Research Paper

Family Environment, Socio-occupational Functioning, Illness Outcome and Gender Differences in Schizophrenia

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Background: Schizophrenia is a serious but treatable brain disorder form of mental illness. In this disorder affected population was about 7 per 1000 of the adult population. It is also estimated that globally about 29 million people are currently living with this debilitating illness. Research studies on schizophrenia over the last three decades have demonstrated various relationships between family and illness. Following the implementation of the deinstitutionalization model most persons with schizophrenia were cared for by a family member. The family environment could be crucial in the outcome of the illness however very little research has focused on the family environment and its relationship with illness outcome and gender differences were not been studied so far. **Aim:** The major aim of the study was to examine the family environment, illness outcome and gender differences in schizophrenia. **Methods and Material:** In this study, 104 participants were selected purposively. Data were collected using a Socio-demographic data sheet, family relationship index (FRI), positive and negative symptoms scale (PANSS) and socio-occupational functioning scales (SOFS). Patients and family members were interviewed in the inpatient and outpatient departments. **Result:** There was a significant correlation between various domains of the family relationship index and illness outcomes among patients. Detailed result is described in the paper.

Keywords: Family environment, schizophrenia, illness outcome, gender

INTRODUCTION

Schizophrenia is a serious but treatable brain disorder form of mental illness. In this disorder affected population was about 7 per 1000 of the adult population. It is also estimated that globally about 29 million people are currently living with this debilitating illness. (Chan, S. W. C., 2011). Schizophrenia affects on person's personal, social and occupational life. Schizophrenia is a meagre mental illness that affects a person's ability to think clearly, manage emotions, make decisions and relate to others. Schizophrenia is characterized by disruption in affective, cognitive and social domains that result in generally poor ability to maintain adaptive functioning in the community or inappropriate affect, lack of motivation, poor social interaction, as well as idiosyncratic mannerisms and behaviors paranoid- non-paranoid and process- reactive have delusions, hallucinations, loosening of associations, poor motivation, affective blunting, thought blocking, diminished speech content. Schizophrenia is a distinct but debilitating, psychiatric disorder of the psychiatrist that includes feelings, emotions, perceptions, and other aspects of behavior. The expression of these manifestations varies across patients and over time, but the effect of the illness is always severe and is usually long-lasting. (Green et al., 2015). The presence of a positive family environment is a prerequisite for the healthy growth and development of the members of a given family unit. A family environment is helpful for individuals to sound in physical and psychological health. Family environment is important for the psychiatric patient is a considerable body of evidence

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now exists to suggest that family environment may exert a significant influence on the course of schizophrenia. In particular, several studies of expressed emotion, a measure that reflects the amount of caregivers' criticism toward or emotional over-involvement with patients, have home that when patients return to Family settings with high levels of expressed emotion are at least three times more likely to relapse than patients who return to family settings with low levels of expressed emotion. (Harrison et al., 1998). There is no universal agreement on how the outcome of schizophrenia should be defined. In early studies outcome was defined in general terms like" recovered"/ improved" or" unimproved" (Simon et al., 1961. & Haywood et al., 1963) Outcome of schizophrenia means to the severity of the illness, outcome criteria which have been used include social relations, working ability and number and social and occupational functioning, cognitive performance, the severity of symptoms. These can be assessed by using different validated structured interviews and scales like PANSS (Positive and Negative Syndrome Scale for Schizophrenia) in schizophrenic symptoms (Kay *et al.*, 1988) and the social-occupational functioning scale (Sarswat et al., 2006).

Brown *et al., (*1972) study suggested schizophrenia patients' family atmosphere plays a role in relapse such expresses emotions, communication, and stressful events. Family caregivers lower stressful events and increased coping of the family ultimately decreasing the patient's symptoms or psychopathology and decreasing psychotropic medication. Schene *et al.,* (1998) Schizophrenia patient Family environment High levels of expressed emotion were related with a predominance of positive symptoms. Rasanea et al., (2000) Sex differences in schizophrenia: A review study suggested male patients had more negative symptoms and female patients are more than male patients psychosocial functioning.

Aim & Objectives: The study aims to assess the family environment, illness outcome and gender differences in schizophrenia.

METHODS AND MATERIAL

Research Design and Nature of the Study: The current study is a cross-sectional study and comparative in nature.

Sample Design: In this study, 104 participants were selected purposively who were diagnosed with schizophrenia and live at home with taken treatment and patients' family members/ caregivers. Data were collected at the outpatient department RINPAS. Kanke, Ranchi.

Method & Tool: For data collection using tools self-prepared Socio-demographic data sheet, the Family Relationship Index is a subscale of the Family Environment scale (FES) (Joshi M.C., 1984), positive and negative symptoms scale (PANSS) (Kay et al., 1987), socio-occupational functioning scales (SOFS) (Sarswat et al., 2006). Process of data collection through interviews of patients and family members or caregivers who live with patients for at least 6 months and giving informed consent to patients aged above 18 years to below 45 years. Ethical permission was taken from Institute & for statistical analysis using the spss-16 version.

RESULTS

Table no1 shows the results of the socio-demographic profile of the participant's patients and their caregivers. The mean age of the caregiver was 42.33±1.55. The length of stay of the caregiver with the patient was 22.96 ± 10.99. The average monthly income of the patient's family was 5.68 ± 3.48. The average numbers of family members were 7.42± 2.62. The mean age of the patient was 32.62± 9.16. The average age of onset of the patient's illness was 27.25 ±9.75. The patient's illness duration average in the year was 4.97± 4.37 and the Patients taking treatment duration in the year was 4.73 ± 4.37 also patient's average number of hospitalization was 0.288±633.

Table No. 1 Socio-demographic of patients & care giver (Family) contentious variables

Damien	Mean	Standard Deviation
Length of stay	22.96	10.99
Care giver's age	42.33	1.55
Family income per month	5.68	3.48
No of Family members	7.42	3.62
Age of patient	32.62	9.16
Age of onset	27.25	9.75
Duration of illness	4.97	4.37
Duration of Treatment	4.73	4.37
Number of Hospitalization	.288	.633

Table No.2 Socio-demographic details of the Family

Item	Category	Frequency	Percentage
Gender	Male	70	67.3
	Female	34	32.7
Education	Illiterate	25	24.0
	Primary	38	36.5
	Secondary	22	21.5
	H. Secondary	7	6.7
	Graduation	12	11.5
Occupation	Farmer	25	24.0
	Business	7	6.7
	Professional/Govt.	15	14.4
	Housewife	25	24.0
	Daily wages	14	13.5
	Other	18	17.3
Mother Tongue	Nagpuri	9	8.7
	Uraw	3	2.9
	Mundari	1	1.0
	Kurku	1	1.0
	Khota	12	11.5
	Hindi	73	70.2
	Bengali	5	4.8
Family Type	Joint	21	20.2
	Nuclear	83	79.8

Table 2 socio-demographic variables of the patient-caregiver of out 104 patient caregivers 70 (67.3%) were male and 34 (32.7%) were female, among them 25(24.0%) were illiterate, 38(36.5%) were educated up to primary, 22(21.5%) were educated up to secondary, 7(6.7%) were educated up to higher secondary, 12(11.5%) were educated up to graduation. The average occupation type of the patient caregivers was 25(24.6%) were farmers, 7(6.7%) were doing business, 15(14.4) were Professional or government servants and 25(24.0) majority of female caregivers were housewives, 14(13.5) were doing work on daily wages and 18(17.3

%) were involved in agricultural and other work activities. 21(20.2%) of the patients belonged from joint family and, majority 83(79.8%) of the patients belonged from nuclear family.

Table No.3 Socio-demographic details of the patient

Item	Category	Frequency	%
Gender	Male	52	50
	Female	52	50
Education	Illiterate	28	26.9
	Primary	37	35.6
	Secondary	26	25.0
	H. Secondary	7	6.7
	Graduation	6	5.8
Occupation	Farmer	15	14.4
	Business	3	2.9
	Professional/Govt.	5	4.8
	Housewife	44	42.3
	Daily wages	6	5.8
	Other	31	29.8
Category	General	49	47.1
	OBC/OMBC	44	42.3
	SC	5	4.8
	ST	4	3.8
	Other	2	2
Marital Status	Single	26	25.0
	Married	64	61.5
	Divorced	1	1.0
	Widow/Widower	5	4.8
	Separated	8	7.7
Domicile	Rural	90	86.5
	Semi-Urban	10	9.6
	Urban	4	3.8
Religion	Hindu	87	83.7
	Islam	14	13.5
	Christian	3	2.9
Past History of illness	Nil	102	98.1
	Medical illness	1	1.0
	Psychiatric illness	1	1.0
Family history of mental illness	Yes	5	4.8
	No	99	94.2
Medicine Adherence	Not Applicable	18	17.3
	Yes	18	17.3
	No	68	65.4

Table 3 socio-demographic of 104 participant patients in the study has equal male patients 52(50.0%) and 52 (50%) female patients. Educational states of patients 28(26.9%) patients were illiterate, 37(35.6%) primary, 26(25.0%) secondary, 7(6.7%) higher secondary, and 6(5.8%) were studied till graduation. Patients occupation majority 44(43.5%) of the patients

were housewife, 15(14.4%) were involved in agricultural work, 3(2.9%) were businessmen, 5(4.8%) were in professional or government employ, 6(5.8%) were daily wages 31(29.8%), other work or unemployed. Of the religion of patients 87 (83.7%) belonged to the Hindu religion, 14(13.5%) belonged to Islam religion and 3 (2.9%) belonged to the Christian religion. Marital status of patients was 26(25.0%) single and 64(61.4%) majority of the patient married, 1(1.0%) of the patient were divorced, 5(4.8%) of the patient were widows or widowers, 8(7.7%) of the patient were separated. Category of patient's majority 49 (47.1%) was from the general class, 44(42.3%) were from the other backward class, 5(4.8%) were from the scheduled castes, 4 (3.8%) scheduled tribe and 2(2%) were from other categories. Patients domiciled most of the 90(86.5%) patients rural domiciles, 10(9.6) of the patient hailed from semi-urban and 4(3.8%) of the patient hailed from urban. Patient history of illness102 (98.0%) of the maximum patient has no available or no history, 1(1.0%) has a medical illness, and 1(1.0%) has a psychiatric illness. Family history of psychiatric illness 99(94.2%) of the maximum patient has no family history of psychiatric illness and 5(4.8%) of the patient has a family history of psychiatric illness. Medicine adherence 68 (65.4%) of the maximum patient has not taken adherence medicine and only 36(34.6) has adherence to medicine.

Table No. 4 Gender Diffrence between various study variables

Domains	Gender	N	Mean	Std. Deviation	Std. Error Mean	t	df
PS_ TOTAL	Male	52	20.59	9.27	1.28	1.174	102
	Female	52	18.42	9.60	1.33	1.174	101.87
NS_ TOTAL	Male	52	26.67	9.93	1.37	1.441	102
	Female	52	23.98	9.10	1.26	1.441	101.23
GP_ TOTAL	Male	52	43.53	12.99	1.80	.590	102
	Female	52	41.92	14.85	2.05	.590	100.23
PANSS_ TOTAL	Male	52	90.80	29.76	4.12	1.074	102
	Female	52	84.32	31.72	4.40	1.074	101.58
SOFS_ TOTAL	Male	52	36.59	14.32	1.98	1.239	102
	Female	52	33.17	13.84	1.91	1.239	101.87
Cohesiveness	Male	52	21.23	2.69	.373	-.858	102
	Female	52	21.65	2.32	.322	-.858	99.90
Expressivenes	Male	52	19.03	1.77	.245	.300	102
	Female	52	18.92	2.14	.296	.300	98.53
Conflict	Male	52	18.46	2.20	.306	-.287	102
	Female	52	18.57	1.87	.259	-.287	99.32

Table 4 compares male and female patient's psychopathology, socio-occupational functioning and quality of life in psychopathology assessment PNASS positive symptoms of male patients 20.89±9.27 compared with female patients 18.42± 9.60 There is a numerical slightly difference but statistically no significance in both groups. Negative symptoms of male patients were 26.67±9.93 compared with female patients 23.98± 9.10 there is a numerical slight difference but statistically no significant difference in both groups. The general psychopathology of male patients 43.53±12.99 compare with female patients at 41.92±14.85 there is a significant difference at 0.5 level in both groups. The total symptoms of male patients 90.80±29.76 compare with female patients of 84.32± 31.72 there is a

numerical slight difference but statistically no significant difference in both groups. Socio-occupational functioning of male patients was 36.59±14.32 camper with female patients 33.17± 13.84 there is a numerical slight difference but statically no significance in both groups. Patient's family relationship index in that cohesiveness of family 21.23±2.69 and 21.65 ±2.32 there is no significant difference between male and female patient's family. The expressiveness of family 19.03±1.77 and 18.92 ±2.14 there is no significant difference between male and female patient's family. Conflict of family 18.46±2.20 and 18.57 ±1.87 there is no significant difference between male and female patient's family.

Table No 5. Correlation between various study variables

Domains	PS Total	NS Total	GP Total	PANSS Total	SOFS Total
Cohesiveness	-.229*	-.196*	-.124	-.187	-.202*
Expressiveness	-.232*	-.227*	-.190	-.228*	-.176
Conflict	-.275**	-.217*	-.202*	-.243*	-.217*

*. Correlation is significant at the 0.01 level (2-tailed). *. Correlation is significant at the 0.05 level (2-tailed).

Table 5 shows a correlation between family relationships, socio-occupational functioning and illness outcome of schizophrenia patients. There is the most significant positive correlation between PANASS scale domains of positive symptoms, negative symptoms, general psychopathology and total score of PANSS. There is a most significant positive correlation between Total PANSS (psychopathology) and Socio-occupational functioning means when psychopathology will increase socio-occupational functioning becomes poor. There is no correlation between Total PANSS (psychopathology) and Cohesiveness, it means patient's psychopathology didn't effect family Cohesiveness. There was a significant negative correlation between Total PANSS (psychopathology) and Expressiveness, which means when psychopathology was increased family Expressiveness was decreased. There was a significant negative correlation between Total PANSS (psychopathology) and Conflict which indicates whenever psychopathology was increased family conflicts were increased. There was a most significant correlation between socio-occupational functioning and Total PANSS (psychopathology), it shows that if the patient's socio-occupational functioning was decreased then patient's psychopathology increased. There was a significant negative correlation between socio-occupational functioning and Cohesiveness means if socio-occupational functioning decreased then family cohesiveness will be unhealthy. There is no correlation between socio-occupational functioning and expressiveness means that socio-occupational functioning didn't affect family expressiveness. There was a significant negative correlation between socio-occupational functioning and Conflict means when socio-occupational functioning was increased then family conflict decreased.

DISCUSSION

This study assessed family environment and illness outcome and gender differences in schizophrenia. Applied tools family relationship index, social occupational functioning and PANSS. In the comparison among male and female schizophrenia patients, the result shows that there is a slight difference in the patient's psychopathology, socio-occupational functioning and family environment (Cohesiveness, expressiveness, conflict). Female patients had a low score in psychopathology, socio-occupational functioning and family environment so the result shows that female patients' illness outcome is better than male patients. In correlation shows that the patient's psychopathology and socio-occupational functioning had

the most significant correlations it means when socio-occupational functioning increased psychopathology will be decreased. Family Cohesiveness, expressiveness, and conflict were increased which the effect on the patient's illness or increased symptoms and ultimately patient's social and occupational functioning became poor. Study results show family environment effect on patient's psychopathology this is consistent with the study of Harrison et al., (1998). Macdonald et al., 1998 & Naheed et al., 2012. Studies supported our present study results such as Family and social support play a vital role in the outcome of schizophrenia. The same study finding was healthy family environment decreased psychopathology and improve illness outcomes. Schene et al., (1998). According to Carpiniello et al., (2012) study, there is no gender difference in male and female psychopathology at PANSS but the same have less female scores also psychotropic treatment has no difference but more female patients were in psychosocial rehabilitation activity. These results were similar to the present study findings.

CONCLUSIONS

This study aims to explore the influence of schizophrenic patients on their family atmosphere and the emotional well-being of their key relative caregiver, help the illness outcome, and gender differences, compared to patients with the same socio-demographic, family environment and clinical characteristics, who were maintained on an adherence medicine and who live in a family (at home environment). The merit of the present study resets the objective of studying family relationships plays important role in the illness outcome of schizophrenia patients. The findings revealed that there is a positive relationship between family environment, social and occupational functioning and illness outcome of schizophrenia. The study shows that when the family environment has dysfunction that leads to the patient's symptoms and also patient's social and occupational functioning becoming poor.

Implications

Study results replicate psychosocial intervention plays a vital role with individuals and their family members specify as such family psychoeducation may be helpful for schizophrenia and especially relapse prevention. Family therapy for the management of interaction patterns and communication improves patient's role in family functioning. Psychiatric social worker interventions play important role in individual's social skill management, for schizophrenia patients social occupational skill training is required for symptom management and to improve family participation as well as in the community.

Future Direction

This study may be extended with more participants in urban and rural three tertiary care. The intervention study may be conducted for the better management of schizophrenia at the outpatient or in-patient level. Patients and Family members/caregivers' participatory study will be conducted.

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