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"Role of caregivers in relapse in schizophrenia"

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Abstract
Schizophrenia is a disorder that results inability in person affect, cognition, thought and motor activity. Treating a cluster of patients relapse, remission and recovery in both out and in-patient setting biggest task. Stress and vulnerability not only sees in the patients and also caregivers. The purpose of the study was to explore ways of coping, family resilience, and expressed emotion and its association with family responses in family key caregivers of schizophrenia. 60 subjects were selected for this study divided two groups. Purposive sampling way is used in this study. Informed consent taken, after socio demographic factors scales like GHQ-12 applied recruiting caregivers and assessing patients condition PANSS was used, Family Resilience Scale, Ways of Coping Questionnaire, Family emotional involvement and criticism scale applied both the key caregivers of the group. Results revealed significant difference all the domains of Ways of coping, Family resilience and Expressed emotion both the caregivers of schizophrenia relapsed and remitted group.
Keywords: *Coping, Resilience, Caregiver, Expressed Emotion*

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I. Introduction:

Schizophrenia is not just a problem for the individual, but it is also a problem for the family as well as community (1). The caregiver's condition worsening when patient perceived symptomatic. Principles of de-institutionalization, family member's perception about the patient's illness, belief of faith healers, exorcist nature in between the family member's results patient relapse (2). Relapse seen in acute psychotic exacerbation, serious illness, family stress and dynamics also a reason for schizophrenia relapse (3). Condition of relapse also suggested hospital readmission, clinical deterioration, need for a major change in clinical management, social impairment (10). Remission also defined "a state following a psychotic episode in which of the symptom characteristic of psychotic episode would be present for a minimum period of 30 days (11).

There are number of professionals lack in such countries in the Psychiatric department so that Government given opportunity to the Non – Governmenal organization as well as Non Profit Organization to work in the field of psychiatry (4). In India also lack of adequate medical and health facility until 1950's patients were treated in mental asylums. Family members and caregiver is the main source for the mentally ill patients from the early point of view. Further family stress also increased to dealt with the mentally ill (5). Most of the patients in schizophrenia (80)% experiencing permanent disability also 40% of patients experienced improvement from their episode (7).

Coping strategy is one of the factors for both patient as well as caregiver. The way of coping if we found in the patients and their family to easily understand socio cultural, economic life and also bearing of course of illness (6). Perhaps enhancing coping skills to the family members also a intervention that helps to reduce re-hospitalization. Study also found with 200 post doctoral scholars addressed positive coping skills is an important mediator of the relationship between positive emotions and resilience and that if we increasing positive coping that can increase resilience (8). Further negative coping skills in family may never experiences resilience in their basic, crisis and developmental tasks in their family dynamics. Study done with 250 samples and 48 patients fulfilled the selection revealed positive correlation found in spirituality and ways of coping.

The assessment of expressed emotion was originally developed in schizophrenia to assess family dynamics. View of expressed emotion and schizophrenia there are so many literatures it appears to be a relevant predictor of treatment compliance, early treatment outcome and long term clinical outcomes (11). Expressed emotion has two types positive and negative. Negative expressed emotions are criticism expressed by parents towards their child and emotional over – involvement means intrusive, over-protective, excessively sacrificing behavior and exaggerated emotional response to the patient's illness, Hostility like negative comments, Blaming on others, Choosing not to get better, Attribution of negative events, Not caring (13).

Mc Cubbin and Mc Cubbin theory explains two types of family resilience namely adjustment and adaptation stage. Each stages describing the how we can dealt with stressors in outside of the family. The way we could see family resilience assessing family strength, family resources, problem solving abilities finally family protective factors. Family assessment is help to identify family triads, boundaries and dynamics. Disturbed family dynamics has lack of social support, interpersonal conflicts between parents, siblings etc. Healthy families focusing to develop family resilience to deal the crisis situation.

Need for the Study:

A relapse may be inferior to any individual factor or several factors acting parallel. Hazard factors that can impetuous a deterioration in Schizophrenia are: important residual psychopathology, poor compliance to medication, poor insight, substance misuse, interactions with other medication, poor social support, increased stress and caregivers with high expressed emotions. Relapse may occur due the various factors but it's very difficult to face the family member's especially uneducated family members. Hence the researcher wants to assess the various factors of relapse and how caregivers are affected during relapse and remission of the patients both personally and socially.

II. Methodology

This is a cross sectional study conducted at department of psychiatric social work in Central Institute of Psychiatry, Ranchi from Nov 2016 to Jan 2017. The study was approved by institute ethical committee. Written informed consent was taken from all participants. Patients diagnosed with schizophrenia based on ICD 10 criteria were recruited by purposive sampling technique. Participants included were immediate caregivers of schizophrenia patient a) who are above 18 yearsb) both gender c) living with patients for at least two years d) with General Health Questionnaire(GHQ)-12 Score less than or equal to 3. Schizophrenia patients with history of any chronic medical illness, substance abuse were excluded. Caregivers with history of psychiatric illness were excluded. Instruments included are Family Resilience Scale (Meggensixbey 2005), the way of coping questionnaire. (Folkman and Lazarau's), Family Involvement and criticism scale (Cleveland g. Shields et.al), Positive and Negative Syndrome Scale. (Kay, fiszbein, &Opler, 1987; Lindenmayer, 1988). GHQ 12 was applied among caregivers those who scored below <3 selected in this study. All those questionnaires were translated in Hindi language and validated from the faculty's of department of psychiatric social work, central institute of psychiatry, Ranchi.

Criteria for relapse: PANSS score of >5 for any of the positive symptoms on the Psychosis subscale of the PANSS for minimum period for one month.

Criteria for remission: PANSS score of ≤3 points ("mild" or better) in all the eight item for minimum period for six months (9).

The sample size was calculated for comparison between the two groups using alpha levels of 0.05, power of 0.80, subject/control ratio of 1:1 based on previous studies. Total number of 60 subjects taken from the study and equally divided in each group of schizophrenia relapse and remission. Each group consists of 30 samples. Patients in relapse was age and gender matched with patient in remitted group.The statistical analysis were done with the help of Statistical Package for Social Sciences (SPSS 20 Version).For socio demographic variables and clinical variables descriptive statistics used such as frequency, Mean, percentage and standard deviation. For testing the variance chi-square test and student "t" test were used.

III. Results:

Table 1: Chi Square Test and Fisher's Exact test were used for see the comparability of these two groups in various socio-demographic parameters of the key caregivers of the relapsed and remitted schizophrenia patient's. There was no significant difference was seen between two groups. **Table No.2** reveals that there was seen no significant difference was seen between two groups of caregivers of relapse and remitted schizophrenia in any socio-demographic parameters mentioned in this table. **Table No.3:** In this table shows family resilience of persons with schizophrenia relapsed and remitted. The t test was performed which significantly more all domains of family resilience in the remitted group were comparing to the relapsed group. All those domains of Family Resilience (making meaning of adversity 12.50 + 1.94 &18.83 + 2.00, positive outlook 12.33 + 2.02 & 18.26 + 2.03, transcendence and spirituality 5.666 + 1.44 & 11.50 + 2.12, Flexibility 8.466 + 1.38 & 15.00 +

1.72, Connectedness 11.23 + 1.92 & 18.16 + 1.62, Social and Economic resources 35.46 + 3.58 & 50.70 + 3.60, Clarity 10.36 + 1.973 & 17.90 + 2.233, Open emotional 11.40 + 1.773 & 18.16 + 2.018 and Collaborative problem solving 12.90 + 1.988 & 19.23 + 2.172) has significant difference both mean and the standard deviation from schizophrenia relapse group and remitted group. **Table No.4:-** In this table shows ways of coping of persons with schizophrenia relapsed and remitted. The t test was performed which significantly more all domains of family resilience in the remitted group were comparing to the relapsed group. On those all the domains like Confrontive coping in relapse 6.43 + 1.99 & remitted 11.33 + 2.74, Distancing 6.96 + 2.04 & 12.23 + 2.23, self controlling 10.33 + 2.44 & 14.43 + 2.26, seeking social support 7.63 + 2.14 & 12.76 + 2.63, accepting responsibility 4.26 + 1.57 & 7.400 + 1.56, Escaping avoidance 9.30 + 2.29 & 17.46 + 1.81, Planful problem solving 5.70 + 1.48 & 11.50 + 2.12 and positive appraisal 8.36 + 1.90 & 13.63 + 3.11 both the standard deviation and Mean has significant difference. **Table No 5:** In this table shows family emotional involvement and criticism of persons with schizophrenia relapsed and remitted. The t test was performed which significantly more all domains of family resilience in the remitted group were comparing to the relapsed group results revealed in Family emotional involvement 17.06 + 2.53 & 10.23 + 2.71 and Perceived criticism 14.43 + 2.26 & 6.966 + 2.04 both the domains mean age and SD has significant difference.

IV. Discussion:

Socio Demographic Variables:

For addressing relapse and Comparing literature study predicts male participants is higher more than 70 % and Hindu religion people participated much (90%) (25) in view of our study Male 21 (70%) & 24 (80%), Female 9 (30%) & 6 (20%), but study also found larger population in female gender in both Patients and their caregivers (26 & 27). In this study Hindu 19 (63.3%) & 25(83.3%), Christian 5(16.7%) & 2(6.7%), Muslim 6(20%) & 3(10%) in both schizophrenia relapse and remitted group. Comparing social economic status most of the literature predicts family caregivers of schizophrenia has lower socio economic status but this study found highest participation in middle socio economic status almost 93%. But study shown in the domicile category rural people participated more 57.5% as compared this study also higher 80% (25). Mean age 47.10 &45, Monthly income 9533 rupees & 8667 rupees in both relapse and remitted group in this study also similar in Indian literature (28). Duration of care giving 24.60 years in relapse group and 21.00 years in remitted group. There was a study only 25% population has 4 years duration of care giving the schizophrenic patient as compared to this study is very low (29).

Around 1% of prevalence in the world few schizophrenic families only had factors of resilience working with reduction of relapse. Recruiting caregivers of the schizophrenic patients need to be apply scale there was a practical limitation to select the caregivers, also found significant correlation in 9 areas of family adaptation, social support, coping mechanism, family hardiness found significant difference in the regression analysis ($p < 0.05$) (17). Assessing risk factors of family resilience is a new task (18). Walsh family resilience factors found significant difference among caregivers of schizophrenia (19). But in this study we found significant results in all domains of family resilience changes occurred might be different inclusion and exclusion criteria. Considering well being and coping were significant difference on regression analysis (20). There is no significant difference seen in both schizophrenia and schizoaffective disorder (21) but patients were schizoaffective receives poor sleep. (21) Study found different ethnicity total samples of 109 family caregivers adopt significant coping in 8 areas also similar in this study. Chinese study found positive outcome with adolescent group (22) and caregivers of schizophrenia used mixture of coping strategies found significant results (23). Pre test and Post test family functioning study found significant results also similar findings considering this study (24).

Table -1
Comparison of socio-demographic variables between key caregivers of relapsed and remitted schizophrenia patients

Variables		Groups (N=60)		χ^2/ Fisher Exact Test	df	P
		Caregivers of relapsed in person with schizophrenia N=30 (%)	Caregivers of remitted in person with schizophrenia N=30 (%)			
Gender	Male	21 (70.0)	24(80.0)	0.800	1	0.55
	Female	9(30.0)	6(20.0)			
Religion	Hindu	19(63.3)	25(83.3)	3.104 [f]	2	0.27
	Christian	5(16.7)	2(6.7)			
	Muslim	6(20.0)	3(10.0)			
Locality	Urban	4(13.3)	2(6.7)	0.887	2	0.77
	Semi-Urban	2(6.7)	3(10.0)			
	Rural	24(80.0)	25(83.3)			
Types of Family	Nuclear	15(50.0)	12(40.0)	1.026	2	0.63
	Joint	5(16.7)	8(26.7)			
	Extended	10(33.3)	10(33.3)			
Socio Economic Status	Lower socio economic status	24(80)	6(20.0)	2.308 [f]	1	0.25
	Middle socio economic status	28(93.3)	2(6.7)			
Caregivers Occupation	Government service	2(6.7)	4(13.3)	3.707 [f]	3	0.33
	Private service	13(43.3)	10(33.3)			
	Self – employed	7(23.3)	12(40.0)			
	Housewife	8(26.7)	4(13.3)			

[f] = Fisher Exact test used **p**=nil significant

Table - 2
Comparison of socio-demographic variables between key caregivers of relapsed and remitted schizophrenia patients

Variables	Groups (N=60)		t (df-58)	P
	Caregivers of relapsed in person with schizophrenia (N=30) (Mean + SD)	Caregivers of remitted in person with schizophrenia (N=30) (Mean +SD)		
Age (In years)	47.10 + 12.36	45.03 + 13.82	.610	0.54
Years of Education	8.33 + 3.44	8.46 + 3.94	-.139	0.89
Duration of time to staying with patients	24.60 + 8.98	21.00 + 11.09	1.381	0.17
Monthly Income (In rupees)	9533.33 + 6279.32	8667.16 + 6320.21	.533	0.59

r sig<0.001**p**=nil significant

Table - 3
Comparison of family resilience variables between key caregivers of relapsed and remitted schizophrenia patients

Variables	Groups (N=60)		t (df-58)	P
	Caregivers of relapsed Persons with schizophrenia patients (N=30) (Mean + SD)	Caregivers of remitted Persons with schizophrenia patients (N=30) (Mean +SD)		
Making meaning of adversity	12.50 + 1.94	18.83 + 2.00	-12.345	0.000***
Positive Outlook	12.33 + 2.02	18.26 + 2.03	-11.331	0.000***
Transcendence and spirituality	5.666 + 1.44	11.50 + 2.12	-12.412	0.000***
Flexibility	8.466 + 1.38	15.00 + 1.72	-16.202	0.000***
Connectedness	11.23 + 1.92	18.16 + 1.62	-15.095	0.000***

Social and Economic resources	35.46 + 3.58	50.70 + 3.60	-16.409	0.000***
Clarity	10.36 + 1.973	17.90 + 2.233	-13.843	0.000***
Open emotional	11.40 + 1.773	18.16 + 2.018	-13.794	0.000***
Collaborative problem solving	12.90 + 1.988	19.23 + 2.172	-10.314	0.000***

Significant at ***P<0.001

Table - 4
Comparison of Ways of coping variables between key caregivers of relapsed and remitted schizophrenia patients

Variables	Groups (N=60)		t (df-58)	p
	Caregivers of relapsed Persons with schizophrenia patients (N=30) (Mean + SD)	Caregivers of remitted Persons with schizophrenia patients (N=30) (Mean +SD)		
Confrontive coping	6.43 + 1.99	11.33 + 2.74	-7.908	0.000***
Distancing	6.96 + 2.04	12.23 + 2.23	-9.519	0.000***
Self Controlling	10.33 + 2.44	14.43 + 2.26	-6.739	0.000***
Seeking Social support	7.63 + 2.14	12.76 + 2.63	-8.281	0.000***
Accepting responsibility	4.26 + 1.57	7.400 + 1.56	-7.727	0.000***
Escaping avoidance	9.30 + 2.29	17.46 + 1.81	-15.303	0.000***
Planful problem solving	5.70 + 1.48	11.50 + 2.12	-12.226	0.000***
Positive Reappraisal	8.36 + 1.90	13.63 + 3.11	-7.908	0.000***

Significant at ***P<0.001

Table - 5
Comparison of FEICS variables between the relapsed and remitted schizophrenia patients

Variables	Groups (N=60)		t (df-58)	p
	Relapsed Persons with schizophrenia patients (N=30) (Mean + SD)	Remitted Persons with schizophrenia patients (N=30) (Mean +SD)		
Emotional Involvement	17.06 + 2.53	10.23 + 2.71	10.087	0.000***
Perceived Criticism	14.43 + 2.26	6.966 + 2.04	13.395	0.000***

Significant at ***P<0.001

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Ethics declarations

Conflict of interest

All authors declare no conflict of interest.

Human and animal rights and informed consent

All procedures performed in this study involving human participants were conducted in accordance with the ethical standards of the local institutional ethics committee and with the Helsinki Declaration of 1975, as revised in 2000. Informed consent was obtained from all patients for being included in the study.