A Study of Caregiver Burden and Emotional Intelligence in Caregivers of Psychiatric Patients

U. Raghava Rao[1], Yelamanchi Rufus Ephraim[2], R. Tara[3], Kommoju Venkata Eswar[3], N. Hari Krishna [5]

[1]Professor of Psychiatry, Siddhartha Medical College, Vijayawada
[2]Assistant Professor of Psychiatry, Government Medical College, Nandyala
[3]Associate Professor of Psychiatry, Siddhartha Medical College, Vijayawada
[4]Junior Resident, Andhra Medical College, Visakhapatnam
[5]Professor of Psychiatry, Andhra Medical College, Visakhapatnam

Abstract:

Introduction: Psychiatric disorders include a heterogeneous group of disorders ranging from psychotic disorders without insight like Schizophrenia, Major depression to neurotic conditions like anxiety neurosis, panic disorder, etc. The burden of psychiatric disorders is huge with one in every eight people in the world living with a mental disorder. Caregivers are individuals who provide direct care to the affected individuals. Considering the huge burden of mental health conditions, the caregiver burden is believed to be enormous and its impact eternal. Hence, understanding the burden perceived by the caregivers of patients with psychiatric disorders and identifying the determinants of this burden is imperative. Therefore, we aimed to assess the caregiver burden and emotional intelligence in caregivers of psychiatric patients.

Aim: To study the caregiver burden and emotional intelligence in primary caregivers of persons with psychiatric illness.

Materials and Methods: A Cross-sectional hospital-based study was done among 150 primary care givers attending Government Hospital for Mental Care (GHMC), Visakhapatnam. Burden Assessment Schedule (BAS) and Wong and Law Emotional Intelligence Scale (WLEIS) were used to assess care given burden and emotional intelligence among participants.

Results: The mean BAS score is 70.67 with SD $\pm$ 17.52.Of the total caregiver population, a majority have moderate burden amounting to 33%. Patients with severe burden constitute 32.7% followed by mild burden amounting to 26.7% and 2% have very severe burden. 5.3% experience less than minimal burden. Caregivers whose patients have fewer hospital admissions have more emotional intelligence than those caregivers whose patients are hospitalised more (p=0.04). Total emotional intelligence is more common in caregivers with less duration of care (p=0.226) and less duration of illness (p=0.264) Total emotional intelligence is less in caregivers of substance use and neurotic disorders than other groups (p=0.671)

Conclusion: Psychiatric disorder not only affects the patients but also their caregivers and their families. The burden experienced by caregivers is huge as seen in current study on 150 caregivers. The average age of patients' caregivers was middle age and there is slight male preponderance observed in the current study. Of the total caregiver population, nearly two-thirds of caregivers had moderate to severe burden (moderate and severe burden amounting to one third each). Others emotion appraisal to facilitate performance scores on EI scale was lower than other domains, probably due to the burden of caregiving.

Keywords: Care Giver Burden, Emotional Intelligence, Psychiatric Patients.

Introduction

Psychiatric disorders include a heterogeneous group of disorders ranging from psychotic disorders without insight like Schizophrenia, Major depression to neurotic conditions like anxiety neurosis, panic disorder, etc. The burden of psychiatric disorders is huge with one in every eight people in the world living with a mental disorder. These mental health conditions are associated with problems with cognition, behaviour, and emotions. Anxiety and depressive disorders are the commonest among mental health conditions. With the COVID-19 pandemic in the picture, the prevalence of many mental health disorders is believed to have increased significantly. Caregivers are individuals who provide direct care to the affected individuals. They

may be parents, spouses, children or distant family members. Many of the psychiatric patients especially those with severe psychotic illnesses are completely dependent on their caregivers even for basic needs. This dependence and mental health condition of patients significantly impacts caregivers affecting the physical and mental health of caregivers. Also, the sense of responsibility and stress associated with caregiving is also likely to affect the caregivers. In the context of a shifting social fabric in which people are migrating from joint families towards nuclear families, spouses often become the primary caregivers for patients with psychiatric diseases which might further affect their marital relationship. Furthermore, caregivers in India are not characteristically trained for the situation they or care recipients (patients) are in and need to adapt significantly according to the situation and needs of the patient.

Caregiver burden is defined as the gamut of challenges perceived by caregivers due to home-care situation with respect to their physical and emotional well-being, financial status, work and family relations [1].

Some of the most arduous aspects of the caregiver burden include energy spent in caring, a constant longing for recovery of care recipient, lack of time and energy for own interests, and the perpetual grief for the fate of care recipient. Caregiver burden is a multidimensional concept. It is often regulated by antecedents (such as different conflicts like responsibility conflict, discrepant financial resources) and attributes (such as caregiver perception of illness and stress) which consequentially lead to burden in the form of alterations in well-being and quality of life of caregiver which further affects care provision. The various identified risk factors for caregiver burden include a lower educational attainment, female gender, depression, financial stress, higher number of hours spent caregiving, social isolation, and lack of choice in being a caregiver. Psychosocial interventions in the form of psychoeducation and support groups have been useful in caregivers of patients with specific disorders like dementia.

Considering the huge burden of mental health conditions, the caregiver burden is believed to be enormous and its impact eternal. Several studies have tried to capture the caregiver burden associated with psychiatric disorders. However, there is paucity of literature on the subject in Indian set-up. Various factors are believed to determine the caregiver burden. These include the type and severity of psychiatric disorder, the degree of dependence of patient on caregiver, the number of caregivers, the perceptions of caregivers about the patient and mental health conditions in general. The attributional model hypothesizes that an individual's (or caregiver's) emotional attitude towards a patient is likely determined by his/her perception and belief of patient's problematic behaviour [2].

Emotional intelligence (EI) is the ability to perceive, access, and generate emotions in order to assist thought, understanding of emotions and emotional knowledge, and to reflectively regulate emotions for promotion of emotional and intellectual growth [3]. Hence, it signifies the ability to perceive, control and use emotions to relate to others. Wechsler in his definition of intelligence identified EI as "the global capacity of the individual to deal effectively with his environment" [4]. Higher levels of EI is believed to contribute to more accurate appraisals of circumstances and enhance overall thinking and functioning which may possibly lead to improved well-being [5] of both caregiver and patient.

Hence, understanding the burden perceived by the caregivers of patients with psychiatric disorders and identifying the determinants of this burden is imperative. Little literature is available on this subject from countries like India with quite different sociocultural background from the Western world. Therefore, we aimed to assess the caregiver burden and emotional intelligence in caregivers of psychiatric patients

Aim: To study the caregiver burden and emotional intelligence in primary caregivers of persons with psychiatric illness.

Objectives: The purpose of the following study was to fulfil the following objectives-

- To assess the caregiver burden in caregivers of psychiatric patients
- To assess the emotional intelligence of the caregivers of psychiatric patients
- To study the relation of caregiver burden and emotional intelligence in caregivers of psychiatric patients

Methodology: Study design: a cross-sectional hospital-based study

Study site: Subjects who participated in the study were recruited from the Government Hospital for Mental Care (GHMC), Visakhapatnam.

Study Period: 1-year duration (October 2021 - October 2022)

Sample size:

The sample size has been determined by using statistical formula:

$n = (Z\alpha/2)^2 . p.q/d^2$ where,

$Z_{\alpha/2}$ = (1.96/0.05), considering 95% confidence interval.
p=prevalence of caregiver burden (50% Prevalence) [44]

$q = 1-p$
$d = 10\%$

The minimum sample size has come to be 96. Proposed sample size was 150

Inclusion Criteria:

1. Primary caregivers of persons with psychiatric illness. Individuals who qualify the criteria of primary caregiver - First-degree relatives, actively involved in the care of the patient and living with the patient for at least 1 year prior to assessment.
2. Age group – 18 years and above
3. Those who give valid, written, informed consent.

Exclusion criteria:

- Caregivers who did not give valid consent
- Caregivers of patients who had been diagnosed within less than one year.
- Caregivers suffering from any other physical or mental illness themselves.

Study Tools:

1. Self-structured socio-demographic proforma designed by the investigator: Contained details of socio-demographic data, relation with patient, Duration of Care (DOC), Duration of illness (DOI) of patient. Socio-demographic data consisted of age, gender, relationship with the patient, education, employment, socioeconomic status, religion, marital status, domicile.

2. Informed consent form:

A self-designed informed consent form, which explained the nature of the study, the contents described in vernacular language, was read out to the subjects and that willing to participate in the study, signature, or left thumbprints in case of illiterates was obtained.

3. ICD 10 classification of mental and behavioural disorders [45]: The International Classification of Diseases (ICD) is the underlying basis for international comparability in the collection, processing, classification, and presentation of mortality statistics. ICD serves a broad range of uses globally and provides critical knowledge on the extent, causes and consequences of human disease and death worldwide via data that is reported and coded with the ICD. Clinical terms coded with ICD are the main basis for health recording and statistics on disease in primary, secondary and tertiary care, as well as on cause of death certificates. These data and statistics support payment systems, service planning, administration of quality and safety, and health services research. Diagnostic guidance linked to categories of ICD also standardizes data collection and enables large scale research.

For more than a century, the International Classification of Diseases (ICD) has been the basis for comparable statistics on causes of mortality and morbidity between places and over time.

As a classification and terminology ICD-10:

- allows the systematic recording, analysis, interpretation and comparison of mortality and morbidity data collected in different countries or regions and at different times;
- Ensures semantic interoperability and reusability of recorded data for the different use cases beyond mere health statistics, including decision support, resource allocation, reimbursement, guidelines and more.

4. Burden Assessment Schedule (BAS): This was developed at SCARF with the support of the WHO SEARO and technical support from Dr Helmet Sell. It was specifically developed from the perspective of the mentally ill. This consists of 40 items to be rated on a 3-point Likert scale ranging from 1 (not at all) to 3 (very much). The inter-rater reliability is good (Kappa, 0.80). Correlation between family burden interview and BAS is good for most of the items and ranges between 0.71 and 0.82 [46]

5. Wong and Law Emotional Intelligence Scale (WLEIS): It is a 16-item scale for emotional intelligence. It was initially developed for use in management research. Respondents are required to answer these items in random order (to reduce bias) on a 7-point scale (Likert) ranging from 1 (strongly disagree) to 7 (strongly agree). Mayer and Salovey [47] conceptualised EI as composed of four distinct dimensions: Appraisal and expression of emotion in the self (self-emotional appraisal [SEA]), Appraisal and recognition of emotion in others (others' emotional appraisal [OEA]), Regulation of emotion in the self (regulation of emotion [ROE]), and Use of emotion to facilitate performance (use of emotion [UOE]) This scale has been tested in different cultural settings and has a good reliability of 0.88.

Internal consistency reliability for the four factors (each with four items) ranged from. 83 to .90. Overall, apart from acceptable reliability and validity, the WLEIS shows good convergence with some of the past EI measures such as the Trait Meta-Mood and the EQ-i. The WLEIS, however, appears to perform better in predicting external criterion variables such as life satisfaction. [48]

Ethics declaration

- The clearance was taken from the College Research Committee and Institute's Ethics committee before starting this study.
- Throughout the study, ethical considerations were maintained, even if subjects refused to participate in study.

- Written informed consent was taken from the patients.
- Confidentiality has been ensured

Operation Procedure:

- The study was carried out in the Department of Psychiatry in Govt., Hospital for Mental Care, Visakhapatnam after getting approval from the Institutional Ethics Committee and respective authorities.
- A cross-sectional study was conducted on the study population obtained via random sampling within the stipulated time period of 12 months.
- Primary caregivers who qualified the inclusion criteria were considered in the study.
- The study subjects were explained about the nature of the study via an information sheet available.
- Written consent was obtained from the study subjects.
- Semi-structured Pro-forma was applied to record the socio-demographic data.

- Relevant scales were administered: ICD 10 classification of mental and behavioural disorders was used. The caregivers' burden was assessed using the Burden Assessment Schedule (BAS). Emotional Intelligence was assessed using Wong and Law Emotional Intelligence Scale (WLEIS).
- In case any of the study subjects is illiterate, the content of the above-mentioned forms or scales was read out to them and their consent will be obtained.
- The information gathered from individuals was alpha-numerically coded as per the master chart for data analysis.
- The data was then evaluated and computed for statistical analysis.

Results

Illness variables:

1. Patient diagnosis:

Table 1: Distribution of caregiver population according to patient illness

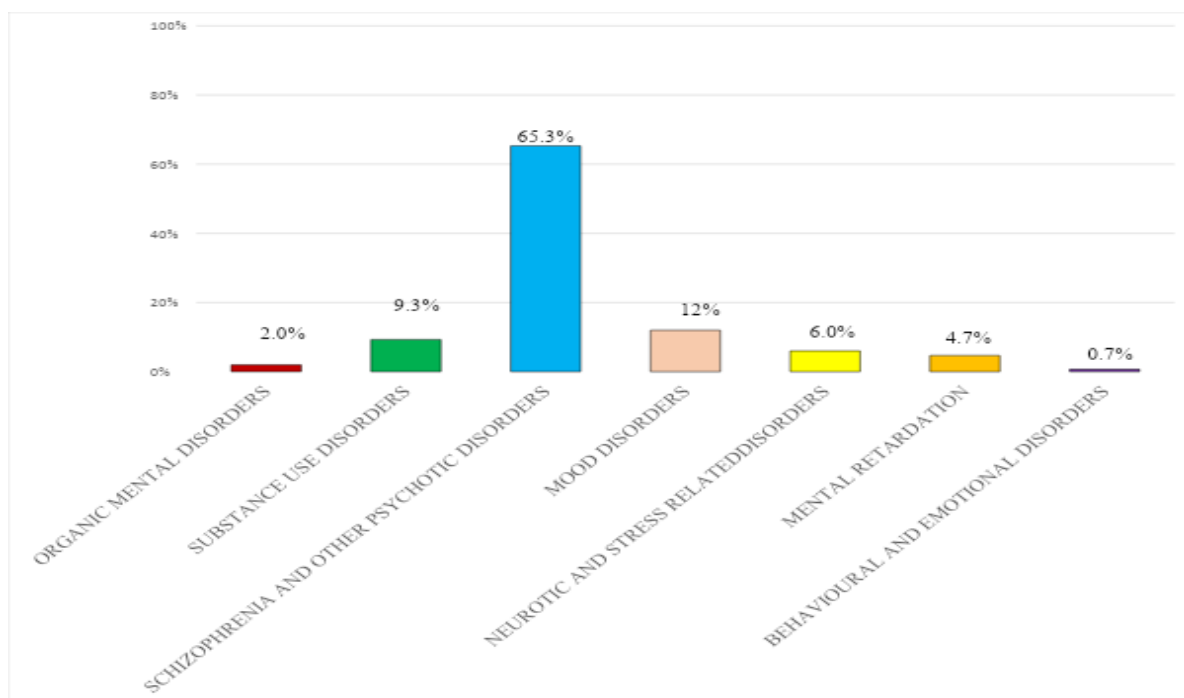| Diagnosis	Frequency (N)	Percent (%)
Organic Mental Disorders	3	2.0
Substance Use Disorders	14	9.3
Schizophrenia and Other Psychotic Disorders	98	65.3
Mood Disorders	18	12.0
Neurotic and Stress Related Disorders	9	6.0
Mental Retardation	7	4.7
Behavioural and Emotional Disorders	1	.7
Total	150	100.0

Figure 2: Distribution of study population according to patient illness

Of the 150 caregivers, majority (65.3%) care for Schizophrenia and psychotic disorders, followed by mood disorder contributing 12% and substance abuse disorders contributing 9.3% respectively. Neurotic disorders were 6% and caregivers of mental retardation considered are 4.7% and last is organic mental disorder is 2% and behavioral disorders are 0.7%.

2. Duration of care:

Table 2: Distribution of caregiver population according to the duration of care

Duration of Care	Frequency(N)	Percent(%)
1-5	74	49.3
6-10	44	29.3
11-15	21	14.0
16-20	7	4.7
>20	4	2.7
Total	150	100.0

- The mean duration of care of the caregiver population is 1.82 years with an SD of ± 1.01710
- Out of 150 primary caregivers, majority cared for less than five years (49.3%), followed by six to ten years of caring (29.3%).
- Only 2.7% care for more than 20 years and 18.7% are taking care for 11 to 20 years.

3. Duration of illness:

Table 3: Distribution of caregiver population according to the duration of illness

Duration of Illness	Frequency(N)	Percent (%)
1-5	69	46.0
6-10	45	30.0
11-15	24	16.0
16-20	8	5.3
>20	4	2.7
Total	150	100.0

- Out of 150 primary caregivers, majority cared for patients suffering for less than five years (46%), followed by six to ten years of illness (30%).
- 21.3% of caregivers are looking after patients suffering for 10 to 20 years and 2.7%of participants care for patients suffering for more than 20 years.

4. Hospitalisations:

Table 4: Distribution of caregiver population according to hospitalisations

Number of Hospitalisations	Frequency(N)	Percent (%)
0	54	36%
1-3	71	47.3
4-6	13	8.7
7-9	9	6.0
10-12	3	2.0
Total	150	100.0

- 47.3% (n=71) of the population have admitted their patients less than thrice and 36% (n=54) are getting their family members treated on an outpatient basis.
- Only 2% (n=3) of participants admitted their family member more than ten times while 15%(n=12) care for patients admitted between four to nine times

Burden assessment Schedule:

5. Burden severity:

Table 5: Distribution of caregiver population according to BAS score

Burden Assessment Score	Frequency(N)	Percent (%)
<41	8	5.3
41-60	40	26.7
61-80	50	33.3

81-100	49	32.7	
101-120	3	2.0	
Total	150	100.0	

- The mean BAS score is 70.67 with SD ± 17.52
- Of the total caregiver population, a majority have moderate burden amounting to 33%
- Patients with severe burden constitute 32.7% followed by mild burden amounting to 26.7% and 2% have very severe burden. 5.3% experience less than minimal burden

6. Socio-demographic Variables of Caregivers and BAS:

Table 6: Burden of caregiving according to socio-demographic variables

Variable	Mean	N	SD	F-Ratio	P Value
Age Category In Years					
<20	65.33	3	19.858	0.627	0.708(NS)
20-30	69.37	38	16.753		
31-40	69.56	32	17.371		
41-50	68.06	31	18.847		
51-60	74.00	34	17.362		
61-70	76.64	11	18.640		
>70	73.00	1	.		
Total	70.67	150	17.528		
Gender					
Male	66.99	88	17.172	9.936	**0.002 Significant**
Female	75.89	62	16.814		
Total	70.67	150	17.528		
Domicile					
Rural	67.71	77	17.473	2.284	0.105(NS)
Urban	73.79	73	17.278		
Total	70.67	150	17.528		
Religion					
Hindu	71.62	137	17.370	2.424	0.092(NS)
Muslim	61.86	7	16.718		
Christian	59.17	6	17.927		
Total	70.67	150	17.528		
Marital Status					
Married	70.08	115	18.056	0.631	0.596(NS)
Unmarried	71.11	28	16.139		
Separated	88.00	1	.		
Widow	77.00	6	14.100		
Total	70.67	150	17.528		
Education					
Illiterate	78.41	41	17.092	4.120	**0.001 Significant**
Primary	72.84	25	17.041		
Middle School	70.50	20	15.936		
High School	59.54	24	16.186		
Intermediate	73.21	19	17.457		
Graduate	63.42	19	13.938		
Post Graduate	64.50	2	23.335		
Total	70.67	150	17.528		
Occupation					
Unemployed	74.89	47	16.712	3.475	**0.005 Significant**
Unskilled	70.75	20	16.945		
Semiskilled	62.79	19	16.494		
Skilled	74.24	46	16.380		
Clerical	59.44	18	18.557		
Total	70.67	150	17.528		
Socio-Economic Status					

Lower	88.43	7	6.051	3.198	**0.015 Significant**
Upper-Lower	71.78	76	18.985		
Lower-Middle	69.95	44	16.191		
Upper-Middle	62.41	17	12.590		
Upper	64.50	6	14.195		
Total	70.67	150	17.528		
Relation With Patient					
Parent	69.89	44	17.924	1.77	0.137(NS)
Spouse	76.97	30	19.588		
Child	70.59	34	15.767		
Sibling	67.51	42	16.197		
Total	70.67	150	17.528		
Family Type					
Nuclear	71.10	80	18.605	0.104	0.747(NS)
Joint	70.17	70	16.331		
Total	70.67	150	17.528		

NS= Not Significant P value<0.05 was considered as Significant

- Caregiver burden is more in females (p=0.002), illiterate (p=0.001), unemployed (p=0.005)) and in those belonging to lower socioeconomic status (P=0.015) and statistically significant.
- Caregiver burden is more in elderly of age 60-70 years (N=11, mean = 76.64), urban background participants (N= 73, mean =73.79), separated individuals (N=1, mean =88) and in spouses of patients (N=30, mean = 76.97) but showed statistically not significant (p>0.05). It is also high in participants of nuclear families (N=80, mean=71.10, p=0.747)

7. Illness variables of Caregivers and BAS:

Table 7: Burden of caregiving according to illness variables

Illness variable	Mean	N	SD	F-ratio	P value
Duration of Illness					
1-5	63.10	69	18.485	1.821	**.005 (Significant)**
6-10	74.93	45	13.893		
11-15	77.83	24	11.556		
16-20	86.50	8	17.664		
>20	78.50	4	13.478		
Total	70.67	150	17.528		
Duration of Care					
1-5	63.77	74	18.339	8.026	**.000 (Significant)**
6-10	74.77	44	14.011		
11-15	78.62	21	10.581		
16-20	89.43	7	16.851		
>20	78.50	4	13.478		
Total	70.67	150	17.528		
Diagnosis					
Organic Mental Disorders	78.67	3	1.528	1.146	.278(NS)
Substance Use Disorders	85.36	14	14.521		
Schizophrenia And Other Psychotic Disorders	66.28	98	17.663		
Mood Disorders	80.44	18	14.051		
Neurotic And Stress Related Disorders	70.11	9	14.013		
Mental Retardation	73.29	7	11.828		
Behavioural And Emotional Disorders	82.00	1	.		
Total	70.67	150	17.528		
Number of Hospitalisations					
1-3	76.42	71	14.440	1.221	.245(NS)
4-6	81.77	13	8.328		
7-9	86.33	9	6.538		

9-12	94.67	3	4.163		
Total	78.65	96	13.605		

NS= Not Significant P value<0.05 was considered as Significant

- Caregiver burden is more common in caregivers with more duration of illness highest in more than fifteen years of illness (p=0.005)
- Caregiver burden is more common in caregivers of patients caring for more years, highest in 16-20 years (p=0.005) than in the other group.
- Caregiver burden is more in substance use disorders(85.36±14.52) and less in psychotic disorders(66.28±17.66) compared to other disorders(p=0.278) and increasing with the number of hospitalizations with the highest in caregivers of patients admitted more than eight times(94.67, p=0.245) but statistically not significant.

Emotional intelligence

8. Socio-demographic Variables of Caregivers and TEI:

Table 8: Total emotional intelligence according to socio-demographic variables

Variable	Mean	N	SD	F-ratio	P value
Age Category in Years					
<20	78.67	3	.577	1.405	(NS)
20-30	73.87	38	15.234		
31-40	80.25	32	11.783		
41-50	76.32	31	12.343		
51-60	72.21	34	10.795		
61-70	79.64	11	16.274		
>70	74.00	1	.		
Total	75.88	150	13.048		
Gender					
Male	76.34	88	13.972	0.264	0.608(Ns)
Female	75.23	62	11.692		
Total	75.88	150	13.048		
Domicile					
Rural	76.66	77	13.346	0.285	0.752(Ns)
Urban	75.07	73	12.855		
Total	75.88	150	13.048		
Religion					
Hindu	75.89	137	13.411	0.080	0.924(Ns)
Muslim	74.43	7	6.294		
Christian	77.33	6	11.325		
Total	75.88	150	13.048		
Marital Status					
Married	76.97	115	12.504	1.533	0.209(Ns)
Unmarried	73.43	28	15.510		
Separated	69.00	1	.		
Widow	67.50	6	7.396		
Total	75.88	150	13.048		
Education					
Illiterate	71.93	41	10.420	3.319	**0.004 Significant**
Primary	77.16	25	14.067		
Middle School	76.90	20	9.273		
High School	81.33	24	12.866		
Intermediate	69.32	19	17.117		
Graduate	79.47	19	10.788		
Post Graduate	93.50	2	19.092		
Total	75.88	150	13.048		
Occupation					
Unemployed	78.02	47	12.595	4.737	**0.000 Significant**
Unskilled	70.65	20	5.696		

Semiskilled	82.68	19	11.528		
Skilled	70.70	46	14.227		
Clerical	81.78	18	12.197		
Total	75.88	150	13.048		
Socio-Economic Status					
Lower	76.00	7	12.288	1.463	0.216(Ns)
Upper-Lower	75.36	76	12.314		
Lower-Middle	75.52	44	14.819		
Upper-Middle	81.82	17	12.426		
Upper	68.17	6	6.178		
Total	75.88	150	13.048		
Relation With Patient					
Parent	74.09	44	11.363	0.530	0.714(Ns)
Spouse	76.93	30	11.844		
Child	77.44	34	13.621		
Sibling	75.49	42	15.215		
Total	75.88	150	13.048		
Family Type					
Nuclear	73.93	80	13.800	3.924	0.049 **Significant**
Joint	78.11	70	11.836		
Total	75.88	150	13.048		

NS= Not Significant P value<0.05 was considered as Significant

- Total emotional intelligence is more in literates and highest in postgraduates (93.50±19.092, p=0.004), employed (p=0.000) and in joint families (p=0.049) showing statistical significance.
- There is not much difference in emotional intelligence gender-wise (p=0.608), relationship-wise (p=0.530) and between rural and urban population (p=0.285) and found statistically not significant.
- Caregivers aged thirty to forty years (p=1.405), married participants (p=0.209) and caregivers from higher socioeconomic background (p=0.216) have higher emotional intelligence and found statistically not significant.

9. Illness variables of Caregivers and TEI

Table 9: Total emotional intelligence according to illness variables

Illness Variable	Mean	N	SD	F-ratio	P value
Duration of Illness					
1-5	78.12	69	13.464	1.324	0.264(NS)
6-10	75.18	45	12.425		
11-15	72.13	24	13.019		
16-20	71.13	8	11.103		
>20	77.25	4	14.056		
Total	75.88	150	13.048		
Duration of Care					
1-5	77.96	74	13.063	1.432	0.226(NS)
6-10	75.25	44	12.559		
11-15	71.14	21	13.621		
16-20	71.29	7	11.982		
>20	77.25	4	14.056		
Total	75.88	150	13.048		
Diagnosis					
Organic Mental Disorders	87.00	3	11.269	0.673	0.671(Ns)
Substance Use Disorders	72.07	14	18.403		
Schizophrenia And Other Psychotic Disorders	75.96	98	12.886		
Mood Disorders	77.78	18	12.497		
Neurotic And Stress Related Disorders	73.44	9	9.554		
Mental Retardation	76.14	7	9.317		
Behavioural And Emotional	74.00	1	.		

Disorders					
Total	75.88	150	13.048		
Number of Hospitalisations					
1-3	73.54	71	14.118	1.853	0.04 **Significant**
4-6	71.69	13	14.488		
7-9	74.67	9	14.612		
9-12	67.33	3	8.083		
Total	73.20	96	13.943		

NS= Not Significant P value<0.05 was considered as Significant

- Caregivers whose patients have fewer hospital admissions have more emotional intelligence than those caregivers whose patients are hospitalised more(p=0.04).
- Total emotional intelligence is more common in caregivers with less duration of care (p=0.226) and less duration of illness (p=0.264)
- Total emotional intelligence is less in caregivers of substance use and neurotic disorders than other groups (p=0.671)

Table 10: Mean Intelligence Scores (SEA, ROE, UOE, OEA, TEI)

	SEA	ROE	UOE	OEA	TEI
Mean	19.83	18.74	19.03	18.30	75.88
SD	3.444	3.486	4.213	3.727	13.048

- Caregivers had a mean score of 19.83 on the Total Self-emotions appraisal with a SD of 3.44 and a mean score of 18.74 on the Total Regulation of Emotions and 18.30 on Total Others-Emotion Appraisal with a SD of 3.48 and 3.72 respectively.
- Caregivers had a mean score of 19.03 on the Total Use of Emotion with a SD of 4.21
- Total emotional intelligence of caregivers scored 75.88 as mean ± 13.048 SD

Table 11: Correlation between BAS and Duration of illness

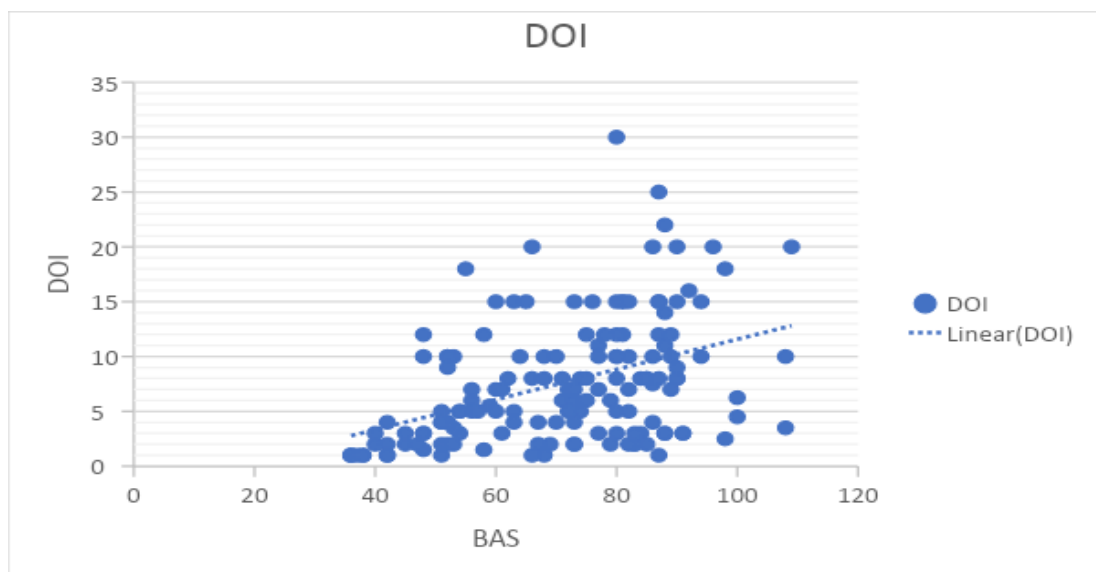|				BAS	DOI
Spearman's rho	**BAS**	**Correlation Coefficient**		1.000	.447*
		N		150	150
	DOI	**Correlation Coefficient**		.447*	1.000
		N		150	150
*. Correlation is significant at the 0.01 level (2-tailed)					

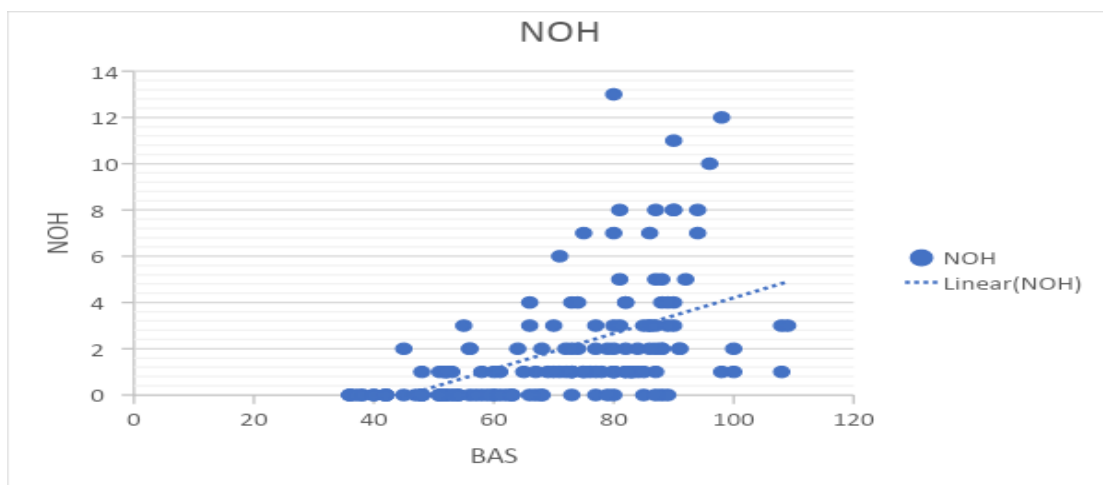**Figure 3: Scatter plot showing Correlation between BAS and Duration of illness**

A statistically significant positive correlation was found between the duration of illness and the caregiver burden experienced (r=0.447, p<0.001).

Table 12: Correlation between BAS and Duration of care

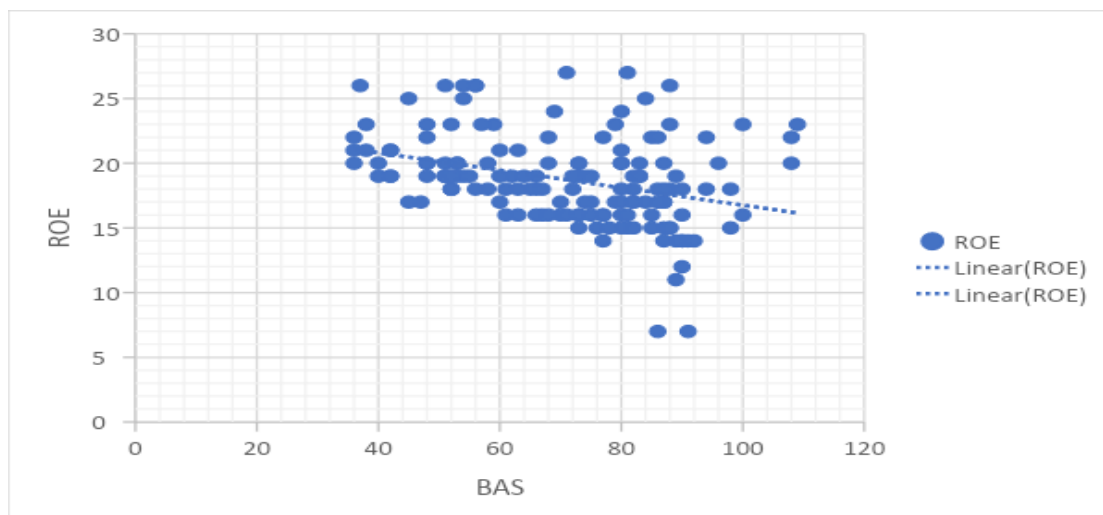|			BAS	DOC
Spearman's rho	**BAS**	**Correlation Coefficient**	1.000	.442*
		N	150	150
	DOC	**Correlation Coefficient**	.442*	1.000
		N	150	150
*. Correlation is significant at the 0.01 level (2-tailed).				
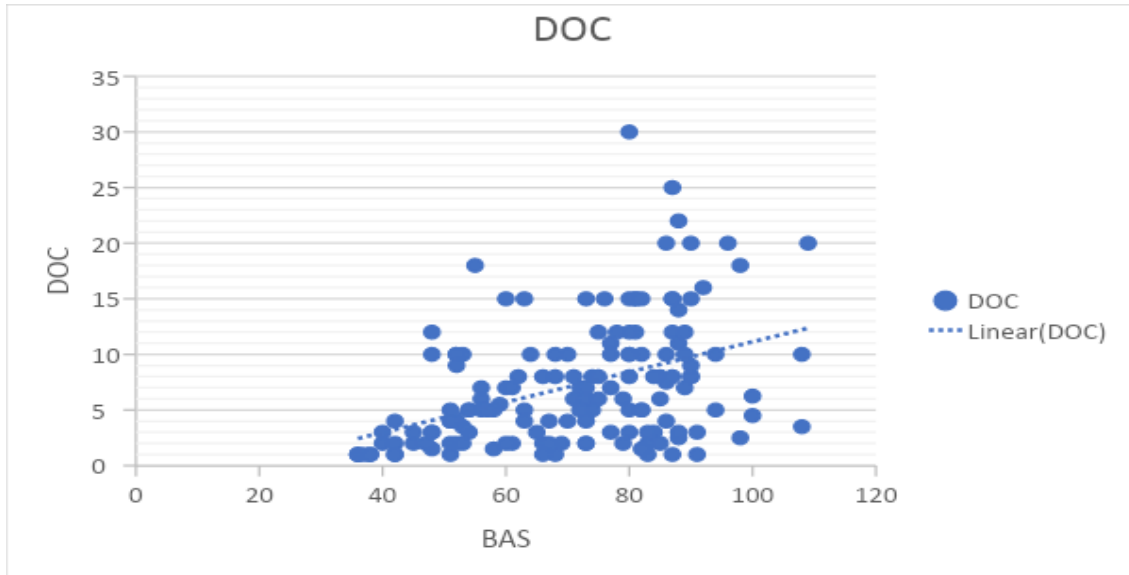
Figure 4: Scatter plot showing correlation between BAS and Duration of care

A statistically significant positive correlation was found between the duration of care and the caregiver burden experienced (r=0.442, p<0.001).

Table 13: Correlation between BAS and Number of hospitalisations

			BAS	NOH
Spearman's rho	**BAS**	**Correlation Coefficient**	1.000	.657*
		N	150	150
	NOH	**Correlation Coefficient**	.657*	1.000
		N	150	150
*Correlation is significant at the 0.01 level (2-tailed).				

Figure 5: Scatter plot showing correlation between BAS and Number of hospitalisations

A statistically significant positive correlation was found between the number of hospitalisations and the caregiver burden experienced (r=0.657, p<0.001).

Table 14: Correlation between BAS and Self-emotions appraisal

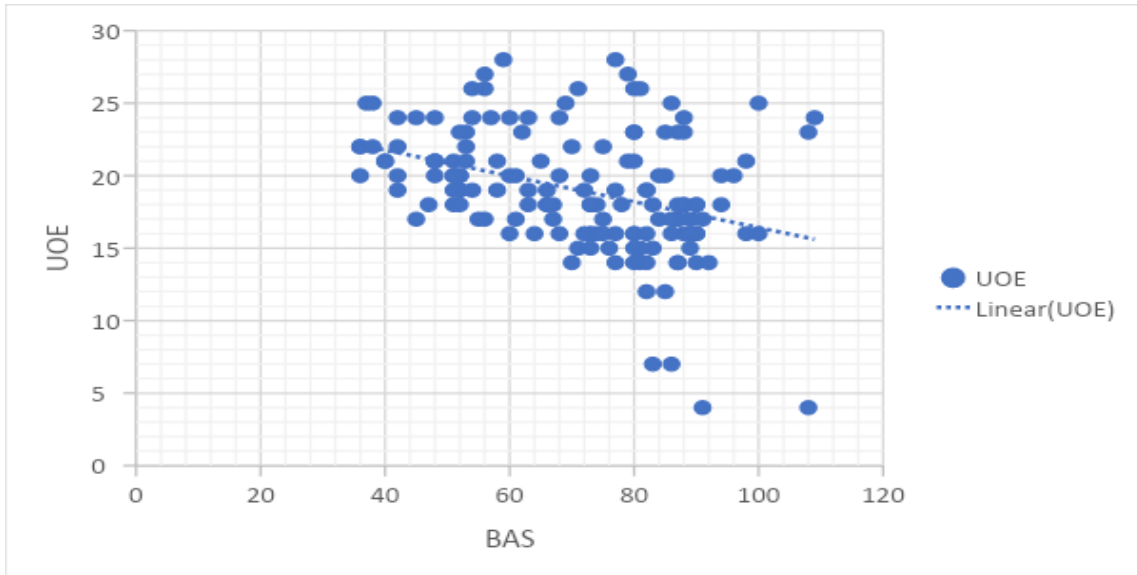|			BAS	SEA
Spearman's rho	**BAS**	**Correlation Coefficient**	1.000	-.291*
		N	150	150
	SEA	**Correlation Coefficient**	-.291*	1.000
		N	150	150
*. Correlation is significant at the 0.01 level (2-tailed).				
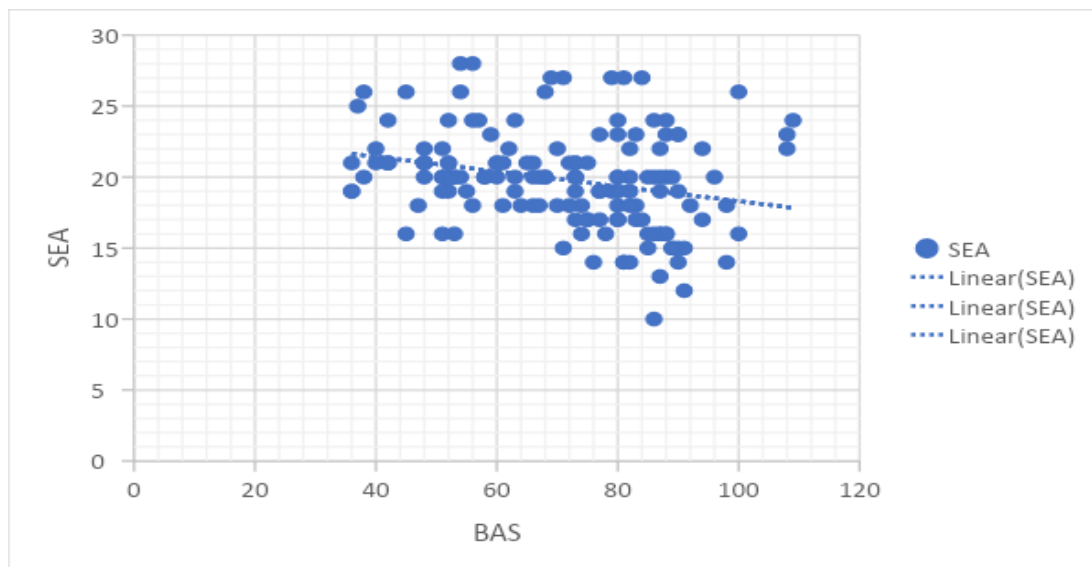
Figure 6: Scatter plot showing the Correlation between BAS and SEA

A statistically significant negative correlation was found between the total Self-emotions appraisal and the caregiver burden experienced (r= -0.291, p<0.001).

Table 15: Correlation between BAS and Regulation of Emotions

|			BAS	ROE
Spearman's rho	**BAS**	**Correlation Coefficient**	1.000	-.379*
		N	150	150
	ROE	**Correlation Coefficient**	-.379*	1.000
		N	150	150
*Correlation is significant at the 0.01 level (2-tailed).				

Figure 7: Scatter plot showing the Correlation between BAS and ROE

A statistically significant negative correlation was found between the total Regulation of Emotions and the caregiver burden experienced (r= -0.379, p<0.001).

Table 16: Correlation between BAS and Use of emotions

			BAS	UOE
Spearman's rho	BAS	Correlation Coefficient	1.000	.-393*
		N	150	150
	UOE	Correlation Coefficient	-.393*	1.000
		N	150	150
*Correlation is significant at the 0.01 level (2-tailed)				

Figure 8: Scatter plot showing Correlation between BAS and UOE

A statistically significant negative correlation was found between the total use of emotions and the caregiver burden experienced (r= -0.393, p<0.001).

Table 17: Correlation between BAS and Others-Emotion Appraisal

			BAS	OEA
Spearman's rho	**BAS**	**Correlation Coefficient**	1.000	-.381*
		N	150	150
	OEA	**Correlation Coefficient**	-.381*	1.000
		N	150	150
*Correlation is significant at the 0.01 level (2-tailed)				
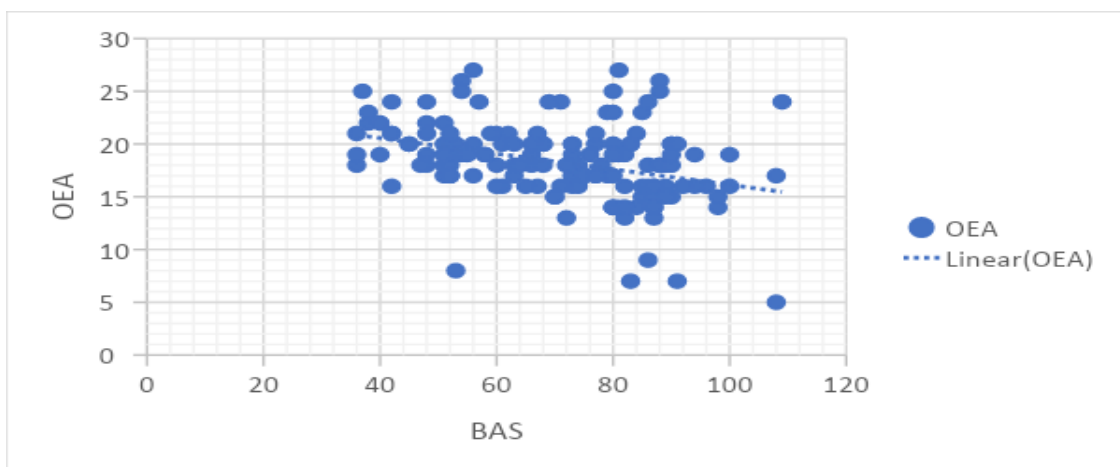
Figure 9: Scatter plot showing Correlation between BAS and OEA

A statistically significant negative correlation was found between the Total Others-Emotion Appraisal and the caregiver burden experienced (r= -0.381, p<0.001).

Discussion

Severe mental disorders such as schizophrenia and bipolar disorders are often associated with several negative consequences for patients, their families, and the society at large. These disorders negatively impact the social functioning of patient affecting their social relationships. Also, they affect the caregivers' life significantly. In India, family members are mostly the primary caregivers for psychiatric patients. With the changing scenario and rise in number of nuclear families over the last few decades, spouses often become the primary caregivers for patients with psychiatric disorders. Therefore, the concerns of these informal caregivers need to be understood as this determines the continuation of their caregiver role. There is limited literature on the subject, especially in Indian setup. Moreover, the little information available is from the West with different sociocultural factors related to family. Thus, it is important to understand the caregiver burden and its determinants in Indian context.

Besides, the caregiver characteristics such as relationship with patient, demographic characteristics, the current study assessed the caregiver burden and its relationship with emotional intelligence in caregivers of patients with psychiatric disorders. For this, all the patients caregivers of patients with psychiatric disorders attending our OPD were approached. Those meeting the selection criteria were recruited. A total of 150 caregivers of patients were evaluated on Burden Assessment Schedule (BAS) and Wong and Law Emotional Intelligence Scale (WLEIS).

Baseline Characteristics of the study:

Age distribution: The average age of patients' caregivers was 42.3 (SD-13.44) years Age of nearly 90% of the study participants (caregivers) ranged from 21 to 60 years; most common being 21-30 year age group followed by 51-60 year age group. The current study's mean age was lower than that reported in a similar Indian study by Puzhakkal et al where mean age was 49.2 years [13]. This difference might be due to the different patient characteristics in the two studies and different study location with different catchment areas.

In another study by Chadda et al from IBHAS, nearly 25% each of caregiver belonged to < 25 year age group and > 50 year age group which is similar to the current study. [21] The age characteristics in these studies would also depend on relationship with patient; the studies where parent are mostly the primary caregivers are likely to report higher age as compared with spouses or siblings in caregiving role.

Several studies have also assessed spouses in caregiving role. The mean age in current study was comparable with that reported in studies on spouses of those with different psychiatric disorders like schizophrenia and Bipolar disorder. In the study by Aggarwal S et al, it was 42.4 years for spouses of patients with Schizophrenia and 40.9 years for spouses of patients with Bipolar disorder.49 The current study's mean age of caregivers is also similar to that reported in Indian studies evaluating spouses of BD patients. In a study by Drisya P et al, most female spouses belonged to 41-50 years age group followed by 51-60 years age group and nearly 25% belonged to 31-40 years age group while most male spouses belonged to >60 year age group followed by 51-60 year age group. The difference observed between the current study and the study by Drisya P et al may be explained by different study location. [50]

Gender distribution: Males outnumbered females in the current study population. This contrasts the results of another Indian study by Puzhakkal et al where around 63% of caregivers were females. [13] However, the male predominance in caregiving role was similar to that reported in another Indian study by Kate N et al where 65% of caregivers were males. [51]

Gender distribution of caregivers (specifically spouses) is also likely to depend on psychiatric disorders under study as schizophrenia and bipolar disorder have different sex predilection. For schizophrenia, literature suggests higher incidence in males as compared with females. A recent review by Dell'Osso et al [52] suggests probable female preponderance in Bipolar disorders. This reported that BD is misdiagnosed as Major Depressive disorder. Dell'Osso et al also reported females with BD have elevated incidence of rapid cycling, suicide attempts and depressive polarity than males, indicating non-inferior severity. Furthermore, this is also likely to depend on type of community- patriarchal or matriarchal. The study by Puzhakkal et al was from Kerala (mostly matriarchal) while other studies have been from patriarchal community. [13]

Education, Employment status and income: The education status of nearly 57% of caregivers ranged from being illiterate to middle school certificate holder. Strikingly, only 31 % of study subjects were unemployed. This rate of unemployment is much higher as compared to unemployment rate of India suggesting burden of care on caregivers which might be responsible for them being full-time caregivers. Furthermore, employment could be a partly escape route from stress associated with being caregiver of patients with psychiatric disorders like Schizophrenia and BD and unemployment might add to the burden of caregiving. Paralleling the employment and

education status, more than half of families of patients belonged to lower socioeconomic strata (lower and upper- lower). This represents the economic distribution of patients visiting the study hospital.

Relationship with patient and family type: Most of the included caregivers were parents followed by siblings. Spouses played the caregiver role in 20% patients while children played a caregiver role in around 23% patient. This goes in hand with most Indian studies where the most common caregivers were parents. [21,51] The parent child relationship in Indian families is significantly different from the west. Although increasing, the concept of moving out of family after a particular age is not much prevalent in India, especially in rural areas. Around 53% caregivers and patients stayed in nuclear families. This is in accordance with changing social fabric and growing number of nuclear families in India and is slightly higher than previous studies on the topic. [51]

Caregiving role: The mean duration of care was 1.8 hours. Nearly half of caregivers cared for patients for 1-5 hour duration. Around 29% cared for 6-10 hours and nearly 20% cared for more than 10 hours.

Psychiatric diagnosis and hospitalisation rate: The most common psychiatric diagnosis for patients was schizophrenia and other psychotic disorders in two-thirds of patients. After psychotic disorders, mood disorders and substance use disorders were the subsequent diagnosis of patients in this study accounting for around 21% of patients. Nearly half of patients had 1-3 hospitalizations during the study period and 17% had >3 hospitalizations while rest had no hospitalizations.

Other baseline variables: Nearly 90% of caregivers were Hindus and half of them belonged to urban community. More than 75% of caregivers were married (unmarried 18%; widows 4%). These aspects are very similar to that observed in the population our hospital caters to. This socio-demographic pattern is similar to that of patient populations at this hospital as well as previous research from India that centred on patients with Bipolar disorder and Schizophrenia.

Caregiving burden

The mean BAS score was 70.67 ± 17.52. Of the total caregiver population, nearly two-thirds of caregivers had moderate to severe burden (moderate burden amounting to 33% while those with severe burden constitute 32.7%). Therefore, most of the caregivers of patients with psychiatric disorders had significant burden. Previously different scales have been used in different Indian studies to assess the burden associated with caregiving. Kate N et al used Involvement

Evaluation Questionnaire (IEQ) for assessment of caregiving burden and found that mean scores were highest in tension domain followed by worrying urging domains. [51] The study by Puzhakkal et al found that the caregiving burden was maximum in caregivers of patients with Schizophrenia followed by those with bipolar affective disorders and alcohol use disorders. [13] The study by Chadda et al had concluded that Schizophrenia and bipolar disorder were associated with similar caregiving burden. [21] In another study by Grover et al, it was found that caregivers of patients with Schizophrenia experienced more stigma than that with Bipolar disorder or recurrent depressive disorder. [10] Caregiving burden was also significant in caregivers of patients with alcohol use disorders s reported by Puzhakkal et al. [13] Matsushita et al [22] and Orgeta et al [23] explained significant caregiver burden in carers of patients with dementia but added that psychological symptoms were less in the background of strong sense of coherence.

Emotional intelligence

Caregivers had a mean score of 19.83 ± 3.44 on the Total Self-emotions appraisal (SEA) while the mean score was 18.74 ± 3.48, 18.30 ± 3.72, and 19.03 ± 4.21 on the Total Regulation of Emotions, Total Others-Emotion Appraisal, and Total Use of Emotion to facilitate performance respectively. Median total emotional intelligence quotient of caregivers was 75.88 ± 13.048. Hence, OEA was lower than other domains and this might be due to the burden of caregiving. However, the lower EI may be due to the caregiving role or pre-existing before the assumption of caregiving role. Previous studies like that by Saeed et al (2019) had concluded that emotional intelligence of caregivers of psychiatric patients also gets affected by taking care of these patients. [32] However, unlike previous studies on the subject like Choubey et al and Trigueros et al, the current study did not assess the effect of EI on coping behaviors and health outcomes in general. [33,34]

Predictors of caregiving burden

Caregiver burden was more in females (p=0.002), illiterate (p=0.001), unemployed (p=0.005), in those belonging to lower socioeconomic status (P=0.015) and with more duration of illness (highest in more than fifteen years of illness; p=0.005). Caregiver burden was more common in caregivers of patients caring for more years, highest in 16-20 years (p=0.005) than in the other group. However, the study by Puzhakkal et al reported higher burden in fathers followed by wives. Burden significantly increases for CGs who are below poverty line, when they get physical illness during caregiving process, and for primary CGs. This is similar to present study were lower socioeconomic

status and unemployment were associated with higher caregiving burden. The current study did not find significant effect of type of mental health disorder, family type, and rural/ urban background on caregiving burden. This was different from study by Puzhakkal et al where CGs of persons with schizophrenia was found to have the highest and depressive disorders with least burden. Puzhakkal et also found that CG burden increases with severity of illness except in depressive disorders. [13]

In the study by Kate N et al, tension domain of burden had positive correlation with the caregiver being single, time spent in caregiving per day, and use of avoidance, collusion, and coercion as coping strategies. However, use of coping strategies was not assessed in the current study. Total IEQ score in the study by Kate N et al had

Significant correlation with being a single (unmarried) caregiver. The differences in the predictors might be due to different studied groups as the study by Kate et al. only assessed caregivers of patients with Schizophrenia. [51]

Predictors of EI

In the current study, the total emotional intelligence was more in literates and highest in postgraduates (93.50±19.092, p=0.004), employed (p=0.000) and in joint families (p=0.049). These predictors go in hand with previous studies which have reported that individuals with higher EI achieve better academically and have better social relations during work performance and in negotiations. [27,30,35,36]

Fewer hospitalizations of patient were associated with higher EI in caregivers (p=0.04). This was statistically significant. However, this finding has not been reported previously and the reasons for this association are not clear.

Furthermore, there was no significant difference in EI of caregiver based on age, gender, marital status, urbanization, socioeconomic status, relationship with patient, duration of care, duration of illness, and type of mental illness. Although caregiving burden can impact the psychological health and EI of caregivers, EI is an intrinsic quality developed during early life and is unlikely to be influenced at large by extrinsic factors occurring late in life such as illness of characteristics of patients.

Correlates of caregiving burden and EI

A statistically significant positive correlation was found between the caregiving burden and duration of illness, duration of care, and the number of hospitalisations. These factors are likely to add on to the burden. The chronicity of any disorder impacts patients and the families. Hospitalization not only adds to expenditure but also absence from

job and adds to stress. These factors have not been assessed in previous Indian studies on the subject. Furthermore, the previous Indian studies have also not found consistent sociodemographic correlates of burden in patients with mental health disorders like Schizophrenia. The effect of baselines characteristics of caregivers on the caregiving burden has been highly variable across different studies.

A statistically significant negative correlation was found between the caregiver burden and total Self-emotions appraisal, total Regulation of Emotions, total use of emotions, and Total Others-Emotion Appraisal. Hence, the caregiving burden was negatively correlated with domains of EI. This goes in hand with few studies available on the subject. Choubey AK et al concluded lower levels of stress and better health outcomes are associated with higher EI. [33] Similarly, Trigueros et al (2020) concluded that higher emotional intelligence is protective against the self-stigma and emotional exhaustion of family members of people with mental disorders. [34] Also, the recent systematic review by Del-Pino-Casado et al. had concluded that higher levels of sense of coherence were associated with lower levels of subjective caregiver burden and better mental health outcomes. [6]

The study by Suresky et al revealed higher degree of family disruption in women caregivers of patients with mental health disorders. The same study specified that sense of coherence and resourcefulness reduced the occurrence of family disruption. [8]

Strengths and limitations of the study

To the best of our knowledge, this is singular cross-sectional study from the region systematically evaluating caregiving burden in caregivers of patients with psychiatric disorders with respect to their emotional intelligence using reliable and valid scales. However, this is not short of limitations.

Few limitations include lack of assessment of coping strategies which are important modifiers for perceived burden as illustrated in previous Indian studies, lack of longitudinal evaluation of caregivers and their long-term outcomes. Also,a larger sample would have more practical implications.

Future recommendations:

1. Larger sample size randomly drawn from the community should be considered.

2. Prospective studies are required to study the association between study variables.

Conclusion

Psychiatric disorder not only affects the patients but also their caregivers and their families. Hence,

these are important public health problems with significant psychological impact and impact on the quality of life of patients and their families. The burden experienced by caregivers is huge as seen in current study on 150 caregivers. The average age of patients' caregivers was middle age and there is slight male preponderance observed in the current study. Of the total caregiver population, nearly two-thirds of caregivers had moderate to severe burden (moderate and severe burden amounting to one third each). Others emotion appraisal to facilitate performance scores on EI scale was lower than other domains, probably due to the burden of caregiving. Caregiver burden was significantly more in females, illiterate, unemployed, in those belonging to lower socioeconomic status and with more duration of illness (highest in more than fifteen years of illness). Caregiver burden was more in caregivers of patients caring for more years, highest in 16-20 years. In the current study, the total emotional intelligence was more in literates and highest in postgraduates, employed, and in joint families. Fewer hospitalizations of patient were associated with higher EI in caregivers

A statistically significant positive correlation was found between the caregiving burden and duration of illness, duration of care, and the number of hospitalisations. A statistically significant negative correlation was found between the caregiver burden and different EI domains. Considering the significant metal health impact of caregiving, future national and multinational mental health programs need to give due consideration to this aspect.

References

1. Kuipers E, Onwumere J, Bebbington P. Cognitive model of caregiving in psychosis. The British Journal of Psychiatry. 2010 Apr; 196(4):259-65.
2. Breitborde NJ, López SR, Aguilera A, Kopelowicz A. Perceptions of efficacy, expressed emotion, and the course of schizophrenia: the case of emotional overinvolvement. The Journal of nervous and mental disease. 2013 Oct; 201(10):833.
3. Mayer JD, Roberts RD, Barsade SG. Human abilities: Emotional intelligence. Annual review of Psychology. 2008 Jan 1; 59(1):507-36.
4. Wechsler D. The measurement and appraisal of adult intelligence 4th ed. The Williams & Wilkins; 1958.
5. Bar-On R. The impact of emotional intelligence on giftedness. Gifted Education International. 2007 Sep; 23(2):122-37.
6. del-Pino-Casado R, Espinosa-Medina A, López-Martínez C, Orgeta V. Sense of coherence, burden and mental health in caregiving: A systematic review and meta-analysis. Journal of Affective Disorders. 2019 Jan 1; 242:14-21.
7. Zegwaard MI, Aartsen MJ, Cuijpers P, Grypdonck MH. a conceptual model of perceived burden of informal caregivers for older persons with a severe functional psychiatric syndrome and concomitant problematic behaviour. Journal of Clinical Nursing. 2011 Aug; 20(15-16):2233-58.
8. Suresky MJ, Zauszniewski JA, Bekhet AK. Factors affecting disruption in families of adults with mental illness. Perspectives in psychiatric care. 2014 Oct; 50(4):235-42.
9. M. Weimand B, Hedelin B, Sällström C, Hall-Lord ML. Burden and health in relatives of persons with severe mental illness: a Norwegian cross-sectional study. Issues in Mental Health Nursing. 2010 Dec 1; 31(12):804-15.
10. Grover S, Avasthi A, Singh A, Dan A, Neogi R, Kaur D, Lakdawala B, Rozatkar AR, Nebhinani N, Patra S, Sivashankar P. Stigma experienced by caregivers of patients with severe mental disorders: A nationwide multicentric study. International Journal of Social Psychiatry. 2017 Aug; 63(5):407-17..
11. Webb C, Pfeiffer M, Mueser KT, Gladis M, Mensch E, DeGirolamo J, Levinson DF. Burden and well-being of caregivers for the severely mentally ill: the role of coping style and social support. Schizophrenia research. 1998 Nov.
12. Azman A, Jamir Singh PS, Sulaiman J. Caregiver coping with the mentally ill: a qualitative study. Journal of Mental Health. 2017 Mar 4; 26(2):98-103.
13. Puzhakkal JC, Kallivayalil RA, Sudhakar S. Assessment of caregiver burden and their quality of life at a tertiary care center: A cross-sectional study. Indian Journal of Social Psychiatry. 2019 Jan 1; 35(1):88.
14. Walke SC, Chandrasekaran V, Mayya SS. Caregiver burden among caregivers of mentally ill individuals and their coping mechanisms. Journal of neurosciences in rural practice. 2018 Apr; 9(02):180-5.
15. Chakrabarti S, Kulhara P, Verma SK. Extent and determinants of burden among families of patients with affective disorders. Acta Psychiatrica Scandinavica. 1992 Sep; 86(3):247-52.
16. Caqueo-Urízar A, Gutiérrez-Maldonado J, Miranda-Castillo C. Quality of life in caregivers of patients with schizophrenia: a literature review. Health and quality of life outcomes. 2009 Dec; 7(1):1-5.
17. Fan YC, Chen MB, Lin KC, Bai YM, Wei SJ. The resilience and health status of primary caregivers of schizophrenia patients. Hu Li Za Zhi. 2014 Dec 1; 61(6):29.

18. Hsiao CY, Tsai YF. Factors of caregiver burden and family functioning among Taiwanese family caregivers living with schizophrenia. Journal of clinical nursing. 2015 Jun; 24(11-12):1546-56..

19. Blanthorn-Hazell S, Gracia A, Roberts J, Boldeanu A, Judge D. A survey of caregiver burden in those providing informal care for patients with schizophrenia or bipolar disorder with agitation: results from a European study. Annals of general psychiatry. 2018 Dec; 17(1):1-7..

20. Zhou Y, Rosenheck R, Mohamed S, Ou Y, Ning Y, He H. Comparison of burden among family members of patients diagnosed with schizophrenia and bipolar disorder in a large acute psychiatric hospital in China. BMC psychiatry. 2016 Dec; 16(1):1-0.

21. Chadda RK, Singh TB, Ganguly KK. Caregiver burden and coping. Social Psychiatry and Psychiatric Epidemiology. 2007 Nov; 42(11):923-30.

22. Matsushita M, Ishikawa T, Koyama A, Hasegawa N, Ichimi N, Yano H, Hashimoto M, Fujii N, Ikeda M. Is sense of coherence helpful in coping with caregiver burden for dementia? Psychogeriatrics. 2014 Jun; 14(2):87-92.

23. Orgeta V, Sterzo EL. Sense of coherence, burden, and affective symptoms in family carers of people with dementia. International Psychogeriatrics. 2013 Jun; 25(6):973-80.

24. Truong QT. The quality of life and caregiving burden among caregivers of people with dementia in Hanoi, Bac Ninh and Hai Phong, Vietnam (Doctoral dissertation, Queensland University of Technology).

25. Salovey P, Mayer JD. Emotional intelligence. Dude publishing; 2004.

26. Izard CE. Emotional intelligence or adaptive emotions?

27. Eisenberg N. Emotion, regulation, and moral development. Annual review of psychology. 2000 Feb; 51(1):665-97..

28. Cole PM, Martin SE, Dennis TA. Emotion regulation as a scientific construct: Methodological challenges and directions for child development research. Child development. 2004 Mar; 75(2):317-33.

29. Mestre JM, Guil R, Lopes PN, Salovey P, Gil-Olarte P. Emotional intelligence and social and academic adaptation to school. Psicothema. 2006 Dec 31:112-7.

30. Lopes PN, Brackett MA, Nezlek JB, Schütz AS, Sellin I. I. & Salovey, P.(2004). Emotional intelligence and social interaction. Personality and Social Psychology Bulletin; 30(8):1018-34.

31. Elfenbein HA, Foo MD, White J, Tan HH, Aik VC. Reading your counterpart: The benefit of emotion recognition accuracy for effectiveness in negotiation. Journal of Nonverbal Behavior. 2007 Dec;31(4):205-23.

32. Saeed A, Kiani S, Javed S. Caregivers of mentally ill patients: role of coping style and emotional intelligence. Pakistan Armed Forces Medical Journal. 2019 Jun 27; 69(3):665-70..

33. Choubey A, Singh S, Pandey R. Role of Emotional Intelligence in Stress and Health. Indian J Soc Sci Res. 2009 Jan 1; 6:122–34.

34. Trigueros R, Navarro N, Cangas AJ, Mercader I, Aguilar-Parra JM, González-Santos J, González-Bernal JJ, Soto-Cámara R. The protective role of emotional intelligence in self-stigma and emotional exhaustion of family members of people with mental disorders. Sustainability. 2020 Jun 15;12(12):4862.

35. Denham SA, Blair KA, De Mulder E, Levitas J, Sawyer K, Auerbach–Major S, Queenan P. Preschool emotional competence: Pathway to social competence?. Child development. 2003 Feb; 74(1):238-56.

36. Fine SE, Izard CE, Mostow AJ, Trentacosta CJ, Ackerman BP. First grade emotion knowledge as a predictor of fifth grade self-reported internalizing behaviors in children from economically disadvantaged families. Development and Psychopathology. 2003 Jun; 15(2):331-42.

37. Brackett MA, Warner RM, Bosco JS. Emotional intelligence and relationship quality among couples. Personal relationships. 2005 Jun; 12(2):197-212.

38. Carton JS, Kessler EA, Pape CL. Nonverbal decoding skills and relationship well-being in adults. Journal of Nonverbal Behavior. 1999 Mar; 23(1):91-100.

39. Barchard KA. Does emotional intelligence assist in the prediction of academic success? Educational and psychological measurement. 2003 Oct; 63(5):840-58.

40. Rubin RS, Munz DC, Bommer WH. Leading from within: The effects of emotion recognition and personality on transformational leadership behavior. Academy of management journal. 2005 Oct 1; 48(5):845-58.

41. Bastian VA, Burns NR, Nettelbeck T. Emotional intelligence predicts life skills, but not as well as personality and cognitive abilities. Personality and individual differences. 2005 Oct 1; 39(6):1135-45.

42. Gohm CL, Corser GC, Dalsky DJ. Emotional intelligence under stress: Useful, unnecessary, or irrelevant? Personality and individual differences. 2005 Oct 139(6):1017-28.

43. Matthews G, Zeidner M, Roberts RD. Emotional intelligence: A promise unfulfilled? Japanese Psychological Research. 2012 May; 54(2):105-27.

44. Darlami K, Ponnose R, Jose P. Caregiver's stress of psychiatric patients. Journal of Universal College of Medical Sciences. 2015; 3(2):39-43.

45. World Health Organization. The ICD-10 classification of mental and behavioural disorders: clinical descriptions and diagnostic guidelines. World Health Organization; 1992.

46. Thara R, Padmavati R, Kumar S, Srinivasan L. Instrument to assess burden on caregivers of chronic mentally ill. Indian Journal of Psychiatry. 1998 Jan; 40(1):21.

47. Salovey P, Mayer JD. Emotional intelligence. Imagination, cognition and personality. 1990 Mar; 9(3):185-211.

48. Wong CS, Law KS. Wong and law emotional intelligence scale. The Leadership Quarterly. 2002.

49. Aggarwal S, Grover S, Chakrabarti S. Comparison of Marital and Sexual Functioning of the Spouses of Patients with Schizophrenia and Depressive Disorders. Journal of Psychosexual Health. 2021 Apr; 3(2):160-70.

50. Drisya P, Bindumol K, Saleem TK, Narayan D. Marital problems among partners of patients with bipolar affective disorder. Indian journal of psychological medicine. 2019 Sep; 41(5):448-54.

51. Kate N, Grover S, Kulhara P, Nehra R. Relationship of caregiver burden with coping strategies, social support, psychological morbidity, and quality of life in the caregivers of schizophrenia. Asian journal of psychiatry. 2013 Oct 1; 6(5):380-8..

52. Dell'Osso B, Cafaro R, Ketter TA. Has Bipolar Disorder become a predominantly female gender related condition? Analysis of recently published large sample studies. International journal of bipolar disorders. 2021 Dec; 9(1):1-7.