

Emotional Management Training for Emotion Regulation in Schizophrenia

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ABSTRACT

Background: Schizophrenia, a prevalent psychiatric disorder, is characterized by significant emotion regulation deficits, impairing social functioning and quality of life. Emotional Management Training (EMT) offers a potential non-pharmacological intervention, yet its efficacy in schizophrenia remains underexplored. This study assessed the effectiveness of EMT on the level of emotion regulation among patients with schizophrenia at a selected hospital in Coimbatore, India.

Methodology: A quasi-experimental pre-test/post-test control group design was utilized, involving 30 patients with schizophrenia (15 experimental, 15 control) recruited via purposive sampling. The experimental group received EMT, a four-stage group-based program (perception, expression, application, control), three days per week for four weeks, alongside standard care, while the control group received only standard care. The level of emotion regulation was measured using the Difficulty in Emotion Regulation Scale (DERS). Data were analysed with paired t-tests and chi-square tests ($p < 0.05$).

Results: The experimental group's mean DERS score decreased from 115.93 (pre-test) to 83.33 (post-test), with a significant improvement ($t = 3.78$, $p < 0.01$). The control group showed no significant change (pre-test: 102.2, post-test: 104.8, $t = 1.34$, $p > 0.05$). Chi-square tests found no associations between pretest DERS levels and demographic or clinical variables ($\chi^2 < 3.841$, $p > 0.05$).

Conclusion: EMT effectively enhances emotion regulation in schizophrenia patients, supporting its integration into clinical practice. Future studies should explore its long-term impact and broader implementation.

Keywords: Schizophrenia, Emotion Regulation, Emotional Management Training, Psychiatric Nursing

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INTRODUCTION

Emotions, brief affective states triggered by significant stimuli, guide human behaviour, optimize sensory processing, facilitate social interactions, and enhance memory [1]. Emotions, unlike longer-lasting moods, are elicited by specific objects, prompting targeted behavioural responses [2]. However, emotions can be detrimental if misaligned in type, intensity, or duration, particularly in psychiatric disorders [2]. Emotion regulation, the ability to manage emotional experiences effectively, is crucial for mental health [3]. Difficulties in emotion regulation, characterized by challenges in understanding, expressing, or controlling emotions, are linked to various mental disorders, including schizophrenia [4].

Schizophrenia, affecting approximately 1 in 222 adults globally, is a leading cause of disability, impacting over 21 million people [5-6]. In India, schizophrenia prevalence has risen to 3.46 million cases by 2017, with higher rates among males aged 25–49 [7]. Tamil Nadu, a high socio-demographic index state, reports elevated schizophrenia rates alongside other mental disorders [8]. Schizophrenia's symptoms, categorized as positive (e.g., delusions, hallucinations) and negative (e.g., affective flattening, emotional deficits),

severely impair quality of life [9-10]. Emotional deficits, including restricted expression and pleasure, hinder social functioning and decision-making [9].

Patients with schizophrenia exhibit significant emotion regulation abnormalities. Facial emotional biases and impaired perception are noted, with patients misinterpreting negative emotions (e.g., anger) as neutral, observable across all disease stages, including prodromal [1]. Individuals with schizophrenia experience heightened negative emotions and distress, reducing successful emotion regulation and leading to defeatist beliefs or learned helplessness [11]. Deficits in identifying and describing emotions are reported, with better emotion awareness linked to improved social functioning [12]. Schizophrenia patients perceive emotions as less controllable, relying more on suppression than reappraisal, which exacerbates negative symptoms [13]. These deficits impair empathy, perspective-taking, and social interactions, increasing interpersonal distress [14]. Emotion regulation develops through interactions between internal factors (e.g., neuroregulatory systems) and external influences (e.g., caregiving), starting in infancy [15-16]. Six dimensions of emotion regulation difficulties include lack of emotional clarity, non-acceptance, poor awareness, impulse control issues, goal-directed behavior challenges, and ineffective strategy use [17]. Emotional dysregulation is the inability to achieve emotional goals due to strategy failures [18]. In schizophrenia, these difficulties manifest as heightened negative emotion intensity and reduced coping strategy use [19].

Emotional Management Training (EMT) is an evidence-based intervention to address these deficits. An 8-week EMT program significantly improved emotional expression, behaviour, and social functioning in schizophrenia patients [9]. A 4-week EMT intervention enhanced emotion regulation and social functioning in psychiatric patients [1]. Increased emotion recognition, expression, and quality of life were reported post-EMT in schizophrenia patients [20]. Emotional awareness skills training improved communication skills [21]. However, a paucity of research on emotion regulation strategies in schizophrenia exists compared to cognitive therapies, with few studies measuring post-treatment changes [22].

The increasing prevalence of schizophrenia in India, coupled with limited research on emotion regulation interventions, underscores the need for this study. The significant emotional deficits in schizophrenia, impacting social functioning and quality of life, highlight EMT's potential as a targeted intervention. This study aims to assess the effectiveness of EMT on emotion regulation among patients with schizophrenia in a selected hospital in Coimbatore, addressing a critical gap

METHODOLOGY

Study Design

This quasi-experimental study evaluated the effectiveness of Emotional Management Training (EMT) on emotion regulation in patients with schizophrenia. Conducted at a psychiatric hospital in Coimbatore, India, in July 2023, the study included an experimental group receiving EMT plus standard care and a control group receiving standard care alone. Pre- and post-intervention assessments measured emotion regulation changes. To prevent contamination, patients sharing the same room were assigned to the same group.

Participants

Thirty patients with schizophrenia, diagnosed per DSM-IV and ICD-10 criteria by a psychiatrist, were recruited via non-probability purposive sampling. The sample comprised 15 participants in the experimental group and 15 in the control group. Inclusion criteria included adults aged 19–60 years. Exclusion criteria were organic mental disorders, intellectual disability, difficulty reading/responding, and violent behavior. Written informed consent was obtained.

Intervention

The experimental group was divided into three subgroups (five participants each), receiving 60–90-minute sessions three days per week for four weeks. Facilitated by the researcher, sessions covered four stages: (1) Emotional Perception (identifying emotions via word/face cards, cartoons), (2) Emotional Expression (facial expression relays, storytelling), (3) Emotional Application (drawing emotional masks to share feelings), and (4) Emotional Control (role-playing to manage negative emotions with feedback). The control group received standard psychiatric care without EMT.

Measures and Procedure

Data were collected using:

- **Demographic Variables:** Age, gender, education, marital status, duration of illness, mode of admission, diagnosis, and comorbidities, collected via interview.
- **Clinical Variables:** Symptoms (e.g., delusions, blunted affect), assessed through mental status examination and observation.
- **Difficulty in Emotion Regulation Scale (DERS):** A 36-item, 5-point Likert scale (Gratz & Roemer, 2004; score range 36–180, higher scores indicating greater difficulty; reliability coefficient 0.72). Scores were categorized as low (36–84), moderate (85–132), or high (133–180) difficulty.

Baseline data were collected via interviews and DERS administration after rapport-building. The experimental group received EMT, while the control group continued standard care. Post-intervention assessments were conducted after four weeks, each taking ~30 minutes in a quiet setting.

Data Analysis

Descriptive statistics (frequencies, percentages, means, standard deviations) summarized demographic, clinical, and DERS data. Paired t-tests assessed within-group DERS score changes. Unpaired t-tests evaluated baseline homogeneity and post-intervention differences. Chi-square tests examined associations between emotion regulation and variables (e.g., age, symptoms). Analyses were performed manually, with $p < 0.05$ as the significance threshold.

Ethical considerations

The study was approved by the Institutional Ethics Committee of Sri Ramakrishna Hospital, Coimbatore. Written permission was obtained from the study site authorities. Participants were informed about the study's purpose and right to withdraw. Consent was witnessed by a hospital representative. Data were anonymized and stored securely, adhering to ICMR guidelines and the Declaration of Helsinki.

RESULTS

Demographic Variables

The study included 30 participants (15 experimental, 15 control), predominantly middle-aged (mean age 41.2 years experimental, 50.3 years control), male (66.6%), and diagnosed with chronic schizophrenia (60% experimental, 73.3% control). Most were graduates (60%), with the experimental group primarily married (53.3%) and the control group including divorced participants (26.6%). Illness duration was typically 5–10 years, and voluntary admissions were common (73.3% experimental, 80% control).

Clinical Variables

Blunted affect was most prevalent (73.3% both groups), followed by emotional withdrawal (46.6% experimental, 73.3% control). Lack of spontaneity in conversation was notable in the experimental group (66.6%) but less so in the control group (20%). Delusions (13.3% experimental, 40% control) and conceptual disorganization (33.3% experimental, 53.3% control) were less frequent, with other symptoms (e.g., hallucinations) minimal.

Initial Emotion Regulation Assessment

Pre-intervention, the experimental group's mean DERS score was 115.93 (SD 38.78), indicating moderate-to-high difficulty, compared to 102.2 (SD 32.36) for the control group. No significant baseline difference was found (unpaired $t = 1.017$, $p > 0.05$), confirming group homogeneity.

Post-Intervention Emotion Regulation

Changes in DERS difficulty levels (low: 36–84, moderate: 85–132, high: 133–180) for both groups are shown in Figure 1 (experimental) and Figure 2 (control). Paired t-tests assessing within-group DERS score changes

are presented in Table 1 (experimental) and Table 2 (control). The experimental group showed significant improvement in emotion regulation post-EMT, while the control group did not (Tables 1–2, Figures 1–2).

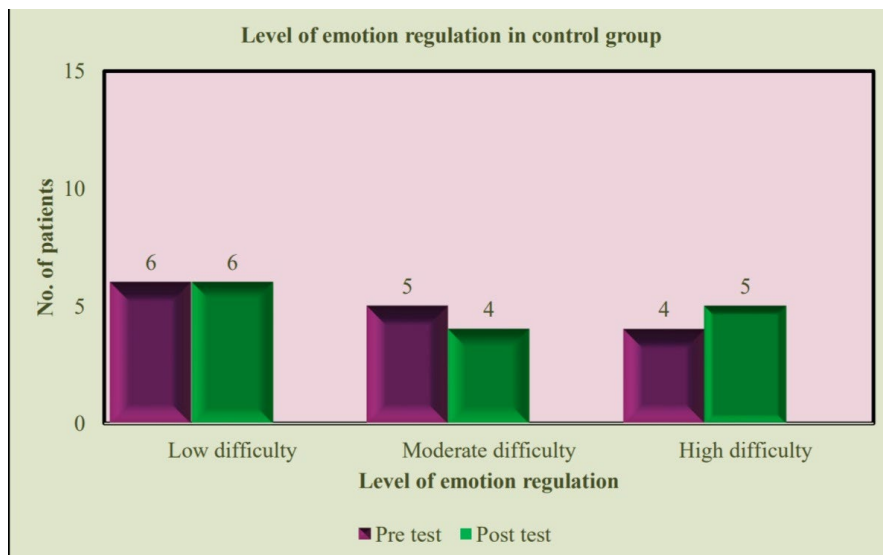
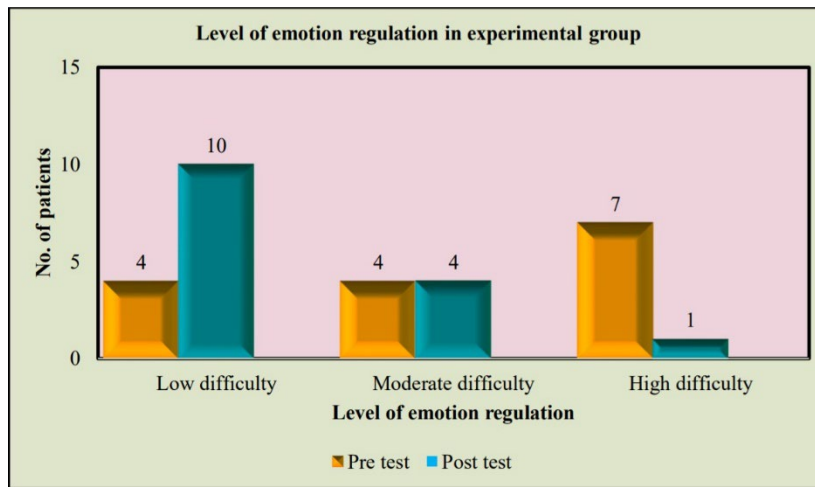


Table 1: Paired t-Test: Emotion Regulation Levels (Experimental) (n =15)

Experimental group	Mean	Standard deviation	Mean difference	't' Value	Table value
Pretest	115.93	38.78	32.6	3.78***	2.98
Post test	83.33	20.25			

*** Significance at 0.01 level

Table 2: Paired t-Test: Emotion Regulation Levels (Control) (n =15)

Experimental group	Mean	Standard deviation	Mean difference	't' Value	Table value
Pretest	102.2	32.36	2.6	1.34	2.98
Post test	104.8	33.81			

Associations with Emotion Regulation Levels

Chi-square tests found no significant associations between pretest DERS levels and demographic or clinical variables in either group (all $\chi^2 < 3.841$, $p > 0.05$).

DISCUSSION

This study evaluated the effectiveness of Emotional Management Training (EMT) on emotion regulation in patients with schizophrenia, demonstrating a significant reduction in Difficulty in Emotion Regulation Scale (DERS) scores in the experimental group ($t=3.78$, $p<0.01$) but no significant change in the control group ($t=1.34$, $p>0.05$). The improvement suggests that EMT, involving emotional perception, expression, application, and control activities, effectively enhances emotion regulation in schizophrenia. Chi-square tests revealed no significant associations between pretest DERS levels and demographic or clinical variables ($\chi^2<3.841$, $p>0.05$), suggesting that factors like age, gender, or symptom severity do not influence baseline emotion regulation levels in this sample.

The experimental group's improvement aligns with prior research. A significant reduction in emotion regulation difficulties post-intervention ($p=0.001$) was reported in psychiatric patients, with pretest DERS profiles (60% high difficulty) comparable to this study's (46.6% high difficulty) [1]. An Emotion Management Nursing Program improved emotional regulation in schizophrenia patients, supporting EMT's efficacy [2]. Enhanced emotion recognition and expression post-EMT were observed, consistent with these findings [3]. Emotion Regulation Therapy reduces emotional difficulties in psychiatric disorders, providing a theoretical basis for EMT's success [4]. Unlike studies with broader psychiatric diagnoses, this study's focus on schizophrenia offers targeted insights [1]. The control group's lack of change mirrors prior findings, highlighting the need for active interventions [2]. The absence of associations between pretest DERS levels and variables contrasts with studies suggesting symptom severity may influence emotion regulation, warranting further exploration.

The findings underscore EMT's potential as a non-pharmacological intervention for addressing emotion regulation deficits, a core feature of schizophrenia. Structured activities such as identifying emotions via word/face cards and role-playing can be integrated into psychological interventions to enhance emotional well-being. These results contribute to evidence supporting emotion-focused interventions, encouraging the development of standardized protocols for mental health settings.

Limitations

The study's small sample size ($n=30$) limits generalizability, as a larger sample might detect variable associations or stronger group differences. The single site setting in Coimbatore restricts applicability to other contexts, such as outpatient or community facilities.

CONCLUSION

This study demonstrates that EMT significantly reduces emotion regulation difficulties in patients with schizophrenia, offering a valuable non-pharmacological intervention. The findings advance mental health research by highlighting the potential of structured emotional training to address a critical aspect of schizophrenia. Despite limitations, the study provides a foundation for exploring emotion-focused interventions. Future studies should use larger samples to enhance generalizability. Longitudinal designs could assess EMT's long-term effects on emotion regulation. Multi-site studies in diverse settings, like outpatient clinics, would broaden applicability. Incorporating objective measures, such as behavioral observations, alongside DERS could strengthen assessments. Cross-cultural studies and cost-effectiveness analyses of EMT are recommended to expand its evidence base.

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