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# Effect of family intervention on functioning among patients with chronic schizophrenia

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## Abstract

**Introduction:** Schizophrenia is a chronic major psychotic disorder, manifested by distorted thinking and poor emotional response. Patients diagnosed with schizophrenia have inability in performing basic individual and social roles or activities. Improving personal, occupational, and social aspects of functioning is an important treatment aim for such patients. **Objective:** 1. To assess the effect of family intervention on patient functioning, and 2. To find out association of patient functioning with demographic variables. **Methods:** A quasi-experimental nonequivalent control group design and consecutive sampling was adopted for the study. The population under study was patients having chronic schizophrenia and their caregivers in Thiruvananthapuram district. Fifty two patient-caregiver dyads in experimental and 50 patient caregiver dyads in control group constituted study sample. Global assessment of functioning scale was used to assess the patient functioning. Family intervention comprised of three sessions with family members, to be completed within one month period. Post intervention functioning was obtained during follow up at one month, three months, and six months from medical records. **Results:** After one month of intervention, 56% of patients had good level of functioning in experimental group, whereas only 32% of patients had good functioning in control group. There was significant ( $\chi^2=4.7$ ,  $p<0.05$ ) increase in number of patients, who had good functioning in experimental group at three months and six months, compared to control group. **Conclusion:** This study demonstrated the efficacy of family intervention in improving functioning of patients having chronic schizophrenia. Family intervention can be included as a treatment modality for patients with schizophrenia.

**Key words:** Family intervention, patient functioning, schizophrenia

## Introduction

Schizophrenia is a major psychotic mental disorder with a distorted thought process and poor emotional reactivity. Patients lose touch with the reality due to the lack of insight (National Institute of Mental Health, 2016). Common symptoms include delusions, hallucinations, disorganized thinking, lack of emotion, lack of motivation, and the symptoms can be very disabling. The life time global prevalence of schizophrenia is 5 per 1000 (Dinesh, 2005). For schizophrenia, the national rate observed was 2.3 per 1000. An estimated 3.2 lakh people in the Kerala State

suffer from schizophrenia, with a prevalence of 3.6 per 1000 (Murali, 2010; Mathbada, 2007).

Assessment of the patient functioning is complex and has been a neglected aspect of the stable phase of schizophrenia. It is reported that majority of patients with schizophrenia have inability in performing basic individual and social roles or activities. The main domains of optimum patient functioning are occupational functioning, social functioning, and independent living. Improving and maintaining personal, occupational, and social aspects of functioning is the important treatment aim for patients, their families, and mental health team (Gorwood, 2013; Sawant, 2010).

The addition of psychosocial interventions, such as family intervention to pharmacotherapy can bring changes for the patient and the family. Available

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evidences suggest that high levels of expressed emotion among family members leads to the high rate of relapse among patients with schizophrenia. Therefore, family caregivers of the patients recently discharged from the psychiatric hospital, need psycho-education (Avasthi, 2010). Family interventions along with pharmacotherapy can result in reduced relapse rates, improvement in symptoms, and better personal, social, and occupational functioning. There is about 20 to 30% reduction of relapse or rehospitalization over two years as a result of family psycho-education. Even though, there are multiple evidences showing effectiveness of family intervention for schizophrenia, it is not yet included as concomitant treatment modality for schizophrenia (Justo, 2007; Lognathan & Murthy, 2011; Tanveer, 2009).

In India, family plays an important role in the management of the mentally ill patients, who are chronically ill. Mostly patients with schizophrenia, who are discharged from the hospital, are cared by family members at home. This shows the Indian tradition of mutual dependence and concern for family members in adverse situations. Moreover, there is a paucity of trained mental health practitioners, who can meet the needs of the mentally ill people and their family members (Magliano, 2006; Thara, 2008).

Global Burden of Disease study reports that schizophrenia leads to the high levels of disability. Available statistics reveal 1.1% of the total disability-adjusted life years and 2.8% of years lived with disability (Pharaoh & Mari, 1995). Fewer than 10% of families of patients having schizophrenia get assistance and training from mental health professionals (Rossler, 2005); even though studies have shown the benefits of such a program for both the person and the family. Several studies suggested that family intervention causes improvement in patient's social functioning. There is a lack of professionally provided family support services for family caregivers despite the need (Michelle, 2003).

Moreover the paucity of resources, lack of mental health professionals and poor mental health service infrastructure in developing countries such as India, make the task of providing care to patients with schizophrenia and support to their families extremely challenging. It is therefore essential to

develop pragmatic, time efficient and cost effective ways to enhance family functioning and thus reduce psychopathology in schizophrenic patients (Srinivasan & Thara, 1995). This current study was done to assess the effect of family intervention on patient functioning and to find out the association of patient functioning with demographic variables

## Material and Methods

This study was aimed to assess the effectiveness of family intervention on functioning of patients having chronic schizophrenia. A quasi-experimental nonequivalent control group design was adopted for the present study. The population under study was patients having chronic schizophrenia and their caregivers. Hundred and seventy seven patients and caregiver dyads were recruited for the study. Seventy three subjects could not complete the sessions. Finally, 52 patient-caregiver dyads in the experimental group and 50 patient-caregiver dyads in the control group constituted the study sample. Patient and caregiver dyads were enrolled for the study, when they were admitted in the hospital. All patients were receiving pharmacotherapy. Consecutive sampling was adopted for the study. Subjects for the study were recruited from three hospitals in Thiruvananthapuram district, where mostly mentally ill patients were admitted. There was longitudinal assessment of the patient functioning at one month, three months, and six months after intervention. Subjects for intervention were enrolled after completing data collection from the control group sample. Patients diagnosed with chronic schizophrenia according to ICD-10 criteria (WHO, 1992) and admitted in inpatient settings of selected hospitals, were included for the study. Patients with comorbidity and who relapsed during the course of the study were excluded from the study.

Family intervention comprised of three sessions with family caregivers that were 45 minutes in length, with an additional 15 minutes discussion/question time. Family member in the present study refers to family caregivers such as spouse, mother, father, and daughter, who are predominantly involved in the care. Session I covered education about schizophrenia; session II looked at handling communication and emotions; and session III dealt with how to deal with various problems faced by family members. Session III was done at home with

family members. Other two sessions were done with single predominant caregiver, when they were in the hospital setting with 8-10 family members at a time. An information leaflet was also distributed following the session. The intervention was planned, to be completed over the period of a month.

Tool consisted of a structured questionnaire to assess demographic details of the patient and the caregiver. Global assessment of functioning (Epstein, 1983) was used to assess the patient functioning, before intervention and after intervention. It was recorded from the medical records of the patient as rated by the treating physician. The Global Assessment of Functioning (GAF) scale is a rating tool to measure the overall functioning of the patient. This scale has 10 ranges of functioning, where each range has two components covering severity of symptoms and functional level of patient. It does not include impairment owing to somatic or environmental limitations (Epstein, 1983). For the present study, patient functioning was categorized as-

1. <40 poor functioning
2. 41-60 moderate functioning
3. 61-80 good functioning
4. 81-100 superior functioning

The tool was translated to Malayalam and the reliability of the tool was estimated through test-retest ( $r=.9$ ). The data collected were analyzed using Statistical Package for the Social Sciences (SPSS) version 16.

**Ethical considerations:** Ethical clearance was obtained from appropriately constituted institutional ethics committee. Informed consent was obtained from all family members. Permission was also obtained from hospital authorities. There was no direct assessment from the patients.

**Results**

The present study results revealed that 31% of patients in the experimental group belonged to the age group of 31-40 years and 40% of patients in the control group belonged to 31-40 years of age. Mean duration of illness of the experimental group patients was eight years and that of in the control group was 10 years. 75% of the experimental group patients and 64% of the control group patients were males. 36% of the experimental group patients and 48% of the control group patients were married. Majority of the patients in both the group belong to urban area. 52% of caregivers in the experimental group and 51% of caregivers in the control group were having no occupation. 44% of patients in the experimental and 40% in the control group were having education up to primary. The two groups were comparable in terms of demographic variables.

Table 1: Comparison of the patient functioning between the experimental and the control group before intervention

N=102				
GFA	Experimental	Control	$\chi^2$	p value
	n=52	n=50		
	Frequency (%)	Frequency (%)		
Poor	10(19)	9(18)	0.025	.873
Moderate/good	42(81)	41(80)		

As depicted in Table 1, no statistically significant ( $p>.05$ ) difference was observed between patient functioning, experimental and control group before intervention. The two groups were homogeneous.

Table 2 reveals that after intervention 56% of the patients had good level of functioning in the experimental group, whereas only 32% of the patients had good functioning in the control group. After intervention there was significant increase in number of the patients, who were having good functioning. Therefore, it can be interpreted that family intervention is effective in improving the patient functioning.

Table 2: Comparison of the patient functioning between the experimental and the control group after intervention at one month

N=102						
GFA	Experimental		Control		$\chi^2$	p value
	Frequency	Percentage	Frequency	Percentage		
Moderate	23	44	34	68	5.84	.016*
Good	29	56	16	32		

\* $p < .05$

Table 3:

Comparison of the functioning between patients in the experimental and the control group at 3 months and 6 months

Patient Functioning	At 3 months		$\chi^2$	p value	At 6 months		$\chi^2$	p value
	Experimental n=36	Control n=34			Experimental n=26	Control n=23		
Moderate	14(39)	22(65)	4.6	.035	10(38)	16(70)	4.7	.029*
Good	22(61)	12(35)			16(62)	7(30)		

\* $p < .05$

As shown in Table 3, patient functioning in the experimental group was better after intervention in comparison to the control group. 62% of patients in the experimental group had good functioning level, whereas in the control group only 30% had good functioning at six months. After the intervention, there was significant ( $\chi^2=4.7, p < .05$ ) increase in number of patients, who had good functioning in the experimental group at three months and six months.

Table 4:

Association of patient functioning with selected patient variables

N=177

Demographic characteristics of patient	Patient functioning			$\chi^2$	df	p value
	Good	Moderate	Poor			
<b>Gender of patient</b>						
Females	5	47	10	4.9	2	.086
Males	2	87	26			
<b>Religion</b>						
Hindu	3	88	22	3.1	4	.539
Christian	2	32	8			
Muslim	2	14	6			
<b>Patient occupation</b>						
Yes	2	71	24	4.16	2	.124
No	5	63	12			
<b>Type of family</b>						
Nuclear	3	92	19	8.2	4	.084
Joint	3	15	7			
Extended	1	27	10			

As shown in Table 4, there was no association of patient functioning with patient gender, occupation, and type of family.

Table 5:

Association of the patient functioning with selected caregiver variables

N=177

Demographic characteristics of caregiver	Patient functioning			$\chi^2$	df	p value
	Good	Moderate	Poor			
<b>Gender</b>						
Males	6	41	18	6.01*	2	.049
Females	1	93	18			
<b>Domicile</b>						
Urban	6	87	22	1.5	2	.57
Rural	1	47	14			

\*  $p < .05$

Table 5 highlights that there was statistically significant association found between patient functioning and gender of caregiver. No significant association was found between patient functioning and domicile of caregiver.

## Discussion

It has been found that gender is an important determinant in help seeking for mental disorders. Women with mental illness have more tendencies to seek some form of help than men in studies from western setting (Mcgrath, 2004; Oliver, 2005). However, situation is different in developing countries like India, due to sociocultural factors. Men have a higher help seeking behavior as mostly they are economically stable and the sole bread winners of the family. Women depend on men with regards to consultation for their mental health problems. In the present study, 65% of patients were males.

Majority (75%) of the patients were having a functioning of 40-60 (average) level at baseline. Patients reported improved functioning from baseline to follow-up. The experimental group patients had better functioning in

comparison to the control group. 56% of patients in the experimental group had good functioning level and only 32% of patients in the control group had good functioning after intervention. These study findings are in consistent with study findings of a randomized controlled trial of family psycho-education done in China (Chein, 2013). A study based on family intervention for patients having schizophrenia in China pointed out that patients' symptomatology improve, when there is adequate treatment compliance. This would successfully happen, if relatives are able to influence the patient's use of antipsychotic drugs (Xiong & Philip, 1994). These results suggest that family intervention has major influence on functional outcomes of patients having chronic schizophrenia.

It is inappropriate to draw final conclusion regarding these findings because patients' functioning depends on many other variables like compliance to medication and interaction with various variables such as burden, coping, and family functioning. Also in the present study, some patients suffered relapse during the course of the study, 15 in the control and eight in the experimental group. The rate of relapse at one year ranged from 6-12% for the intervention group compared to the 41-53% in the routine group. 58% of noncompliance is reported in an Indian study (Srinivasan & Thara, 2002).

After intervention at one month 56% of patients had good level of functioning in the experimental group, whereas only 32% of patients had good functioning in the control group. 61% of patients in the experimental group had good functioning level, whereas in the control group only 30% had good functioning at six months follow up.

Major recommendations, put forth in the light of the present study were as follows-

- The family intervention should be viewed as an important component of community care and as a long-term support rather than as a short term treatment.
- Future studies should seek to conduct more detailed assessment of patients such as symptom severity.
- There should be more post creation of community mental health nurses, who should actively work for the welfare of the family of patients.

### Limitation

Drop outs in longitudinal assessments may affect the generalizability of study findings.

### Conclusion

In conclusion, this study demonstrated the efficacy of family intervention in improving overall functioning of the patients with schizophrenia. The current study highlighted on the importance of family interventions on functioning among schizophrenic patients. It also adds to the emerging literature, the efficacy of brief family interventions for patients with schizophrenia. It is the need of the hour to develop psycho-educational programs for families meeting a range of needs and that families have an opportunity to ask questions, express feelings, and socialize with each other and with mental health professionals.

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