Relationship of Stigma with Burden and Coping among Caregivers of Patients with Severe Mental Disorders

Abstract

Aim: This study aimed to evaluate the association of stigma with the caregiver burden and coping. Methodology: One hundred and sixteen adult caregivers of persons with severe mental illness were evaluated on the Stigma Scale for Caregivers of People with Mental Illness (CPMI), Family Burden Interview (FBI) Schedule, and Family Coping Questionnaire. Results: In terms of stigma, the mean total score was highest for the affective component followed by behavioral and least for the cognitive component of CPMI. On FBI, the highest burden was reported for the financial burden followed by disruption of routine family activities, disruption of family leisure activities, disruption of family interaction, the effect on the physical health of others, and effect on the mental health of others. The most common coping strategy used by the caregivers was gathering information followed by positive communication and patient’s social involvement. A higher level of stigma in all the domains was associated with a significantly higher burden in all the domains of the objective burden, except for effect on physical and mental health on others. Higher use of coping such as positive communication and social interests was associated with higher stigma in all the domains except for lack of significant association between positive communication and cognitive domain of stigma. Higher use of resignation as a coping mechanism was associated with a higher stigma in the cognitive domain of CPMI. Conclusion: This study shows that a higher level of stigma among caregivers of patients with severe mental disorder is associated with higher objective caregiver burden and higher use of coping mechanisms such as positive communication and social interest. Accordingly, it can be said that any effort to mitigate the caregiver burden needs to take stigma into account.

Keywords: Caregiver burden, coping, severe mental illness, stigma

Introduction

Stigma is one of the important determinants of not seeking help among patients with mental disorders. In countries like India, where caregivers are intimately involved in the care of patients with mental disorders, in terms of supervising the medications and decision-making for the patients in terms of bringing him/her to the hospital, they also experience stigma. In fact, when the caregivers are involved in all the treatment decision-making, caregiver stigma can be actually an important determinant of medication nonadherence, treatment nonadherence, and course and outcome of the illness. Accordingly, there is a need to understand the extent of caregiver stigma and its correlates.

Stigma experienced by the caregivers can be categorized as associative or courtesy and affiliate stigma. Associative stigma is understood as the stigmatization of family members because of their association with a patient of mental illness. In contrast, when the caregiver is affected by the prevailing public stigma, it is known as affiliate stigma. Affiliation of caregivers with the stigmatized individual often leads to negative consequences on the caregivers themselves in the form of unhappiness and helplessness. Stigmatized individual often leads to negative consequences on the caregivers themselves in the form of unhappiness and helplessness. Affiliate stigma can also be understood as self-stigma, which has three interlocking features, that is, affect, behavior, and cognitive responses. Due to the affiliate stigma, the caregivers may conceal information about the mental illness of their closed ones, feel socially isolated, and leave the mentally ill patients alone. Resultantly, it can have negative consequences for a patient suffering from a mental illness.

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The prevalence of stigma among the caregivers of patients with severe mental illnesses (SMIs) is reported to be high, with some of the studies reporting it to vary from 43% to 92%.[14‑21] The previous data also show that a majority of the family members believe that most of the people in society devalue people with mental illnesses and their families.[16] Because of this, caregivers are reluctant to reveal their identity as a caregiver of a person with a mental illness.[22]

The correlates of stigma among the caregivers of the patients with mental illness suggest that higher stigma among the caregivers is associated with patient’s sociodemographic variables,[15] clinical variables such as shorter duration of illness,[15,23‑25] shorter duration of treatment,[25] younger age of onset of illness in the patient,[15,23‑25] caregiver being a parent,[25] younger age at first hospitalization of the patient, shorter duration of being in the caregiver role, female (caregiver), and not on paid employment (caregiver).[25] The previous studies also show that stigma among the caregivers is also associated with active or passive suicidal ideation,[26] depressive disorder,[27,28] and higher psychological morbidity among the caregivers.[22,25,28‑31]

Few studies have evaluated the relationship of stigma with caregiver burden, and these suggest that higher stigma is associated with higher caregiver burden.[11,27,28,32] Although studies from India have evaluated stigma among caregivers of SMIs,[5,18‑20,25,33] these have not looked at the association of stigma and caregiver burden. Similarly, studies have not looked at the relationship between caregiver stigma and their coping mechanisms. In this background, this study aimed to assess the association of stigma, caregiver burden, and coping strategies among the caregivers of patients with SMI.

Methodology

This cross-sectional study was carried out at the psychiatry outpatient services of a multispecialty government-funded tertiary care teaching institute located in North India. The study sample comprised 116 persons suffering from SMI, i.e., schizophrenia, bipolar affective disorder, and recurrent depressive disorder were selected by purposive sampling. The other inclusion criteria for the study were age more than 18 years and are clinically stable, i.e., no change in the doses of psychotropic medications in 3 months before assessment. To be included in this study, caregivers were required to be 18 years or older, staying with and involved in the care of the patients for at least 1 year, and free from any diagnosed psychiatric illness.

The study was approved by the ethics committee of the institute, and all the participants were recruited after obtaining written informed consent.

The caregivers were assessed on:

- Stigma Scale for Caregivers of People with Mental Illness (CPMI):[31] It is a 22-item scale, developed to measure caregivers’ internalization of stigma. Each item is rated on a 4-point Likert scale from (1) strongly disagree to (4) strongly agree, with higher scores indicating a higher level of affiliate stigma. The various items of the scale measure the affiliate stigma in the three domains, i.e., cognitive (7 items), affective (7 items), and behavioral components (8 items). For making the three domains of stigma comparable, in this study, mean weighted scores were calculated for each component by dividing the mean total score for the domain by number of items included in the domain. The scale has excellent internal consistency with Cronbach’s alpha of 0.95. The scale has been translated into Hindi and has been used in a previous study from India.[25]

- Family Burden Interview schedule: The Family Burden Interview (FBI), developed by Pai and Kapur,[34] is a clinician-rated scale that has been commonly used to rate burden, particularly in Indian studies.[35‑37] Although the scale distinguishes between objective and subjective burden, the primary focus is on objective burden; the subjective burden is rated only on a single item. FBI comprises 24 items grouped under six areas of objective burden (financial burden, disruption of the routine of family activities, disruption of family leisure, disruption of family interaction, the effect on physical health of others, and effect on mental health of others) and one item evaluating the subjective burden. Furthermore, there is another open-ended question about any burden which family perceives, not covered by the items in the scale. Each item is rated on 0–2 scale. Higher scores indicate a higher level of caregiver burden. The score of <12 indicates a low burden and the score more than or equal to 12 is an indicator of high burden. The reliability and validity of the scale are more than 0.87 and 0.72, respectively. Psychometric properties of the scale have been shown to be satisfactory.[38,39]

- Family Coping Questionnaire: It is a 23-item scale, each rated on 4 points with higher scores indicating higher use of coping. It has 7 subscales, i.e., information, acquisition, positive communication, social interest, coercion, avoidance, and resignation. Psychometric properties of the scale have been found to be good.[40] The scale has been translated into Hindi and has been used in a previous study from India.

Statistical analysis

Statistical analysis was carried out using the Statistical Package for the Social Science Version 14 (SPSS for Windows, Version 14.0. Chicago, SPSS Inc., USA), version 14.0. Descriptive analysis was computed in terms of mean and standard deviation (SD) with range for continuous variables and frequency with percentage for ordinal and nominal variables. The relationship between the burden, coping strategies, and stigma with mental illness
variables was investigated using the Pearson correlation coefficient. Comparisons were made using unpaired Student’s t-test, Chi-square test, and Mann–Whitney U-test.

Results

The mean age of the patients was 43.2 (SD: 12.5) years, and the mean duration of formal education for the patients was 8.8 (SD: 4.4) years. Majority of the patients were married and not on any paid employment. Males outnumbered female patients. There was a nearly equal distribution of patients from nuclear and nonnuclear families and those from urban and rural localities. The majority (60.3%) of the participants were from middle socioeconomic status.

Among the patients, about two-third were suffering from schizophrenia and the rest were suffering from affective disorders. The mean duration of the illness at the time of assessment was 181.3 (SD: 115.6; range: 36–600) months. About one-fourth also had a comorbid physical illness (n = 30; 25.9%). A few patients had a family history of psychiatric illness (n = 22; 19.0%) [Table 1].

The mean age of the caregivers was 45.1 (SD: 13.2) years, and the mean duration of education was 10.6 (SD: 4.1) years. Slightly more than half (51.7%) of the caregivers were males and were on paid employment (51.7%). Majority of the caregivers were married (88.8%). About one-third of the caregivers were spouses (37.1%) and about one-fourth (26.8%) were parents of the patients [Table 1].

Stigma, burden, and coping of caregivers of patients with SMI

The mean total score for CPMI scale was 63.6 (SD: 11.5). The mean weighted total score was highest for the affective component followed by behavioral and least for the cognitive component of CPMI [Table 2]. On FBI, the mean total objective score was 25.9 (SD: 7.3), and the mean subjective score was 1.1 (SD: 0.6). On different domains of FBI, the mean weighted score was highest for the financial burden followed by disruption of routine family activities, disruption of family leisure activities, disruption of family interaction, the effect on the physical health of others, and effect on mental health others [Table 2]. Concerning coping, the most common coping strategy used by the caregivers was gathering information followed by positive communication and patient’s social involvement. Avoidance and coercion were the least commonly used coping strategies [Table 2].

When the stigma, burden, and coping of caregivers of patients with schizophrenia and affective disorders were compared, caregivers of patients with schizophrenia reported a higher level of stigma and burden in all the domains, except for lack of significant difference in the subjective burden. In terms of coping, compared to the caregivers of patients with affective disorders, caregivers of patients with schizophrenia more often used coping strategies of seeking information, avoidance, and resignation [Table 3].

| Table 1: Sociodemographic and clinical profile of the patients and the caregivers |
| Variables | Mean (SD)/frequency (%) |
|-----------|-------------------------|
| **Patients** | **Caregivers** |
| **Age (years)** | 43.2 (12.5) | 45.1 (13.2) |
| **Education in number of years** | 8.8 (4.4) | 10.6 (4.1) |
| **Gender** | | |
| Male | 63 (54.3%) | 60 (51.7%) |
| Female | 53 (45.7%) | 56 (48.3%) |
| **Marital status** | | |
| Currently single | 38 (32.8%) | 13 (9.2%) |
| Married | 78 (67.2%) | 103 (88.8%) |
| **Occupation** | | |
| Currently on paid employment | 39 (33.6%) | 60 (51.7%) |
| Currently not on paid employment | 77 (66.4%) | 56 (48.3%) |
| **Income of head** | | |
| 17,116.4 (14,381.4) | | |
| **Type of family** | | |
| Nuclear | 57 (49.1%) | |
| Nonnuclear | 59 (50.9%) | |
| **Locality** | | |
| Urban | 58 (50.0%) | |
| Rural | 58 (50.0%) | |
| **Socioeconomic status** | | |
| Lower | 28 (24.1%) | |
| Middle | 70 (60.3%) | |
| Upper | 18 (15.5%) | |
| **Relationship with the patients** | | |
| Parents | 31 (26.8%) | |
| Spouse | 43 (37.1%) | |
| Siblings | 23 (19.9%) | |
| Children | 19 (16.4%) | |

| **Clinical profile** | | |
| Duration of illness (months) | 166.6 (115.4) | |
| **Family history** | | |
| Present | 22 (19.0%) | |
| Absent | 94 (81.0%) | |
| **Diagnosis** | | |
| Schizophrenia | 66 (56.9%) | |
| Affective disorder | 50 (43.1%) | |

SD=Standard deviation

Concerning coping, the most common coping strategy used by the caregivers was gathering information followed by positive communication and patient’s social involvement. Avoidance and coercion were the least commonly used coping strategies [Table 2].

When the stigma, burden, and coping of caregivers of patients with schizophrenia and affective disorders were compared, caregivers of patients with schizophrenia reported a higher level of stigma and burden in all the domains, except for lack of significant difference in the subjective burden. In terms of coping, compared to the caregivers of patients with affective disorders, caregivers of patients with schizophrenia more often used coping strategies of seeking information, avoidance, and resignation [Table 3].

Relationship of stigma with caregiver burden and coping

A higher level of stigma in all the domains was associated with the significantly higher total objective burden and all the domains of the objective burden, except for effect on physical and mental health on others. The higher burden in the form of the effect of physical health was associated with significantly higher stigma in all the domains except for the affective domain. The
Table 2: Caregiver stigma, caregiver burden, and caregiver coping

| Variables                | Raw score, mean (SD)/frequency (%)         | Weighted score, mean (SD)  |
|--------------------------|--------------------------------------------|----------------------------|
| Caregiver stigma         |                                            |                            |
| Affective                | 20.7 (3.8) (76.9)                          | 2.96 (0.54)                |
| Cognitive                | 19.9 (3.7) (76.9)                          | 2.84 (0.53)                |
| Behavioral               | 23.0 (5.2) (76.9)                          | 2.88 (0.64)                |
| Total CPMI score         | 63.6 (11.5) (76.9)                         | 2.89 (0.52)                |
| Caregiver burden         |                                            |                            |
| Financial burden         | 7.1 (2.3) (1-12)                           | 1.18 (0.38)                |
| Disruption of routine    | 5.8 (2.1) (0-10)                           | 1.16 (0.42)                |
| Family activities        | 4.5 (1.6) (0-8)                            | 1.13 (0.4)                 |
| Disruption of family leisure | 5.4 (1.9) (0-10)                      | 1.08 (0.38)                |
| Disruption of family interaction | 1.9 (1.0) (0-4)                  | 0.95 (0.5)                 |
| Effect on physical health of others | 1.2 (0.8) (0-2)                  | 0.6 (0.4)                  |
| Total score (objective burden) | 25.9 (7.3) (76.9)                | 1.08 (0.30)                |
| Total score >12          | 110 (94.8) (76.9)                         |                            |
| Subjective burden        |                                            |                            |
| No burden                | 15 (12.9%) (76.9)                         |                            |
| Moderate                 | 76 (65.5%) (76.9)                         |                            |
| Severe                   | 25 (21.6%) (76.9)                         |                            |
| Family Coping Questionnaire |                                        |                            |
| Information              | 6.1 (1.5) (2-9)                           | 3.1 (0.75)                 |
| Positive communication   | 14.7 (2.8) (7-20)                         | 2.94 (0.56)                |
| Social interests         | 11.3 (2.1) (7-15)                         | 2.83 (0.53)                |
| Coercion                 | 13.7 (2.6) (8-18)                         | 2.74 (0.52)                |
| Avoidance                | 7.7 (2.1) (3-12)                          | 2.6 (0.7)                  |
| Resignation              | 5.6 (1.8) (2-10)                          | 2.8 (0.9)                  |
| Patient’s social involvement | 5.9 (1.2) (3-8)                    | 2.95 (0.6)                 |
| Total score              | 65.0 (9.4) (45-84)                        | 2.82 (0.41)                |

Weighted scores were calculated by dividing the mean scores with the number of items, forming the particular domain. CPMI=Caregivers of People with Mental Illness, SD=Standard deviation.

When those with the low and high objective burden (i.e., total objective burden score of <12 or ≥12) were compared, those with higher objective burden reported higher stigma in all the domains (Table 5).

Discussion

The present study included 116 primary caregivers of patients with serious mental illness and assessed the relationship of stigma with caregiver burden and their coping mechanism.

The majority of the caregivers were middle-aged, educated, married, employed, and male. The majority of them were either parents or spouse. This caregiver profile is similar to that reported in earlier studies from India,[35,41-44] suggesting that the caregivers included in the present study were representative of caregivers accompanying the patients with SMI to our clinic and other parts of the country.

The sociodemographic profile of the patients is also similar to that reported in many of the previous studies from our center,[41,45] other parts of India, and abroad.[42,43,46,47]

In the present study, the mean CPMI total weighted score was 2.89 (SD: 0.52), and in terms of various domains, the highest level of stigma was noted in the affective domain followed by behavioral and cognitive domains of CPMI. When we compare the findings of the present study with previous studies, which have used the same scale, it is evident that the mean weighted CPMI score was higher in the present study compared to some of the previous studies which reported mean weighted scores in the range of 2.1–2.42.[11,22,25] When one evaluates the hierarchy of various domains, previous studies have also reported the highest level of stigma in the affective domain, as noted in the present study.[11,22,25]

However, in terms of other domains, previous studies suggest a higher level of stigma in the cognitive domain compared to the behavioral domain, whereas the present study suggests that stigma in the behavioral domain was slightly higher or equal to that in the cognitive domain.[11,22,25] These subtle differences could be due to demographic and clinical variables of the patients and the demographic variables of the caregivers. Higher stigma in the affective domain suggests a higher level of feelings of inferiority, helplessness, and worry. These facts suggest that clinicians taking care of patients with SMI also need to evaluate the distress among the caregivers to reduce their experience of self-stigma.

In the present study, when the stigma reported by caregivers of patients with schizophrenia and affective disorders was compared, higher stigma was reported by the caregivers of patients with schizophrenia. Previous studies which have compared the caregivers of patients with schizophrenia and affective disorders have also reported similar findings.[22]

The findings on the FBI in the present study are comparable to the previous studies[33,48-50] and reiterate the fact that caregivers of patients with SMI experience a high level of
Table 3: Comparison of schizophrenia and affective disorder

| Variables                          | Schizophrenia (n=66) | Affective disorder (n=50) | Chi-square/t-test (P) |
|------------------------------------|----------------------|--------------------------|----------------------|
| Caregiver stigma (raw score)       |                      |                          |                      |
| Affective                          | 22.2 (2.9)           | 18.7 (3.9)               | 5.576 (<0.001***     |
| Cognitive                          | 21.4 (3.1)           | 17.9 (3.6)               | 5.552 (<0.001***     |
| Behavioral                         | 25.1 (3.7)           | 20.3 (5.5)               | 5.631 (<0.001***     |
| Total CPMI score                   | 68.7 (8.3)           | 56.9 (11.8)              | 6.311 (<0.001***     |
| Caregiver burden (raw score)       |                      |                          |                      |
| Financial burden                   | 8.2 (1.8)            | 5.7 (2.1)                | 7.081 (<0.001***     |
| Disruption of routine family activities | 6.6 (1.7)           | 4.6 (1.9)                | 4.940 (<0.001***     |
| Disruption of family leisure       | 5.0 (1.5)            | 3.8 (1.5)                | 5.836 (<0.001***     |
| Disruption of family interaction   | 6.3 (1.5)            | 4.2 (1.9)                | 4.265 (<0.001***     |
| Effect on the physical health of others | 2.2 (1.1)           | 1.7 (0.9)                | 6.764 (<0.001***     |
| Effect on the mental health of others | 1.2 (0.7)           | 1.3 (0.9)                | 2.663 (0.009**       |
| Total score (objective burden)     | 29.5 (5.4)           | 21.3 (6.7)               | 7.322 (<0.001***     |
| Subjective burden                  | 1.2 (0.6)            | 0.9 (0.5)                | 2.581 (0.011*        |
| Subjective burden                  |                      |                          |                      |
| No burden                          | 7 (10.6%)            | 8 (16.0%)                | 4.924 (0.085         |
| Moderate                           | 40 (60.6%)           | 36 (72.0%)               | 1.455 (0.148         |
| Severe                             | 19 (28.8%)           | 6 (12.0%)                | 2.880 (0.005**       |
| Family Coping Questionnaire (raw score) |                |                          |                      |
| Information                        | 6.4 (1.2)            | 5.8 (1.7)                | 2.284 (0.024*        |
| Positive communication             | 14.3 (3.1)           | 15.1 (2.2)               | 1.455 (0.148         |
| Social interests                   | 10.9 (2.2)           | 11.61.9                  | 1.681 (0.095         |
| Coercion                           | 14.2 (2.9)           | 13.2 (1.9)               | 1.957 (0.053         |
| Avoidance                          | 8.2 (1.8)            | 7.1 (2.4)                | 2.880 (0.005**       |
| Resignation                        | 6.0 (1.8)            | 4.9 (2.0)                | 3.331 (0.001**       |
| Patient’s social involvement       | 5.8 (1.1)            | 6.0 (1.3)                | 0.895 (0.371         |
| Total score                         | 65.9 (10.1)          | 63.8 (8.3)               | 1.207 (0.230         |

CPMI=Caregivers of People with Mental Illness, *P≤0.05, **P≤0.01, ***P≤0.001

Table 4: Correlation of stigma with the burden and coping strategies

| Variables                          | Affective | Cognitive | Behavioral | CPMI score |
|------------------------------------|-----------|-----------|------------|------------|
| Caregiver burden                   |           |           |            |            |
| Financial burden                   | 0.526 (<0.001*** | 0.414 (<0.001*** | 0.407 (<0.001*** | 0.488 (<0.001*** |
| Disruption of routine family activities | 0.435 (<0.001*** | 0.317 (<0.001*** | 0.364 (<0.001*** | 0.407 (<0.001*** |
| Disruption of family leisure       | 0.456 (<0.001*** | 0.231 (<0.001*** | 0.286 (0.002** | 0.365 (<0.001*** |
| Disruption of family interaction   | 0.541 (<0.001*** | 0.435 (<0.001*** | 0.427 (<0.001*** | 0.508 (<0.001*** |
| Effect on physical health of others | 0.001 (0.989) | 0.208 (0.025*) | 0.264 (0.004**) | 0.185 (0.047*) |
| Effect on mental health of others  | -0.308 (0.001*** | 0.071 (0.448) | 0.093 (0.318) | 0.166 (0.075) |
| Total objective burden             | 0.504 (<0.001*** | 0.422 (<0.001*** | 0.439 (<0.001*** | 0.497 (<0.001*** |
| Subjective burden                  | 0.141 (0.132) | 1.25 (1.820) | 0.092 (0.324) | 0.128 (0.172) |
| Coping                             |           |           |            |            |
| Information                        | 0.98 (0.506) | 0.064 (0.498) | 0.006 (0.952) | 0.055 (0.557) |
| Positive communication             | -0.229 (0.013*) | 0.157 (0.092) | -0.275 (0.003**) | -0.248 (0.007** |
| Social interests                   | -0.236 (0.011*) | -0.183 (0.050) | -0.234 (0.011*) | -0.241 (0.009** |
| Coercion                           | 0.034 (0.718) | 0.086 (0.350) | 0.092 (0.329) | 0.080 (0.396) |
| Avoidance                          | 0.061 (0.515) | 0.090 (0.335) | 0.037 (0.695) | 0.066 (0.485) |
| Resignation                        | 0.016 (0.861) | 0.285 (0.002**) | 0.155 (0.097) | 0.166 (0.074) |
| Social involvement                 | 0.034 (0.713) | 0.126 (0.179) | 0.107 (0.254) | 0.099 (0.288) |
| Family coping (total score)        | 0.084 (0.371) | 0.004 (0.965) | 0.084 (0.371) | 0.064 (0.497) |

CPMI=Caregivers of People with Mental Illness, *P≤0.05, **P≤0.01, ***P≤0.001

caregiver burden. The hierarchy of the caregiver burden in the various domains of objective burden is also supported by the existing literature. Previous studies from India have not used the Family Coping Questionnaire to assess the coping mechanisms of caregivers of patients with a SMI, and due to this, it is
It is difficult to compare the findings of the present study with the existing literature. Although there is variation in the scale used, previous studies also suggest that caregivers often use coping strategies such as consulting doctors, talking to friends/family members, and seeking practical help.\(^5,42\) The present study also suggests the use of seeking information, positive communication, patient social involvement, and social interest to be the commonly used coping strategies. In the present study too, avoidance was the least commonly used coping strategy as reported in some of the previous studies too.\(^5,42\)

In terms of association of stigma and caregiver burden, the present study suggests that higher objective caregiver burden is associated with the higher perception of stigma, and this finding supports the existing literature from other parts of the globe.\(^11,27,28,33\) We understand that our cross-sectional study is not powered to assess the causality, with respect to stigma, but this association suggests that an increase in one experience can increase the other. It would be interesting to evaluate the association of stigma and caregiver burden in longitudinal studies to understand which comes first. The association of these variables suggests that clinicians should evaluate both these variables among the caregivers of patients with SMI and address the same, to improve the caregiver outcomes. Surprising, the subjective burden did not appear to have any significant relationship with stigma. This lack of association suggests that it is not the subjective distress, but the objective interference with the caregiver life, which determines the perception of stigma. Accordingly, the psychoeducation of caregivers should focus on improving their skills to manage their own life in such a way that caregiving does not interfere much with their own and family functioning.

In terms of coping, the present study suggests that lower use of coping mechanisms such as positive communication and social interest was associated with the higher experience of stigma in all the domains. Higher use of resignation as a coping mechanism was associated with the perception of higher stigma in the cognitive domain. None of the other coping mechanisms emerged as significant correlates of stigma. Previous studies have not looked at the association of stigma and coping, and hence, it is difficult to compare the findings of the present study with the existing literature. Association of higher level of stigma with nonadaptive coping suggests that the clinicians should attempt to evaluate the coping of caregivers of patients with SMIs and should psychoeducation them to more often use adaptive coping, rather than maladaptive coping to reduce the perception of stigma.

**Limitations**

The present study has certain limitations which include cross-sectional assessment, small sample size, and purposive sampling. The present study also did not focus on the assessment of other psychosocial variables such as social support and knowledge about the illness, which can also influence the perception of stigma. The present study was limited to the caregivers of patients, who were clinically stable and low level of psychopathology. Accordingly, the findings of the present study cannot be generalized to those with acute episode or high level of psychopathology. Previous studies must attempt to overcome these limitations, by including larger sample size and inclusion of patients in different stages of illness.

**Conclusion**

The present study suggests that a higher level of stigma among caregivers of SMI is associated with higher objective caregiver burden and lower use of coping mechanisms such as positive communication and social interest. Accordingly, efforts must be made to address stigma and caregiver burden among the caregivers of patients with SMI. Further, the caregivers must be encouraged to more often use adaptive coping mechanisms such as positive communication and social interest, to reduce the perception of stigma.

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**Conflicts of interest**

There are no conflicts if interest.

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