neurological disorders and uncooperative and illiterate.

Inclusion Criteria for Control Group

- The normal controls have GHQ-5 score not more than zero were included. They were between 18 to 60 years of age, both males and females and educated upto high school.

Exclusion Criteria for Control Group

- The normal controls were excluded if they had history of mental retardation, head injury or neurological disorders, family history of major psychiatric illness or any history of previous mental illness of the subjects.

Tools for Assessment

- **Socio-demographic and Clinical Data Sheet:**A sociodemographic data sheet was specially designed for the present study. Proforma contained sociodemographic characteristics, like patients's name, age, gender, occupation, education, income per month, domicile etc. were included.
- **General Health Questionnaire-5 (GHQ-5):**The General Health Questionnaire-5 (GHQ-5) was developed by Shamsunder et. al. (1986). It is a self -administered screening test which is sensitive to the presence of psychiatric disorders in individuals presenting in primary care settings and non psychiatric clinical settings.It is used to identify problem of psychiatric cases. More than 1 score is indicative of problem. Its sensitivity is 86% and specificity 89%.
- **Temperament and Character Inventory** (TCI):The Temperament and Character Inventory (TCI) was developed by Cloninger et. al. (1994), which assess seven dimensions of personality. The self report version of the TCI has 240 items with forced binary answer of true/ false type. The test retest reliability of the quantitative scores over six months are moderately high (about .75 for the original Tridimensional Personality Questionnaire and .85 for the TCI scale).

IV. RESULT AND DISCUSSION

Statistical Analyses: The analyses were performed using the Statistical Package for the Social Sciences (SPSS) version 17.0.The temperament and character scores were compared by using mean, standard deviation and t-test between two groups.

Table 1. Age of Schizophrenia patients and Normal controls

Group	N	Mean	SD	t-value
SchizophreniaPatients	109	32.073	10.205	1.039(NS)
Normal Controls	50	30.14	12.048	

Table 2. Socio demographic Characteristics of Schizophernia Patients and Normal Controls

Variables		Schizopherenia Patients n (%)	Normal controls n (%)
Gender	**Male**	65(59.63)	23(46)
	Female	44(40.36)	27(54)
Education	**8^{th} to 12^{th}**	61(55.96)	37(74)
	Bachelor or above	48(44.03)	13(26)
Socio-economic status	**Low**	62(56.88)	34(68)
	Middle	35(32.11)	9(18)
	High	12(11.0)	7(14)

In this study total 109 Schizophrenia patients and 50 normal controls were included and their mean age were 32.073 and 30.14 respectively(Table 1). Out of 102 Schizophrenia patients 65 were males and 44 females. Majority of Schizophrenia patients were educated upto 8^{th} to 12^{th} std and belongs to low middle socio economic status of Delhi city(Table 2).

Table 3. Comparision between Schizophernia Patients and Normal Controls on Dimensions of Temperament and Character: t-ratios

Temperament Domains	Schizopherenia Patients(n=109)		Normal controls(n=50)		t -value (df=157)
	Mean	SD	Mean	SD	
Novelty Seeking	19.88	16.466	35.76	23.502	**4.907****
Harm Avoidance	66.35	19.190	62.18	20.922	1.239
Reward Dependence	36.14	14.460	37.260	19.881	.399
Persistence	35.55	21.1460	44.840	26.692	**2.363***

*/** significant at 0.01 and 0.05 level

Comparison of schizophrenics and normals on Temperament Domains Novelty Seeking

In the present study novelty seeking was significantly lower (mean 19.88, SD±16.47) in schizophrenic patients in comparison to normal controls (mean 35.76, SD± 23.50). For the comparison, t-tests were applied. Schizophernia patients have low novelty seeking that characterized indifferent, reflective and detached individuals. Eklund et. al. (2002) and Hiroaki et. al. (2008) also found that novelty seeking significantly differed from the normal controls. It had lower scores in comparison to normal controls. Gonzale et. al. (2009) found first degree relatives showed a tendency to lower novelty seeking than controls. Hersan et. al. (2006) also found that schizophrenia patients tended to score lower on novelty seeking subscale, but difference did not reach statistical significance.

In contrast Fresan et. al. (2007) found that novelty seeking was significantly higher in violent schizophrenia patients in comparison to non-violent patients. Higher novelty seeking behavior tended to enjoy exploring unfamiliar places and situations. It described as sensation seeking, excitable, dramatic, and impressionistic. Individuals make decisions quickly on incomplete information and control their impulses poorly. Usually these people are extravagant with their money, energy and feelings. Lower in novelty seeking subscale of schizophrenia tended to no need for novel stimulation, slow to engage in new ideas and activities. These individual rarely break rules. They are not easily distracted and can stay focused for long period of time. They typically prefer activities with strict rules and regulations. They are able to delay gratification when frustrated longer than most people. In view of the description of low novelty seeking schizophrenics fall in this category.

Harm Avoidance

In the present study schizophrenia patients showed higher (mean= 66.36, SD+19.19) harm avoidance in comparison to normal controls (mean=62.18, SD+20.92) but it did not reach statistically significance level. Fresan et. al. (2007), compared with violent and non-violent schizophrenia, harm avoidance scores showed no statistical difference between groups. Janet et.al (2016), found high harm avoidance in participants those were taken randomly from community. Vandamme and Nandrino (2004) also did not found any difference in harm avoidance while comparing with normal controls who had no psychiatric history.Smith et. al. (2008) also found significantly higher harm avoidance in schizophrenia in comparison to controls. It was also compared with siblings of control, found higher harm avoidance in schizophrenia. The same findings were also found Calvo et. al. (2006) ; Stomp et. al. (1998); Szoke et. al. (2002) and Smith et. al. (2008)higher harm avoidance in schizophrenics when compared with normal control sample.. Schizophrenia patients, high in harm avoidance, tend to be cautious, careful, fearful, tense, apprehensive, nervous, timed, doubtful, discouraged, insecure, passive, negativistic or pessimistic even in situations that do not worry other people. These individuals tend to be inhibited and shy in most social situations. Their energy level tend to low, and they feel chronically tired or easily fatigued. As a consequence they need more reassurance and encouragement than most people and are unusually sensitive to criticism and punishment.In the present study harm avoidance was higher than normal control but not statistically significant. The hypothesis of the present study supports this finding.

Reward Dependence

In the present study, reward dependence did not found statistically significance in comparison to both groups (mean 36.15, SD +14.46 in schizophrenic group and mean 31.26, SD+19.88 in control group). But it was very slightly low in schizophrenia group. Guillem et. al. (2002) also did not found significant difference in reward dependence when compared with controls. Szoke et. al. (2002), and Ristner and Sussor (2004) found lower reward dependence but it did not reach statistically significance level. In contrast Calvo et. al. (2006) found significant reduction in reward dependence. Individual low in reward dependence are cold and socially insensitive. They prefer to be alone and rarely initiate open communication with others.

Persistence

In this study schizophrenia patients showed significantly low in persistence (mean= 35.55, SD+ 21.15) in comparison to normal controls (mean= 44.84, SD+ 26.69). Guillem et al (2002), Ritsner and Sussor (2004), Stomp et.al. (1998) and Szoke et. al. (2002) did not found significant difference in the persistence subscale while compared with normal controls. If persistence is low, individuals are viewed as indolent, inactive, unreliable,

unstable and erratic. These persons rarely volunteer for anything they do not and typically go slow in starting work. They tend to give up easily when faced with frustration, criticism, obstacles, and fatigue. Poustka et. al. (2010) suggested that persistence predicted social and occupational outcome. It is important to obtain good functioning.

Comparison of Schizophrenics and Normals on Character Dimension

The present study found statistically significant difference in the all three character domains that are self directedness, cooperativeness and self transcendence when compared with schizophrenics and normal controls.

Table 4. Comparision between Schizophernia Patients and Normal Controls on Dimensions of Character: t-ratios

Character Domains	Schizopherenia Patients(n=109)		Normal controls(n=50)		t -value (df=157)
	Mean	SD	Mean	SD	
Self- Directedness	24.61	24.15	61.58	29.39	**8.3550****
Cooperativeness	12.92	11.11	30.86	18.71	**7.534****
Self Trancedence	72.22	23.83	48.94	21.33	**5.905****

*/** significant at 0.01 and 0.05 level

Self Directedness

In the present study schizophrenics scored significantly lower (mean 26.61, SD+24.15) in self-directedness in comparison to normal controls (mean 61.58, SD+29.39). Lower score in self directedness indicates as immature, weak, fragile, blaming, destructive, ineffective, irresponsible and unreliable with lack of an internal organizational principal. They seem to be lacking an internal organizational principle which renders them unable to define, set and pursue meaningful goals. Usually their behaviors are dominated by reactions to situation and pressure from extra circumstances, rather than their personal goals and values. In contrast highly self directed persons are described as mature, strong, self-sufficient and well-integrate individuals when they have the opportunity for personal leadership. As in the present study schizophrenia patients showed lower in self directness, but normal controls showed high in this dimension which indicates that they are mature and self directed in their goals and value. Szoke et. al. (2002) and Ritsner and Sussor (2004) also found lower self directedness of schizophrenia patients than controls, but they also did not reach statistically significant level. Vanadamme and Nandrino (2004) did not found statistical significance in this dimension in comparison to normal controls. Calvo et. al. (2006) found significant difference in self directedness. Bora et. al. (2006) found significant high self-directness in the relative of schizophrenia patients. Hiroaki et. al. (2008) and Smith et. al. (2008) also support these findings. They found significant reduction in self directedness than controls. Gonzale et. al. (2009) found significantly lower in self-directedness when compared with normal controls. In contrast Eklund et. al. (2002), Poustka et. al. (2010) did not found any differences in self directedness while comparing the normal controls

Co-cooperativeness

Present study found significant difference in cooperativeness between schizophrenia patients and normal controls. Cooperativeness was lower in schizophrenic group (mean 12.93 and SD+11.11) in respect to normal controls (mean 30.86 and SD+18.71).Low cooperativeness correspond to socially intolerant, unhelpful and destructive behavior. It described as self-absorbed, intolerant, critical, unhelpful, revengeful and opportunistic. In contrast, high cooperativeness persons are described as empathetic, tolerant, compassionate, supportive, fair and principled individuals who enjoy being of service to others and try to cooperate with others as much as possible. They understand and respect the preference and needs of others as well as their own. Their capacity is important in teamwork and social groups for harmonious and balanced relationship to flourish but is not needed by solitary individuals. In the present study schizophrenic showed characteristics of lower scores of cooperativeness.Calvo et. al. (2006) found significant reduction in cooperative dimension when schizophrenia patients and normal controls were compared. Low cooperativeness correspond to individuals that are socially intolerant, disinterested in other people, unhopeful, revengeful, and with destructive behavior characteristics that are very important for social adaptation. Violent schizophrenia patients also showed low cooperativeness (Fresan et. al. 2007).

Guillem et. al. (2002); Ritsner and Sussor (2004); and Szoke et. al. (2002) did not found statistically significant difference in cooperativeness scale in comparison to normal controls. Bora et. al. (2006) found significantly high cooperativeness in relatives of schizophrenic patients than controls. Hiroakic et. al. (2008) also found significantly lower cooperativeness in schizophrenia patients.

Self-Transcendences

In this study schizophrenia patients showed high self transcendence which is significantly different from the normal control group. Their mean score was 72.220, SD+ 23.83 in schizophrenic patients and in normal controls mean score was 48.94, SD+21.33. The higher score in self- transcendence is characterized as criticism for what

appears in western society to be naiveté, magical thinking, and subjective idealism which may be as acquisition of material wealth and power. Lower score described as tend to be proud, impatient, unimaginative, and unappreciative of art, self-aware, materialistic and unfulfilled. They cannot tolerate ambiguity; uncertainly and surprises. On the other hand, individual low in self- transcendence is often admired in western societies for their rational, scientific objectivity and materialistic success. Gonzalez et. al. (2009) found self -transcendence were more marked, as in the present study, but also not significant. Findings of the present study were also supported by Guillem et. al.(2002), Ritsner and Sussor (2004) and Szoke et. al. (2002). They compared self- transcendence scores of schizophrenia patients with normal control and did not found any significant difference between two groups. Vandamme and Nandrino (2004) found significantly higher self- transcendence scores in murderer schizophrenics than no past history of violent behavior of the schizophrenic patients. They suggested that high self transcendence may help to understand the violent behaviour of schizophrenia patients. Daneluzzo et. al.(2005) suggested that high self transcendence is a predictor either of psychosis proneness or mature, effective, adapted and self-satisfied personalities, depending on its interaction with other TCI dimensions of both temperament and character. Bora et. al. (2006) and Hiroaki et. al. (2008 also suggested that higher self- transcendence might be also associated with schizotypal features of the schizophrenics. But Smith et. al. (2008) also did not found difference in self transcendence.

V. CONCLUSION

Findings of this study indicated that there is significant difference in temperament and character of schizophrenics and normal controls, which can be helpful to identify the people who shows schizophrenia and their temperament and character. An important achievement of this research is that it is probably the first study in India especially at Delhi Region to compare with Schizophrenia and normals. The review of literature indicated that there is paucity of researches on this problem not only in this city/state but also in the entire country. Some important findings emerge from the analysis of the data of this study.

Limitations

The present study was conducted on small sample size. There were only 109 schizophrenia patients and they were compared with 50 normal controls. The findings of this research cannot be generalized to the entire schizophrenia patients, because it is based on the sample drawn from the population of only one hospital from New Delhi. The character dimension is closely linked with the environmental factors but it was ignored in this study.

Further direction

The future researches should be conducted on large sample, in which participants should be from different place, culture or ethnic groups. The relatives of the schizophrenics should be included.

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