

Original Research Article

FAMILY EXPRESSED EMOTION AND PERCEIVED STRESS IN PATIENTS WITH DISSOCIATIVE CONVULSIONS: A HOSPITAL-BASED CROSS-SECTIONAL STUDY

Harshit Patel¹, Prem Singh², Maathanghi Ravishankar³, Akansha Arora⁴

¹Junior Resident, Department of Psychiatry, F.H. Medical College and Hospital, Agra, Uttar Pradesh, India.

²Professor and Head, Department of Psychiatry, F.H. Medical College and Hospital, Agra, Uttar Pradesh, India.

³Assistant Professor, Department of Psychiatry, F.H. Medical College and Hospital, Agra, Uttar Pradesh, India.

⁴Senior Resident, Department of Psychiatry, F.H. Medical College and Hospital, Agra, Uttar Pradesh, India.

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Corresponding Author:

Dr. Harshit Patel,

Junior Resident, Department of Psychiatry, F.H. Medical College and Hospital, Agra, Uttar Pradesh, India.
Email: harshitpatel.hd@gmail.com

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ABSTRACT

Background: Dissociative convulsions, also known as psychogenic non-epileptic seizures, are common functional neurological disorders in psychiatric practice and are frequently associated with psychosocial adversity. Although stressful life events have been extensively studied in these patients, comparatively little attention has been paid to the influence of family emotional climate. Family expressed emotion (EE), particularly perceived criticism and emotional over-involvement, may influence stress perception, illness behaviour, and symptom persistence. Evidence regarding these relationships from India remains limited. The aim is to evaluate family expressed emotion and perceived stress among patients with dissociative convulsions and examine their association with sociodemographic variables.

Materials and Methods: A hospital-based cross-sectional study was conducted in the Department of Psychiatry at F.H. Medical College and Hospital, Agra. One hundred twenty-four patients fulfilling ICD-10 diagnostic criteria for dissociative convulsions were enrolled after obtaining informed consent. Sociodemographic and clinical information was collected using a semi-structured proforma. Psychiatric comorbidity was assessed using the MINI-Plus. Family expressed emotion was measured using the Family Emotional Involvement and Criticism Scale (FEICS), while perceived stress was assessed using the 10-item Perceived Stress Scale (PSS-10). Statistical analysis included descriptive statistics, independent *t*-test, one-way ANOVA, Pearson correlation, and Chi-square test, with statistical significance defined as $p < 0.05$. These instruments and eligibility criteria are described in the thesis methodology.

Results: Females constituted the majority of participants (61.3%). Female sex, rural residence, joint family structure, and married status were associated with significantly higher perceived stress. Females and rural participants also demonstrated significantly greater emotional involvement. Perceived criticism differed significantly according to occupation. Importantly, perceived criticism demonstrated a moderate positive correlation with perceived stress ($r = 0.591$), while emotional involvement showed a strong positive correlation with perceived stress ($r = 0.701$), indicating that adverse family emotional environments were associated with greater psychological stress. These associations are consistent with the statistical findings reported in the thesis.

Conclusion: Family emotional climate appears to play an important role in the psychosocial profile of patients with dissociative convulsions. Routine assessment of expressed emotion and perceived stress may help identify

individuals at greater risk of persistent symptoms and could inform family-focused psychoeducation and psychosocial interventions.

Keywords: Dissociative convulsions; Psychogenic non-epileptic seizures; Expressed emotion; Perceived stress; FEICS; PSS.

INTRODUCTION

Dissociative convulsions, commonly referred to as psychogenic non-epileptic seizures (PNES), are episodic alterations in behaviour, movement, sensation, or consciousness that resemble epileptic seizures but occur in the absence of abnormal cortical epileptiform activity. They are currently classified under Dissociative Neurological Symptom Disorder in ICD-11 and are considered part of the spectrum of Functional Neurological Disorders. Although the clinical manifestations mimic epilepsy, their underlying mechanisms are predominantly related to disturbances in emotional processing, maladaptive stress responses, and dysfunctional psychosocial adaptation rather than structural neurological disease.^[1-5]

Dissociative convulsions represent a major clinical challenge because delayed recognition often results in repeated emergency visits, unnecessary investigations, prolonged anti-epileptics use, increased healthcare expenditure, and considerable functional disability. The disorder is associated with impaired quality of life, psychiatric comorbidity, occupational dysfunction, and social stigma. In low- and middle-income countries, including India, cultural beliefs, limited mental health awareness, and restricted access to specialist care further contribute to delayed diagnosis and treatment. These factors emphasise the need for a broader biopsychosocial understanding of the disorder beyond the exclusion of epilepsy.^[6-9]

Current models propose that dissociative convulsions arise from a complex interaction between biological vulnerability and psychosocial stressors. Childhood adversity, traumatic experiences, maladaptive coping styles, interpersonal conflicts, and chronic psychological stress have all been implicated in the development and maintenance of dissociative symptoms. However, exposure to stressful events alone does not fully explain why only a subset of individuals develop dissociative convulsions, suggesting that interpersonal and family-related factors may influence illness expression.^[10-12]

One such factor is expressed emotion (EE), which describes the emotional climate within the family, particularly the degree of criticism, hostility, and emotional over-involvement directed toward a patient. Initially developed in schizophrenia research, expressed emotion has consistently been associated with poorer outcomes, increased relapse rates, and greater symptom severity across several psychiatric disorders. The influence of expressed emotion has subsequently been recognised in mood disorders, obsessive-compulsive disorder, eating

disorders, and functional neurological disorders. Within families characterised by excessive criticism or intrusive emotional involvement, patients may experience greater psychological distress, impaired coping, and reinforcement of illness behaviour.^[13,14]

Perceived stress is another important psychological construct that reflects an individual's appraisal of life situations as overwhelming or difficult to manage. Unlike objective life events, perceived stress incorporates cognitive appraisal and coping resources, making it a clinically relevant measure of psychological burden. Persistent elevations in perceived stress have been associated with emotional dysregulation, somatisation, dissociation, and poorer treatment outcomes across a range of psychiatric disorders.^[15-17]

Despite increasing interest in the psychosocial determinants of dissociative disorders, studies simultaneously examining family expressed emotion and perceived stress remain limited, particularly in the Indian context. Most Indian studies have focused on stressful life events, sociodemographic characteristics, or psychiatric comorbidity, whereas the contribution of family emotional climate has received comparatively little attention. Given the central role of family in caregiving and treatment within Indian society, understanding expressed emotion may have important implications for assessment and intervention.^[18-20]

Therefore, the present study was undertaken to evaluate family expressed emotion and perceived stress among patients with dissociative convulsions attending a tertiary care teaching hospital and to examine their relationship with selected sociodemographic characteristics. We hypothesised that higher levels of perceived criticism and emotional involvement would be associated with greater perceived stress, highlighting the potential value of family-focused psychosocial interventions in the management of dissociative convulsions.

MATERIALS AND METHODS

Study design and setting: This hospital-based cross-sectional observational study was conducted in the Department of Psychiatry, F.H. Medical College and Hospital, Agra, Uttar Pradesh, India, over an 18-month period. The study was designed to assess family expressed emotion and perceived stress among patients diagnosed with dissociative convulsions and to explore their association with selected sociodemographic characteristics.

Ethical considerations: The study protocol was reviewed and approved by the Institutional Ethics Committee of F.H. Medical College and Hospital before participant recruitment. Written informed

consent was obtained from all participants. For participants younger than 18 years, written informed consent was obtained from their parent or legally authorized guardian, with assent obtained from the participant whenever appropriate. Confidentiality and anonymity were maintained throughout the study.

Participants: A total of 124 consecutive patients attending the Psychiatry Outpatient Department (OPD) or admitted to the Psychiatry Inpatient Department (IPD) who fulfilled the eligibility criteria were recruited using convenience sampling.

Inclusion criteria

Participants fulfilling all of the following criteria were included:

- Age between 10 and 60 years
- Diagnosis of Dissociative Convulsions (Conversion Disorder with seizures/convulsions) according to the ICD-10 Diagnostic Criteria for Research (DCR)
- Ability to understand the study procedure and provide informed consent (or guardian consent where applicable)
- Willingness to participate in the study

Exclusion criteria

Patients were excluded if they had:

- Epilepsy or any confirmed organic neurological disorder explaining seizure-like episodes
- Severe medical or surgical illness interfering with study participation
- Intellectual disability severe enough to preclude assessment
- Current psychoactive substance dependence (except nicotine)
- Refusal to provide informed consent

Sample size: During the study period, all eligible patients meeting the inclusion criteria were screened. A total of 124 participants satisfying the selection criteria were enrolled. This sample represented all consecutive eligible patients presenting during the recruitment period and provided sufficient observations for the planned statistical analyses.

Study instruments

1. Semi-structured sociodemographic and clinical

proforma: A predesigned semi-structured proforma was used to record demographic and clinical characteristics, including age, sex, marital status, educational status, occupation, place of residence, family type, socioeconomic status, duration of illness, and relevant clinical history.

2. Mini-International Neuropsychiatric Interview-Plus (MINI-Plus):

Psychiatric comorbidity was assessed using the MINI-Plus, a structured diagnostic interview with established validity and reliability for diagnosing major Axis-I psychiatric disorders according to DSM-IV and ICD-10 criteria. The interview was administered by trained psychiatrists before the application of study-specific scales.

3. Family Emotional Involvement and Criticism

Scale (FEICS): Family expressed emotion was assessed using the Family Emotional Involvement and Criticism Scale (FEICS) developed by Shields and colleagues. The FEICS is a 14-item self-report questionnaire consisting of two subscales:

- Perceived Criticism (PC)
- Emotional Involvement (EI)

Each item is rated on a five-point Likert scale ranging from strongly disagree to strongly agree. Higher scores indicate greater perceived family criticism and emotional over-involvement.

4. Perceived Stress Scale (PSS-10): Perceived stress was measured using the 10-item Perceived Stress Scale (PSS-10) developed by Cohen et al. The scale evaluates the extent to which respondents perceive life situations as stressful during the preceding month. Individual items are scored on a five-point Likert scale, with higher total scores indicating greater perceived stress.

Study procedure: Eligible participants were identified after detailed psychiatric evaluation. Following informed consent, demographic and clinical information was collected using the semi-structured proforma. Psychiatric comorbidities were assessed using the MINI-Plus. Participants subsequently completed the FEICS and PSS-10 under the supervision of the investigator to ensure complete and accurate responses. Data collection was performed in a quiet and private setting to minimise response bias.

Outcome measures

The primary outcome measures were:

- Family expressed emotion (Perceived Criticism and Emotional Involvement scores on FEICS)
- Perceived stress (Total PSS-10 score)

Secondary analyses examined associations between these measures and selected sociodemographic variables.

Statistical analysis: Data were entered into Microsoft Excel and analysed using IBM SPSS Statistics version 29.0. Continuous variables were expressed as mean $\pm$ standard deviation (SD), whereas categorical variables were summarised as frequencies and percentages.

The independent-samples *t*-test was used to compare mean scores between two groups. One-way analysis of variance (ANOVA) was used for comparisons involving more than two groups. Pearson's correlation coefficient was used to examine the relationship between perceived stress and dimensions of family expressed emotion. Associations between categorical variables were evaluated using the Chi-square test wherever appropriate. All statistical tests were two-tailed, and a *p*-value of <0.05 was considered statistically significant.

RESULTS

A total of 124 patients with dissociative convulsions were enrolled in the study. The mean age of the

participants was 30.85 ± 11.52 years (range: 10–60 years). Females constituted 61.3% ($n = 76$) of the study population, while males accounted for 38.7% ($n = 48$). The largest proportion of participants belonged to the 18–30 years age group (34.7%), followed by the 31–40 years age group (28.2%). Most participants were married (69.4%), belonged to joint families (67.7%), and resided in rural areas (74.2%). Regarding educational status, approximately one-fourth had completed primary education, whereas about one-fifth were illiterate. Homemakers constituted the largest occupational category, followed by farmers and semi-skilled workers. These distributions are consistent with the demographic data reported in the thesis. Female participants demonstrated significantly higher perceived stress scores than males (20.09 ± 3.98 vs. 18.79 ± 3.32 ; $p = 0.035$). Similarly, the mean emotional involvement score was significantly higher among females (13.94 ± 2.71 vs. 12.35 ± 2.68 ; $p = 0.003$). Although males showed slightly higher perceived criticism scores, the difference was not statistically significant ($p = 0.143$). These findings suggest that female patients experienced greater subjective stress and perceived greater emotional involvement within the family environment than male patients. Mean perceived stress, perceived criticism, and emotional involvement scores differed across age groups; however, none of these differences reached statistical significance (all $p > 0.05$). Participants aged 41–50 years demonstrated the highest perceived stress scores, whereas adolescents exhibited relatively greater emotional involvement. Overall, age was not significantly associated with family expressed emotion or perceived stress. Participants belonging to joint families had significantly higher perceived stress scores compared with those from nuclear families (20.38 ± 3.75 vs. 17.93 ± 3.28 ; $p = 0.0004$). Although perceived criticism and emotional involvement were numerically higher among participants from joint families, these differences were not statistically significant. This finding indicates that individuals living in joint family settings perceived greater psychological stress than those living in nuclear families. Married participants demonstrated significantly higher perceived stress than unmarried participants ($p = 0.030$). No statistically significant differences were observed in perceived criticism or emotional involvement according to marital status. Participants from rural areas had higher mean scores for perceived stress and emotional involvement compared with urban participants. Emotional involvement showed a statistically significant difference, whereas perceived criticism did not differ significantly between the two groups. Perceived stress and family expressed emotion varied across educational groups, but no consistent linear relationship was observed. Illiterate participants tended to report higher perceived stress

scores, whereas participants with intermediate education had relatively higher perceived criticism scores. These differences did not reach statistical significance.

Occupation showed a significant association with both perceived stress and perceived criticism. Homemakers demonstrated the highest perceived stress scores, while participants employed in the private sector reported the highest perceived criticism scores. Emotional involvement did not vary significantly across occupational groups. Pearson's correlation analysis demonstrated a significant positive relationship between family expressed emotion and perceived stress. Perceived criticism showed a moderate positive correlation with perceived stress ($r = 0.591$, $p < 0.001$), whereas emotional involvement demonstrated a strong positive correlation ($r = 0.701$, $p < 0.001$). These findings indicate that participants perceiving greater criticism and emotional over-involvement within their families also experienced higher levels of psychological stress.

DISCUSSION

The present study examined family expressed emotion (EE) and perceived stress among patients with dissociative convulsions attending a tertiary care teaching hospital. To our knowledge, few Indian studies have simultaneously evaluated these two psychosocial constructs in this population. The principal findings were: (1) female patients had significantly higher perceived stress and emotional involvement than males; (2) participants from joint families and married individuals experienced greater perceived stress; and (3) both perceived criticism and emotional involvement were positively correlated with perceived stress, with emotional involvement demonstrating the stronger association. These findings support the hypothesis that family emotional climate is closely related to psychological stress in patients with dissociative convulsions.

The study population was predominantly female, with women constituting approximately two-thirds of the participants. This finding is consistent with previous Indian studies reporting a higher prevalence of dissociative disorders among women. Multiple explanations have been proposed, including greater exposure to psychosocial adversity, gender-based social expectations, differences in emotional expression, and increased vulnerability to interpersonal stress. In many sociocultural settings, women often bear substantial caregiving and household responsibilities while having fewer opportunities for independent decision-making, potentially increasing psychological distress and the risk of dissociative symptoms. Most participants were young adults, reflecting the age group in which dissociative disorders are most frequently encountered. Although age was not significantly associated with perceived

stress or family expressed emotion in the present study, young adulthood is recognised as a period characterised by educational pressures, occupational demands, relationship transitions, and evolving family responsibilities. These developmental challenges may contribute to vulnerability when combined with maladaptive coping strategies or adverse family environments.^[21]

One of the important observations of this study was the significantly higher perceived stress among participants living in joint families. Traditionally, joint families provide emotional and practical support; however, they may also involve complex interpersonal relationships, role expectations, reduced privacy, and family conflicts. Such environments can increase the subjective perception of stress in susceptible individuals. The absence of significant differences in perceived criticism and emotional involvement between family types suggests that the increased stress experienced by participants from joint families may reflect broader psychosocial dynamics rather than family emotional attitudes alone.^[22,23]

Female participants demonstrated significantly greater emotional involvement than males. Emotional over-involvement is characterised by excessive concern, intrusive caregiving, and heightened emotional responses within family relationships. Although often well intentioned, excessive emotional involvement may inadvertently reinforce illness behaviour by reducing autonomy and encouraging dependency. The stronger emotional involvement observed among female participants may reflect cultural expectations regarding family relationships and caregiving within Indian households.^[24]

Married participants also reported significantly greater perceived stress than unmarried individuals. Marriage can be a source of emotional support but may simultaneously introduce additional interpersonal, financial, and family responsibilities. In the context of dissociative convulsions, marital conflict, caregiver expectations, and role strain may increase psychological distress, thereby contributing to symptom persistence or recurrence. These findings highlight the importance of evaluating marital and family dynamics during psychiatric assessment. Occupation showed significant associations with perceived stress and perceived criticism. Homemakers experienced the highest perceived stress scores, while participants employed in the private sector reported the greatest perceived criticism. Occupational demands, financial insecurity, domestic responsibilities, and work-life imbalance may all influence stress perception. However, because some occupational categories included relatively few participants, these findings should be interpreted cautiously and confirmed in larger studies.^[25]

The most clinically relevant finding of the present study was the significant positive correlation between family expressed emotion and perceived

stress. Emotional involvement demonstrated a stronger correlation with perceived stress than perceived criticism, suggesting that excessive emotional over-involvement may have a particularly important influence on psychological distress in patients with dissociative convulsions. While criticism has traditionally received greater attention in expressed emotion research, the present findings indicate that emotionally intrusive family interactions may be equally, or even more, relevant in this clinical population.^[26]

These findings have important implications for clinical practice. Assessment of dissociative convulsions should extend beyond symptom evaluation to include systematic assessment of family emotional climate and perceived stress. Family psychoeducation, stress-management interventions, cognitive behavioural therapy, and family-focused therapeutic approaches may help reduce psychological distress and improve long-term outcomes. Identifying patients exposed to high expressed emotion may also enable clinicians to provide targeted psychosocial interventions early in the course of illness.^[27,28]

Overall, the findings reinforce the biopsychosocial model of dissociative convulsions by demonstrating that individual stress perception and family emotional environment are closely interrelated. Integrating these psychosocial dimensions into routine clinical assessment may facilitate more comprehensive management strategies and improve patient-centred care.

Limitations: The study has certain limitations. Its cross-sectional design precludes causal inference between family expressed emotion and perceived stress. Being conducted at a single tertiary care centre with convenience sampling, the findings may not be generalisable to the wider community. The relatively modest sample size may have limited the power to detect associations in some subgroup analyses. Self-report instruments are also susceptible to recall and social desirability bias. In addition, factors such as childhood trauma, coping strategies, personality traits, resilience, and long-term treatment outcomes were not assessed and may have influenced the observed relationships.

CONCLUSION

The present study demonstrates that family expressed emotion is closely associated with perceived stress among patients with dissociative convulsions. Female sex, joint family structure, married status, and homemaker occupation were associated with significantly higher levels of perceived stress, while emotional involvement emerged as the component of expressed emotion most strongly correlated with stress perception. These findings support the importance of adopting a biopsychosocial approach in the assessment of dissociative convulsions, with particular emphasis

on the family environment. Routine assessment of family expressed emotion and perceived stress may help identify patients at greater risk of persistent symptoms and functional impairment. Incorporating family psychoeducation, caregiver counselling, stress-management strategies, and evidence-based psychotherapies into routine clinical practice may improve treatment outcomes and reduce symptom recurrence. Future multicentric longitudinal studies are required to establish causal relationships and evaluate whether interventions targeting family emotional climate can improve the long-term prognosis of dissociative convulsions.

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