



ASSESSMENT OF DISABILITY IN THE PERSONS WITH CHRONIC SCHIZOPHRENIA

Dr. Pankaj Kumar Gupta*¹ and Dr. Sally John²

¹Resident in Psychiatry, Jawaharlal Nehru Medical College(DMIMS) Sawangi(Meghe), Wardha, Maharashtra, Pin-442001.

²Associate Professor, Jawaharlal Nehru Medical College(DMIMS) Sawangi(Meghe), Wardha, Maharashtra.

***Corresponding Author: Dr. Pankaj Kumar Gupta**

Resident in Psychiatry, Jawaharlal Nehru Medical College(DMIMS) Sawangi(Meghe), Wardha, Maharashtra, Pin-442001.

Article Received on 05/10/2018

Article Revised on 25/10/2018

Article Accepted on 15/11/2018

ABSTRACT

Background and objective: People with chronic schizophrenia experience numerous limitations in everyday functioning, some of which include difficulties in interpersonal activities, self-care, communication, understanding and work. There is a lack of comprehensive synthesis of research findings on the full extent of psychosocial difficulties experienced by people living with schizophrenia. It is important to identify the individuals' functional level for any long term management including vocational and cognitive training. To initiate a comprehensive plan of care including psycho-social rehabilitation and reintegration into the society there must be proper understanding of the person in the context of his or her specific environment, de-stigmatization and community oriented programs to enhance the knowledge about the illness also depend on the level of disability assessed and concrete steps to reduce the disability. Thus the present study aims to assess disability in person with schizophrenia. **Methods:** Study conducted: Acharya Vinoba bhawe rural Hospital situated in Sawangi(Meghe) wardha. Study design: The study is a cross sectional study., Period of study: 1 year, Sample size: 100 patients were diagnosed as per ICD 10 diagnosis of schizophrenia for a minimum period of two years will be included.

Assessment tools:

- Semi-structured Performa for socio- demographic and clinical variables .
- PANSS
- IDEAS
- WHO-DAS 2.0

Results: The patients with chronic schizophrenia under remission reported that significant relation established between psychopathology with global disability score of ideas scale and total disability score of WHO-DAS.2 scale, but no significant relationship has been established between total disability score of who-das scale with duration of illness. **Conclusion:** Earlier the diagnosis made and treatment started it has positive effect on the course and outcome. Disability in schizophrenia is related to poor compliance, poor social support and lack of insight.

KEYWORDS: Schizophrenia, Disability, psychopathology.

INTRODUCTION

Schizophrenia

A severe mental illness like Schizophrenia has chronic and relapsing course, incomplete remission and considerable disability at work. It is associated with repeated psychiatric and medical co-morbidities. It is also associated with increased self-harm, harm to others and mortality^[1], that devastates the lives of the patients along with their family members. Patient may also have positive symptoms like delusion, conceptual disorganization, hallucination, excitement, grandiosity, suspicion and hostility as well as negative symptoms as blunted affect, inadequate self-care, poor rapport, difficulty in abstract thinking, lack of spontaneity and flow of conversation, stereotyped thinking, poor

motivation, decreased interaction, emotional and social withdrawal. They may have some odd behaviors and mannerisms even during remission. It is a clinical syndrome of multiple etiology and intensely disruptive psychopathology that involves cognition, emotion, perception and behavior. The prevalence of Schizophrenia is reported to be 1/1000. It affects male slightly more than females. In females Schizophrenia usually has a bimodal age of onset. It usually starts in the younger age and is frequently associated with deterioration in functioning.^[2] Schizophrenia is among the top ten leading causes of disease related impairment in the world that causes cognitive, intellectual, physical and mental disability^[3] and is consistently evidenced to have a major impact on standard of life.^[4]

Schizophrenia is associated with various anatomical deformity of different parts of brain like smaller volume of hippocampus, amygdala, thalamus, nucleus accumbens and enlarged ventricles and sulci. It may occur due to neuronal disorganization and excess of neurotransmitter dopamine along with reduced flow to the frontal region of brain. It is also associated with psychological and behavioral deviations like hearing of voices not heard by others and unfounded, unrealistic idiosyncratic beliefs. These disabilities may lead to impairments in functioning, linguistic organization, attention, concentration and ability to recall and arrange individual facts in an organized system. They have difficulty forming and maintaining significant family, social and inter personal relationships. Various follow-up studies have undermined the original view about its doubtless prognosis with varying degrees of recovery.^[5]

As a consequence of their illness and disorganized behavior, people suffering from schizophrenia are among the most neglected and unsafe members in the community that suffer from inequity in daily life.^[6] With disabilities caused by the illness, people suffering from schizophrenia face greater problems meeting specific roles in life. Neglect and weakened social support can worsen engagement limitations by limiting resources and opportunities.

Modern approaches of treatment have tried to help a great number of patients with schizophrenia to recuperate or improve considerably; however they continue to suffer in various extents of functioning. As a result, long-lasting mental illnesses pose a substantial burden to the ill person as well as his family members and the community. They can live reasonably normal life with adequate support. Very few chronic people with schizophrenia can pass for normal people when looked at very closely.

In our country with its diversity of languages and religions one thing common to its people is their faith in traditional healing practices. Non-medical causes are attributed to variety of illnesses and seeking medical help is often delayed. This can complicate the perception of mental disorders and it causes poor refill rate to psychiatric treatment.^[7]

Disability in Schizophrenia

Despite 50 years of pharmacological and psychosocial intervention, schizophrenia is identified as one of the ten most debilitating diseases (WHO, 1999). Schizophrenia is the most commonly diagnosed major mental disorder which has disabling effects on the person, family as well as community.^[8] They show lower level of functioning than their pre-illness state. They have difficulty in maintaining job. They often depend on carer for money and support. They also end up with substance use disorder.

About one third of schizophrenic patients tend to become chronic leading to much disability and loss of functioning. For most patients it is a life long illness. About 25% of diagnosed schizophrenia patients recover fully, another 50% make a partial recovery and in rest, 25% of patients require long term care for their persistent and severe symptoms.

Disabilities in person with schizophrenia include poor self-care, inability to manage the tasks of daily living, social withdrawal, poor functioning in affiliative roles and work incapacity. This leads to varying levels of life-long disability. The spectrum of disability depends upon the interaction of the subject with his environment. Research initiatives in the area of assessment of disability in patients with schizophrenia in India have focused attention on two important issues: firstly, development or modification of scales for assessment of disability and secondly, disability evaluation in persons suffering from chronic mental illnesses. Families are the main support system and primary care givers for persons with schizophrenia in India. Family burden and social support are the main concern in this regard. Górecka and Czernikiewicz, 2004 in their study found that, disability has significant correlation with negative symptoms, positive symptoms and total duration of hospitalization. Tandon *et al*^[9] in their study found that given the magnitude and pervasiveness of the disability associated with Schizophrenia, only limited effectiveness of existing treatments and the prevalence of stigma, people with schizophrenia commonly experience a wide and diverse formation of psychosocial difficulties reaching far beyond the symptoms of the disease.^[10]

Caretakers of patients with schizophrenia face stigmatization and long term economical and emotional burden of taking care of the patient. That has impact on work, interpersonal relationship and leisure activities of the family members. This evokes different feelings in the family members, which can have an impact on the course and prognosis of Schizophrenia.^[11]

AIM AND OBJECTIVES

The Study Title:-“Assessment of disability in persons with chronic schizophrenia”.

AIM

The aim of the study is to assess the disability in mentally ill persons with chronic schizophrenia and to see if there is any correlation between the disability and the different variables considered.

OBJECTIVES

1. To assess disability in persons with chronic schizophrenia.
2. To study the correlation between the age of onset, total duration of illness, duration of treatment, severity of illness, total disability score by ideas scale, global disability score by ideas scale and total who-das score.

MATERIAL AND METHODS

Study conducted: Acharya Vinoba Bhave rural Hospital is a tertiary private hospital situated in Sawangi (Meghe) Wardha. It caters to population of most part of central India. It also receives referred patients from nearby government hospital, polyclinics, primary health center and secondary care hospitals of Vidharbha region and nearby states like Telangana, Madhya Pradesh and Chhattisgarh.

- **Study design:** The study is a cross sectional study. Based on purposive random sampling technique (every third patient with schizophrenia attending psychiatry OPD).

- **Period of study:** 1 year (from September 2017 to September 2018).

- **Sample size:** A sample size of 100 patients were taken in the study. Patients who were diagnosed as per ICD 10 diagnosis of schizophrenia for a minimum period of two years.

- Inclusion criteria which was used for patients is as follows.

1. 18 to 60 years of age,
2. Male and female patients
3. Total duration of schizophrenia for minimum 2 years
4. patients in remission for minimum three months
5. Consenting for the study

Exclusion Criteria

1. Patients who were not willing to give written informed consent
2. Patients who were found to have uncooperative or extremely disturbed with acutely psychotic state.
3. Patients who had substance use disorder.
4. Patients who were with co-morbid medical and surgical conditions.

Patients were assessed initially using the semi structured socio-demographic Proforma. Then PANSS will be used as a screening tool for symptom profile and severity assessment. After this the disability will be assessed using IDEAS as well as WHO DAS.

Assessment tools

1. Semi-structured Proforma for socio- demographic and clinical variables.

2. Positive and Negative Syndrome Scale [PANSS]

Kay group developed PANSS scale in 1987. It is a measurement scale used for assessing symptom severity and psychopathology in patients with Schizophrenia spectrum disorder. It was published in 1987. 30 different questions on positive, negative and general psychopathology were rated on from 1 to 7. It takes approximately 35 minutes to administer.

3. Indian Disability Evaluation and Assessment Scale

[IDEAS]: The scale assesses disability under four main categories that includes self-care, work, communication and understanding and social relationships. Each of these items is scored on a 5-point scale (0-4) which represents no disability to profound disability. The 'total disability score' is obtained by adding scores on the 4 items mentioned above. To calculate the 'Global Disability Score', the 'Total Disability Score' and MI 2Y score are added. (MI 2Y score is a score range between 1 and 4, which depends on the number of months over the last 2 years during which the patient exhibited symptoms.) Global Disability Score can be interpreted as follows:

0: No disability

1-7: Mild disability

8-13: Moderate Disability

14-19: Severe disability

20: Profound disability.

IDEAS which is being used throughout the country for evaluation of disability in Psychiatric Disorders is a well-validated instrument. The instrument takes around 15 minutes to administer and is found to have good internal consistency between the items.

5. WHO-DAS 2.0 (WHO Disability Assessment Scale)

WHO developed a scale for the assessment of disability in mentally and physically ill patients. 36-item self-administered scale was used for evaluation of disability. It measures the difficulty in daily activities over a period of 1 month. It is divided into six domains: understanding and communicating, getting around, self-care, getting along with others, life activities and participation in society. SPSS was used for analysis. There are two kind of WHO-DAS 2.0, 36-item version for those who are currently working and a 32-item version for those not working. The final scores derived from both versions range from 0–100. score is directly proportional to level of disability.

Analysis

- Using SPSS software 22.

Scope

Chronic Schizophrenia can cause significant amount of disability in a person. With the help of this study we will be able to evaluate and more importantly measure the level of disability quantitatively which will assist us to determine the level of intervention required. Schizophrenia requires multiple interventions. Besides drugs there is an equally essential psychosocial involvement required to encourage self-determination, reducing disability and increasing standard of health, comfort and happiness in persons with chronic mental illness like schizophrenia. No rehabilitation effort will be complete without taking into consideration the disability of the patients in the execution of comprehensive care including psycho-social rehabilitation.

Implications

At the end of the study, we would be able to find out the extent of disability in chronic schizophrenia. This will help us in the execution of a comprehensive care of a person with schizophrenia including vocational and psycho-social rehabilitative measures and improve disability and standard of health, comfort and happiness. Such assessments will also aid in Community reintegration of the patients and programs oriented towards de-stigmatization of mental illness.

Ethical and Other Implications

1. All participants were assured confidentiality. Participants were required to give a written, informed consent before participation in study. They were informed of their chance to remove consent at any time of study period.

2. The participants were clearly explained the reason for.
3. Ethical Clearance was obtained for the study study and samples were chosen on voluntary basis.

4. OBSERVATION AND RESULTS

- The present study entitled “Assessment of disability in persons with chronic schizophrenia “was carried out in the Department of psychiatry of Jawahar Lal Nehru Medical college and Acharya Vinoba Bhave Rural Hospital at Sawangi (Meghe) during a period of 1 year from October 2017 to September 2018.
- A hospital based cross sectional study was conducted with 100 patients of chronic schizophrenia under remission. were taken.
- Detailed analysis of the data revealed following results:-

Table 1(a-o): Socio-Demographic Characteristics.

Table 1(a)		
Age(years)	Frequency	Percent
15-25	13	13.0
26 - 35	38	38.0
36-45	35	35.0
46 & More	14	14.0
Total	100	100.0
Table 2(b)		
Sex	Frequency	Percent
F	50	50.0
M	50	50.0
Total	100	100.0
Table 3(c)		
Marital Status	Frequency	Percent
Divorced	12	12.0
Married	56	56.0
Unmarried	31	31.0
Widow	1	1.0
Total	100	100.0
Table 4(d)		
Education	Frequency	Percent
Graduate	5	5.0
HSC	21	21.0
Illiterate	1	1.0
1-9th Class	42	42.0
SSC	31	31.0
Total	100	100.0
Table 5(e)		
Income	Frequency	Percent
>1000-<=3000	55	55.0
>3000-<=6000	40	40.0
>6000-<=9000	5	5.0
Total	100	100.0
Table 6(f)		
Religion	Frequency	Percent
Buddha	1	1.0
Hindu	95	95.0
Muslim	4	4.0
Total	100	100.0

Table 7(g)		
Family Type	Frequency	Percent
Joint	44	44.0
Nuclear	56	56.0
Total	100	100.0
Table 8(h)		
Locality	Frequency	Percent
Rural	51	51.0
Semi urban	28	28.0
Urban	21	21.0
Total	100	100.0
Table 9(i)		
Patient is Head of family?	Frequency	Percent
NO	74	74.0
yes	26	26.0
Total	100	100.0
Table 10(j)		
Family history	Frequency	Percent
Absent	68	68.0
Present	32	32.0
Total	100	100.0
Table 11(k)		
Precipitating factor(stressor +nt)	Frequency	Percent
No	47	47.0
Yes	53	53.0
Total	100	100.0
Table 12(l)		
Mode of onset	Frequency	Percent
Gradual	77	77.0
Sudden	23	23.0
Total	100	100.0
Table 13(m)		
Duration of illness	Frequency	Percent
<=5	18	18.0
>5 -<=10	43	43.0
>10 - <=15	22	22.0
>15 -<=20	10	10.0
>20	7	7.0
Total	100	100.0
Table 14(n)		
compliance	Frequency	Percent
Average	29	29.0
Good	58	58.0
Poor	13	13.0
Total	100	100.0
Table 15(o)		
Social support	Frequency	Percent
Adequate	79	79.0
Inadequate	21	21.0
Total	100	100.0

Results of Table 1(a-o) Socio-demographic characteristics

- Sample had equal distribution of gender.
- 73% patients were found in age group of 26-45 years, while 13% and 14% patients were in age group of 15-25 years and 46 years or more.
- 56% patients were married, 31% were unmarried, 12% were divorced and 1% was widow.
- 55% patients were having per capita monthly income less than 3000, 40% were having less than 6000 and 5% were having less than 9000.
- 1% patients was illiterate while 42% patients were educated upto 1-9th class, 31% patient educated upto

- SSC, 21% patients educated upto HSC, and 5% patients were graduate.
- 27% patients were unemployed, 42% patients were unskilled labourer while 28% and 2% and 1% patients were unskilled labourer, semiskilled and professional respectively. 55% patients had income between 1000-3000, 40% and 5% patients had income 3000-6000 and 6000-9000 respectively.
 - 56% patients belonged to nuclear families and 44% lived in extended/joint family.
 - 95 patient were Hindu, 4 patient were Muslim and 1 was Buddhist.
 - 51% of patients were living in rural areas while 28% and 21% were living in semi urban and urban area respectively.
 - 26% patient were head of their family while 74% patient were dependent on their family.
 - 32% patient had family history of mental illness while 68% had no history of mental illness.
 - 77% patients had gradual mode of onset while 23% had sudden mode of onset.
 - 53% patient had stressor factor before onset of illness, while 37% had denied of any stressor factor.
 - 43% patient had length of illness between 5-10 years, 22% patient had length of illness between 10-15 years, 18% patients had length of illness <5 years, 10% patients had length of illness between 15-20 years and 7% patients had more than 20 years.
 - 77% patient had gradual onset of illness while 23% had history of sudden onset of illness.
 - 58% patient had good compliance of drugs, 29% had average compliance of drugs while 13% had poor compliance.
 - 79% patient had adequate social support, while 21% patient had inadequate social support.

Table 2: Age of study population(years), Age of onset(years) and Total duration of illness(years).

	Mean	Standard deviation
Age of study population(years)	36.34	8.93
Age of onset(years)	26.15	7.45
Total duration of illness(years)	10.29	6.05

Above table 2 show, 36.34 ± 8.93 years was the age of the study population in which half of the patients are younger than this age and half are older. The mean age

of onset of schizophrenia in our study was 26.15 ± 7.45 year. Mean duration of illness was 10.29 ± 6.05 years.

Table 3: Correlation.

		Age of onset	Total duration of illness	Duration of treatment	PANSS(P)	PANSS(N)	PANSS(G)	PANSS(T)	Total disability score (IDEAS)	Global disability score	whodas score
Age of onset	Pearson Correlation	1	-.135	-.118	-.146	-.093	-.149	-.145	-.021	-.020	-.062
	Sig. (2-tailed)		.180	.242	.146	.359	.138	.149	.835	.843	.538
	N	100	100	100	100	100	100	100	100	100	100
Total duration of illness	Pearson Correlation	-.135	1	.970**	.276**	.260**	.324**	.339**	.297**	.345**	.113
	Sig. (2-tailed)	.180		.000	.005	.009	.001	.001	.003	.000	.264
	N	100	100	100	100	100	100	100	100	100	100
Duration of treatment	Pearson Correlation	-.118	.970**	1	.221*	.208*	.252*	.265**	.241*	.286**	.059
	Sig. (2-tailed)	.242	.000		.027	.038	.011	.008	.016	.004	.563
	N	100	100	100	100	100	100	100	100	100	100
PANSS (P)	Pearson Correlation	-.146	.276**	.221*	1	.394**	.555**	.703**	.659**	.666**	.481**
	Sig. (2-tailed)	.146	.005	.027		.000	.000	.000	.000	.000	.000
	N	100	100	100	100	100	100	100	100	100	100
PANSS(N)	Pearson Correlation	-.093	.260**	.208*	.394**	1	.677**	.834**	.636**	.610**	.623**
	Sig. (2-tailed)	.359	.009	.038	.000		.000	.000	.000	.000	.000
	N	100	100	100	100	100	100	100	100	100	100
PANSS(G)	Pearson Correlation	-.149	.324**	.252*	.555**	.677**	1	.933**	.713**	.696**	.640**
	Sig. (2-tailed)	.138	.001	.011	.000	.000		.000	.000	.000	.000
	N	100	100	100	100	100	100	100	100	100	100
PANSS (total)	Pearson Correlation	-.145	.339**	.265**	.703**	.834**	.933**	1	.786**	.770**	.704**
	Sig. (2-tailed)	.149	.001	.008	.000	.000	.000		.000	.000	.000
	N	100	100	100	100	100	100	100	100	100	100
5.Total disability score(IDEAS)	Pearson Correlation	-.021	.297**	.241*	.659**	.636**	.713**	.786**	1	.978**	.767**
	Sig. (2-tailed)	.835	.003	.016	.000	.000	.000	.000		.000	.000
	N	100	100	100	100	100	100	100	100	100	100
Global disability score	Pearson Correlation	-.020	.345**	.286**	.666**	.610**	.696**	.770**	.978**	1	.728**
	Sig. (2-tailed)	.843	.000	.004	.000	.000	.000	.000	.000		.000
	N	100	100	100	100	100	100	100	100	100	100
5.Total-whodas score	Pearson Correlation	-.062	.113	.059	.481**	.623**	.640**	.704**	.767**	.728**	1
	Sig. (2-tailed)	.538	.264	.563	.000	.000	.000	.000	.000	.000	
	N	100	100	100	100	100	100	100	100	100	100

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

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

Above table 3 show following results

No correlation was found between age of onset and total duration of illness. (r,-.135 and p, 0.180.)

No correlation was found between age of onset and duration of treatment. (r,-.118 and p- 0.242.)

No correlation was found between age of onset and Panss(p) score. (r,-.146 and p- 0.146.)

No correlation was found between age of onset and Panss(n) score. (r,-.093 and p- 0.359.)

No correlation was found between age of onset and Panss(g) score. (r,-.149 and p- 0.138.)

No correlation was found between age of onset and Panss(t) score. (r,-.145 and p- 0.149.)

No correlation was found between age of onset and Total disability score by Ideas. (r,-.093 and p- 0.359.)

No correlation was found between age of onset and Global disability score. (r,-.149 and p- 0.138.)

No correlation was found between age of onset and Total who-das score. (r,-.145 and p- 0.149.)

Positive correlation was found between duration of treatment and total length of illness. (r-0.276, p- 0.005.)

Positive correlation was found between duration of treatment and panss(p). (r-0.221, p- 0.027.)

Positive correlation was found between duration of treatment and panss(n). (r-0.208, p- 0.038.)

Positive correlation was found between duration of treatment and panss(g). (r-0.252, p- 0.011.)

Positive correlation was found between duration of treatment and panss(t). (r-0.265, p- 0.008.)

Positive correlation was found between duration of treatment and Total disability score by ideas. (r-0.241, p- 0.016.)

Positive correlation was found between duration of treatment and Global disability score. (r-0.286, p- 0.004.)

No correlation was found between duration of treatment and Total-whodas score. (r-0.059, p- 0.563.)

Positive correlation was found between total length of illness and panss(n) (r-0.260, p- 0.009.)

Positive correlation was found between total length of illness and panss(g) (r-0.324, p- 0.001.)

Positive correlation was found between total length of illness and panss(t) (r-0.339, p- 0.001.)

Positive correlation was found between total length of illness and total disability by Ideas scale (r-0.297, p- 0.003.)

Positive correlation was found between total length of illness and global disability score by Ideas scale (r-0.345, p- 0.0001.)

No correlation was found between total length of illness and total who-das score (r-0.113, p- 0.264.)

Positive notable correlation was found between panss (p) and total disability by IDEAS scale (r-0.659, p- 0.0001.)

Positive notable correlation was found between panss (p) and global disability score (r-0.666, p- 0.0001.)

Positive notable correlation was found between panss(p) and average total domain score of who-das scale (r- 0.481, p- 0.0001.)

Positive notable correlation was found between panss(n) and total disability by Ideas scale (r-0.636, p- 0.0001.)

Positive notable correlation was found between panss (n) and global disability score (r-0.610, p- 0.0001.)

Positive notable correlation was found between panss(n) and total disability by average total domain scores of who-das scale (r-0.623, p- 0.0001.)

Positive notable correlation was found between panss (g) and total disability score by IDEAS scale (r-0.713, p- 0.0001.)

Positive notable correlation was found between panss (g) and global disability score (r-0.696, p- 0.0001.)

Positive notable correlation was found between panss(g) and average total domain scores of who-das scale (r- 0.640, p- 0.0001.)

Positive notable correlation was found between panss (t) and total disability score by IDEAS scale (r-0.786, p- 0.0001)

Positive notable correlation was found between panss (t) and global disability by IDEAS scale were (r-0.770, p- 0.0001.)

Positive notable correlation was found between panss (t) and total disability by average total domain scores of who-das scale were (r-0.640, p- 0.0001.)

DISCUSSION

In the present study, out of the 100 patients of schizophrenia, 50% were male and 50% were female. Equal distribution of gender, seen in our study was almost similar to the study by Adesanmi A kinsulore group^[62], in which Males were 52.0% and females were 48.0, while Lavinia A.M Lyngdoh group^[45] in their study observed that the majority of the patients were male 66.7%) and only 33.3% were females.

Kathryn M et.al^[73] in their study found that gender wise distribution in schizophrenia may be due to differences in both neuro developmental processes and social factor on disease risk and course. They found that incidence of male: females approximately 1.4:1 with predominance of older female. While prevalence differences were smaller.

Nishi Suchita Kujur et.al^[63] in their study found that in domains of WHO-DAS, there were significant differences between genders (males and females) like in domains of personal area, social area, occupation area, physical health area and the general area.

Furthermore, the females showed higher levels of disability than males in all the six domains of WHO-DAS.

Age distribution of individuals in this study was from 18 to 56 year, 38% of patients belonged to the age category of 26-35 years and 35% patients belonged to the age category of 36-45 years. The number of patient in the age category of 15-25 years and 46 years & more were 13 and 14 respectively. Our study result was almost similar to the one by Manabendra Makhaletal et.al^[58] in which majority (35%) of the patients fell within the age range 30-39 with the mean age 32.75 (SD=9.373). This differ slightly from study done by Lavinia A.M Lyngdoh et.al^[45] in which 40% of the patients were in the age

range of 31-40[40%], followed by 42-50[36%], while 18% were in age range of 21-30 and 5% were in age range of 51-60. This maybe because our patients selected randomly from the OPD patients in a particular period of time.

36.34 ± 8.93 years was the mean age of the study population, that is almost similar to Adesanmi Akinsulore *et al.*^[62] study in which they found that 39.53 ± 9.295 years was the mean age of the patients. I have not taken gender wise mean age of study population, while Nishi Suchita Kujur *et al.*^[63] in their study taken gender wise distribution of mean age and they found that the mean age of men in the was 28.70 years, which is significantly lesser than the mean age of the women (31.64 years).

The mean age of onset of the study population in our study was 26.15 ± 7.45 year, that is similar to Lyngdoth L^[45] study in which mean age of onset of illness was 27.5 ± 8.36. The study done by Nishi Suchita Kujur^[63] *et al.* in which the mean age of onset in males and in females were 24.97 (±4.34) years and 26.50 (±4.67) years respectively.

In the present study 43 patients had duration of illness between 5-10 years, 22 patient had duration of illness between 10-15 years, 18 patients had duration of illness <5 years, 10% patients had duration of illness between 15-20 years and 7 patients had more than 20 years. All patients were in more than 3 months period of remission while Singh A *et al.*^[89] and Mukherjee S *et al.*^[90] in their study found that around 40% patients and 25% patients had duration of illness between 6-10 years and more than 10 years respectively. 68% patients were in remission and 32% were not in remission.

Mean duration of illness in our study was 10.29 ± 6.05 years, in contrast Nishi Suchitra kjuretal^[63] in their study found that the mean duration of illness in males was 3.70 (±2.03) years; and in females, 4.02 (±2.03) years.

In this study 56% were married, 31% were unmarried, 12% were divorced and 1% was widow, which is similar to M Lyngdoh *et al.*^[45] study in which 51.7% were married. That is also similar to Manabendra Makhil *et al.*^[58] study in which 44% of the subjects were single (unmarried, widow/widower, divorced or separated) but it was different from Adesanmi Akinsulore^[62], Nambi *et al.*^[76] and Lane *et al.*^[77] studies in which most of the patients were unmarried. Nambi *et al.*^[76] in his study in marriage, mental illness & legislation found that Patients with schizophrenia are more likely to remain single and unmarried than patients in other disease groups mainly of male patients and this may be due to the fact that women tend to be younger than men when married and are less likely to have experienced an initial psychotic episode. Another factor is that women have bimodal distribution of age of onset. Marriage is basically a social process, in which men and women relate on a personal & close basis.

Success of marriage depends on the ability to relate socially. While Schizophrenia is a chronic illness characterized by severe psychosocial dysfunction and is often associated with poor outcome. Patients with compromised occupational functioning and compromised income are most often unmarried and they end up being cared by his family members.

In present study we did not check for gender wise sociodemographic relationship like marital status, social and work functioning, positive familial history, attempted suicide, earlier age of onset, time lag between the appearance of first psychotic symptoms and onset of treatment, number of inpatient admissions, longer hospitalization and problems with law and substance abuse subtypes of schizophrenia. While study done by Figen Atalay *et al.*^[78] in their study found that female patients were more likely to be married and to have better social and occupational functioning. Females had higher rates of positive familial history of schizophrenia, attempted suicide. While male patients had earlier age of onset, there was shorter lime lag between the appearance of first psychotic symptoms and onset of treatment and they were younger during treatment received than females. They had higher number of inpatient admissions with longer hospitalization and they had more problems with law and substance abuse than female patients. Females had higher rates of paranoid subtype than males while male patients had higher rates of disorganized subtype of the schizophrenia.

Nishi Suchitra Kujur^[63] in their study found that the frequency of admission was significantly higher in female patients than in the male, which indicates that females remained more disabled than males or had more severe illness. With regard to the components of disability, they included the lower status of occupation since most of the men were assessing work, the women primarily were assessing household activities and the young women were financially dependent on their families.

In present study 51% of patients were living in rural areas while 28% and 21% were living in semi urban and urban area respectively while study done by Manabendra Makhil *et al.*^[58], 57% of patients belonged to rural area and 43% were from urban area.

In our study individuals were divided into three groups depending on their per capita monthly income, in which 55% individuals were having less than 3000 RS/ 40% had per capita monthly income less than 6000 and 5% were had less than 9000. While in Manabendra Makhil *et al.*^[58] study Majority (62%) of the subjects had per capita income below Rs. 600/ with sample's mean per capita income Rs. 667.44 per month (SD=543.80). This may be because in their study sample most of the patients belonged to north parts of Bengal where number of the patients were migrants from Bangladesh, belonging to BPL class. Most of our patients belonged to

central India having better socioeconomic status than Bengal. The period of their study and our study were different.

In our study 42 patients had studied up to 9th, 31 patients educated up to SSLC, 21 patients up to HSC, 5 patients were graduate and 1 was illiterate. While in Lyngdoh L et al^[45] majority of patients were educated up to higher secondary [40%], where as in Manabendra Makhil et al^[58] study, 19% were illiterate and 42% were educated up to primary school. In Adesanmi Akinsulore et al^[62] study, two thirds (67.0 %) of the patients were educated up to secondary education which is similar to our study finding.

All of our patients were in remission state and it was not patient's first contact with us. 26 of them were head of the family while 74 patients were dependent on other family members. It means most of the patients were found to have only mild to moderate occupational disability. While Rosemarie Mallet and Dinesh Bhugra et al^[79] in 2002 studied the social environment and ethnic factors in schizophrenia and found that unemployment is associated with schizophrenia, at first contact with services regardless of the ethnicity. They also found increased risk of unemployment, as a result of altered behavior, prior to the development of frank psychosis. They concluded that increased incidence of unemployment leads to increased disability, loss of quality of life scores and impaired functioning capacity in the schizophrenia patients.

Hickling FW et al^[80] in their study found that occupational status is an important measure of disability in schizophrenia and Mulkern VM et al^[81] approximates of unemployment in people with schizophrenia in developed countries have been reported to range between 70 and 85%.^[34]

In contrast, Kebede D et al^[82] found that the unemployment rate in patients with schizophrenia in Ethiopia (a developing country in Africa) was 45.3%. McGurk S et al^[83] in their study, the role of cognition in vocational functioning in schizophrenia found that differences in the rates of employment can be explained by the fact that jobs are less complicated in the developing countries when compared to jobs in developed countries. In Adesanmi Akinsulore et al^[62] found that good percentage of patients although employed (63%) were poorly rewarded and this makes them in economically disadvantaged position in the society. Therefore, establishing employment programs for patients may help in reducing their level of disability.

In our present study larger number of the patients were from nuclear family [56%] and 44% had joint family as found in Lyngdoh L et al^[45] study, where majority of the respondents were from a nuclear family [43.3%], 37% are in a joint family and 20% belonged to extended family.

Our study population was also divided into different religion, in which 95% patients belonged to Hindu religion, 4 patients were Muslims and 1 was Buddhist. Study done by M Lyngdoh et al^[45] found that 73.3% were Hindu, while Adesanmi Akinsulore et al's^[62] study most of the patients (78.0%) were Christians. This may be because majority of the population in the studied area belong to Hindu religion.

In the present study, 32% patients had family history of mental illness while 68% had no family history of mental illness. That is almost similar to Lyngdoh L et al study^[45] in which 76.7% patients had no family history of mental illness. Suchita et al^[63] found that family history of mental illness was more frequent among female patients than among male patients.

In present study, 53 patient had stress factors before the onset of illness, while 37% had denied any stress factor before the illness. In Lyngdoh L et al^[45] study, majority of patients [58.3%] had a precipitating factor for mental illness, while [41.7%] did not have any precipitating factor.

In our study, 77 patients had gradual onset of illness similar to Lyngdoh L et al^[45] study where 85% patients had gradual onset of illness while 23% had history of sudden onset of illness.

In the present study 58% patient were having good compliance of drugs, 29% had average compliance of drugs while 13% were poorly compliant. 79% patients had adequate social support, while 21% patients had poor social support. Adequate social support may lead to good compliance on medication and regular follow up. The result will be lesser disability. In India there is close knit family relationships prevailing in most places. This seems a protecting factor for chronic mentally ill. Even then in chronic disabling mental illnesses like schizophrenia financial and other care giver burden on their family members are high.

No correlation was found between age of onset with total duration of illness, duration of treatment, panss(p), panss(n), panss(g), panss(t), total disability score by ideas scale, global disability score by ideas and total who-das score. Lyngdoh L et al^[45] in their study found that Total global score of disability has a significant positive correlation total duration of illness [$r = .403$, $p \leq 0.01$] and negative correlation was found with age of onset of illness [$r = -.175$].

Positive correlation was found between duration of treatment with total length of illness, panss(p), panss(n), panss(g), panss(t), total disability score by ideas scale, global disability score by ideas and total who-das score while No correlation was found between duration of treatment and Total-whodas score.

Positive correlation was found between duration total length of illness with panss(p), panss(n), panss(g), panss(t), total disability score by ideas scale, and global disability score by ideas while No correlation was found between duration of treatment and Total-whodas score. Lyngdoth L et al^[45] in their study also found that total global score of disability in IDEAS scale has a significant positive correlation with total duration of illness. While Manabendra Makhal et al^[58] in their study found no correlation between total duration of illness with global disability of ideas scale.

Correlation co-efficient r values for panss(p) with total disability score by ideas scale, global disability score by ideas and total who-das2. score are 0.659, 0.666 and 0.481 respectively and p values are 0.000 (in all three levels) which are statistically significant. Adesanmi Akinsulore et al^[62] in their study also found that significant correlation between positive symptoms of PANSS with total disability summary score of who-das-2.

Correlation co-efficient r values for panss(n) with total disability score by ideas scale, global disability score by ideas and total who-das score are 0.636, 0.610 and 0.623 respectively and p values are 0.000 (in all three levels) which are statistically significant.

Correlation co-efficient r values for panss(g) with disability score by ideas scale, global disability score by ideas and total who-das score are 0.713, 0.696 and 0.640 respectively and p values are 0.000 (in all three levels) which are statistically significant.

Correlation co-efficient r values for panss(t) with total disability score by ideas scale, global disability score by ideas and total who-das score are 0.786, 0.770 and 0.640 respectively and p values are 0.000 (in all three levels) which are statistically significant.

While Lyngdoth L et al^[45] in their study also found that global disability score has a significant positive correlation with Negative symptoms [$r=0.632$, $p\leq 0.01$], while positive correlation was found with positive symptoms [$r=0.127$] and General Symptoms [$r=0.148$].)

While Manabendra Makhal et al^[58] found that significant correlation between PANSS total score with Global domain of IDEAS ($r=0.211$, $p=0.035$.)

Ertugrul A et al^[87] in their study found that PANSS positive, PANSS negative, PANSS general psychopathological and PANSS total were all significantly correlated with DAS scores at a significant level.

Positive correlation was found between total length of illness and panss(p) ($r=0.276$, $p=0.005$.)

Positive correlation was found between total length of illness and panss(n) ($r=0.260$, $p=0.009$.)

Positive correlation was found between total length of illness and panss(g) ($r=0.324$, $p=0.001$.)

Positive correlation was found between total length of illness and panss(t) ($r=0.339$, $p=0.001$.)

Positive correlation was found between total length of illness and total disability by Ideas scale ($r=0.297$, $p=0.003$.)

Positive correlation was found between total length of illness and global disability score by IDEAS scale ($r=0.345$, $p=0.0001$.)

No correlation was found between total length of illness and total who-das score ($r=0.113$, $p=0.264$.)

Positive correlation was found between panss (p) and total disability by Ideas scale ($r=0.659$, $p=0.0001$.)

Positive correlation was found between panss (p) and global disability score ($r=0.666$, $p=0.0001$.)

Positive correlation was found between panss(p) and average total domain score of who-das scale ($r=0.481$, $p=0.0001$.)

Positive correlation was found between panss(n) and total disability by Ideas scale ($r=0.636$, $p=0.0001$.)

Positive correlation was found between panss (n) and global disability score ($r=0.610$, $p=0.0001$.)

Positive correlation was found between panss(n) and total disability by average total domain scores of whodas scale ($r=0.623$, $p=0.0001$.)

Positive correlation was found between panss (g) and total disability score by Ideas scale ($r=0.713$, $p=0.0001$.)

Positive correlation was found between panss (g) and global disability score ($r=0.696$, $p=0.0001$.)

Positive correlation was found between panss(g) and average total domain scores of who-das scale ($r=0.640$, $p=0.0001$.)

Positive correlation was found between panss (t) and total disability score by Ideas scale ($r=0.786$, $p=0.0001$.)

Positive correlation was found between panss (t) and global disability by Ideas scale were ($r=0.770$, $p=0.0001$.)

Positive correlation was found between panss (t) and total disability by average total domain scores of who-das scale were ($r=0.640$, $p=0.0001$.)

DISCUSSION

In the present study, out of the 100 patients of schizophrenia, 50% were male and 50% were female. Equal distribution of gender, seen in our study was almost similar to the study by Adesanmi A kinsulore group^[12], in which Males were 52.0% and females were 48.0%, while Lavinia A.M Lyngdoh group^[13] in their study observed that the majority of the patients were male 66.7% and only 33.3% were females.

Kathryn M et al^[14] in their study found that gender wise distribution in schizophrenia may be due to differences in both neuro developmental processes and social factor on disease risk and course. They found that incidence of male: females approximately 1.4:1 with predominance of older female. While prevalence differences were smaller.

Nishi Suchita Kujur et al^[15] in their study found that in domains of WHO-DAS, there were significant

differences between genders (males and females) like in domains of personal area, social area, occupation area, physical health area and the general area.

Furthermore, the females showed higher levels of disability than males in all the six domains of WHO-DAS.

Age distribution of individuals in this study was from 18 to 56 year, 38% of patients belonged to the age category of 26-35 years and 35% patients belonged to the age category of 36-45 years. The number of patient in the age category of 15-25 years and 46 years & more were 13 and 14 respectively. Our study result was almost similar to the one by Manabendra Makhaletal^[16] in which majority (35%) of the patients fell within the age range 30-39 with the mean age 32.75 (SD=9.373). This differ slightly from study done by Lavinia A.M Lyngdoh et.al^[13] in which 40% of the patients were in the age range of 31-40[40%], followed by 42-50[36%], while 18% were in age range of 21-30 and 5% were in age range of 51-60. This maybe because our patients selected randomly from the OPD patients in a particular period of time.

36.34 ± 8.93 years was the mean age of the study population, that is almost similar to Adesanmi Akinsulore et.al^[12] study in which they found that 39.53 ± 9.295 years was the mean age of the patients. I have not taken gender wise mean age of study population, while Nishi Suchita Kujur et.al^[15] in their study taken gender wise distribution of mean age and they found that the mean age of men in the was 28.70 years, which is significantly lesser than the mean age of the women (31.64 years).

The mean age of onset of the study population in our study was 26.15 ± 7.45 year, that is similar to Lyngdoh L^[13] study in which mean age of onset of illness was 27.5 ± 8.36. The study done by Nishi Suchita Kujur^[15] et.al in which the mean age of onset in males and in females were 24.97 (±4.34) years and 26.50 (±4.67) years respectively.

In the present study 43 patients had duration of illness between 5-10 years, 22 patient had duration of illness between 10-15 years, 18 patients had duration of illness <5 years, 10% patients had duration of illness between 15-20 years and 7 patients had more than 20 years. All patients were in more than 3 months period of remission while Singh A et al^[17] and Mukherjee S et al^[18] in their study found that around 40% patients and 25% patients had duration of illness between 6-10 years and more than 10 years respectively. 68% patients were in remission and 32% were not in remission.

Mean duration of illness in our study was 10.29 ± 6.05 years, in contrast Nishi Suchitra kjuretal^[15] in their study found that the mean duration of illness in males was 3.70 (±2.03) years; and in females, 4.02 (±2.03) years.

In this study 56% were married, 31% were unmarried, 12% were divorced and 1% was widow, which is similar to M Lyngdoh et.al^[13] study in which 51.7% were married. That is also similar to Manabendra Makhhal et.al^[16] study in which 44% of the subjects were single (unmarried, widow/widower, divorced or separated) but it was different from Adesanmi Akinsuloreetal^[12], Nambi et al^[19] and Lane et al^[20] studies in which most of the patients were unmarried. Nambi et al^[19] in his study in marriage, mental illness & legislation found that Patients with schizophrenia are more likely to remain single and unmarried than patients in other disease groups mainly of male patients and this may be due to the fact that women tend to be younger than men when married and are less likely to have experienced an initial psychotic episode. Another factor is that women have bimodal distribution of age of onset. Marriage is basically a social process, in which men and women relate on a personal & close basis. Success of marriage depends on the ability to relate socially. While Schizophrenia is a chronic illness characterized by severe psychosocial dysfunction and is often associated with poor outcome. Patients with compromised occupational functioning and compromised income are most often unmarried and they end up being cared by his family members.

In present study we did not check for gender wise sociodemographic relationship like marital status, social and work functioning, positive familial history, attempted suicide, earlier age of onset, time lag between the appearance of first psychotic symptoms and onset of treatment, number of inpatient admissions, longer hospitalization and problems with law and substance abuse subtypes of schizophrenia. While study done by Figen Atalay et al^[21] in their study found that female patients were more likely to be married and to have better social and occupational functioning. Females had higher rates of positive familial history of schizophrenia, attempted suicide. While male patients had earlier age of onset, there was shorter lime lag between the appearance of first psychotic symptoms and onset of treatment and they were younger during treatment received than females. They had higher number of inpatient admissions with longer hospitalization and they had more problems with law and substance abuse than female patients. Females had higher rates of paranoid subtype than males while male patients had higher rates of disorganized subtype of the schizophrenia.

Nishi Suchitra Kujur^[15] in their study found that the frequency of admission was significantly higher in female patients than in the male, which indicates that females remained more disabled than males or had more severe illness. With regard to the components of disability, they included the lower status of occupation since most of the men were assessing work, the women primarily were assessing household activities and the young women were financially dependent on their families.

In present study 51% of patients were living in rural areas while 28% and 21% were living in semi urban and urban area respectively while study done by Manabendra Makhil *et al.*^[16], 57% of patients belonged to rural area and 43% were from urban area.

In our study individuals were divided into three groups depending on their per capita monthly income, in which 55% individuals were having less than 3000 rupees, 40% had per capita monthly income less than 6000 rupees and 5% were had less than 9000 rupees. While in Manabendra Makhil *et al.*^[16] study Majority (62%) of the subjects had per capita income below Rs. 600/ with sample's mean per capita income Rs. 667.44 per month (SD=543.80). This may be because in their study sample most of the patients belonged to north parts of Bengal where number of the patients were migrants from Bangladesh, belonging to BPL class. Most of our patients belonged to central India having better socioeconomic status than Bengal. The period of their study and our study were different.

In our study 42 patients had studied up to 9th, 31 patients educated up to SSLC, 21 patients up to HSC, 5 patients were graduate and 1 was illiterate. While in Lyngdoh L *et al.*^[13] majority of patients were educated up to higher secondary [40%], where as in Manabendra Makhil *et al.*^[16] study, 19% were illiterate and 42% were educated up to primary school. In Adesanmi Akinsulore *et al.*^[12] study, two thirds (67.0%) of the patients were educated up to secondary education which is similar to our study finding.

All of our patients were in remission state and it was not patient's first contact with us. 26 of them were head of the family while 74 patients were dependent on other family members. It means most of the patients were found to have only mild to moderate occupational disability. While Rosemarie Mallet and Dinesh Bhughra *et al.*^[22] in 2002 studied the social environment and ethnic factors in schizophrenia and found that unemployment is associated with schizophrenia, at first contact with services regardless of the ethnicity. They also found increased risk of unemployment, as a result of altered behavior, prior to the development of frank psychosis. They concluded that increased incidence of unemployment leads to increased disability, loss of quality of life scores and impaired functioning capacity in the schizophrenia patients.

Hickling FW *et al.*^[23] in their study found that occupational status is an important measure of disability in schizophrenia and Mulkern VM *et al.*^[24] approximates of unemployment in people with schizophrenia in developed countries have been reported to range between 70 and 85%.

In contrast, Kebede D *et al.*^[25] found that the unemployment rate in patients with schizophrenia in Ethiopia (a developing country in Africa) was 45.3%. McGurk S *et al.*^[26] in their study, the role of cognition in

vocational functioning in schizophrenia found that differences in the rates of employment can be explained by the fact that jobs are less complicated in the developing countries when compared to jobs in developed countries. In Adesanmi Akinsulore *et al.*^[12] found that good percentage of patients although employed (63%) were poorly rewarded and this makes them in economically disadvantaged position in the society. Therefore, establishing employment programs for patients may help in reducing their level of disability.

In our present study larger number of the patients were from nuclear family [56%] and 44% had joint family as found in Lyngdoh L *et al.*^[13] study, where majority of the respondents were from a nuclear family [43.3%], 37% are in a joint family and 20% belonged to extended family.

Our study population was also divided into different religion, in which 95% patients belonged to Hindu religion, 4 patients were Muslims and 1 was Buddhist. Study done by M Lyngdoh *et al.*^[13] found that 73.3% were Hindu, while Adesanmi Akinsulore *et al.*'s^[12] study most of the patients (78.0%) were Christians. This may be because majority of the population in the studied area belong to Hindu religion.

In the present study, 32% patients had family history of mental illness while 68% had no family history of mental illness. That is almost similar to Lyngdoh L *et al.* study^[13] in which 76.7% patients had no family history of mental illness. Suchita *et al.*^[15] found that family history of mental illness was more frequent among female patients than among male patients.

In present study, 53 patient had stress factors before the onset of illness, while 37% had denied any stress factor before the illness. In Lyngdoh L *et al.*^[13] study, majority of patients [58.3%] had a precipitating factor for mental illness, while [41.7%] did not have any precipitating factor.

In our study, 77 patients had gradual onset of illness similar to Lyngdoh L *et al.*^[13] study where 85% patients had gradual onset of illness while 23% had history of sudden onset of illness.

In the present study 58% patient were having good compliance of drugs, 29% had average compliance of drugs while 13% were poorly compliant. 79% patients had adequate social support, while 21% patients had poor social support. Adequate social support may lead to good compliance on medication and regular follow up. The result will be lesser disability. In India there is close knit family relationships prevailing in most places. This seems a protecting factor for chronic mentally ill. Even then in chronic disabling mental illnesses like schizophrenia financial and other care giver burden on their family members are high.

No correlation was found between age of onset with total duration of illness, duration of treatment, panss(p), panss(n), panss(g), panss(t), total disability score by ideas scale, global disability score by ideas and total who-das score. Lyngdoth L et al^[13] in their study found that Total global score of disability has a significant positive correlation total duration of illness [$r = .403$, $p \leq 0.01$] and negative correlation was found with age of onset of illness [$r = -.175$].

Positive correlation was found between duration of treatment with total length of illness, panss(p), panss(n), panss(g), panss(t), total disability score by ideas scale, global disability score by ideas and total who-das score while No correlation was found between duration of treatment and Total-whodas score.

Positive correlation was found between duration total length of illness with panss(p), panss(n), panss(g), panss(t), total disability score by ideas scale, and global disability score by ideas while No correlation was found between duration of treatment and Total-whodas score. Lyngdoth L et al^[13] in their study also found that total global score of disability in IDEAS scale has a significant positive correlation with total duration of illness. While Manabendra Makhil et al^[16] in their study found no correlation between total duration of illness with global disability of ideas scale.

Correlation co-efficient r values for panss(p) with total disability score by ideas scale, global disability score by ideas and total who-das2. score are 0.659, 0.666 and 0.481 respectively and p values are p values are 0.000 (in all three levels) which are statistically significant. Adesanmi Akinsulore et al^[12] in their study also found that significant correlation between positive symptoms of PANSS with total disability summary score of who-das-2.

Correlation co-efficient r values for panss(n) with total disability score by ideas scale, global disability score by ideas and total who-das score are 0.636, 0.610 and 0.623 respectively and p values are p values are 0.000 (in all three levels) which are statistically significant.

Correlation co-efficient r values for panss(g) with disability score by ideas scale, global disability score by ideas and total who-das score are 0.713, 0.696 and 0.640 respectively and p values are p values are 0.000 (in all three levels) which are statistically significant.

Correlation co-efficient r values for panss(t) with total disability score by ideas scale, global disability score by ideas and total who-das score are 0.786, 0.770 and 0.640 respectively and p values are p values are 0.000 (in all three levels) which are statistically significant.

While Lyngdoth L et al^[13] in their study also found that global disability score has a significant positive correlation with Negative symptoms [$r = .632$, $p \leq 0.01$],

while positive correlation was found with positive symptoms [$r = .127$] and General Symptoms [$r = .148$].) While Manabendra Makhil et al^[16] found that significant correlation between PANSS total score with Global domain of IDEAS ($r = 0.211$, $p = 0.035$). Ertugrul A et al^[27] in their study found that PANSS positive, PANSS negative, PANSS general psychopathological and PANSS total were all significantly correlated with DAS scores at a significant level.

Strengths and Limitations

It is one of the few researches from India where disability in schizophrenia is assessed and compared using two well validated and standardized scales. The socio-demographic correlation also gives a clear idea about the various factors that contribute the disability and thus the poor outcome in chronic schizophrenia. The very fact that patients are on regular follow up and under remission for minimum of three months itself shows that the insight, compliance and social support is more or less adequate which is not the case in the real time community setting.

Small sample size was main limitation of the study and the study being a cross sectional hospital-based study the results may not be generalizable for the rest of general population.

CONCLUSION

Schizophrenia is a mental illness which has a chronic course and debilitating nature. Considering the course and outcome of illness, the age of onset of the illness, duration and the treatment are important for any sort of management plans. If the diagnosis is made early and treatment started soon, it has positive effect on the course and outcome. Disability in schizophrenia is related to poor compliance, poor social support and lack of insight. Studies in the area of evaluation of disability in chronic schizophrenia under remission are scarce in India. Few studies evaluated the disability related to various socio demographic factors and related course and outcome.

In the current era, focus has been shifted from the treatment and management strategies towards the improvement in quality of life and functioning capacity of the schizophrenia patients, this study emphasizes the need for the assessment of such variables among the patients with schizophrenia even after the prolonged periods of remission. Psychopathology and social support, good refill rate of drugs and follow up has been found decreasing disability in person with schizophrenia. Beside pharmacological intervention, psychosocial interventions such as social skills training and rehabilitative measures should be targeted on promoting independence, increasing individual capacity of work, better interpersonal relationship, effective living and community participation.

Our study was an attempt to evaluate the various factors associated with disability in schizophrenia. We also

attempted to compare both IDEAS developed in India and the WHODAS scale developed by WHO for disability assessment. The findings of our study show that our patients with schizophrenia has significant relation with psychopathology and all the domains of IDEAS scale, global disability by IDEAS scale and total disability by WHO-DAS.2 scale and significant relationship has been established between disability score and global disability score by IDEAS scale with total duration of illness, but Non significant correlation was found between total duration of illness and average total domain scores of who-das scale WHODAS scale with duration of illness. While comparing individual domains of IDEAS and WHO-DAS, significant relationship has been established between communication and understanding domains while no significant relationship was found in work domain. There was no significant relation found while comparing interpersonal activities of IDEAS domain with getting along with people in WHO-DAS 2 scale.

Future Recommendations

There is need of large sample size along with multi-centric longitudinal studies to determine relationship between disability and psychopathology of schizophrenia. Using these scales, a future community-based assessment might give a result that is reflective of the disability in real time patients in the general setting and the impact of community integration and outcome in the quality of life of such patients. Also, the other factors like psychosocial rehabilitation including vocational rehabilitation and the outcome of illness with regard to disability can be an area that can be researched. Follow up studies would give a better idea about the outcome of interventions and patient's quality of life, impact on disability and the caregiver's burden and thus overall outcome in schizophrenia.

BIBLIOGRAPHY

1. Keshavan MS, Tandon R, Boutros NN, Nasrallah HA. Schizophrenia, "just the facts": What we know in 2008: Part 3: Neurobiology. *Schizophrenia research*, 2008 Dec 1; 106(2-3): 89-107.
2. Tandon R. The nosology of schizophrenia: toward DSM-5 and ICD-11. *Psychiatric Clinics.*, 2012 Sep 1; 35(3): 557-69.
3. King M, Nazareth I. Community care of patients with schizophrenia: the role of the primary health care team. *Br J Gen Pract.*, 1996 Apr 1; 46(405): 231-7.
4. Tandon R, Keshavan MS, Nasrallah HA: Schizophrenia, "just the facts": what we know in 2008 part 1: overview. *Schizophr Res.*, 2008; 100: 4-19.
5. Ritsner MS, Gibel A. Quality of life impairment syndrome in schizophrenia. In *Quality of life impairment in schizophrenia, mood and anxiety disorders 2007* (pp. 173-226). Springer, Dordrecht.
6. Harrow M, Jobe TH. Longitudinal studies of outcome and recovery in schizophrenia and early intervention: can they make a difference?.
7. Lyons Z, Janca A. Impact of a psychiatry clerkship on stigma, attitudes towards psychiatry, and psychiatry as a career choice. *BMC medical education*, 2015 Dec; 15(1): 34.
8. Yadav T, Arya K, Kataria D, Balhara YP. Impact of psychiatric education and training on attitude of medical students towards mentally ill: A comparative analysis. *Industrial psychiatry journal*, 2012 Jan; 21(1): 22.
9. Jablensky A, McGrath J, Herrman H, Castle D, Gureje O, Evans M, Carr V, Morgan V, Korten A, Harvey C. Psychotic disorders in urban areas: an overview of the Study on Low Prevalence Disorders. *Australian and New Zealand journal of psychiatry*, 2000 Jan 1; 34(2): 221-36.
10. Sartorius N, Schulze H. Reducing the stigma of mental illness: a report from a global association. Cambridge University Press, 2005 May 26.
11. Kay SR, Fiszbein A, Opler LA. The positive and negative syndrome scale (PANSS) for schizophrenia. *Schizophrenia bulletin*, 1987 Jan 1; 13(2): 261-76.
12. Narayan CL, Narayan M, Shikha D. The ongoing process of amendments in MHA-87 and PWD Act-95 and their implications on mental health care. *Indian journal of psychiatry*, 2011 Oct; 53(4): 343.
13. Akinsulore A, Mapayi BM, Aloba OO, Oloniyi I, Fatoye FO, Makanjuola RO. Disability assessment as an outcome measure: a comparative study of Nigerian outpatients with schizophrenia and healthy control. *Annals of general psychiatry*, 2015 Dec; 14(1): 40.
14. Lyngdoh LA, Ali A. Topic: Disability in person with schizophrenia: A study from north east India. *International Journal of Psychosocial Rehabilitation*, 2016 Jul 1; 20(2): 3.
15. Abel KM, Drake R, Goldstein JM. Sex differences in schizophrenia. *International review of psychiatry*, 2010 Oct 1; 22(5): 417-28.
16. Kujur NS, Kumar R, Verma AN. Differences in levels of disability and quality of life between genders in schizophrenia remission. *Industrial psychiatry journal*, 2010 Jan; 19(1): 50.
17. Makhil M, Majumder U, Dan A, De S, Bera NK. Disability in person with schizophrenia; Its correlation with psychopathology and socio-demographic profile. *Indian Medical Gazette*, 2013; 47(9): 335-44.
18. Singh A, Mattoo SK, Grover S. Stigma and its correlates in patients with schizophrenia attending a general hospital psychiatric unit. *Indian journal of psychiatry*, 2016 Jul; 58(3): 291.
19. Mukherjee S, Mukhopadhyay DK. Stigma towards mental illness: A hospital-based cross-sectional study among caregivers in West Bengal. *Indian journal of public health*, 2018 Jan 1; 62(1): 15.

20. Rao TS, Nambi S, Chandrashekhar H. Marriage, mental health and Indian legislation. *Indian J Psychiatry*, 2009; 51: 113-28.
21. Lane A, Byrne M, Mulvany F, Kinsella A, Waddington JL, Walsh D, Larkin C, O'Callaghan E. Reproductive behaviour in schizophrenia relative to other mental disorders: evidence for increased fertility in men despite decreased marital rate. *Acta Psychiatrica Scandinavica*, 1995 Apr; 91(4): 222-8.
22. Atalay F, Atalay H. Gender differences in patients with schizophrenia in terms of sociodemographic and clinical characteristics. *German Journal of Psychiatry*, 2006 Apr 1; 1(4).
23. Mallett R, Leff J, Bhugra D, Pang D, Zhao JH. Social environment, ethnicity and schizophrenia. *Social Psychiatry and Psychiatric Epidemiology*, 2002 Jul 1; 37(7): 329-35.
24. Hickling FW, McCallum M, Nooks L, Rodgers-Johnson P. Outcome of first contact schizophrenia in Jamaica. *The West Indian Medical Journal*, 2001 Sep; 50(3): 194-7.
25. Mulkern VM, Manderscheid RW. Characteristics of community support program clients in 1980 and 1984. *Psychiatric Services*, 1989 Feb; 40(2): 165-72.
26. Kebede D, Alem A, Shibre T, Negash A, Fekadu A, Fekadu D, Deyassa N, Jacobsson L, Kullgren G. Onset and clinical course of schizophrenia in Butajira-Ethiopia. *Social Psychiatry and Psychiatric Epidemiology*, 2003 Nov 1; 38(11): 625-31.
27. McGurk SR, Meltzer HY. The role of cognition in vocational functioning in schizophrenia. *Schizophrenia research*, 2000 Oct 27.
28. Ertuğrul A, Uluğ B. The influence of neurocognitive deficits and symptoms on disability in schizophrenia. *Acta Psychiatrica Scandinavica*, 2002 Mar 1; 105(3): 196-201.