

Assessment of Correlation of General Health and Expressed Emotion in Family Members of Patients with Schizophrenia in Selected Medical College Hospitals in Assam.

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Abstract : Schizophrenia is a severe form of mental disorder which is chronic and disabling in nature. When a patient suffers from Schizophrenia, the whole family goes through the painful process of crisis due to its multiple symptoms, remission and relapses. This study was conducted to assess the general health and expressed emotion of family members of schizophrenia patients and find correlation between those. 300 family members of 300 patients with schizophrenia from three government medical college hospitals in Assam (100each) were included in the study through purposive sampling technique. The tool used were- Socio-demographic and Clinical data sheet of patient, Socio-demographic data sheet of family member, General Health Questionnaire (GHQ-12, by Goldberg1978), Family attitude scale (Kavanagh et al, 1997). The result revealed that majority (53.7%) of the subjects in the present study had high level of stress but maximum numbers (90.3%) had low level of expressed emotion. There was significant positive correlation between general health and expressed emotion. It can be concluded that although family members showed low level of expressed emotion towards the patients; yet they had high level of stress. Therefore, family members of Schizophrenia patient need psycho-social and nursing interventions to help them in coping with the problems in caring their relative patients.

Keywords – general health, expressed emotion

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I. INTRODUCTION

1.1 Background:

Schizophrenia is one of very severe form of major mental disorders. The World Health Organization (2010) estimated that globally about 29 million people have Schizophrenia [1]. A study by Rangaswami revealed that about 4.3 to 8.7 million people in India suffer from this illness [2]. Schizophrenia is usually chronic and disabling in nature. According to a report by the Secretariat, 65th World Health Assembly (2012) - Mental disorders such as depression, alcohol use disorders and psychoses (e.g. bipolar disorder and Schizophrenia) were among 20 leading causes of disability. Schizophrenia was in the 14th position of the leading disabling conditions which occurs in 16.7 millions of people of the world. This report also revealed that this illness affected 18.3 million males, and 8 million females in their most active and healthy years of lives [3].

1.2. Need of the Study:

If a patient suffers from Schizophrenia, not only he/she suffers but the whole family goes through the painful process of crisis due to its multiple symptoms, remission and relapses. Lack of awareness about the illness, debilitating symptoms and stigmas related with it add extra challenges to the family while going through the crisis [4]. Moreover, the treatment cost and unemployment caused by this chronic illness increase the burden in the family members in care giving and handling responsibilities of the patients [5]. Earlier studies show the evidences of financial, physical & psychological strain and care giving burden in family members of patients with schizophrenia {Rammohan et al [6], Magana et al[7].} Another study revealed that due to pervasive and strong stigma of the relative's mental illness, the family caregivers had increased stress, anger and dissatisfaction when the patients had symptoms and they had to take care of their daily activities [8]

The terms like health, wellness, wellbeing, general health etc are used to denote different aspects of health like, physical, psychological, social, & spiritual etc. General health in this study is used to mean the status of psychological health of an individual. Or it is the assessment of presence of any symptom of psychological distress of an individual in last few weeks in absence of any medical illness using General health Questionnaire (GHQ-12) [9].

Holmes et al [10] (2003) reported that- brain-related conditions including mental illness; impose the most significant risk to the psychological well-being of family members. According to Collings [11] (2009) family caregivers of patients with Schizophrenia in New Zealand rated their own general health as satisfactory, but they had more mental health problems than general population. And their need for help for own mental health needs were not taken care of. A study by Hosseini et al [12] (2010) revealed that 35% of care givers of patients with chronic psychiatric disorders like schizophrenia, bipolar disorder and / or schizoaffective disorder (who had been ill for a period of two years) had GHQ score more than 23. Another study in Assam by Barman et al [13] reported that 56% of family members of Schizophrenia & Mood disorder patients had moderate level of stress. Majority of them (54%) had moderate stress regarding their health, 60% had moderate emotional stress. Siblings had the highest level of stress. Hashem et al [14] (2011) assessed physical and Psychological well-being of family caregivers of Schizophrenia patients and found that the caregivers of schizophrenia patients experienced high level of physical and psychological distress as a result of care giving tasks.

Expressed emotion is another important area of research in Schizophrenia related to its course and prognosis. Researchers have observed Specific characteristics of family patient interactions and their associations with this illness. And this adverse family interaction or environment is termed as expressed emotion. High expressed emotion mainly denotes-Hostility towards the patient, emotional over-involvement and critical comments or criticism. According to Hooley JM & Gotlib [15] high expressed emotion attitudes are quite normative, as emotional and economic resources get expensed while caring the patients with psychiatric illness.

In the present study, expressed emotion are thoughts and feelings of the family members towards their patient suffering from schizophrenia measured with Family Attitude Scale (FAS-30) (by Kavanagh et al) [16]

There are reports of high expressed emotion in family members of Schizophrenia patients in various studies conducted in different parts of the world. Few studies are cited below-

Suhail et al [17] reported that Pakistani relatives showed higher levels of EE as compared to those reported from many other countries. Most of the relatives had hostility (57%), and 45% had Emotional over involvement [EOI]. The authors found that patients' socially inappropriate behavior (38.54%) was criticized most often, followed by personality traits (25.72%), disease-related symptomatic behavior (21.53%) and then work/money related problems (15.62%). The personality characteristics of the patients were mostly criticized as being lazy, stubborn, irritable, argumentative, untidy, and dirty. 26% of the relatives expressed rejection of the patients, 16% expressed both generalization and rejection. Ikram et al [18] found that 75% Pakistani relatives had high EE, critical comment 3.8%, hostility 59%, warmth 3.33, positive remarks 1.17, and emotional over involvement 53%. When the researchers compared these findings cross culturally with studies from all many other countries they found higher levels of overall index of EE in Pakistani.

Studies also show the evidences that the Schizophrenia patients experienced and perceived the high expressed emotion shown by their relatives. Scaufca et al [19] assessed perception of negative emotions in close relatives by patients with schizophrenia and found that 58.1% relatives were rated as high EE by patients. Cutting et al [20] (2006) revealed that the patients with Schizophrenia reported experiencing more stress when interacting with high-EE individuals compared with low-EE persons.

Earlier studies have proved that high EE expressed by family members towards Schizophrenia patients influence in the prognosis of the illness. [21-24]. High expressed emotion of the caregivers were related with relapse of the illness and readmission to hospitals. Marom [25] reported that interaction of high criticism and poor compliance with medication was the strongest predictor of readmission of schizophrenia patients in Israel.

Caring a patient with schizophrenia is burdensome [26-30]. The family members often feel distressed and burdened with their responsibilities and it increases their expressed emotion towards the patients. Scazufca & kuipers [19] found that relatives with high EE had higher burden of care than low EE relatives.

Although many studies were conducted focusing on expressed emotion, yet there is scarcity in studies assessing correlation between general health of caregivers and expressed emotion. Only one study was found in this area. Barrowclough et al [31] (1996) reported that majority of the relatives in their study experienced high level of personal distress at the time of acute admission of the patients. High EE relatives reported significantly more depressive symptoms than low EE relatives. There was a significant association between higher depressive scores and high criticism and hostility.

The three government medical college hospitals (included in this study) in Assam provide mental health care to the needy people of Assam and entire North Eastern states of India. And no studies have been reported in this part of the country on this topic. Therefore, the investigators felt the need to conduct this study.

II. MATERIALS AND METHODS

2.1 Research Approach: Quantitative Approach was used.

2.2 Research Design: Non-Experimental descriptive and correlative, survey research design was selected.

2.3 Objectives: The objectives of the study were-

2.3.1 To assess the general health of the family members of patients with Schizophrenia

2.3.2 To assess expressed emotion in family members of patients with Schizophrenia.

2.3.3 To find correlation between general health and expressed emotion of family members of patients with Schizophrenia.

2.4 Study variables:

2.4.1 Dependent variables: General health and Expressed emotion of family members of patients with schizophrenia.

2.4.2 Extraneous variables: Selected variables under socio-demographic profile & clinical/illness profile of patients and socio-demographic variables of family members.

2.5 The Setting of the Study:

Three tertiary level government medical college hospitals- Assam Medical College Hospital, Dibrugarh, Gauhati Medical College Hospital, Guwahati, and Silchar Medical College, Silchar were selected as setting of the present study.

2.6 Population:

In this study the population consisted of family members accompanying the patients with schizophrenia taking treatment from out-patient and indoor services of the selected hospitals during the period of data collection.

2.7 Sample:

300 family members of 300 patients with schizophrenia were included who fulfilled the sampling criteria defined in the study. From each setting 100 samples were selected.

2.8 Sampling technique: Purposive sampling technique was used in this study.

2.9. Sampling criteria:

2.9.1 Inclusion criteria:

Family members of patients suffering from Schizophrenia

Family members who are directly involved in the care of the patient.

Family members staying with the patient for more than one year.

Family members of both genders.

Family members of adult age group.

Those who understand the nature of the study and give consent.

2.9.2 Exclusion criteria:

Family members suffering from mental illness.

Family members who are not staying with the patient for last one year and not involved in care giving.

2.10. Collection of data:

The data collection was done from the family members of patients suffering from schizophrenia visiting OPDs and Psychiatric wards of Assam Medical College Hospital, Dibrugarh, Gauhati Medical College Hospital, Guwahati, and Silchar Medical College, Silchar after getting institutional ethical clearance and permission, and by interviewing the participants after obtaining their formal written permission.

2.11. Tools used in the study:

2.11.1 Socio-demographic & clinical data sheet of patient

2.11.2 Socio-demographic data sheet of family member

2.11.3 General Health Questionnaire (GHQ-12, by Goldberg 1978) [9]

2.11.4 Family attitude scale (Kavanagh et al, 1997) [16]

The tool no 2.11.1 & 2.11.2 were semi-structured, developed by the researcher.

Socio-demographic and Clinical data sheet of patient included the background information of the patients like- Age, gender, marital status, education, occupation, monthly income and illness related information like- Total duration of illness, age of onset of illness, number of hospitalization for treatment of the mental illness, current treatment setting, medication status, total cost of medicine per month, the family member who bears the treatment expenditure /patient's responsibility etc.

Socio-demographic data sheet of family member included Age, gender, marital status, education, type of family, relationship with the patient, duration of stay with the patient, and contact with the patient every day, Religion, linguistic community, ethnicity, domicile of the family members, Occupation and monthly income (as per Wealth Index Scale by Patel et al [32].

General Health Questionnaire (GHQ-12): This tool is a standard tool having 12 items and used worldwide, was developed by Goldberg et al (1978). This is a self-administered screening test, designed to identify short-term changes in mental health (depression, anxiety, social dysfunction and somatic symptoms). It is a pure state measure, responding to how much a subject feels that the present state 'over the past few weeks' is unlike his/her usual state. The GHQ focuses on the person's ability to carry out 'normal' functions and the appearance of any new disturbing phenomena [33]. Reliability coefficients of the tool had ranged from 0.78 to 0.95 in various studies [9]. Score ranges from 0 to 36 in Likert scoring method. This method was used in scoring in the present study.

Family attitude scale was a standard tool developed by Kavanagh et al. There are 30 items. Scoring is done on Likert scale from 0-4. Total score is 120. High score on the scale denotes high expressed emotion. Earlier studies had reported that optimum cut off score of 60 and above in family members predicted relapse in the patients [14]. This tool was translated in to Assamese, pilot tested (reliability=0.96) and used in this study.

The tool no. 2.10.3 and 2.10.4 were used in translated Assamese versions after following proper procedures.

3 Results:

3.1. Findings related to Socio-demographic profile of family members:

Table 1: Mean Age of family members:

Variable	Mean (n=300)	Standard deviation
Age of family members	40	12.27

Table 1 reveals that mean age of the family members was 40 years (SD=12.27)

Table 2: Socio-demographic profile of family members:

Variables	Categories	Frequency n=100	%
Age	18-38 yrs	147	49
	39-59 yrs	133	44.3
	60 & above	20	6.7
Gender	Male	172	57.3
	Female	128	42.7
Educational level	Primary	54	18
	Middle school	33	11
	High School	79	26.3
	Matriculation	68	22.7
	HS & above	66	22
Marital status	Unmarried	68	22.7
	Married	212	70.7
	Widow/widower	20	6.66
Occupation	Unemployed	33	11
	Homemaker	80	26.7
	Daily wage earner	71	23.7
	Cultivator	27	9
	Businessman	45	15
Monthly income (Rupees)	Nil	73	24.3
	1500	22	7.3
	1501-3000	58	19.3
	3001-9000	91	30.3
	9001-15000	38	12.7
	>15000	18	6
Religion	Hindu	232	77.3
	Muslim	60	20

Language	Christian	8	2.7
	Assamese	140	46.7
	Bengali	107	35.7
	Others	58	19.33
Domicile	Rural	198	66
	Semi urban	38	12.7
	Urban	64	21.3
Ethnicity	Tribal	41	13.7
	Nontribal	259	86.3
Type of family	Nuclear	246	82
	Joint	54	18
Relationship with patient	Father	56	18.7
	Mother	61	20.3
	Husband	43	14.3
	Wife	52	17.3
	Son	24	8
	Daughter	10	3.3
	Brother	42	14
	Sister & others	12	4
Duration of stay with patients (years)	1-5	22	7.3
	6-10	28	9.3
	>10	250	83.3
Contact per day with patients (Hours)	1-5	8	2.7
	6-10	49	16.3
	>10	243	81

The above **Table 2** shows that maximum numbers of family members were from age group of 18-38 years, majority were male, most of them were high school level educated, majority were married (70.7%), most of them were homemaker followed by daily wage earner by occupation, majority were having income per month of Rs 3001-9000 (lower middle class) followed by no income(Low class), majority were Hindu by religion (77.3%), Assamese speaking (46.7%), from rural background (66%), non tribal (86.3%), from nuclear family(82%). By relationship, the majority of the family members were mothers (20.3%), followed by fathers (18.7%) and wives (17.3%). Maximum numbers of family members were staying with the patients for more than 10 years (83.3%) and most of the subjects had more than 10 hours of daily contact with their relative patients.

3.2. Findings on General health of family members:

Table3: Total scores of General health of family members:

Variable	Total score	Mean (n=300)	Median	Mode	SD	Range	Minimum score	Maximum score
GHQ-12 score	36	15.47	16	18	4.41	26	1	27

Table 3 reveals that the mean GHQ score of the subject was = 15.47 (based on Likert scoring) with standard deviation of ± 4.41 . Therefore, based on the mean GHQ score for this sample, the cut- off point 15/16 was used to determine the family members' level of general health.

Distribution of level of general health:

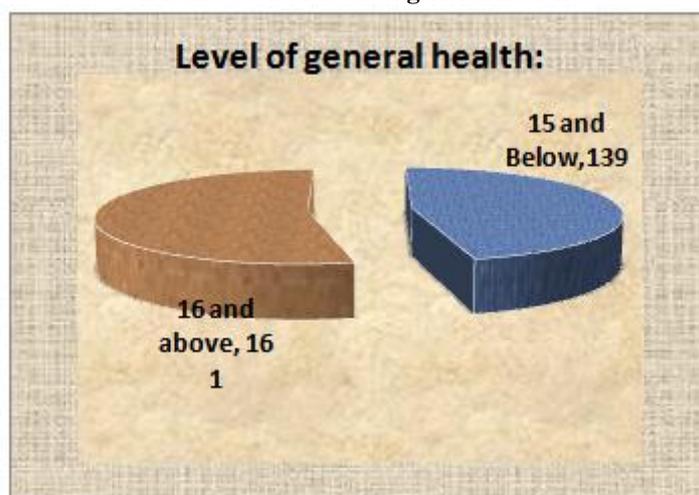


Figure 1: Distribution of level of general health.

Based on the cut-off point of GHQ scores of this population (15/16), the general health level were grouped in to two categories - ≤ 15 (Low stress), ≥ 16 (High stress). Fig 1 reveals that, majority (53.7%) of the family members had GHQ score ≥ 16 , and 46.3% had GHQ score ≤ 15 . As higher score in GHQ means more stress, maximum of the subjects in the present study were having high level of stress.

3.3. Findings on Expressed emotion of family members:

Table 4: Total scores of expressed emotion of family members:

Variable	Total score	Mean (n=300)	Median	Mode	SD	Range	Minimum score	Maximum score
FAS score	120	32.14	27.50	21	17.53	83	5	88

Table 4 shows that the mean score of expressed emotion of family members was 32.14 with SD=17.53.

Distribution of level of expressed emotion:

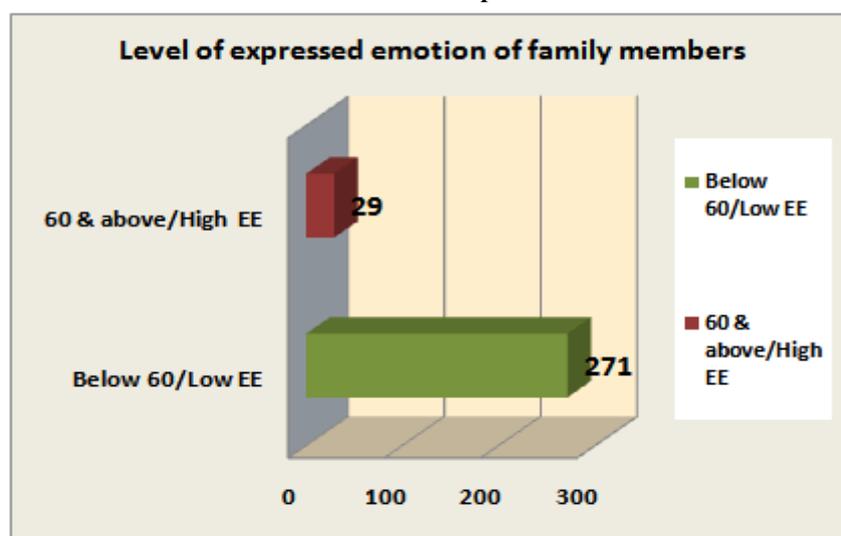


Figure 2: Distribution of level of expressed emotion.

The family members were grouped in to two categories based on expressed emotion score as optimum cut off for prediction of relapse & high EE for FAS-30 in various studies were ≥ 60 [34]. **Fig 2** reveals that majority of the family members (271, 90.3%) had low EE. Only 29 family members (9.7%) had high level of expressed emotion. So, it could be summarized that expressed emotion of the subjects of the present study was low.

3.4. Findings related to correlation between general health and expressed emotion of family members:

Table5: Correlation between general health and expressed emotion of family members:

Correlation	General health	Expressed emotion
General health	1	$r = 0.543^{**}$ $p = 0.000$

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

The above **Table 5** shows that there was significant positive correlation between general health and expressed emotion towards of family members. It indicates that when there was high expressed emotion the general health status was affected or there was more stress or the vice versa.

IV. DISCUSSION:

3.5. Socio-demographic characteristics of the family members:

The mean age of the family members in the present study was 40 years (SD=12.27). Similarly, Pun et al [35] reported that the average age of caregivers was 41.69 (± 10.48) years. More or less, similar mean age of family members were also reported in the studies of Uddin et al [36] (44.9 \pm 10.1), and Geriani et al [27] (43.82).

In the present study, majority of the family members were from the aged between 18-38 yrs (49%). Similarly, in another study in Assam, Barman et al²⁴ reported that majority of family members were in the ages between 41-50 years. Likewise, Geriani et al [27] also found that maximum numbers of caregivers in their study were between 36-45 years. This reflects that family members in these age groups (18-60years) are more active and get actively involved in caring the patients.

Majority of the subjects in the present study i.e., 57.3% were male, and 42.7% were female (Table 2). Similarly, previous studies also reported same findings [12, 37 & 38]. In contrast, studies done by – Uddin et al [36], Magana et al [39], King and Dixon [40] reported having more female family members in their samples. More male family members in the present study might be due to the patriarchal family system of Assam, where maximum decision regarding family matters and responsibilities are taken by males of the families.

The present study reveals that most of the family members were educated up to high school (26.3%) followed by matriculation (22.7%). 18% of the subjects were educated up to primary level. On the other hand, Bharati [41] reported that most of the caregivers in her study studied below high school. Anjum et al [42] also revealed that majority (46%) of the caregivers in their study were school educated. Rudnick [43] reported that most of the key relatives had medium level of education. Therefore, it can be said that family members of schizophrenia patients from various parts of the world represent almost similar scenario of their educational status.

Majority of the subjects in the present study were married (70.7%). The present findings are supported by studies of other studies [18, 27, 35, 43, and 44] as majority of their subjects were also married. . On the other hand, Hassan et al [45] found that 50% family members were single. Therefore, it can be said that married family members took more responsibility of the patients than others.

Majority of the family members in the present study (82%) were from nuclear family and only 18% were from joint family. The present findings corroborates with the earlier findings of Barman et al [13], Mottaghipur et al[24], Geriani et al[27] & Mandal, Prakash and Sagar [29] who also reported that maximum numbers of the subjects in their studies were from nuclear families. This reflects the current family system present all over the world that people are living more in nuclear families than joint families.

Majority of the family members in the current study were mothers of the patients (20.3%) followed by fathers (18.7%). Various studies conducted by researchers from different parts of the world also revealed that mothers formed the majority of the family members or caregivers [18, 39, 46- 48]. It was seen in the present study that parents were the majority of the caregivers. Previous studies also supported this finding [12, 13, 21, 35, 38 & 49]. This proves the fact that parents are more concerned about the health of their sick children; and specially the mother is the primary care giver of any human being in the time of health as well as sickness irrespective of race, caste, religion or any boundary.

In the present study, maximum numbers of family members (83.3%) were living with the patients for more than 10 years. This finding proves that majority of the family members were primary care givers and were

close to patients. Similarly, Urizar et al [50] found that the relatives of their study lived with the patients for average 25.9 years (SD=13).

Majority of the subjects (81%) in the current study had more than 10 hours of daily contact with the patients. This indicates that the family members were very close to patients. Similarly, Oshodi et al [38] found that relatives spent on average 9(±11) hours per day with the patients and 39 (±35) hours per week. Suhail et al [47] in Pakistan found that the key relatives of schizophrenia patients had 35 hours or more face- to -face contact with the patients per week. Raune et al [49] reported that mean hours of face-to-face contact of the caregivers with the patient was 27.5±14.4 hour per week.

In the present study, maximum (77.3%) family members were Hindu by religion, 20% Muslim, only 2.7% were Christian (Table 2). Likewise, Nirmala, Vranda, & Reddy [51] found that majority (80%) of the subjects were Hindu.

Majority of the subjects (46.7%) were Assamese speaking followed by Bengali speaking (35.7%). This is because Assamese is the mother tongue of Assamese people and main language for communication in this north eastern part of India.

Most of the subjects in the present study were from rural background (66%). In support, Geriani et al [27] found that a larger proportion of the caregivers belonged to rural background (55%). Likewise Pun et al [28] also reported that 51% of the respondents were from remote areas. Gupta et al [37] also reported 74% caregivers were from rural background. In contrast- few studies reported that majority of family members in their studies were from urban domicile [12, 13 & 29]

By occupation, majority of the family were homemaker (26.7%) followed by daily wage earner (23.7%) (Table 2). This is because 42.7% of the subjects were female and mostly were mothers. Likewise similar findings were revealed in the previous studies [36, 42 & 52].

Majority of family members in the present study were from low class (31.66% had no income or less than Rs.1500/month) followed by low middle class (30.3%). This reflect the picture that mainly economically backward group of people in the society avails the government health facilities. Similarly, Barman et al [13] found that majority of the family members had income less than Rs.979/-. Oshodi et al [38] found 79.2% caregivers belonged to medium socio-economic earning level.

3.6. General health in family members:

The findings of the present study shows that the mean GHQ score of the subjects was = 15.47, SD= 4.41 (based on Likert scoring) (Table3). And majority (53.7%) of the family members had GHQ score ≥ 16 , and 46.3% had GHQ score ≤ 15 (Fig 1). As higher score in GHQ means more stress, maximum of the subjects in the present study were having high level of stress.

Collings [11] revealed that although family members of people with recent onset schizophrenia in New Zealand rated their own general health as satisfactory, yet they had more mental health problems than the general population there. They had an unmet need for help for their own mental health problems.

In another study, Hosseini et al [12] found that prevalence of mental illness among caregivers was 35% (GHQ >23).

A study conducted in Guwahati, Assam by Barman and Chakravorty [13] reported that majority of family members (56%) had moderate level of stress, 22% had severe stress and other 22% had mild stress.

Barrowclough, Tarrier and Johnson [31] found the mean GHQ score in their study was 15.98 ± 22.7. And 55% of the relatives in their study reached the threshold for “caseness”. According to them, most of the relatives of Schizophrenia patients had high level of personal distress in the time of an acute admission of the patient in to hospital.

Uddin et al [36] reported that 22.43% of caregivers of schizophrenia patients were suffering from different types of mental disorders, mostly major depressive disorder (11.8%), generalized anxiety disorder (4.8%), pain somatoform disorder (0.7%) and they did not get any psychiatric treatment. Oshodi et al [38] also found that almost half of the caregivers in their study had psychological distress.

Anjum, Choudhury & Irfan [53] reported that caregivers of both Schizophrenia and Epilepsy patients showed poor psychological well being and problems with their mental health. 55% of caregivers had over all psychiatric problems. 56% of subjects had anxiety and insomnia, 53% had social dysfunction, 52% with somatic symptoms and 48% suffered from severe depression.

Talwar & Matheiken [54] compared caregivers’ perception of burden of care in Malaysia and India (Mangalore) and found that vast majority of Indian caregivers (66%) felt depressed and anxious because of patient’s illness than (40%) in Malaysia.

Therefore, it can be said that general health of the family members get affected by the mental illness of their relatives.

3.7. Expressed emotion in family members:

In the present study, the mean score of expressed emotion of family members was 32.14 with SD=17.53 (Table 4). This can be regarded as low expressed emotion. Kavanagh et al [34] reported that the optimum cut off score of FAS-30 for prediction of relapse & high EE found in various studies as ≥ 60 . Based on that the FAS scores of the family members were divided in to two categories- <60 = Low EE, ≥ 60 = High EE. The present study findings revealed that majority of the family members (90.3%) had low EE. Only 9.7% had high EE (Fig 2).

The present study findings are consistent with the earlier study findings of Kopelowicz et al [55]. Carra, Cazzullo & Clerici [56] found that only 39% of relatives were rated as high EE. Likewise, Dorian et al [57] also reported that only 19% of the caregivers were high in EE.

However, the following studies provide evidences of high expressed emotion in family members-

Blanch and Cesar [58] reported that half of the key relatives in their study showed high level of expressed emotion.

In a study conducted in India, researchers [46] found high level of expressed emotion in care givers towards the schizophrenia patients. Suhail et al [47] reported that Pakistani relatives had higher level of expressed emotion than those reported from other countries. They had higher level of hostility (57%) and emotional over involvement (45%).

The present study findings indicate that Assamese people had more acceptances and a positive and caring attitude towards their mentally ill relatives. Their acceptance was expressed verbally by themselves during the interviews with the researcher. This might be the cause of having lower level of expressed emotion towards the patients. A pervious study also reported that the care givers having low EE had higher overall acceptance [53].

In a review study, Brady & McCain [59] found that- studies conducted in Non-westernized countries, like- Asian, African & Middle Eastern Countries reported findings which were suggestive of some positive aspects associated with living with a family member who had schizophrenia.

3.8. Correlation between general health and expressed emotion of family members:

The present study revealed that there was significant positive correlation between general health and expressed emotion ($r = 0.543^{**}$, $p=0.000$) (Table 5). This indicates that whenever family members have more stress, their expressed emotion is high or vice versa.

Barrowclough, Tarrier and Johnson [31] found that high EE relatives had more depressive symptoms than low EE relatives.

On the contrary, Raune, Kuipers and Bebbington [49] reported that high EE of caregivers' were not associated with GHQ total score, GHQ case status or subscales.

V. CONCLUSION:

The present study revealed that majority of the subjects in the present study was having high level of stress. The study findings also revealed that majority of the family members (90.3%) had low level expressed emotion. Therefore, it can be said that family members of schizophrenia patients in Assam had lower level of expressed emotion which reflected positive attitude and better acceptance towards their mentally ill relatives. Statistically significant positive correlation was found between general health and expressed emotion which means that whenever family members have increased level of stress, their expressed emotion towards the patients increases or high level of EE leads to more stress in them.

Limitations of the study

1. The study was restricted to family members who attended the patients in outpatient and inpatient services of three tertiary level government medical college hospitals of Assam. Therefore, the data cannot be generalized to the general population.
2. The study participants were selected by purposive sampling method due to feasibility. Therefore, the sample is not representative of all families of schizophrenia patients.

Implications of the study:

The findings of the study can be utilized by the mental health professionals in planning family oriented interventions. Care givers or family members need to be routinely assessed for their stress or mental health problems and promptly treated if any problem is found. Psycho education and counseling on coping strategies focusing on emotion control will help to reduce their expressed emotion.

Recommendations:

- A similar study could be extended to a large sample.
- Similar studies could be replicated in similar and different settings with different demographic backgrounds.
- Further studies can be done based on intervention protocols to reduce stress and express emotion of family members.
- Studies can be conducted in future to compare general health and expressed emotion in family members of different psychiatric disorders.

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