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CONTENTS

The present study endeavoured to evaluate the quality of life of the homeless and restored women with psychosis. The influence of their living conditions in three different psycho-social milieus and the disability levels on their Quality of Life was also examined. This study was carried out on women clients with psychosis who received medical and psycho-social care under three different programs of Iswar Sankalpa (a Kolkata- based NGO), India. Methods: A matched group design using mixed method technique was adopted for the study. The sample of 50 clients with psychosis was comprised of 16 homeless clients under the Out-reach program, 18 homeless clients under the Shelter home program and 16 previously homeless clients under the Restoration program. The sample was evaluated using the IDEAS and WHOQOL-BREF. After collection of data, statistical analysis was done using the SPSS- version 22. Results: The results mirrored that a statistically significant negative correlation exists between the clients' disability and two domains of QOL, these are- social relationships and environment. Regarding the psychological health and environment domains of QOL, the Shelter home and the Restoration groups significantly differed from the Outreach group. The mildly disabled clients differed significantly from the severely disabled clients in respect to the social relationships domain of the QOL. Conclusion: The knowledge of specific areas of dissatisfaction in QOL of the women with psychosis may have implications for the service providers and service planners for more improved medico and psychosocial intervention.

Key Words : *QOL- Quality of Life, SZ- Schizophrenia.*

Motion is Emotion : Why we should listen to Patient's Abdominal Symptoms

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As depicted in the film 'PIKU'#, the preoccupation with constipation and Amitabh Bachchan* says 'motion is emotion'. This epitomizes the feeling and emotions of a large number of our patients particularly in this part of the world who blame everything on "gas" and its movement upwards. This is generally accepted with derision by most of the professionals and is a butt of joke in inner circle. Sometimes, patient's insistence on dietary advice is scoffed at. The research is providing astonishing answers.

'BRAIN IN THE GUT'

The nervous system controlling digestion (ENS : Enteric Nervous System) is dubbed as second brain. It comprises of 900 million neurons, supportive glial cells, produces 40 Neurotransmitters 50% of Dopamine and 95% of the Serotonin and its own blood brain barrier and is 5 meter long stretching from esophagus to anus. Normally it is believed that neuro-transmitters produced in the gut may not reach brain but it may reach the areas where blood brain barrier is deficient like hypothalamus.

We all are aware that stress leads to search of comfort foods and eating of high carbohydrate and fatty foods lead to feeling of pleasure. Ghrelin is a hormone secreted by gut which makes us hungry and it also releases Dopamine in brain and acts on reward system. Butterflies in stomach and Gut instinct are well known phenomenon.

Recent studies show that a gut flora is responsible for formation of fully functional Blood Brain Barrier in mice.[1] Early experiments aiming at identifying presumed homeostatic, sleep-inducing factors by continuous sleep deprivation experiments in animals or humans led to the identification of bacterial endotoxins, i.e. decay of bacterial cell walls, as a major accumulating molecular component during prolonged wakefulness in cerebrospinal fluid and urine.[2,3] This led to the idea that a wakefulness-dependent increase in the permeability of the BBB is cyclically restored during sleep, and that this process is regulated by gut microbiota, their decay or elicited downstream responses[4]. Such a clearance and containment function of sleep against gut microbiota and their elicited responses would be in line with the recent discovery of a clearance function of sleep for endogenous neurotoxins like aggregated Abeta.[5]

In recent studies gut microbial flora has been found to influence autism, depression and anxiety. Similar changes have been found in gut neurons as in Parkinson's disease and Alzheimer's disease. Mouse model with some features of autism had much lower levels of a common gut bacterium called Bacteroides fragilis than did normal mice. The animals were also stressed, antisocial and had gastrointestinal symptoms often seen in autism. Feeding B. fragilis to the mice reversed the symptoms.[6]

There are bidirectional communication channels between the gut microbiome, the gut, and the brain. Endocrine, neurocrine and inflammation-related signals generated by the gut microbiota and specialized cells within the gut can, in principal, affect the brain. In turn, the brain can influence microbial composition and function via endocrine and neural mechanism.[7]

These findings suggest increased influence of gut on brain and also influence of emotions and brain on gastroenterological symptoms. We should start paying more interest to patient's account of their gut symptoms and dietary modification and antibiotic may form a modality of treatment in future.

Indian comedy-drama film directed by Shoojit Sircar.

*Amitabh Harivansh Bachchan
(IPA : born - 11 October 1942) is an Indian film actor.

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ORIGINAL ARTICLE

Attentional impairment and minor physical anomalies in early onset schizophrenia

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ABSTRACT

Background : Minor physical anomalies (MPAs) are established markers of abnormal neurodevelopment that also has been postulated to lead to attentional impairments. Both these variables are studied and found in schizophrenia. We aimed to compare the neuropsychological domain of attention in patients with schizophrenia and healthy controls and correlated the findings with number of MPAs. **Methods :** Thirty patients with early onset schizophrenia (in remission) and thirty healthy controls were recruited. While attention was assessed using the Digit span, the Digit vigilance and the Trail Making Tests, MPAs were comprehensively assessed using the 55 item Extended Waldrop Scale. Study variables were analysed using non-parametric measures. **Results :** Schizophrenia patients were found to have significantly higher cranio facial and total MPAs. Attentional impairment in patients was significantly impaired as compared to controls. There was no significant correlation between MPA scores and attentional measures. **Conclusions :** This study supports the finding that total and specific cranio-facial MPA scores and, impaired attention are indeed illness markers in schizophrenia patients. No distinguishable association, however, was found between MPAs and attentional measures. We suggest heterogeneity in brain morphogenesis, disease and treatment influences as possible hindrances.

Keywords : Schizophrenia; Neurodevelopment; Neuropsychology; Minor physical anomalies; attention.

I. INRODUCTION

There is a recent trend amongst the schizophrenia researchers to identify composite risk-markers in order to adequately support the current criterion (symptom) based diagnosis of the disorder. Risk marker identification essentially is known to help discover complex genetic mechanisms underlying the etiology of a given disorder (Gottesmanand Gould, 2003). Researchers have included clinical, morphological, neuro-anatomical, neurophysiological, neuro-pathological and neurological parameters for their studies. Much of such research on schizophrenia in the last two decades is primarily based upon the Neuro-developmental hypothesis (Murray et al., 1992; Weinberger, 1987; Woods, 1998) (illustrated

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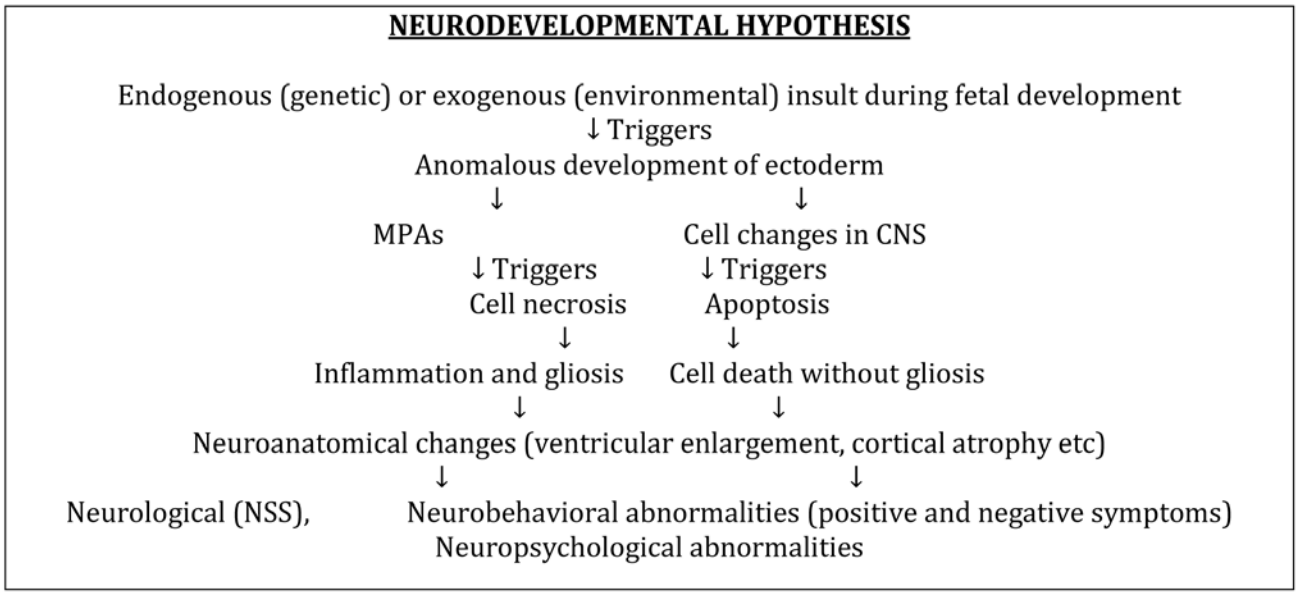
briefly in figure 1). Neurodevelopmental models of schizophrenia can be subdivided into two categories: early and late. Early neurodevelopmental models propose that early brain damage, such as prenatal lesions of the temporal lobe, are followed by extensive "rewiring" of neural circuitry in subsequent development, leading to misconnections which to the chronological order of the normal embryonic development (Tarrant and Jones, 1999). Though the pathogenesis of these anomalies could not be clearly specified, they appear to be the result of a combined interaction between inherited genetic defects, chromosomal aberrations, early pregnancy complications and environmental teratogenic

Figure 1



are thought to underlie the disorder (Goodman, 1989). Late neurodevelopmental models suggest that the ongoing processes of brain maturation that continues well into adolescence is itself abnormal in schizophrenia.

Central nervous system and superficial connective tissue develop from ectoderm in utero, hence the early or the prenatal brain damage described in early neurodevelopmental models are associated with a range of minor alterations in the development of various physical structures as well. Among these alterations are minor physical anomalies (MPAs), an MPA is an insignificant physical defect, a deviation in appearance from essential physical characteristics (Evans et al., 1973). Because of their relation to development of central nervous system, MPAs can be used as biological markers in tracking down developmental disturbances timed according agents through some unknown mechanisms (Jones and Murray, 1991). Numerous studies have compared the incidence ofMPAs are in patients with schizophrenia and the healthy population.

Relationship of MPAs with various neuropsychological correlates has been studied (see table - 1). From table - 1 we infer that MPAs have an arguable relationship with neuropsychological variables. Amongst the significant relationships with the neuropsychological tests specific deficits in attention, concentration, vigilance and working memory in general are indicated which point to frontal lobe dysfunction.

In this study we compared the neuropsychological domain of attention in patients with schizophrenia and healthy controls and correlated the findings with number of MPAs assessed using a comprehensive list.

METHODS

The study had the approval of the Institute Ethics Committee of Ranchi Institute of Neuro-Psychiatry and Allied Sciences (RINPAS), Ranchi, India. Written informed consent was obtained from all the subjects (and their legally qualified representatives in case of patients) after explaining them fully about the procedures and then enrolled into the study.

SUBJECTS

PATIENTS

Thirty patients (16 male) of schizophrenia were recruited into the study by purposive sampling from those who attended the outpatient services of RINPAS. The inclusioncriteria were a International Classification of Diseases diagnosis- diagnosis and research criteria ICD (DCR)-10 (World Health Organization, 1992) diagnosis of schizophrenia with duration of illness less than 2 years and fulfilling the operational criteria for remission,right handedness, age between 18 and 25 years and average IQ. The exclusion criteria were any history of neurological illness or significant head injury, presence of co-morbid substance dependence or any other psychiatric disorder, disruptive behavior (suicidal or homicidal) that warranted immediate interventions, and history of electroconvulsivetherapy within the previous 6 months.

CONTROLS

Thirty healthy individuals (18 male) in the same age group as the patients (18-25 years) were recruited. These subjects, predominantly constituted by relatives of hospital staffand public in the immediate locality of the hospital were administered general health questionnaire (GHQ)-12 (Goldberg and William) which warranted a score of above 3. Presence of any history of neurological illness or significant head injury, substance dependence or any psychiatric disorder and history of psychotic disorders in their first-degree relatives were the exclusion criteria.

CLINICAL ASSESSMENTS

Handedness was assessed using Handedness preference schedule (HPS) - Hindi version (Mandal et al., 1992). The baseline schizophrenia psychopathology severity was evaluated by administering the Positive and

Table-1 : List of studies associating MPAs with neuropsychological correlates in schizophrenia

Serial no	Studies	Correlates studied	Results/ Inferences
1	Guy et al. (1983)	Chronicity of illness, premorbid adjustment, Wechsler Adult Intelligence Scale and Neurological Impairment Index	Significant relationship with the subset of premorbid adjustment, Vocabulary scores on Wechsler Adult Intelligence Scale, and Neurological Impairment Index
2	Green et al.(1989)	Age of onset, tests of vigilance, attention and orientation	Association only with age of onset.
3	O'Callaghan et al. (1991)	Age of onset, family history, birth related complications, sex, trail making test	Linear multiple regression analysisshowed that higher scores for minor physical anomalies were associated withimpaired cognitive flexibility on Trail Making Test B, family history ofschizophrenia in a first-

			degree relative, maternal history of obstetriccomplications, smaller number of siblings, later position in the birthorder, and male sex. A family history of schizophrenia was particularlyassociated with abnormalities of the mouth. The association between minorphysical anomalies in the patients and obstetric complications in theirmothers appeared to be confined to instances in which the mother had ahistory of bleeding in early pregnancy.
4	McGrath et.al. (1995)	Gender, age at onset, negative symptoms,prernorbid level of functioning, estimated premorbid intelligence (NART, WAIS), pregnancy and birth complications, and selected CT variables (total volume of lateral ventricle, maximum volume of the third ventricle)	No associations
5	O'Callaghan et al. (1995)	Positive and negative symptoms, neuropsychological tests, MRI	No correlation
6	Ismail et al. (2000)	Premorbid personality, age of onset, severity, neuropsychological test scores (word pair 1 and 2, trail making A and B digit span 1 and 2, verbal fluency and Wisconsin card sort test categories and preservative errors),	No correlation

Negative Syndrome Scale (PANSS) (Kay et al., 1987). The criteria for remission used for this study was the modification of the proposed multidimensional criteria for symptomatic remission by Andreasen et al. (2005). Mild or lower severity (≤ 3) on all relevant items at the point of selection i.e.

1. For the dimension of reality distortion the selected PANSS items are P1 (delusions), P3 (hallucinatory behavior), and G9 (unusual thought content).
2. For the dimension of disorganization they are P2 (conceptual disorganization) and G5 (mannerisms/posturing).
3. For the dimension of negative symptoms they are N1 (blunted affect), N4 (social withdrawal), and N6 (lack of spontaneity).

ASSESSMENT OF MPAs

A modified version of the Waldrop scale-Extended Waldrop scale (Mehes, 1988) was used for the assessment of MPAs. All of the items were used in this study except for measuring the mandible size which needs a specialized occipito-mental view in X-ray mandible. Total number of MPAs assessed was 54. All items were scored as present or absent only. Only one researcher assessed and rated the items. However, inter-rater reliability of the scale is found to be high (Trixler et al., 1997).

TOOLS FOR NEUROCOGNITIVE MEASURES :

Digit Span Test (Subtest of WAIS–III; Wechsler, 1997) :

Digit span tasks have been commonly used to assess attention and working memory in both clinical and nonclinical populations. The WAIS–III, Digit Span subtests require oral presentation of digits. For clinical applications, the traditional method of administration is oral. The split half reliability of the test was .90 and test retest reliability was .83. This was also found to have highest specificity of WAIS III subtest .50/.10 (Kaufman & Lichtenberger, 1999). Digit span demonstrated moderate criterion validity while correlated with Stanford Binet Composite score (r = .48).

Digit Vigilance Test (Lezak, 1995) :

This test is a measure of vigilance. This is the ability to maintain attention and alertness overprolonged periods of time.It consists of number 1 to 9 randomly ordered and placed in rows on a page.Different digits are arranged in rows. There are 30 digits per row and 50 rows on the sheet. Subjects are asked to cancel digit 6 and 9 only by using '/'. So, the subject has to focus on the target digits 6 and 9 amongst other distracter digits. They were also asked to finish the task as fast as possible. Scoring was done by considering the time to complete the test and by calculating the error score. The error score is the sum total of the number of omission of digit 6 and 9 those were not cancelled. Another type of error score was the sum total of the digits cancelled other than target digits. It takes 15 minutes to complete.

Trail Making Test (Reitan, 1956) :

It was developed by Reitan (1956). Although trail making tests are very simple, they have been hypothesized to reflect a wide variety of cognitive processes including attention, visual search and scanning, sequencing and shifting, psychomotor speed, abstraction, flexibility, ability to execute and modify a plan of action, and ability to maintain two trains of thought simultaneously. This test demands adequate visual scanning, selective attention and cognitive set shifting during an easy task. The test has two parts; part 'A' and part 'B'. Part 'A' requires the subjects to connect 25 numbered circles (in increasing order) with the help of pencil. In part 'B' 13 circles are numbered 1-13 and rest 12 are marked A-L. Subjects must alternate between digits and letters. Approximately 5-10 minutes required to finish the test. Reliability was reported as .98 for part A and .67 for part B (Lezak, 1983).

Statistical analysis

Sample demographic and clinical characteristics were determined using frequencies and mean (standard deviation) and, were compared between the two groups using independent samples t test and chi square test. MPAs and neuropsychological variables were compared using Mann-Whitney U test. Spearman's correlation was used for assessing the association between MPAs and attentional measures.

RESULTS

Table 2 shows the comparison of socio demographic variables between the two groups. It is found that both groups are comparable on age, gender, education, socioeconomic status and habitat. However, compared to the patient group, significantly higher numbers of subjects in the control group were unmarried students belonging to religion other than Hinduism. The mean illness duration was 14.77±5.96 months. The remitted patients were on antipsychotic drugs and the mean chlorpromazine equivalent dose was 268.33±96.03. On comparison of MPAs between the two groups it was found that MPAs in skull, eyes, ears, mouth and the total score were significantly higher in the patients (Table 3). Scores on the Digit Span test, time taken to complete and number of omission errors on digit vigilance task were significantly impaired in patients. On the TMT, only time on 'A' subtest and both time and errors on 'B' subtest were significantly higher in the

patient group (Table 3). Table 4 shows that there is no significant correlation between MPA scores and attentional measures.

DISCUSSION

This study supports the finding that total and regional MPA scores, assessed using the EWS, are significantly higher in schizophrenia patients compared to healthy controls. The topographical distribution of MPAs in schizophrenia can unravel the temporal course and nature of abnormal neurodevelopment. Regional analysis in our study showed that MPAs in cranio-facial region- skull, eyes, ears and mouth significantly higher in the patient group than the control group,where as MPAs elsewhere- limbs and trunk did not show significant difference.This is consistent with other studies that show specific cranio-facial MPAs may be associated with schizophrenia (Compton et al., 2011).

In the domain of attention, patients with schizophrenia were found to be significantly poorer than healthy control as indicated by lower digit forward and backward scores, higher number of omission errors and time

Table 2 : Sample Characteristics

		Schizophrenia Patient (N=30)	Control (N=30)	t/χ^2	df	P
Age (years)						
mean ±SD		22.97±2.19	22.70±1.54	0.55	58	.59
Gender	Male	16	18	0.27	1	.60
	Female	14	12			
Marital status	Married	9	2	5.45*	1	.02
	Unmarried	21	28			
Religion	Hindu	27	18	7.20**	1	.007
	Others	3	12			
Education (years)		12.27±2.46	12.40±1.79	-0.24	58	.81
mean ±SD						
Occupation	Employed	6	2	9.79**	2	.007
	Unemployed	13	5			
	Student	11	23			
Socio-Economic Status	Lower	19	12	3.33	2	.19
	Middle	9	14			
	Higher	2	4			
Residence (%)	Rural	14	20	3.72	1	.16
	Urban	16	10			
Past medical illness (%)	Significant	3	2	0.22	1	.64
	Insignificant	27	28			
Family psychiatric illness (%)	Significant	9	-	-	-	-
	Insignificant	21	-			
Family medical illness (%)	Significant	4	5	0.13	1	.72

	Insignificant	26	25
Illness duration (months)			
mean ±SD	14.77±5.96	-	
Drug dosage			
Chlorpromazine equivalents			
mean± SD	268.33±96.03	-	
PANSS			
mean ±SD	Positive syndrome	8.07±1.23	-
	Negative syndrome	8.47±1.46	-
	General	19.43±3.63	-
	Total	36.30±5.55	-

*p<.01; **p<.01; PANSS- Positive and Negative Syndrome Scale; SD- Standard Deviation

Table 3 : Comparison of study variables across schizophrenia patients and healthy controls

		Schizophrenia Patient (N=30)		**Control (N=30)**	**Mann-Whitney U**	**p**	
		Mean±SD	Mean Rank	Mean±SD	Mean Rank		
MPA_SKULL		1.03±0.96	35.15	0.50±0.68	25.85	310.50*	0.03
MPA_EYE		0.57±0.86	36.05	0.03±0.18	24.95	283.50***	0.00
MPA_EARS		0.90±0.76	37.33	0.33±0.71	23.67	245.00***	0.00
MPA_MOUTH		0.23±0.43	33.50	0.03±0.18	27.50	360.00*	0.02
MPA_TRUNK		0.20±0.41	32.50	0.07±0.25	28.50	390.00	0.13
MPA_LIMBS		0.53±0.86	31.80	0.40±0.72	29.20	411.00	0.48
MPA_Total		3.43±2.06	39.45	1.30±1.62	21.55	181.50***	0.00
Digit Forward		5.27±2.02	22.35	7.00±1.49	38.65	205.50***	0.00
Digit Backward		3.73±1.14	20.28	5.40±1.16	40.72	143.50***	0.00
Digit Vigilance	Time	13.14±5.11	41.50	8.55±1.91	19.50	120.00***	0.00
	Omission errors	63.17±61.50	29.85	15.11±12.53	15.58	109.50***	0.00
	Commission errors	1.73±8.43	25.10	0.00±0.00	23.50	252.00	0.27
Trail Making Test	A_Time	1.43±0.78	31.25	0.68±0.26	13.25	67.50***	0.00
	A_Errors	0.37±0.85	25.85	0.06±0.24	22.25	229.50	0.16
	B_Time	3.53±1.75	30.02	1.92±0.76	15.31	104.50***	0.00
	B_Errors	7.10±5.45	28.07	4.44±5.28	18.56	163.00*	0.02

*p<.05; ***p<.001; MPA - Minor Physical Anomalies; SD - Standard Deviation

taken to complete digit vigilance task. Earlier studies (CornblattandKeilp, 1994; Everett et al., 1989; Green and Walker, 1986) on attention in schizophrenia were found to be consistent with the result of the study. In a recent study, Kim et al. (2011) concluded that domain of attention as part of overall neurocognition in schizophrenia was found to beworst than healthy control, so the finding of this study. Also similar to our study results, a longitudinal study by Sanchez-Torres et al. (2013) showed that the schizophrenia spectrum disorder patients differed significantly from healthy controls in their performance on the Trail Making Test.

No significant relationship was found between rates of MPAs and attentional

Table 4 : Correlation between MPAs and measures of attention

Spearman's Correlation rho	Digit Forward	Digit Backward	Digit Vigilance				Trail Making Test		
			Time	Omission errors	Commiss-ion errors	A_ Time	A_ Errors	B_ Time	B_ Errors
MPA_SKULL	-0.310	-0.189	0.130	0.096	-0.018	-0.093	0.210	0.275	-0.201
MPA_EYE	-0.074	-0.216	-0.262	-0.140	0.185	0.079	-0.064	0.191	-0.040
MPA_EARS	0.014	-0.092	-0.118	-0.075	0.013	-0.203	-0.260	-0.096	-0.351
MPA_MOUTH	-0.102	-0.147	0.077	0.159	0.179	0.264	0.300	0.281	0.075
MPA_TRUNK	0.196	-0.221	-0.075	0.029	0.211	-0.159	-0.062	-0.222	0.030
MPA_LIMBS	-0.241	-0.272	0.130	-0.159	0.053	-0.013	0.104	0.298	-0.170
MPA_Total	-0.235	-0.275	-0.084	-0.064	0.332	-0.113	0.082	0.339	-0.253

*p<.05; **p<.01; MPA- Minor Physical Anomalies

dysfunction in the patients. Further, as in most previous investigations of clinical correlates of MPAs (see Table 1), clinical impairment was not related to rates of MPAs in the patients. Thus, higher number of MPAs would not allow the identification of a separate distinguishable subgroup among patients as proposed by Murray et al. (1992) in their 'congenital' model. However, the simultaneous occurrence of increased rates of both MPAs and attentional dysfunction in patient sample suggests a possible role of one or more 'congenital' factors in the etiological underpinnings of schizophrenia patients.

The lack of association between MPAs and attention measures could have resulted from low statistical power in within-group analyses of relatively small samples (i.e. 30 vs. 30 patients) and using nonparametric analyses. A number of other explanationsfor the lack of statistical significance are possible: the early brain dysmorphogenesisseen in schizophrenia is multifactorial in origin (Tikka et al., 2014) and might have obscured the specific relationship between MPAs and attentional characteristics. Also, the operational assessment of MPAs may not adequately measure parallel maldevelopment in the brain. One possible future research strategy would be the study of different disease characteristics in relation to individual MPA items which have high discriminative power in schizophrenia samples. And, subsequent development of the brain could provide great variation in the manifest level or type of attention characteristics of schizophrenia patients in adulthood (Waddington and Buckley, 1996). There is a possibility of contamination by other factors such as later environmental influences, disease and recovery processes (as patients were in remission), the schizophrenia process itself, its treatment etc.

Despite negative findings with respect to attentional correlates of MPAs, the current study's major strength is the use of an extended MPA battery (55 items) to investigate relationships between MPAs and other characteristics of schizophrenics. To the best of the authors' knowledge, although used in Indian population (Tikka et al., 2013), it is the first study to use this tool for correlation with neuropsychological variables. Moreover, inclusion of early onset schizophrenia patients in the present study is particularly crucial while explaining neurodevelopmental basis as the period of onset of psychosis is related to over pruning of synaptic connections (Feinberg, 1982).

CONCLUSION

The present study reiterates the finding of higher developmental anomalies in patients with schizophrenia in comparison with healthy controls and also restates the profound attentional neurocognitive impairment in them. The study however, fails to show a significant relationship between rates of MPAs and attentional dysfunction in the patients. We suggest heterogeneity in brain morphogenesis, incapability of MPA assessment alone MPAs to measure parallel maldevelopment and later life environmental, disease and treatment influences as possible hindrances for a possible association apart from statistical shortcomings of the study.

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ORIGINAL ARTICLE

MMPI Profile of Individuals with Migraine

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ABSTRACT

Introduction : Migraine is a neurological syndrome characterized by altered bodily perceptions, severe headaches, and nausea, more common to women than to men. Various psychiatric disorders like panic disorder and depression have been associated with migraine, leading to further disability of migraine sufferers in all aspects of their daily lives. The aim of study was to assess the personality pattern of individuals with migraine as compared to normal. **Method :** Individuals, both normal controls and migraine sufferers were assessed on Minnesota Multiphasic Personality Inventory (MMPI-2). **Result :** Elevations were found in the scales on hypochondriasis, depression, hysteria, psychasthenia and schizophrenia. Females were more to have reported headaches. Individuals with migraine showed lower level of education along with positive family history. **Conclusion :** Migraine sufferers display a conversion profile with depression being common. Although some psychotic scales may be elevated but they do not qualify for an independent identity.

Keywords : Migraine, psychopathology, conversion profile, psychotic scales, MMPI-2.

INRODUCTION

Migraine is characterized by episodes of headache that is often throbbing and frequently unilateral and may be severe. It can cause difficulty with work and life; frequently, if not diagnosed or treated appropriately. In migraine without aura (previously known as common migraine), attacks are usually associated with nausea, vomiting, or sensitivity to light, sound, or movement. When untreated, these attacks typically last 4 to 72 hours. A combination of features is required for the diagnosis, but not all features are present in every attack or in every patient (Olesen et al. 2000). Approximately one-third of people who suffer migraine headache perceive an aura—unusual visual, olfactory, or other sensory experiences that are a sign that the migraine will soon occur.

Psychopathological problems are prominent among patients with severe headache. In headache patients the most frequent psychiatric conditions are anxiety and mood disorders (Guidetti & Galli, 2002). Psychiatric comorbidity plays a role in prolonging and making the course of headache enduring. The association between headache and depression or anxiety has been well documented for years (Merikangas et al., 1990).

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Previous studies have shown that subjects with anxiety and a combination of anxiety disorders and major depression are more likely to be affected by migraine (Zwart et al., 2003) and that the co-occurrence of psychiatric disorders in women with migraine appears to be influential on history of headache in the long term. Yet another work (Mongini et al., 1997) in which the Minnesota Multiphasic Personality Inventory (MMPI-2) was administered on patients with chronic daily headache (CDH), an elevation of several MMPI scales and a fairly large number of psychosomatic symptoms were found in almost all patients. The role of psychological factors in the development of chronic headache needs to be elucidated; hence the aim of our study is to assess the personality pattern of individuals with migraine using the MMPI-2.

METHOD

Subjects selected with frequent headache attacks seen from March 2011 to November 2011 at a tertiary care center for headache were based on :

1. Individuals diagnosed with migraine according to the diagnostic criteria for migraine with/ without aura of the International Classification of Headache Disorders (ICHD II, 2004).
2. Primary school education with ages between 16 and 60 years.
3. Absence of any major psychiatric disorder, medical disorder causing headache (such as sinusitis, neck trauma) or neurological disorder (trigeminal neuralgia, non-vascular intracranial disorder).
4. Absence of Past history of significant head injury or drug/alcohol use in past 6 months.
5. Giving informed consent.

All the subjects were divided in two groups-

a) Group 1= Experimental group (migraine patients)

b) Group 2= Control group (normal subjects)

All individuals hadtheir personality and psychopathology assessed by the MMPI-2 (Butcher et al., 1989), under the supervision of a psychologist. Normal controls were selected if they scored less than 3 on the general health questionnaire (GHQ 12) (Goldberg & William, 1988), which is a 12 item scale assessing the general health of individuals. Only subjects who met the above mentioned inclusion and exclusion criterion were made a part of this study. The MMPI-2 is a 567-item, true-false questionnaire that evaluates personality on 8 validity and 10 clinical scales. For each scale, a T-score of 65 is considered to be the level of clinical significance in the 95th percentile.

A minimum of 35 migraine sufferers and 35 normal subjects were selected in total for the assessment. The number of drop outs was more in headache patients (5) as compared to normal controls (3) considering the length of the test being administered. There were 3 invalid MMPI profiles in both the groups because of inconsistent responding, hence only the valid profiles of the patients were interpreted and analyzed.

Descriptive statistics and chi-square test were used for comparison of the socio-demographic variables like gender, occupation, education, age, religion and socio-economic status.t-test was applied for the comparison of the validity and clinical scales between the experimental and control group. The occurrences of T-scores >65 were analyzed using Fischer's two-sided exact test, the odds ratio being calculated considering a 95% confidence interval. The p values are presented at 0.05 level assuming the equal variance.

RESULT

A total of 27 migraine patients and 29 normal controls were assessed and analyzed. There was no significant difference in the gender, occupation, religion or socio economic status among the groups, though females being more in number. A significant difference was seen in the variables education and family history. Migraine sufferers seemed to be having lower education ($p<.001$) with a positive family history ($p<.05$), displayed in table 1.

Table-1 : Socio-demographic characteristics (N=56)

		Experimental (n=27)	Control (n=29)	χ^2	df	p
Gender	Male	10 (37.0)	7 (24.1)	1.100	1	0.224
	Female	17 (63.0)	22 (75.9)			
Education	Primary and Secondary	11 (40.7)	2 (6.9)	15.437	3	.001**
	Higher secondary	8 (29.7)	23 (79.3)			
	Graduation	6 (22.2)	2 (6.9)			
	Post Graduation	2 (7.4)	2 (6.9)			
Occupation	Employed	12 (44.4)	8 (27.6)	1.731	1	0.150
	Unemployed	15 (55.6)	21 (72.4)			
Family history	Significant	15 (55.6)	8 (27.6)	4.51	1	.031*
	Non-Significant	12 (44.4)	21 (72.4)			
Religion	Hindu	15 (55.6)	10 (34.5)	2.512	1	.094
	Other	12 (44.4)	19 (65.5)			
SES	Lower	9 (33.4)	8 (27.6)	2.401	2	.301
	Middle	13 (48.1)	19 (65.5)			
	Upper	5 (18.5)	2 (6.9)			

p<.05* , p<.01**

No significant difference was apparent as far as the validity scales were concerned except for the higher mean ages in group 1(33) in comparison with group 2 (24), which turned out to be p<.001, presented in table 2. As regards the psychological evaluation of the clinical scales (Table 3), the mean MMPI-2 scores were consistently higher in group 1 than in group 2, with significant differences for hypochondriasis (Hs) : P <.001; depression (D) : P <.001; hysteria (Hy) : P <.001; psychasthenia (Pt) p< .05; schizophrenia (Sc) : P <.05; psychopathic deviate (Pd) P<.001 and paranoia (Pa) P<.001. The mean duration of illness was found to be 38 months, the skewness occurred probably because of the varied duration of illness ranging from few months to more than ten years.

Table 2 : Evaluation of individuals on age and validity scales (N=56)

	Mean ± SD				
	Experimental (n=27)	**Control (n=29)**	**t**	**df**	**P**
Age	33.89±11.748	24.48±8.283	-3.482	54	.001**
Illness duration (months)	38.00±34.745	-	-5.894	54	.000
Can't say	3.30±4.36	1.76±2.340	-1.659	54	.103
VRIN	67.0±8.68	68.59±7.863	.483	54	.631
TRIN	63.67±8.549	63.93±8.341	.117	54	.907
F	71.41±11.281	66.79±10.561	-1.581	54	.120
FB	70.26±10.365	71.23±9.659	.536	54	.560
Fp	71.19±10.134	71.07±6.829	-.051	54	.960
L	62.19±9.030	61.69±7.920	-.219	54	.828
K	47.63±8.723	44.90±8.126	-1.214	54	.230
S	47.22±6.919	46.03±6.759	-.650	54	.519

p<.05* , p<.01** , p<.001***

Table-3 : Evaluation of individuals on clinical scales (N=56)

	Mean ± SD				
	Experimental (n=27)	Control (n=29)	t	df	P
HS	7356±7.939	55.07±8.594	-8.344	54	**.000*** **
D	76.44±7.939	60.45±8.403	-7.74	54	**.000*** **
Hy	61.67±12.108	47.69±10.952	-4.536	54	**.000*** **
Pd	57.67±5.407	49.55±7.679	-4.541	54	**.000*** **
Mf	58.96±12.675	64.17±12.851	1.526	54	.133
Pa	54.81±10.455	45.62±8.466	-3.628	54	.001**
Pt	64.11±11.477	57.34±7.784	-2.598	54	.012*
Sc	62.63±7.525	58.83±5.995	-2.099	54	.041*
Ma	51.67±8.390	51.69±6.188	.012	54	.991
Si	64.26±5.972	62.24±5.968	-1.264	54	.212

p<.05* , p<.01** , p<.001***

There has been no significant difference in the following scales masculinity-feminity (Mf), hypomania (Ma) and social introversion (Si). Yet another finding states that the scales like paranoia and psychopathic deviate that have been found to be elevated have been so only in comparison to the normal group, and despite elevation intheir t-scores have been below 65 that show that it does not qualify to be called significant. Below are the graphical representations of the number of cases scoring and falling in the following t scores ranges(Figure 1,2,3,4)

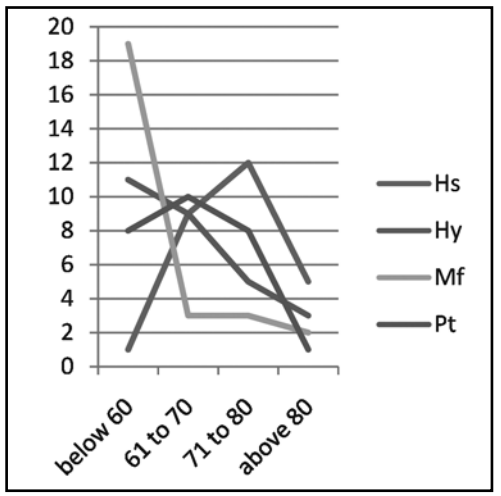
DISCUSSION

The aim of our study was to assess and compare the individuals, both, having migraine diagnosed from the ICHD II criterion and the normal controls, using the MMPI-2. The results have conformed the previous researches and have been discussed under the following heads :

1. Conversion Profile :

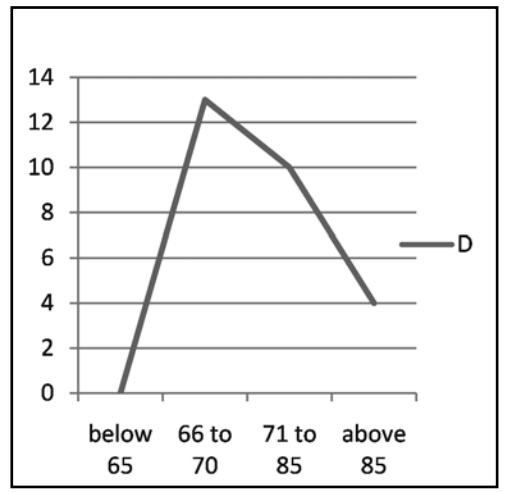
Considering the potential of personality patterns to determine the evolution of migraine, conversion profile is a common finding (Ellertsen & Klove, 1987) that became more pronounced

Figure 1



Hs- hypochondriasis, Hy- hysteria, D- depression

Figure 2



Mf- masculinity-feminity, Pt - psychasthenia

Figure 3

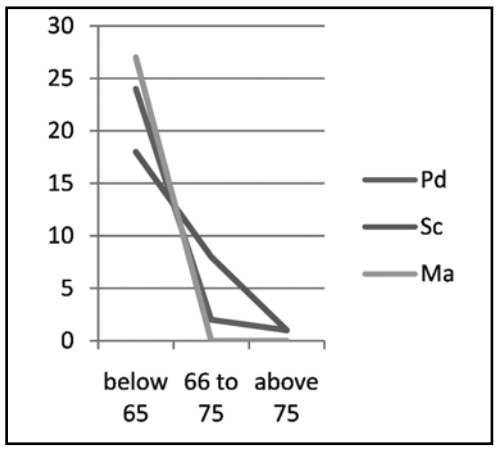
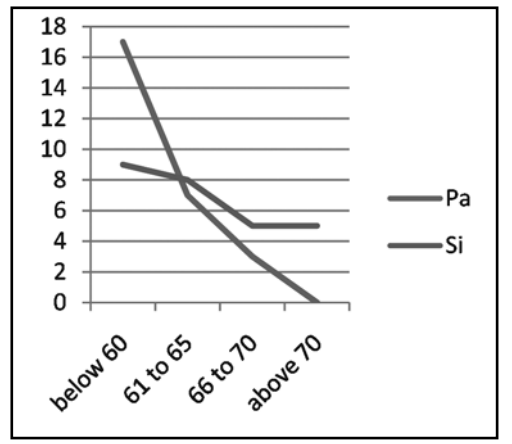


Figure 4



Pd- psychopathic deviate, Sc- schizophrenia, Ma- hypomania, Pa- paranoia, Si-social introversion.

or neurotic or emotionally overwhelmed with the evolution of an episodic into a chronic form of migraine. Yet it remains to be determined whether there is a direct relationship between the two events, in other words, whether such a personality style predisposes aperson or it reflects a hand of the precipitating stressors alone. In our study a notable difference exists in the values of clinical scales in the two groups which confirm the findings of earlier studies that there remains an inevitable somatic concern among the patients with migraine. The experimental group has shown a definite elevation in the three scales namely hypochondriasis, depression and hysteria.

2. Neurotic triad and Psychasthenia :

Considering that episodic migraine and tension

type headache are characterized, to a certain extent, by different personality profiles (Kudrow & Sutkus, 1979), the MMPI scores of the "neurotic triad" (Hs, D, Hy) were seen more elevated in tension-type headache patients. The chronicity seemed to correlate with the emergence of psychological traits, corroborated with the results of a prior study performed on chronic daily headache patients (Mongini et al., 1994). Similar findings have appeared in our study too where the anxiety features are displayed by the psychasthenia scale, involving traits like being jumpy, always on the high strung, being very persistent and harm avoidant. In one of the studies, a more elevated muscle tenderness in the head, and even more in the neck, was observed in patients with episodic migraine characterized by anxiety or depression or both, and was supposed to be one of the mechanisms by which psychiatric disorders may affect the history of migraine, facilitating the evolution into the chronic form (Mongini et al., 2004). A recent review underlined that the frequency of depression and anxiety disorders in migraine sufferers is greater than that expected by chance association (Scher et al., 2005).

3. Elevation of psychotic scales in headache :

Along with this, our study has shown elevations in scales like schizophrenia, psychopathic deviate and paranoia which is unlikely, for this reason a within group severity analysis was done where it brought to notice that these scales were elevated though but only in comparison to the normal group as on analysis it was found that despite a raise, the scores were below the cut off 65. The probable reason behind this finding could be that the patients taking the test had visited the hospital in the acute symptomatic condition, which might have led them to endorse the items related to these scales. High scores on the psychotic scales (Pa, Pt, Sc and BIZ) too have been mentioned in earlier studies (Bigal et al., 2003). Cao and colleagues (2002) found that headache patients showed traits of neuroticism-anxiety and depression, but that no abnormal personality traits were present in migraineurs with/without aura. The mechanisms linking psychiatric disorders to the natural history of migraine remain controversial.

4. Probable explanations, and prophylactic role of MMPI :

The discussion may be based on certain other aspects such as the reason for such a personality pattern, or if this profile could by any chance play a prophylactic role and bring about a change in the future MMPI profiles of the same patients. The changes or the comorbidity could have been a result of chronic course or overuse of the prescribed drugs or even because of the psychological theory of "learned helplessness" proposed by Seligman where it is defined as the psychological state of an individual that goes on when events are not under control (Selingman, 1975). Since psychological comorbity is quite common with individuals with migraine, it can be rightly said that comorbid disorders can influence the course, prognosis, treatment and the outcome of the illness and vice-a-versa (Breslau & Davis, 1993). There have been evidences of the involvement of the stressful situations in making the person vulnerable and even intensifying the duration, and maintenance of the headache (D'Amico et al., 2000).

CONCLUSION

We would like to end the presentation of the study by stating that the MMPI as a tool is good enough to give elaborate and meticulous information regarding the psychological and the psychopathological issues in the personality of an individual. It can hence be rightly followed that a conversion profile is evident with the elevation in hypochondriasis and hysteria scale. There exists a positive correlation in headache and depression and anxiety as displayed by raised psychasthenia scale. Along with this scales like schizophrenia, psychopathic deviate and paranoia might have been raised in some profiles perhaps

because the acute headache at the time of taking the test, but not necessarily portraying a psychotic picture

The present data and findings may be taken as baseline assessment and may be used for future researches, and possibly on larger samples to consolidate the current findings and thereby rendering an early intervention and therapeutic help for a better living.

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ORIGINAL ARTICLE

Prevalence and nature of sexual dysfunctions in OCD in a tertiary medical college

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ABSTRACT

Normal sexual behavior brings pleasure to oneself and one's partner involves stimulation of the primary sex organs including coitus; it is devoid of inappropriate feelings of guilt or anxiety and is not compulsive. Sexual functioning is influenced by a number of factors, mental illness being one of them. Sexual dysfunction in patients with OCD has mostly been studied independently or in gender-specific studies. These studies have reported significant dysfunction in different areas of sexual functioning. The aim of this study is an attempt to assess & compare the presence, prevalence & types of sexual dysfunctions (SD) in OCD mostly coming from rural background in a Tertiary Government Hospital in West Bengal. Our study revealed Sexual dysfunction was in 53.33% of the subjects. Orgasmic dysfunction was the most frequent dysfunction 20.51% in females (N=8), followed by problems in desire15.38%. However since the data were collected from a specific population, the degree to which they represent the general population cannot be commented upon.

Key word : OCD, Sexual Dysfunction

INRODUCTION

Sexuality is determined by anatomy, physiology, the culture in which a person lives, relationships with others, and developmental experiences throughout the life cycle. It includes the perception of being male or female and private thoughts and fantasies as well as behaviour. To the average normal person, sexual attraction to another person and the passion and love that follow are deeply associated with feelings of intimate happiness.

Normal sexual behaviour brings pleasure to oneself and one's partner involves stimulation of the primary sex organs including coitus; it is devoid of inappropriate feelings of guilt or anxiety and is not compulsive. Recreational, as opposed to relational sex, that is sex outside a committed relationship, masturbation, and various forms of stimulation involving other than the primary sex organs, constitutes normal behaviour in some contexts.[1]

Sexual functioning is influenced by a number of factors, mental illness being one of them. Sexual

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dysfunctions (SD) are characterized by disturbances in sexual desire and in the psycho-physiological changes associated with the sexual response cycle in men and women.[2]

Obsessive Compulsive Disorder is the 4thmost common psychiatric disorder and has an average lifetime prevalence of 2-3%. SDs have a prevalence of 39% in females with OCD. Patients may report sexual disgust, the absence of sexual desire, very low sexual arousal, anorgasmia, and high avoidance of sexual intercourse.[3]

Sexual dysfunction in patients with OCD and GAD has mostly been studied independently or in gender-specific studies. These studies have reported significant dysfunction in different areas of sexual functioning. However, the majority of these studies are uncontrolled and provide limited evidence about the rates of dysfunction across OCD Furthermore, patients in these categories of disorders are usually prescribed antidepressant medications, which are known to cause substantial sexual dysfunction. Simply exemplifying the dysfunction caused by medications is imperfect unless the dyes-function caused by the disease is clearly demarcated.

Theaim of this study is an attempt to assess & compare the presence, prevalence & types of sexual dysfunctions in OCD mostly coming from rural background in a Tertiary Government Hospital in West Bengal.

AIMS & OBJECTIVES

1) To study the presence, prevalence, types of sexual dysfunctions in OCD.
2) To study the relationship of disease severity with Sexual Dysfunctions.

MATERIALS & METHODS

Study Population

Consecutive new patients attending the Psychiatry OPD were screened withPsychiatric Diagnostic Screening Questionnaire (PDSQ).[4] Patients fulfilling the criteria for OCD were included in the study and informed consent was taken from them.

Inclusion Criteria

a. All first time registered patients (male, female) meeting the criteria for OCD (according to DSM-IV).

b. Age 18-65 (male & female).

c. Not taking psychotropic medications for the illness (drug naive).

d. Having a sexual partner.

Exclusion Criteria

a. Co morbid Axis I or Axis II disorders on SCID-I/P, SCID-II

b. Having psychotic symptoms.

c. H/o sexual dysfunction prior to present episode of illness.

d. Endocrinal disease (diabetes mellitus, thyroid dysfunction)

e. Local genital problems.

f. Renal problems.

g. Neurological disorder.

h. Pelvic surgery or abdominal surgery likely to cause sexual dysfunction.

i. H/o STDS, HIV-AIDS.

j. Taking any psychotropic medication in last 3 months.

k. H/o of hypogonadism.

Study Period

February 2013 - January2014.

Sample Size

60 in OCD

Sample Design

Consecutive patients satisfying the selection criteria & meeting criteria for MDD & OCD after giving valid & informed consent were studied.

Study Design

Hospital based, open, cross sectional study.

Parameters to be Studied

1. Socio demographic data & status, using B.G. Prasad's criterion.
2. MDD & OCD against SCID-I/P.
3. Severity of MDD using 17 item Hamilton Depression rating scale (HAM-D)
4. Severity of OCD using Yale Brown Obsessive Compulsive scale (Y-BOCS)
5. Sexual functioning using Arizona Sexual Experiences Scale (ASEX)

Study Tools

1. Structured clinical interview for DSM-IV-TR AXIS I disorders, research version patient edition :

The Structured Clinical Interview for DSM-IVAxis I Disorders (SCID-I) is a diagnostic exam used to determine DSM-IVAxis I disorders (major mental disorders) and Axis II disorders (personality disorders). An Axis I SCID assessment with a psychiatric patient usually takes between 1 and 2 hours, depending on the complexity of the past psychiatric history and the subject's ability to clearly describe episodes of current and past symptoms. A SCID with a non-psychiatric patient takes 1/2 hour to 1-1/2 hours.

2. 17-item Hamilton rating Scale for Depression.[5]

Type : Clinician-rated scale.

Main indications : Designed to measure the severity of depressive symptoms in patients with primary depressive illness, but has since been used to assess depressive symptoms in other groups.

Rating performed by : Trained clinician or trained mental health professional, on the basis of observation during interview. Rating should ideally take place at a fixed time to avoid the influence of diurnal variation.

Time period covered by scale : Clinical condition at the time of the interview.

Time required to complete rating : 15-20 minutes. Semi-structured interview.

Validity can be a problem in patient populations having concurrent somatic illnesses. There is some consensus for interpretation of the total scores :

- Very Severe : >23
- Severe : 19–22
- Moderate : 14–18
- Mild : 8–13
- No Depression : 0-7.

3. Yale-Brown Obsessive compulsive scale :[6]

The Yale–Brown Obsessive Compulsive Scale, sometimes referred to as Y-BOCS, is a test to rate the severity of obsessive-compulsive disorder (OCD) symptoms.

The scale, which was designed by Dr. Wayne Goodman and his colleagues in 1989, is used extensively in research and clinical practice to both determine severity of OCD and to monitor improvement during treatment. This scale, which measures obsessions separately from compulsions, specifically measures the severity of symptoms of obsessive–compulsive disorder without being biased towards the type of obsessions or compulsions present

Time required completing rating : 10–15 minutes.

Remarks : The scale is a clinician-rated, 10-item scale, each item rated from 0 (no symptoms) to 4 (extreme symptoms).

The scale includes questions about the amount of time the patient spends on obsessions, how much impairment or distress they experience, and how much resistance and control they have over these thoughts. The same types of questions are asked about compulsions (i.e., time spent, interference, etc). The results can be interpreted based on the score. The individual items are included in the appendix section.

Gradation of severity : Score of

- 0–7 : Sub-Clinical;

- 8–15 : Mild;

- 16–23 : Moderate;

- 24–31 : Severe; And

- 32–40 : Extreme.

4. Arizona Sexual Experiences Scale

The ASEX is designed to assess five major global aspects of sexual dysfunction:

- drive,

- arousal,

- penile erection/vaginal lubrication,

- ability to reach orgasm, and satisfaction from orgasm.

The Arizona Sexual Experiences Scale (ASEX) can be used to identify individuals suffering from sexual dysfunction. The ASEX is a patient rated scale. The ASEX Scale is intended to give quantitative data regarding sexual functioning in five specific realms.

The following parameters aid in interpreting ASEX scores :

- Receiver-operator characteristic (ROC) analysis revealed a value for area under the curve (AUC) of .929 +.029, indicating excellent sensitivity and specificity of the ASEX at identification of sexual dysfunction.

The target criteria listed below offers a scoring guideline representative of the strong sensitivity and specificity of the ASEX.

- A total ASEX score of ≥19 or

- Any 1 item with an individual score of ≥ 5 or

- Any 3 items with individual scores of ≥4

are highly correlated with the presence of clinician-diagnosed sexual dysfunction.

Total ASEX scores range from a low of 5 to a maximum of 30.

The ASEX was designed to be simple in order to enhance the overall accuracy in measuring sexual dysfunction by

- Minimizing patient non-compliance with rating (Prisant, Carr, Bottini, Solursh, & Solursh, 1994), and

- Allowing for rapid quantification and detection of the presence of sexual dysfunction.[7]

Study Technique

Patients fulfilling the selection criteria were subjected to a detailed history regarding socio-demographicvariables, clinicalhistory, sexual & marital history, physical examination. Necessary investigations were done to rule out co-morbid medical conditions. This was followed byadministration of SCID-I/P for AXIS-I disorders & SCID-II for AXIS-II disorders. Patients with MDD were assessed for severity using Hamilton Rating Scale for Depression, while patients with OCD were assessed for severity of symptoms using Y-BOCS scale. Patients in OCD group were also administered Hamilton rating scale for depression and subjects scoring 7 or more were excluded from the study. Mental Status Examination of the patients were done & recorded. Patients in both groups were assessed for sexual dysfunctions using Arizona Sexual Experiences Scale (ASEX). Scoring on all scales administered was recorded. Appropriate laboratory investigations & consultation liaison were performed where necessary.

Plan for Data Analysis

Data entry was done after gathering relevant data for a particular patient. Statistical analysis was done after completion of data collection for all patients using standard statistical methods.

Ethical Consideration

The study proposal was submitted to the institutional review board for review & appraisal and the study was commenced after such approval was obtained.

STATISTICAL ANALYSIS

The data was pooled and statistical analysis was done using SPSS version 20 (SPSS Inc., Chicago, Ill.) &Statistica version 6 [Tulsa, Oklahoma : Stat Soft Inc., 2001]

Tests for Normality

Following the **Shapiro-Wilk test** & the **Kolmogorov-Simogorov test** and visual examination of the data, no cells deviated substantially from normality.

Significant effects were examined with simple effects tests. Discreet variables were compared by using **$\chi 2$ test** and continuous variables by using **Students t-Test**. Categorical variables between groups were analyzed using the **Pearson's Chi Square test**. Data was presented as percentages, mean and standard deviation. All tests were two tailed. A p value less than 0.05 was considered statistically significant (95% confidence interval). Correlation analysis between total score of ASEX, HAM-D, and YBOCS was done by using Pearson's correlation as data was normally distributed. Regression analysis was done using simple linear regression tests.

This prospective, cross-sectional, hospital based, single interview study was conducted under the Department of Psychiatry of a tertiary medical college. 60 subjects consenting, aged between 18-65 years, of either sex belonging to OCD groups after screening with PDSQ & diagnosed against DSM-IV TR, fulfilling inclusion & exclusion criterion were included in the study after obtaining permission from the Institutional Ethical Board

DISCUSSION

Age and Sex - The overall sample in the OCD group (N = 60) had a mean ± SD age of 36.73 ± 10.33 years. Sex distribution reveals that 65% of the subjects were female (n=39), with a male: female ratio 1:1.8. It is well docu-mented that male:female ratio is 1:1 for OCD. Predominant female representation in the outpatient clinic probably resulted in this selection bias.[8] (Table-1)

Religion – Hindu (60%) were majority population in the MDD group followed by

Muslim population (33.3%). (Table-1)

Family type – Our study supported findings that in OCD group 68.3% (N=41) were from rural areas. (Table-1)

Severity of Illness – As depicted that most study subjects in this group belonged to severe & mild category (26.7%), while 23.3% belonged to extreme category on Y-BOCS. Tests of significance show that gender had no impact on disease severity.

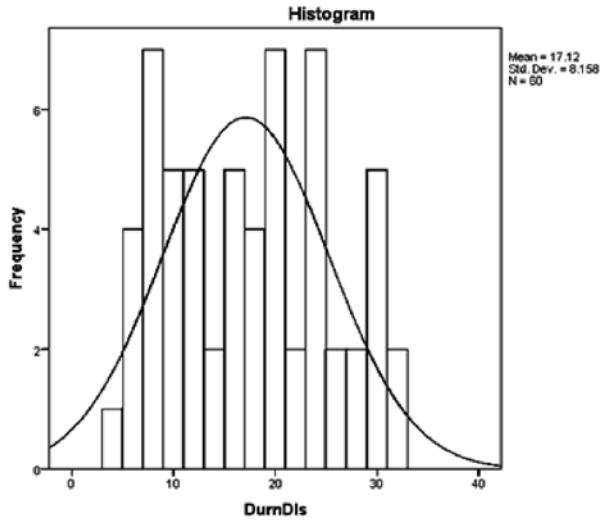

Figure 1 : the histogram of duration of illness

Sexual Dysfunctions - On rating for severity of OCD, the overall sample had Y-BOCS Mean ± SD 23.52 ± 6.6, with slightly higher mean scores on Y-BOCS for females22.72 ± 7.48 (Table 2). Sexual dysfunction was reported in 53.33% of the subjects (N=32). In females total dysfunction was present in 51.28% (N=39) of the subjects,orgasmic dysfunction was the most frequent dysfunction20.51% in females(N=8),followed by problems in desire15.38%. However males reported

Table 1 : Representing the Socio Demographic Characteristics of the OCD sample.

Characteristic	FEMALE (N=39)	MALE (N=21)
Age (Mean ± Sd)	36.38 ± 10.77	38.38 ± 9.66
Duration fillness (Months)	15.38±7.8	20.33±7.8
Religion		
Hindu	53.8%	71.4%
Muslim	38.5%	23.8%
Christian	5.1%	4.8%
Sikh	2.6%	--
Marital Status		
Married	89.7%	90.5%
Single/Widowed	10.3%	9.5%
Residence		
Rural	76.9%	52.4%
Urban	23.1%	47.6%
Family		
Nuclear	46.2%	66.7%
Joint	53.8%	33.3%

greater dysfunction 57.14%, spanning all domains, except desire as compared to females. The Mean ± SD ASEX scores in females was (17.32 ± 3.00). The results from the present study indicate high rates of sexual dysfunction in OCD patients (drug naive, 53.33% which is comparable to the results of Kendurkar et al.[9], who reported that in 50 drug naive patients with obsessive compulsive disorder 50.0% reported having sexual dysfunction, in men 53.6% and in women 45.4%. Which is comparable to our reports as depicted in Figure. Orgasmic dysfunction was the most reported complaint in either gender, and the frequency of occurrence was significantly highest with OCD subjects. Controlled studies of sexual dysfunction in obsessive compulsive disorder are rare. Conflicting results with Fruend and Steketee[7] who reported in 44 obsessive compulsive outpatients retrospectively life histories, and no evidence of sexual dysfunction noted by the authors. Consistent with the findings of our study Aksaray et al.[10] found that 23 women with OCD hadsignificantly higher means on measures of anorgasmia, avoidance, andnon-sensuality than a control group with generalized anxiety disorder. In addition, there was a trend for the women with OCD to

Table 2 : showing the central measures on all sub items of ASEX

	A1-Desire	A2-Excitement	A3-Erection/ Lubrication	A4-Orgasm	A5-Org Satis	Total ASEX
N	60	60	60	60	60	60
Mean	3.35	3.23	3.43	3.70	3.55	17.32
Median	3.00	3.00	3.00	4.00	4.00	19.00
SD	1.117	.963	1.031	1.124	.872	3.006
Range	1-5	1-5	1-5	1-5	1-5	

score higher on vaginismus, sexual non-communication, and dissatisfaction sub-scales.

Comparing our results with that of Vulnik et al.[11] who studied in 101 women with OCD & reported that subjectscored significantly higher than a controlgroup on a measure of sexual disgust, and significantly lower on measures of sexual desire, arousal, and satisfaction with orgasm.

Although some researchers did indeed find that anxiety had an inhibitory effect on sexuality in sexually functional women, most studies with female subjects, indicate that anxiety either facilitates sexual arousal or does not affect it. In their overview of sexuality in women, Andersen and Cyranowski[12] concluded that these studies suggest that the previous conceptualizations of Masters and Johnson and Kaplan may be less relevant for women. Consistent with our results as depicted in Table 4, severity of OCD (Y-BOCS Scale), correlated significantly with all domains of ASEX (r=0.804, P=0.000), Kampmanandcowo-rker[13] found that patients with OCD also suffer from a greater degree of sexual dysfunction and be less satisfied with their sex lives than patients with other anxiety disorders

The robust findingsof this study is that previously sexual desire, sexual thoughts, sexual disgust and sexual arousal hardly have been subject of previous studies in OCD. Monteiro et al.[14] reported low libido in 24% of OCD patients and desire phase difficulties in 22% of OCD patients before Clomipramine treatment. Our results show high percentages of anorgasmic problems (23.9% in males & 20.51% in females) in patients with OCD Consistent with findings of this present study two previous studies reported anorgasmia in 9–12% of OCD patients without medication. Multiple domains of functioning and qualityof life is also strongly affected in first-episode OCD patients, which suggested that OCD psychopathology might impair thesefields since disease onset.[15]

Table 3 : depicts distribution of ASEX severity sc res among subjects:subjects scoring 5 or more on ASEX items or 19 or more on totalscore (sexual dysfunctions)

ASEX items (N%)	Total Subjects (N=60)	Male (N=21)	Female (N=39)
Y-BOCS Score	(23.52 ± 6.6)	(22.28 ± 8.48)	(22.72 ± 7.84)
Desire 2	(9.52%)	6 (15.38%)	8 (13.33%)
Excitement	1 (4.76%)	3 (7.69%)	4 (6.67%)
Penile Erection/	3 (14.3%)	4 (10.25%)	7 (11.67%)
Vaginal Lubrication			
Orgasm	5 (23.9%)	8 (20.51%)	13 (21.67%)
Orgasmic Satisfaction	2 (9.5%)	3 (7.69%)	5 (8.33%)
Total Dysfunction	12 (57.14%)	20 (51.28%)	32 (53.33%)
(Asex Scores)	17.81 ± 2.42	17.05 ± 3.27	17.32 ± 3.00
Mean±Sd			

Stengler-Wenzke and colleagues even repor-ted decreased scores in OCD relative to a sizable sample of schizophrenia patients on two out of four QOL domains (psychological well-being and social relationships). Accordingly, lower scores in OCD, patients relative schizophrenia patients on disease unspecific symptom rating scales such as the Brief Psychiatric Rating Scale or the Global Clinical Impression should not mislead the clinician to assume less despair. Many symptoms are actively suppressed or denied because of embarrassment (e.g., sexual intrusions, obsessions relating to the therapist) or fear of being misdiagnosed as psychotic.[16]

Recently, sexual dysfunction of patients with OCD has become an important concern for diagnosis, life quality, and treatment. Sexual problems or sexualdysfunctions are also associated with mental health, quality of life, and overall life satisfaction in Asian people.[17]

The strong negative association between severity of depression & quality of life domains are consistent with previous work demonstrating a monotonic gradient between OCD & quality of life(Several studies have explored the impact of sexual dysfunction on quality of life and life satisfaction. Bell and Bell [18] and Masters and Johnson (1970) found that life satisfaction and well-being were both associated with sexual satisfaction. In a more recent study, McCabe[19] found that, although sexual dysfunction had a negative impact on quality of life in both sexes, quality of life was more strongly correlated with sexual dysfunction in women than it was in men.The finding of this study that subjects

Table 4 : Showing the correlation matrix between Y-BOCS & all items on ASEX.

Pearson's Correlation (P.C)		YBOCS_ Total	A1_ Desire	A2_ Exct	A3_ Erct_ Lubr	A4_ Orgasm	A5_ Org-Satis	Asex_ Total
YBOCS_Tot	**Pearson Correlation**	1	.424**	.487**	.458**	.534**	.464**	.804**
	Sig. (2-tailed)		.001	.000	.000	.000	.000	.000
	N	60	60	60	60	60	60	60
A1_Desire	**Pearson Correlation**	.424**	1	.269*	-.046	.139	.043	.506**
	Sig. (2-tailed)	.001		.037	.729	.290	.746	.000
	N	60	60	60	60	60	60	60
A2_Exct	**Pearson Correlation**	.487**	.269*	1	.067	.207	.248	.589**
	Sig. (2-tailed)	.000	.037		.610	.113	.056	.000
	N	60	60	60	60	60	60	60
A3_Erct_Lubr	**Pearson Correlation**	.458**	-.046	.067	1	.187	.428**	.540**
	Sig. (2-tailed)	.000	.729	.610		.152	.001	.000
	N	60	60	60	60	60	60	60
A4_Orgasm	**Pearson Correlation**	.534**	.139	.207	.187	1	.327*	.655**
	Sig. (2-tailed)	.000	.290	.113	.152		.011	.000
	N	60	60	60	60	60	60	60
A5_OrgSatis	**Pearson Correlation**	.464**	.043	.248	.428**	.327*	1	.644**
	Sig. (2-tailed)	.000	.746	.056	.001	.011		.000
	N	60	60	60	60	60	60	60
Asex_Total	**Pearson Correlation**	.804**	.506**	.589**	.540**	.655**	.644**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	
	N	60	60	60	60	60	60	60

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

in OCD group with sexual dysfunction have statistically significant distress compared to subjects without sexual complaints may be explained by Mowrer's[20] two-stage conceptualization of OCD is particularly useful in explaining the relationship between sexual dysfunction and OCD likely that depressive symptoms and sexual problems are linked in a cyclic fashion with one contributing to the other. Concerning sexual dysfunction alone, there is little agreement about its causes, except that it is multiply determined, and that the relationships between sexual dysfunction and mood are"complex and multidirectional".

Early recognition of SD will lead to better choice of antidepressant medication, behavior therapies & treatment plan with a favorable side effect profile & use of pharmacologic interventions wherever necessary to improve the overall quality of life in OCD.

Future Directions

The following recommendations may be there for considered.

- Thatfurther systematic research needs to be conducted on the nature of sexual dysfunction in OCD, to more definitively show a relationship between OCD and sexual dysfunction.
- That more longitudinal and experimental work is needed to address whether sexual dysfunction causes depression and anxiety, whether depression and obsessions cause sexual dysfunction, or whether the relationship is truly bidirectional and reciprocating.

LIMITATIONS

There are certain inherent limitations with this study.

First, the gender ratio obtained due to methodology of sample selection does not match with the epidemiologic rates for OCD. It is well documented that male:female ratio is for 1:1 for OCD.[21]

Predominant female representation in the outpatient clinic probably resulted in this selection bias.

Second, we tried to control the demographic factors, physical morbidity, and psychiatric morbidity as risk factors for sexual dysfunction in OCD. Besides these, there are other innumerable factors that contribute to sexual dysfunction.

Thirdly the absence of a control group limits our study so far comparison is concerned.

Fourthly, the cross-sectional nature of this study limits our possibility to explore the cause-and-effect relationship between sexual dysfunction and psychiatric diagnoses.

Last, since the data were collected from a specific population, the degree to which they represent the general population cannot be commented on.

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ORIGINAL ARTICLE

Quality of Life of the Homeless and Restored Women with Psychosis

Upali Dasgupta, Abhiruchi Chatterjee

ABSTRACT

The present study endeavoured to evaluate the quality of life of the homeless and restored women with psychosis. The influence of their living conditions in three different psycho-social milieus and the disability levels on their Quality of Life was also examined. This study was carried out on women clients with psychosis who received medical and psycho-social care under three different programs of Iswar Sankalpa (a Kolkata - based NGO), India. **Methods :** A matched group design using mixed method technique was adopted for the study. The sample of 50 clients with psychosis was comprised of 16 homeless clients under the Out-reach program, 18 homeless clients under the Shelter home program and 16 previously homeless clients under the Restoration program. The sample was evaluated using the IDEAS and WHOQOL-BREF. After collection of data, statistical analysis was done using the SPSS- version 22. **Results :** The results mirrored that a statistically significant negative correlation exists between the clients' disability and two domains of QOL, these are- social relationships and environment. Regarding the psychological health and environment domains of QOL, the Shelter home and the Restoration groups significantly differed from the Outreach group. The mildly disabled clients differed significantly from the severely disabled clients in respect to the social relationships domain of the QOL. **Conclusion :** The knowledge of specific areas of dissatisfaction in QOL of the women with psychosis may haveimplications for the service providers and service planners for more improved medico and psychosocial intervention.

Key Words : QOL- Quality of Life, SZ- Schizophrenia.

INRODUCTION

The concept of home is at the heart of the term homelessness. The view of homelessness emphasizes the person's alienation and lack of social support networks. Homeless people with psychosis remain homeless for longer periods of time and have less contact with family and friends[1]. Quality of Life measurement in psychiatry has turned into an important outcome in clinical and interventional studies[2]. Although active psychosis may limit the assessment of quality of life, most researchers now acknowledge that evaluation is essential despite limitations[3]. Women's quality of life is heavily influenced by satisfaction with family life, social domains such as family, social relationships, and living situation have the strongest effects. The determinants of quality of life among psychiatrically unwell women differ substantially. Life satisfaction among un-well women is most strongly related to daily activities and financial adequacy rather than social domains[4]. And when women with psychosis become homeless, as Miller and Finery

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Research Wing, Iswar Sankalpa, Kolkata

(1996)[5] stated, they are more vulnerable than other homeless women to2 be raped, to engage in sexual risk behavior, to have more unwanted pregnancies and abortions, and to be victims of violence during pregnancy. They also are more likely to be unable to meet their children's basic needs and to have lost custody of their children. According to the 2003 U.S. Department of Health and Human Services Report[6], most homeless persons with mental illness do not need to be institutionalized.... The impact of psychotic disorders is experienced in terms of symptoms, compromised daily living and life achievement activities. The additional impact of homelessness is further cause for concern.

Nowadays, the study of disability associated with psychotic disorders becomes a matter of prime importance. Disability associated with mental illness is a major contributor to the global burden of disease[7,8,9]. Interventions that promote occupational and social integration raise outcome beyond the level achievable by symptom management alone[10].

The present article has explored whether living in three different psycho-social milieus has any impact on the quality of life of the homeless and restored women with psychosis. The participants of this study are receiving medical and psychosocial care and support services from three different programs of Iswar Sankalpa (a Kolkata–based NGO). The study has painted a picture of the type of relationships that exist among the four domains of QOL of the clients and their levels of disability. Comparing outcome measures of the clients from the Outreach program, the Shelter home program and the Restoration program (clients restored in their family after prolonged homelessness) will help the organization to evaluate its quality of services. Hence, prioritising the goal-setting and future action planning would be possible.

The present study aimed to i) Assess QOL in clients with psychosis, ii) Observe the correlation between disability and four domains of QOL, iii) Compare the influence of disability levels on different domains of QOL, v) Compare four domains of QOL of the women with psychosis representing three different programs, i.e., Outreach program, Shelter home program and the Restoration program of Iswar Sankalpa (A Kolkata based NGO) under which they are enrolled.

METHODS

Sample

Following Purposive Sampling method a representative sample of 50 women with psychosis were selected who have received psychosocial and medical care from three different programs of Iswar Sankalpa. Among them 16 and 18 homeless women with psychosis were selected from the Out-Reach and Shelter Home programs respectively and the rest 16 clients were the women with psychosis who after prolonged homelessness are now restored in their family and continuing under the Restoration program.

Inclusion Criteria : i) Diagnosis of psychotic disorder (F 20-29) according to ICD 10 as diagnosed by the psychiatrists associated with Iswar Sankalpa, ii) Age range:16 years to 60 years, iii) Care from Iswar Sankalpa at least for the last 6 months, iv) Continuing medicine at least for the last 3 months, v) Gender – female.

Exclusion Criteria : i)Non-communicability, ii) Drug/Alcohol dependence. iii) Severe hallucination or delusion at the time of data collection. Iv) Persons with mental retardation, v) Co-morbid psychiatric conditions.

Description of three Programs

The Out-Reach group : The outreach group as considered under this study consisted of 16 homeless women with psychosis who are enrolled under the Out-Reach (Naya Daur) program of Iswar Sankalpa and are staying on the pavements of Kolkata or under the portico sheds/ flyovers/ plastic sheets or in jhupris or on the railway platforms of Sealdah (within the specified fields of Naya Daur project of Iswar Sankalpa). Here, the social workers of Iswar Sankalpa in association with Psychiatrist and out-reach supervisor and outreach counsellor (Outreach service providers' team) intend to target the hardest-

to-serve homeless individuals who have a serious mental illness. The goals of the Outreach team is to work for the homeless mentally ill persons and provide them psychosocial care and support services along with medical treatment and enhance the client's community adjustment. One interesting and unique feature of this outreach project is the concept of **outreach caregivers**. The outreach caregivers are identified from the community itself. The sustainability of the outreach project largely depend on the social worker's and community caregiver's continuous assertive efforts to provide community care services to the homeless mentally ill persons for their rehabilitation, supportive engagement/ employment and finally restoration in their family.

The Shelter Home Group: The Shelter home group as considered under this study consisted of 18 homeless women with psychosis who are enrolled under the Shelter home program of Iswar Sankalpa. The purpose of this Shelter program is to "promote the provision of shelter, psychosocial and medical support services to mentally ill homeless women to enable them to live as independently as possible. After enrolment of the client into this program the residential staff, supervisor, counsellors, psychiatrists and other therapists assist the homeless women with mental illness to obtain appropriate supportive services. These services include comprehensive mental health services, maintaining/educating personal hygiene, cleanliness and self-care, medication assistance, counseling and other kinds of psycho-social therapies, supervision, as well as help with independent living skills, such as money management and housekeeping, and other services essential for achieving independent living with dignity. The Shelter is staffed 24 hours per day and psychiatrists are on call during overnight hours.

The Restoration group : The Restoration group in this study consisted of 16 women with psychosis who were previously homeless, but now, are restored in their families and are enrolled under the Restoration program of Iswar Sankalpa. All of these 16 clients were restored from the program of Shelter home. Once the client was restored in her family with the initiatives of the Organization, the action taken by the restoration team that serves to increase the effectiveness and utilization of the previous services is called follow up. The restored clients are followed up in two different ways: firstly, by making phone calls by the restoration officers to the restored client and his/her family members; and secondly, the restoration officers personally visit the client's house and have a face to face interaction with the client and family members. The restoration officers make home visits of those restored clients of Iswar Sankalpa who are staying within Kolkata or other parts of West Bengal. or other states of India. A large number of clients from the restoration group are followed up when these clients come to the Shelter home to visit the psychiatrist.

Instruments

a) A Socio-demographic Characteristics Schedule (developed by the researcher) b) IDEAS: The Indian Disability Evaluation and Assessment Scale (IDEAS) 11developed by the Rehabilitation Committee of the Indian Psychiatric Society. IDEAS quantify disability by relying on information in four core areas of self-care, interpersonal relationships, communication and understanding and work functioning. c) World Health Organisation Quality of Life – BRÈF (WHOQOL Group 1996) 12 is a self –report questionnaire. It contains a total of 26 questions which produce a quality of life profile. Four domain scores: physical health, psychological health, social relationships and environment are analysed. Higher scores denote higher quality of life. It is applicable to people living under different circumstances, conditions and cultures.

Ethics : The principle of informed consent and complete confidentiality was applied. Ethical approval from the Mental Health Research Ethics Committee of Iswar Sankalpa was taken. No physical test was done.

Collection of Data and Procedure Recruitment of the clients to the study started in March' 13 and continued till 30th April' 13. The sample was selected from three different programs of Iswar Sankalpa which

represented three different psycho social milieus, i.e., a) the Out-Reach program, b) the Shelter Home program and c) the Restoration program (where the clients are restored in their family or employer's house after prolonged homelessness).

If the inclusion and exclusion criteria were fulfilled, the homeless clients were produced

before the psychiatrists of a government hospital to judge their 'Capacity to consent'. Those homeless women with psychosis who have capacity to consent were counselled to be a part of the study and their consent was obtained. Three patients dropped from the study because they felt exhaustive during the interview and were unable to complete their responses to the WHOQOL-BREF.

Socio-demographic Characteristics Schedule was filled up by the concerned social workers/ counsellors of every client. Disability on account of the illness was assessed through the disability scale (IDEAS). Then the questionnaire WHOQOL-BREF was administered to measure the status of quality of life of the participants. As the WHOQOL-BREF is a self reporting questionnaire and most of the participants of this study were not sufficiently able to fill up the self-administered questionnaire, the interviewer-administered forms were used following the standardized instructions by the Manual of WHOQOL-BREF.13 Finally the scores so obtained were compared among a) the three different groups, b) the disability levels to establish the causal relationships.

Data analysis

Statistical analysis was done using the Statistical Package for Social Sciences, version 22 (SPSS-22)14.

RESULTS

In the total sample of 50 women with psychosis, 32% are representing the Out-reach group, 36% are representing the Shelter group and the rest 32% are representing the Restoration group. **Table 1** shows that from the Outreach group the greatest percentage (55%) of homeless women with psychosis belong to the age range of 36 to 45 years, from the Shelter group the greatest percentage (56%) of respondents belong to the age range of 36 to 45 years and from the Restoration group greatest percentage (37%) of respondents belong to the age range of 16 to 25 years. Though, 10% of the homeless clients from Shelter home are graduates, but majority of the women with psychosis from outreach group (82%), Shelter group (72%) and the Restoration group (43%) are illiterate. It also reveals that majority of the respondents are either separated or divorced. Among the clients staying on roads or on Station platforms i.e., the Outreach clients, majority of them are married (37%) and 31% of them are widow. Many of the clients from these three different groups are also unmarried.

Table 2 shows that 50% of the homeless clients of the Outreach group has no caregiver. When 44% of the Outreach clients have a community caregiver, all of the Shelter clients (100%) and 88% of the Restoration clients have caregivers. Among the outreach group clients, 50% respondents have no income. But 44% of them earn money. Also 83% of the Shelter respondents earn money. And 63% of the Restoration group clients earn in terms of Kind. Only 31% of them earn money by doing some job. Findings of **Table 3** shows that majority of the Out-reach group clients (56%) have moderate disability and 25% have mild disability as rated on the IDEAS. Also, 56% of the Shelter group clients have moderate disability and 44% have mild disability. But, 64% of the Restoration group clients have moderate disability whereas 29% have mild disability. Correlation studies to measure the relation of Disability and four domains QOL found a statistically significant negative correlation between the clients' disability and their social relationships related QOL (r = **-.329***) and between the clients' disability and their environment (r = **-.282***) related QOL. Comparison of four domains of QOL among the three different groups was done applying ANOVA on SPSS 22. The result showed that the domains of psychological health and environment of the WHOQOL-BREF of the Outreach group differed significantly and in negative direction from that of the Shelter group and the Restoration groups. No

other difference in the QOL among the three groups was found significant at .05 or at .01 levels.

The mildly disabled clients differed significantly from the severely disabled clients in respect to their social relationships related quality of life. No other finding was found significant.

DISCUSSIONS

Most of the clients in this study are homeless and only 32% are restored in their family after prolonged homelessness. In our study, majority of the women with psychosis from Outreach group (82%); Shelter group (72%) and Restoration group (43%) are illiterate. Though, 11% of the Shelter clients are graduates, but the general trend of attainment of education is much below the matric level. While 44% clients from the Outreach group, 31% clients from the Restoration group have some income in terms of cash, the highest percentage of (83%) clients from the Shelter group earned money for doing Shelter –based income generating activities. In this study, majority of the respondents are either separated or divorced. Among the clients staying on roads or on Station platforms, i.e., the Outreach clients, majority are married (37%) and 31% are widow. Many of the clients from these three different groups are also unmarried. These finding are similar to the findings of many other studies done earlier[10, 15, 16]. Quality of life and the three groups of Iswar Sankalpa : While comparing the clients from three different programs of Iswar Sankalpa in respect to the four domains

Table:1 shows the Age, Education and Marital Status of the Three groups of clients

Age range in Yrs.	Outreach Gr.		Shelter Gr.		Restoration Gr.	
	N	%	N	%	N	%
16 - 25	0	0	2	11	6	37
26 - 35	1	6	2	11	2	13
36 - 45	9	55	10	56	5	31
46 - 55	4	25	2	11	3	19
56 - 65	2	14	2	11	0	0

Educational qualification	Outreach Gr.		Shelter Gr.		Restoration Gr.	
	N	%	N	%	N	%
Illiterate	13	82	13	72	7	43
Below class IV	1	6	2	11	5	31
Class V- Class X	2	12	1	6	2	13
School Final	0	0	0	0	2	13
H.S.	0	0	0	0	0	0
Graduation	0	0	2	11	0	0

Marital Status	Outreach Gr.		Shelter Gr.		Restoration Gr.	
	N	%	N	%	N	%
Unmarried	4	26	5	28	4	25
Married	6	37	3	16	3	19
Separated/Divorced	1	6	8	44	7	44
Widow	5	31	1	6	2	12
Unknown	0	0	1	6	0	0

Table:2 shows the percentage of clients from three different groups who get Caregiver's support and have Income.

Caregivers	Outreach Gr.		Shelter Gr.		Restoration Gr.	
	N	%	N	%	N	%
No caregiver	8	50	0	0	0	0
One caregiver	7	44	0	0	0	0
Two caregivers	1	6	0	0	0	0
Shelter Home Staff	0	0	18	100	0	0
Family members	0	0	0	0	14	88
Employer	0	0	0	0	2	12
Income	N	%	N	%	N	%
In Cash	7	44	15	83	5	31
In Kind	1	6	3	17	10	63
No Income	8	50	0	0	1	6
Total	16	100	18	100	16	100

Table:2 shows the percentage of clients from three different groups who get Caregiver's support and have Income.

of quality of life, the finding showed that the Shelter group and the Restoration group differed significantly from the Out-reach group in respect to their Psychological health related QOL, i.e., their bodily image and appearance, negative feelings, positive feelings, self-esteem, spirituality / religion / personal beliefs, thinking, learning, memory and concentration. The finding also showed that the Shelter group and the Restoration group differed significantly from the Out-reach group in respect to the domain of Environment, i.e., financial resourcees, freedom, physical safety and security, health and social care, home environment, opportunities for acquiring new information and skills, participation in and opportunities for recreation/leisure activities, physical env-ironment (pollution/noise/ traffic/climate), transport. Compared to the Shelter group and the Restoration group, the domains of Psychological health and Environment of QOL of the Outreach group were adversely affected. This finding is in contrast to the finding of a study which was carried out in Dublin and revealed that individuals with SZ who were living in a hostel or group home had poorer QOL than those who were living independently or with their family[17]. Living conditions and employment are found to be associated with QOL[18]. Moreover, the social relationships domain of the Shelter group was rated more positively (but not significantly) as compared to the social relationships domain of the Restoration group. This implies that Personal relationships, Social support and Sexual activity facets of the Social relationships domain of WHOQOL of the Shelter group is stronger than that of the Restoration group. A Tasmanian study revealed that family and social relationships are the areas of greatest difficulty for those with SZ[19]. An interesting finding is that the mean score (M=41.88) of the social relationships related QOL of the Outreach group did not differ much from the mean scores of the social relationships

Table:3 Shows the levels of disability of the clients from three different groups:

Disability Levels	Outreach Gr.		Shelter Gr.		Restoration Gr.	
	N	%	N	%	N	%
Mild	4	25	8	44	4	29
Moderate	9	56	10	56	9	64
severe	3	19	0	0	1	7

related QOL of the Shelter group (M=48.75) and the Restoration group (M=46.86) and eventually made the mean difference non-significant. This finding reflects that the difference in living conditions of the women with psychosis did not play any pivotal role in determining their social relationships related quality of life. In spite of staying on the streets or footpaths or under the flyovers of Kolkata city, or on the platforms of the Sealdah station, the unconditional social support from the community caregivers and extent of care and concern of the organizational social workers made them fairly satisfied with their social relationships related QOL. This perception of social relationships (domain of WHOQOL) by the Outreach clients has spread a different flavour. Mubarak & Barber (2003) found that extent of concern of the emotional attachment on the part of the caregiver has been found to increase QOL of the person with SZ who is being cared for. One study found that company and sexual expression lead to improved QOL[21]. Good social support, in a general sense, has been found to improve QOL[22]. Quality of life and level of Disability The significant and negative correlation between the social relationships related QOL and the global disability scores of the sample concerned indicates that the social relationships facets, like- personal relationships, social support and sexual activity of the women with psychosis under study was seriously compromised by their degree of disability. Again, the Environment related quality of life, like -financial resources-freedom, physical safety and security, health and social care, and the environment of the place where the clients are staying in homeless condition/the environment of the shelter home or the environment of the home where the restored women are staying with their family members, opportunities for acquiring new information and skills, participation in and opportunities for recreation / leisure activities, physical environment (pollution / noise / traffic / climate) and transport are significantly and negatively associated with the degree of disability of the present clients.

In other words, it can be said that the improvement in the social relationships environment related quality of life of the given clients was related to reduction in their degree of disability.

Further, the study has also shown that the social relationships domain of QOL of the respondents with mild disability level differed significantly from that of the respondents with severe disability level. This finding indicates that compared to the clients with mild disability the social relationships related QOL of the clients with severe disability was greatly impaired by their psychotic illness. This finding resembles the finding of some other studies[23].

LIMITATIONS

a) The current research sample was not large enough (N=50) and involved only the women clients with psychosis, but a large number of outreach clients are male who were not included in the study, as a result, may not represent the clients in the community as a whole. The sample size may be regarded as small and hence generalization of our findings to all types of clients is not possible, b) because of the low literacy level of the present clients, each and every 26 items

of the self-reported WHOQOL-BREF instrument had to be explained to the respondents for rating their responses, which might have influenced the actual rating, c) the QOL instrument WHOQOL-BREF used in current study is a generic instrument. Using a combination of both generic and specific instrument might have yielded more meaningful results.

CONCLUSIONS

The most pressing need of the present study was to evaluate the quality of life of the women clients with psychosis enrolled under three different programs of Iswar Sankalpa. Probably, this empirical study is the first of its kind in West Bengal which has conducted research study on the homeless and restored women with psychosis, as there was no well documented research study available in West Bengal of this kind. This is the first scientific research on the three model programs of Iswar Sankalpa. Additionally, the study illuminated rarely considered aspects, i.e., Quality of life of the women suffering from psychosis where most of the clients are homeless. The assessment of Quality of life of the clients and comparing them among the three model programs has allowed a better understanding of clients' quality of life and functional disabilities. This will enable better and more comprehensive monitoring of both medical and psychosocial intervention strategies. Increasingly, this may lead in time to focus on specific aspects of quality of life with the possibility of improved outcomes as a result. This study has also shown that degree of disability has a notably adverse effect on outcome for the clients with psychosis, whereas an ability to maintain social integration and a more `normal' life course appears to incur a positive effect on outcomes. Keeping personal relationships, having positive social support and also having sexual activity when they feel like, made the outreach group to perceive their social relationships related quality of life positively. The positive strength of this domain of QOL of the homeless women with psychosis under the Out-reach program need to be addressed in the future intervention planning. This study has also brought into notice that the social relationships related quality of life of the women clients who were restored in their families (Restoration group) are inferior than that of the women clients of Shelter group. The domain of self-care of the Out-reach group needs special attention for improvement. Considering the present research endeavour as a baseline study, conducting follow-up study on the same sample might have shown better and meaningful direction to the service planners. Longitudinal studies should be carried out to look for correlations between changes in impact (variables) with changes in the levels of disability, modification in the intervention policy in the three model programs, etc. to answer questions regarding causal connections. The resulting picture is complex but it has revealed the multiple problems faced by women clients with psychotic disorders. While some of the difficulties they experience result from impairments inflicted by the disease, other predicaments stem either from insufficient service provision or from the condition of society at large which fails to accommodate these women who are different by virtue of suffering from psychosis. Facing the stark facts which this study reveals should have a salutary effect on decision-makers, service providers, consu-mers and carers by engaging them in a rational dialogue on how to use more effectively the material and intellectual resources of the organization (Iswar Sankalpa) for the improvement of the quality of life of the homeless and restored women with psychotic illnesses.

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REVIEW ARTICLE

Psychiatric Aspects of Epilepsy : A review

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ABSTRACT

Comorbid psychiatric disorders are common in epilepsy patients. Patients with epilepsy are prone to psychosis, depression, personality disorders, hyposexuality, and other behavioral disorders. Comorbid psychiatric disorders are particularly common in temporal lobe epilepsy or complex partial seizure. Though psychiatric comorbidity is common in epilepsy, it is under-recognized and under-treated, both in adult and pediatric patients in specialty health care centers as well as in community based health care centers. Early recognition and management of psychiatric disorders in patients with epilepsy is extremely important, because it improves the quality of life and aids in better seizure control.

INRODUCTION

Epilepsy is one of the most common chronic neurological disorders. The prevalence of epilepsyvaries across studies, but generally ranges from 4 to 10 per 1000 population. [1-5] Prevalencerate of epilepsy in India at 5.59 per 1,000 populations6. Epilepsy affects emotional, behavioral, social, and cognitive functioning. Psychiatric and cognitive disturbances are relatively commonin epilepsy, especially in refractory epilepsy[7-9]. Indeed, there is now general agreement that theincidence of neurobehavioral disorders is higher in patients with epilepsy than in the generalpopulation. Epilepsy patients are prone to psychosis, depression, personality disorders, hyposex-uality, and other behavioral disorders. These problems are approximately equallydivided between those that occur ictally or peri-ictally and those that occur interictally . Manyauthors accept the proposition that the link between neurobehavioral disorders and temporal lobeor complex partial epilepsy is particularly strong. Though psychiatric comorbidity is common inepilepsy, it is under-recognized and under-treated, both in adult and paediatric patients inspecialty health care centers as well as in community based health care centers.

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EPIDEMIOLOGY OF PSYCHIATRIC DISORDERS IN EPILEPSY PATIENTS

Vuilleumier and Jallon[10] estimated that 20-30% of patients with epilepsy have differentpsychiatric disorders. Epidemiological studies from communities, psychiatric hospitals, andepilepsy clinics report a 20 to 60 percent prevalence of psychiatric problems among epilepsypatients 11. Among patients attending epilepsy clinics, approximately 30 percent had a priorpsychiatric hospitalization, and 18 percent were on at least one psychotropic drug[11]. In recentpopulation based surveys[12], the 12 month prevalence of mental health

disorder was 23.5% andthe lifetime prevalence was 35.5%. A recent review reported the prevalence of variouspsychiatric disorders in persons with epilepsy are 30% for depression, 10–25% for anxietydisorders, 2–7% for psychoses and 1–2% for personality disor-ders[13]. Depression is thecommonest psychiatric condition reported in people with epilepsy[13-16]. Studies from India[17] showed prevalence of psychiatric co-morbidity in people with epilepsy is 28.7% Psychiatric disturbances, primarily psychosis and personality disorders, are two to three timesmore common in patients with complex partial seizures, most of whom have a temporal focus, compared to those with generalized tonic-clonic seizures.

PSYCHIATRIC MANIFESTATIONS OF EPILEPSY

In epilepsy, psychiatric behaviors can be conceptualized in relation to the ictus or seizuredischarges. These behaviors occur as part of the ictus, peri-ictally, or during the interictal period.

ICTAL FEATURES

Seizure discharges can produce psychic auras such as mood changes, derealization anddepersonalization, olfactory and gustatory hallucinations, visual or auditory hallucinations (ofteninvolving poorly defined shapes or sounds, although there may be complex visual scenes orspeech), ictal fear, ictal depression and pleasurable auras ("ecstatic auras"). Another psychicaura is "forced thinking," characterized by recurrent intrusive thoughts, ideas, or crowding ofthoughts. Forced thinking must be distinguished from obsessional thoughts and compulsiveurges. Epileptic patients with forced thinking experience their thoughts as stereotypical, out-ofcontext,brief, and irrational, but not necessarily as ego dystonic.

PERI-ICTAL FEATURES

Psychiatric disturbances can occur before seizures (prodromal), after seizures (postictal) . Somepatients experience prodromal symptoms such as irritability, depression, headache, confusion. Postictal psychosis consists of brief psychotic episodes that follow clusters of generalized tonic-clonicseizures. These psychotic episodes occur in patients who have complex partial seizures,frequent secondary generalization to tonic-clonicseizures . The postictal psychosis of epilepsyemerges after a lucid interval of 2 to 72 hours (with a mean of 1 day), during which theimmediate postictal confusion resolves, and the patient appears to return to normal. The posticalpsychotic episodes last 16 to 432 hours (with a mean of 3.5 days) and often include grandiose orreligious delusions, elevated moods or sudden mood swings, agitation, paranoia, and impulsivebehaviors, but no perceptual delusions or voices are heard. The postictal psychoses remitspontaneously or with the use of low-dose psychotropic medication.

INTERICTAL FEATURES

SCHIZOPHRENIFORM PSYCHOSIS

Epilepsy patients with a schizophreniform psychosis have a chronic interictal illness without aknown direct relationship to seizure events or ictal discharges. Torta and Keller18 reported thatthe risk of this psychosis in populations of patients with epilepsy may be 6-12 times that of thegeneral population, with a prevalence of about 7-8% (in patients with treatment-refractorytemporal lobe epilepsy, the prevalence has been reported to range from 0-16%). Many patientsdevelop worsening psychotic symptoms that are concomitant with an increase in seizurefrequency or with antiepileptic drug withdrawal, and a few others have worsening psychoticsymptoms on control of the seizures (alternating psychosis). The terms alternating psychosis andforced or paradoxical normalization refer to this demonstrable antagonism between the psychosisand the seizures or EEG discharges. In epilepsy patients interictal psychosis often

have an earlyage of onset of seizures and long interval of poorly controlled partial complex seizures, usuallywith secondary generalized tonic-clonic seizures, left temporal focus, mediobasal temporallesions, recently diminished seizure frequency. This interictal psychosis may evolve from priorrecurrent postictal psychotic episodes. There is atypical paranoid psychosis with sudden onset, more hallucinations than schizophrenia, less systematized delusions than schizophrenia, relativepreserved affect, few schneidreian first-rank symptoms, more religiosity than schizophrenia, failure of personality deterioration, less social withdrawal.

DEPRESSION

Depression is the most frequent psychiatric co-morbidity in epilepsy but very often remainsunrecognized and untreated. Depression among patients with epilepsy range from 20 to 55% inpatients with recurrent seizures and 3 to 9% in patients with controlled epilepsy[19]. Mostcommon mood symptom is chronic interictal depression or dysthymia. Some investigators referto this condition as the "interictaldysphoric disorder of epilepsy". Blumer[20] suggested thatalmost one third to one half of all patients with epilepsy seeking medical care suffer from thisform of depression severely enough to warrant pharmacological treatment. Patients experien- cingdepression in epilepsy often do not meet the criteria of major depressive disorder (i.e., theirsymptoms are less severe) but they also typically exhibit a more intermittent course than dopatients with dysthymic disorder[21]. They exhibit mixed depressive-somatoform and affectivesymptoms. This group of patients show a good therapeutic response to antidepressantmedications.

The rare occurrence of ictal depression may not only outlast the actual ictus but also may lead tosuicide. Depression also occursperi-ictally. Episodic mood disturbances, often with agitation, suicidal behavior, and psychotic symptoms, may occur with increasing seizure activity. Finally, postictal depression is common, and a prolonged depressive state occasionally follows complexpartial seizures, even when ictal experiences do not include depression.

PERSONALITY DISORDERS

Prevalence rate of personality disorders among epileptic patients is approximately 18% 22. which including borderline, histrionic, and dependent disorders. The most common personalitydisorder in epilepsy is a borderline personality. Personality profiles of patients with epilepsy canbe explained by a complex combination of the effects of (1) dealing with a chronic illness (beingepileptic), (2) antiepileptic drugs, and (3) temporal lobe pathology. Although there is no generalepileptic personality, a group of traits termed the Gastaut-Geschwind syndrome occurs in asubset of patients with complex partial seizures. These patients are serious, humorless, andoverinclusive and have an intense interest in philosophical, moral, or religious issues. Theydemonstrate viscosity, the tendency to talk repetitively and circumstantially about a restrictedrange of topics. They can spend a long time getting to the point, give detailed backgroundinformation with multiple quotations, or write copiously about their thoughts and feelings (hypergraphia). Although these personality characteristics do occur in some epileptic patients,they may not be specific for patients with seizure disorders.

ANXIETY IN EPILEPSY

Anxiety in epileptic patients may occur as an ictal phenomenon, as normal interictal emotion oras part of an accompanying anxiety disorder, as part of an accompanying depressive disorder, orin association with nonepileptic seizure like events as part of an underlying primary anxietydisorder. Anxiety and panic disorders occur among epileptic patients and must be distinguishedfrom simple partial seizures manifesting as anxiety or panic. Anxiety is higher in focal (morefrequent in temporal lobe) epilepsy than in generalized epilepsy.

SUICIDE

The risk of completed suicide in epilepsy patients is four to five times greater than that amongthe nonepileptic population, and those with complex partial seizures of temporal lobe origin havea particularly high risk, as much as 25 times greater. Death by suicide occurs in 3 to 7 percentof epilepsy patients. Most suicidal behavior among epileptic patients is not directly due toreactions to the psychosocial stressors of having a seizure disorder. Rather, these patients arelikely to attempt suicide in conjunction with borderline personality behaviors and are likely tocomplete suicide during postictal psychosis. Contributors to successful suicides include paranoidhallucinations, agitated compunction to kill themselves, and occasional ictal commandhallucinations to commit suicide.

AGGRESSION IN EPILEPSY

Aggression can occur in relation to an ictus, as exemplified by this patient's subacute postictalaggression. Most aggression among epilepsy patients is not related to epileptiform activity. Aggression in epilepsy is usually associated with psychosis or with intermittent explosivedisorder and correlates with subnormal intelligence, childhood behavior problems, prior headinjuries.

HYPOSEXUALITY

Patients with epilepsy tend to be hyposexual. Men and women experience disturbances of sexualarousal and a lower sexual drive. Men have an increased risk of erectile dysfunction, suggestinga neurophysiological component, and studies of sex hormones suggest the possibility of asubclinical hypogonadotropichypogonadism.

PSYCHOTROPIC EFFECTS OF ANTIEPILEPTIC DRUGS

There is a risk of depression related to barbiturates and topiramate, and possibly to phenytoin. Underlying depression and anxiety symptoms may be exacerbated by levetiracetam, whilepsychotic symptoms, albeit rare, have been reported with topiramate, levetiracetam, andzonisamide23.

SEIZURE THRESHOLD LOWERING EFFECT OF PSYCHOTROPIC MEDICATIONS

Seizure threshold lowering effect of psychotropic medications is usually not a problem but canoccasionally reach clinical significance in poorly controlled epilepsy. Psychotropic drugs aremost convulsive with rapid introduction of the drug and in high doses. Clozapine , for example,has induced seizures in 1.0 to 4.4 percent of patients, particularly when the dose was rapidlyincreased. When initiating psychotropic therapy, it is best to start low and go slow whilemonitoring antiepileptic levels and EEGs.(Table 1)

Table 1 : Showing seizure threshold lowering effect of psycho-tropic medication

Potential	Antipsychotics	Antidepressants	Other Psychotropics
High	Clozapine	Bupropion	
		Imipramine	
		Maprotiline	
		Amitriptyline	
		Amoxapine	
		Nortriptyline	
Moderate	Most piperazines	Protriptyline	Lithium
	Thiothixene	Clomipramine	
Low	Fluphenazine	Doxepin	
	Haloperidol	Desipramine	
	Loxapine	Trazodone	
	Pimozide	Trimipramine	
	Thioridazine	SSRIS	
	Risperidone		
	Olanzapine		
	Ziprasidone		
	Aripiprazole		

CONCLUSION

Psychiatric comorbidities in patients with epilepsy are relatively frequent. Despite the highprevalence rates, few data are available. People with epilepsy and comorbid psychiatric disordersare often stigmatized in the society. This stigmatization generates a hidden burden, whichdiscourages patients from seeking the treatment . Early recognition and management ofpsychiatric disorders in patients with epilepsy is extremely important, because it improves thequality of life and aids in better seizure control. Research in the field of epilepsy and psychiatryhas concentrated on epilepsy mainly as a biological condition. Currently, it is being recognized that the medical and psychosocial dimensions of epilepsy are just as (or even more) important.

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Zolpidem Dependence : A case report

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ABSTRACT

Zolpidem, a nonbenzodiazepine hypnotic, binds to the benzodiazepine binding site on the gamma-aminobutyric acid type A (GABA-A) receptors. Many studies have reported efficacy and safety of zolpidem in treatment of insomnia, low abuse, and dependence capability. We present a case of zolpidem dependence in a 33-year-old male to emphasize that clinicians should pay close attention to the potential of zolpidem tolerance, abuse and dependence.

Key Word : Zolpidem, Dependence

INRODUCTION

The use of benzodiazepines (BDZs) in the treatment of insomnia has been declining in recent years as a result of studies documenting a series of deleterious effects (addiction, rebound insomnia, etc.). At the same time, the prescription of non-BDZ hypnotics, such as zolpidem has been increasing substantially. Similar to BDZs, zolpidem reinforces the activity of the inhibitory neurotransmitter g-aminobutyric acid (GABA) by binding to BDZ receptors, which are modulatory sites of the GABA A receptor complex. However, in contrast to BDZs, zolpidem shows selectivity for the σ1 receptor subtype, which corresponds to GABA A receptors containing the a1 subunit1. Zolpidem is able to produce sedation without interfering with the BDZ properties linked to other receptor subtypes[2]. So zolpidem was considered a safer hypnotic than benzodiazepines because of a lesser liability for abuse and dependence[3]. However, in recent years, new evidence has revealed that the behavioural effects of zolpidem at higher than recommended doses are generally similar to those of BDZs[4,5]. Over the last few years, numerous cases of zolpidem abuse or dependence have been reported[5-8]. The World Health Organization (WHO) considered that the frequency of zolpidem abuse and dependence was similar to that of benzodiazepine. On 15 July 2002, zolpidem was transferredto Schedule IV of the 1971 Convention (for drugs inducing dependence such as benzodiazepines). The aim of this convention was to control both traffic and abuse of psychotropics[9]. We present a case of zolpidem dependence in a 33-year-old male to highlight the need for caution when prescribing this drug.

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CASE HISTORY

Mrs. A., 33-year-old Hindu married male presented to psychiatry outpatient department (OPD) with complaints of inability to stop zolpidem use from last 4 months. On evaluation of history it was revealed

that the patient has history of insomnia 4 months back for which he was prescribed tablet zolpidem 10 mg at bed time by a physician. After 1 week he again complained of decreased sleep. The patient without consulting the physician increased the dose of zolpidem to 20 mg at bed time. After 5 days he again complained of decreased sleep and increased the dose of zolpidem to 30 mg at bedtime. Over the next three months he gradually increased the dose of zolpidem by 10 mg at an interval of 5-7 days . Now he is taking 300mg of zolpidem at bed time every day. He had made several attempts during these 4 months to stop zolpidem, but he failed due to insomnia, restlessness, irritability, myalgia. The patient was admitted. On mental status examination he admitted that he increased the dosage initially to ward off his insomnia; however he started enjoying the high produced by zolpidem and had to increase his dosage gradually in order to experience the same pleasure. Baseline investigations including hemogram, liver and kidney functions were normal. Electrocardiogram was normal. No psychiatric or physical disorder causing insomnia could be found. There was no history of any other substance abuse. He was diagnosed as having zolpidem dependence [Mental and behavioural disorders due to the use of sedatives or hypnotics (zolpidem) (F13.24)] as per International Classification of Diseases - 10th Edition. He was started on chlordiazepoxide 100 mg/ day which was gradually tapered-off and stopped in next 15 days. Simultaneously, her zolpidem was also tapered-off and completely stopped in 15 days. After his detoxification from zolpidem he was educated about sleep hygiene measures and the need to abstain from benzodiazepines and other hypnotics. He is in our follow up for last 3 months. He is having normal sleep without any sedative.

DISCUSSION

Despite primary reports of zolpidem safety and minor abuse and dependency capability[11-14], recent case reports[5-8] including our case showed that zolpidem can exert abuse and dependency. It has been reported that zolpidem pharmacodynamics and pharmacokinetics may have a crucial role in cases of zolpidem abuse, dependence, and withdrawal syndrome. It is suggested that zolpidem might lose its selectivity on GABA-A receptor and exert the same pharmacological effects as classical benzodiazepines. It has been proposed that possible GABA-A receptor mutations may be a predisposing factor in zolpidem dependency[5]. Several case reports[8,15] mentioned that zolpidem dependence is more common in individuals with prior history of substance abuse or comorbid substance abuse. But in our case there is no past history or history of comorbid substance abuse. So zolpidem dependence can occur in patients without any history of other substance abuse. We emphasize that prescribers should be aware of zolpidem's dependence potential and its usage should be monitored as in case of benzodiazepines.

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