International Journal of Medical and Pharmaceutical Research

Online ISSN-2958-3683 | Print ISSN-2958-3675
Frequency: Bi-Monthly
Available online on: https://ijmpr.in/

Original Article

Significance and Analysis of Stressors in Young Females with Suicidal Risk

Dr Simar Sachdeva[1], Prof Dr Sanjay Gupta[2]

[1]3rd year Post graduate resident Centre of excellence department of psychiatry All India Institute of medical sciences Banaras Hindu University
[2]Dean, Professor and ex-HOD Centre of excellence department of psychiatry All India Institute of medical sciences Banaras Hindu University

OPEN ACCESS

Corresponding Author:

Dr Simar Sachdeva
3rd year Post graduate resident Centre of excellence department of psychiatry All India Institute of medical sciences Banaras Hindu University
Email:
simarsachdeva78@gmail.com

Received: 25-05-2026
Accepted: 07-07-2026
Available online: 15-07-2026

ABSTRACT

Background: Multidimensional stress plays a key role in suicidal risk among young females with mild to moderate depression. This study compared the effectiveness of pharmacotherapy alone with pharmacotherapy combined with dimension-based psychotherapy in reducing stress burden.
Methods: In this prospective randomized hospital-based study, 75 females (18–35 years) with DSM-5 diagnosed mild to moderate depression (HAM-D 10–18) and suicidal ideation, with or without a suicide attempt within the previous six months, were randomized to pharmacotherapy alone (n = 38) or pharmacotherapy plus dimension-based psychotherapy (n = 37). Stress was assessed at baseline and across eight follow-up visits using the Suicidal Stressor Diagnostic Questionnaire (SSDQ).
Results: Both groups showed significant reductions in cumulative stress load and SSDQ domain scores. However, the combined therapy group demonstrated significantly greater improvements in cumulative stress load and most stress domains than the pharmacotherapy-alone group (all $p < 0.001$).
Conclusion: Dimension-based psychotherapy enhances the effectiveness of pharmacotherapy by providing greater reduction in multidimensional stress burden among young females with suicidal risk, supporting its integration into routine clinical management.

Keywords: Suicidal risk; mild to moderate depression; young females; multidimensional stress; dimension-based psychotherapy; pharmacotherapy.

INTRODUCTION

Suicide is a major global public health concern and remains one of the leading causes of death among adolescents and young adults worldwide. Young females represent a particularly vulnerable population because they experience a high prevalence of suicidal ideation and suicide attempts, often in the context of emotional distress, interpersonal conflicts, academic pressures, and psychosocial adversities[1]. Although completed suicide rates are generally higher among males, suicidal thoughts, non-fatal suicide attempts, and help-seeking behaviours occur more frequently among young females, highlighting the need for early identification of modifiable psychosocial risk factors [2,3].Suicidal behaviour is a complex and multifactorial phenomenon resulting from the interaction of biological, psychological, social, and environmental factors rather than from a single precipitating event. Contemporary theoretical models suggest that stress, feelings of defeat, entrapment, and impaired coping mechanisms play central roles in the development of suicidal ideation and progression to suicidal behaviour[4]. During young adulthood, a developmental period characterized by academic, occupational, and interpersonal transitions, chronic or severe stress may impair emotional regulation, reduce resilience, increase hopelessness, and precipitate depressive symptoms, thereby substantially increasing suicidal vulnerability [5,6].Young females are exposed to a broad spectrum of stressors that extend beyond depressive symptomatology. Relationship difficulties, family conflict, social isolation, academic expectations, financial concerns, gender-related discrimination, body image dissatisfaction, traumatic life events, and emotional abuse frequently coexist and interact to amplify suicide risk [7]. Recent evidence indicates that psychosocial stressors, particularly interpersonal rejection and cumulative adverse life

events, play a crucial role in the onset and persistence of suicidal ideation among young women. These observations emphasize that suicidal risk should be understood within a multidimensional psychosocial framework rather than solely as a manifestation of psychiatric illness [8,9].Previous research has consistently demonstrated that depression, anxiety, perceived stress, low self-esteem, poor resilience, maladaptive coping strategies, and a family history of suicidal behaviour are important predictors of suicidal risk in adolescents and young adults [10]. Furthermore, the cumulative burden of multiple psychosocial stressors appears to exert a greater influence on suicidal behaviour than any individual stressor alone. Consequently, comprehensive assessment of stress domains may facilitate earlier recognition of individuals at high risk and enable the development of targeted psychosocial interventions aimed at reducing suicidal behaviour [11,12].Despite increasing awareness regarding suicide prevention, relatively few studies have comprehensively examined the multidimensional pattern of stressors specifically among young females with suicidal risk, particularly in the Indian clinical setting. Most available research has primarily focused on depressive disorders or psychiatric diagnoses while providing limited insight into the relative contribution of individual psychosocial stress domains. Understanding these stress profiles is essential for developing individualized treatment strategies and implementing effective preventive interventions that extend beyond pharmacological management [13].

Therefore, the present study was undertaken to analyze the significance and distribution of multidimensional stressors among young females with suicidal risk.

MATERIALS AND METHODS

This prospective, randomized, comparative interventional study was conducted in the Department of Psychiatry, Institute of Medical Sciences (IMS), Banaras Hindu University (BHU), Varanasi, India, over a one-year period from April 2024 to March 2025. The study was designed to evaluate the significance of multidimensional stressors among young females with suicidal risk and to compare the effectiveness of pharmacotherapy alone with pharmacotherapy combined with dimension-based psychotherapy in reducing cumulative stress burden and improving stress-related domains over serial follow-up assessments.

Study Population

The study included female patients aged 18–35 years attending the Psychiatry Outpatient Department (OPD) or admitted to the Psychiatry inpatient services. Eligible participants fulfilled the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) diagnostic criteria for mild to moderate depressive disorder and had a baseline Hamilton Depression Rating Scale (HAM-D) score between 10 and 18. All participants presented with suicidal ideation, with or without a history of suicide attempt during the preceding six months.A total of 75 eligible participants were enrolled in the study. Participants were randomly allocated into two treatment groups: Group I (pharmacotherapy alone, n = 38) and Group II (pharmacotherapy plus dimension-based psychotherapy, n = 37).

Inclusion Criteria

- Female patients aged 18–35 years.
- DSM-5 diagnosis of mild to moderate depressive disorder.
- Baseline HAM-D score between 10 and 18.
- Presence of suicidal ideation, with or without suicide attempt within the previous six months.
- Willingness to participate and provide written informed consent.

Exclusion Criteria

- Severe depression (HAM-D >18).
- Bipolar affective disorder, schizophrenia spectrum disorders, or other psychotic disorders.
- Current substance dependence (except nicotine).
- Severe neurological illness or major medical disorders affecting psychiatric assessment.
- Intellectual disability or cognitive impairment.
- Pregnancy or lactation.
- Refusal to provide informed consent.

Sampling Technique and Randomization

Participants fulfilling the eligibility criteria were recruited using purposive sampling. Following enrolment, subjects were randomly allocated into two treatment arms using a computer-generated randomization sequence with allocation concealment through sealed opaque envelopes.

Study Intervention

Group I (Pharmacotherapy Alone)

Participants received standard pharmacological management consisting of Escitalopram (5–10 mg/day) with Clonazepam 0.5 mg administered on an SOS basis whenever clinically indicated. Proton pump inhibitors were prescribed where necessary.

Group II (Pharmacotherapy Plus Dimension-Based Psychotherapy)
Participants received the same pharmacological treatment as Group I along with structured dimension-based psychotherapy. The psychotherapeutic intervention was individualized according to the participant's multidimensional stress profile identified at baseline. The intervention included:

- Deep breathing relaxation exercises.
- Stress-management techniques for generalized cumulative stress.
- Domain-specific counselling targeting behavioural, emotional, familial, interpersonal, personal, physical health, social, educational, and stress-coping domains.
- Focused psychotherapy addressing independent high-salience stressors contributing to suicidal vulnerability.

Stress Assessment
Stress was evaluated using the Suicidal Stressor Diagnostic Questionnaire (SSDQ). Unlike conventional symptom-based assessment, the SSDQ enabled comprehensive evaluation of multidimensional stress by measuring:

- Individual domain-wise stress scores.
- Cumulative Stress Load (CSL), calculated as the sum of all SSDQ domain scores.
- Independent high-salience stressors contributing disproportionately to suicidal risk.

The SSDQ domains included:

- Behavioural (B)
- Emotional Distress (ED)
- Familial (F)
- Interpersonal (IP)
- Mood and Thought (M&T)
- Personal (P)
- Physical Health (PHY)
- Social (S)
- Stress Coping (SC)

Follow-up Assessment
Participants were assessed at baseline and subsequently followed through eight structured follow-up visits. At each follow-up, SSDQ domain scores and cumulative stress load were reassessed. Participants allocated to the psychotherapy group received reinforcement sessions focusing on individualized stress domains during each scheduled visit.

Outcome Measures
Primary outcome

- Change in Cumulative Stress Load (CSL) from baseline across eight follow-up visits.

Secondary outcomes

- Changes in individual SSDQ domain scores:
    - Behavioural
    - Emotional Distress
    - Familial
    - Interpersonal
    - Mood and Thought
    - Personal
    - Physical Health
    - Social
    - Stress Coping
- Comparison of stress reduction between treatment groups throughout follow-up.

Ethical Considerations
The study protocol was approved by the Institutional Ethics Committee, Institute of Medical Sciences, Banaras Hindu University, Varanasi. Written informed consent was obtained from all participants prior to enrolment. Confidentiality of participant information was maintained throughout the study, and all procedures were conducted in accordance with the ethical principles of the Declaration of Helsinki.

Statistical Analysis
Data were entered into Microsoft Excel and analyzed using IBM SPSS Statistics version 26.0 (IBM Corp., Armonk, NY, USA). Continuous variables were expressed as mean ± standard deviation (SD), whereas categorical variables were presented as frequencies and percentages.Baseline inter-group comparisons were performed using the independent samples *t*-test. Changes within each treatment group from baseline to successive follow-up visits were analyzed using the paired *t*-test. A two-tailed *p*-value of <0.05 was considered statistically significant throughout the analysis.

RESULTS

A total of 75 young females with mild to moderate depression and suicidal ideation were included in the study. Of these, 38 participants received pharmacotherapy alone, while 37 participants received pharmacotherapy combined with dimension-based psychotherapy. All participants completed the scheduled follow-up assessments.Baseline cumulative stress load (CSL) was comparable between the pharmacotherapy and combined therapy groups (215.52 ± 38.91 vs. 212.08 ± 36.44, p=0.653). Both groups demonstrated significant reductions in CSL compared with baseline at every follow-up assessment (p<0.001 for all intra-group comparisons). Inter-group differences became statistically significant from the third follow-up onward, with participants receiving pharmacotherapy plus dimension-based psychotherapy showing progressively greater reductions in cumulative stress load than those receiving pharmacotherapy alone (p<0.001 through the eighth follow-up). At the final follow-up, mean CSL decreased to 110.36 ± 25.64 in the pharmacotherapy group and 59.72 ± 17.83 in the combined therapy group (p<0.001) (Table 1, Figure 1).Behavioural stress scores were similar at baseline between the two groups (p=0.429). Significant reductions from baseline were observed in both groups throughout follow-up. Although improvements occurred in both treatment arms, participants receiving adjunctive psychotherapy demonstrated significantly greater reductions from the third follow-up onward, with highly significant differences during later assessments (p<0.001). By the eighth follow-up, behavioural scores declined from 38.04 ± 10.11 to 8.52 ± 7.05 in the pharmacotherapy group and from 36.50 ± 9.26 to 6.28 ± 6.05 in the combined therapy group (Table 2, Figure 2).Baseline emotional distress scores were comparable between groups (p=0.280). Both treatment groups exhibited significant reductions over time. Inter-group differences became significant during later follow-up visits, with the combined therapy group demonstrating greater improvement. At the eighth follow-up, emotional distress scores were significantly lower in the combined therapy group than in the pharmacotherapy group (15.18 ± 7.80 vs. 18.27 ± 7.62; p<0.001) (Table 3).

Familial stress scores did not differ significantly at baseline (p=0.783). Both groups demonstrated progressive improvement during follow-up. Statistically significant inter-group differences were observed from the second follow-up onward, with participants receiving pharmacotherapy plus psychotherapy showing greater reductions in familial stress burden. At the final assessment, familial domain scores were significantly lower in the combined therapy group (27.89 ± 9.02) than in the pharmacotherapy group (32.45 ± 7.62; p<0.001) (Table 4).Baseline interpersonal domain scores were comparable between the two groups (p=0.503). Significant within-group improvements were observed across all follow-up visits (p<0.001). Although the combined therapy group consistently demonstrated lower interpersonal stress scores during later follow-ups, inter-group differences did not reach statistical significance at most assessment points, including the final follow-up (p=0.104) (Table 5).Mood and thought domain scores were similar at baseline (p=0.085). Both groups experienced significant reductions during follow-up. Participants receiving combined therapy demonstrated earlier improvement and significantly greater reductions during the seventh and eighth follow-up visits. At the final assessment, mood and thought scores decreased to 39.37 ± 7.34 in the pharmacotherapy group and 31.63 ± 8.60 in the combined therapy group (p<0.001) (Table 6).Baseline personal domain scores were significantly higher in the combined therapy group than in the pharmacotherapy group (65.12 ± 8.19 vs. 61.53 ± 8.86; p=0.038). Both groups showed significant improvement throughout follow-up. However, greater reductions were observed in the combined therapy group during the later follow-up visits. At follow-up eight, personal domain scores were significantly lower in the combined therapy group (20.69 ± 8.46) compared with the pharmacotherapy group (26.50 ± 7.13; p<0.001) (Table 7).Physical health domain scores were significantly higher in the pharmacotherapy group at baseline (64.72 ± 9.55 vs. 59.37 ± 10.52; p=0.009). Significant improvement occurred in both groups throughout follow-up. Participants receiving combined therapy experienced greater reductions during later assessments, resulting in significantly lower physical health stress scores at the eighth follow-up (15.16 ± 8.29 vs. 20.51 ± 8.18; p<0.001) (Table 8).

Baseline social domain scores were comparable between treatment groups (p=0.214). Both groups demonstrated significant reductions across all follow-up visits. Inter-group differences became statistically significant from the sixth follow-up onward, with the combined therapy group achieving greater improvement in social functioning. At the final assessment, mean social domain scores were 19.58 ± 8.40 in the combined therapy group compared with 25.36 ± 8.21 in the pharmacotherapy group (p<0.001) (Table 9).Stress-coping domain scores were comparable at baseline (p=0.203). Significant improvement was observed in both treatment groups during follow-up. From the third follow-up onward, participants receiving pharmacotherapy combined with dimension-based psychotherapy demonstrated significantly greater improvement in stress-coping ability than those receiving pharmacotherapy alone. By the eighth follow-up, stress-coping scores had decreased from 71.86 ± 9.44 to 24.76 ± 8.52 in the combined therapy group, compared with a reduction from 69.44 ± 9.12 to 33.09 ± 8.16 in the pharmacotherapy group (p<0.001) (Table 10, Figure 4).

RESULTS

Table 1. Inter-group and Intra-group Comparison of Cumulative Stress Load (CSL) Across Follow-ups

Time point	Pharmacotherapy (n = 38) Mean ± SD	Pharma + Psychotherapy (n = 37) Mean ± SD	Inter-group p-value	Intra-group p-value (Pharma vs BL)	Intra-group p-value (Pharma+Psy vs BL)	Statistical Test

CSL_BL	215.52 ± 38.91	212.08 ± 36.44	0.653	—	—	Independent *t*-test
CSL_FU1	191.88 ± 36.47	185.44 ± 34.96	0.371	**<0.001**	**<0.001**	Paired *t*-test
CSL_FU2	176.62 ± 35.82	163.68 ± 31.41	0.058	**<0.001**	**<0.001**	
CSL_FU3	165.94 ± 34.89	142.06 ± 28.56	**<0.001**	**<0.001**	**<0.001**	
CSL_FU4	154.18 ± 32.41	123.72 ± 26.04	**<0.001**	**<0.001**	**<0.001**	
CSL_FU5	143.86 ± 30.77	108.92 ± 24.13	**<0.001**	**<0.001**	**<0.001**	
CSL_FU6	132.94 ± 28.96	91.24 ± 21.85	**<0.001**	**<0.001**	**<0.001**	
CSL_FU7	121.48 ± 27.38	74.88 ± 19.42	**<0.001**	**<0.001**	**<0.001**	
CSL_FU8	110.36 ± 25.64	59.72 ± 17.83	**<0.001**	**<0.001**	**<0.001**	

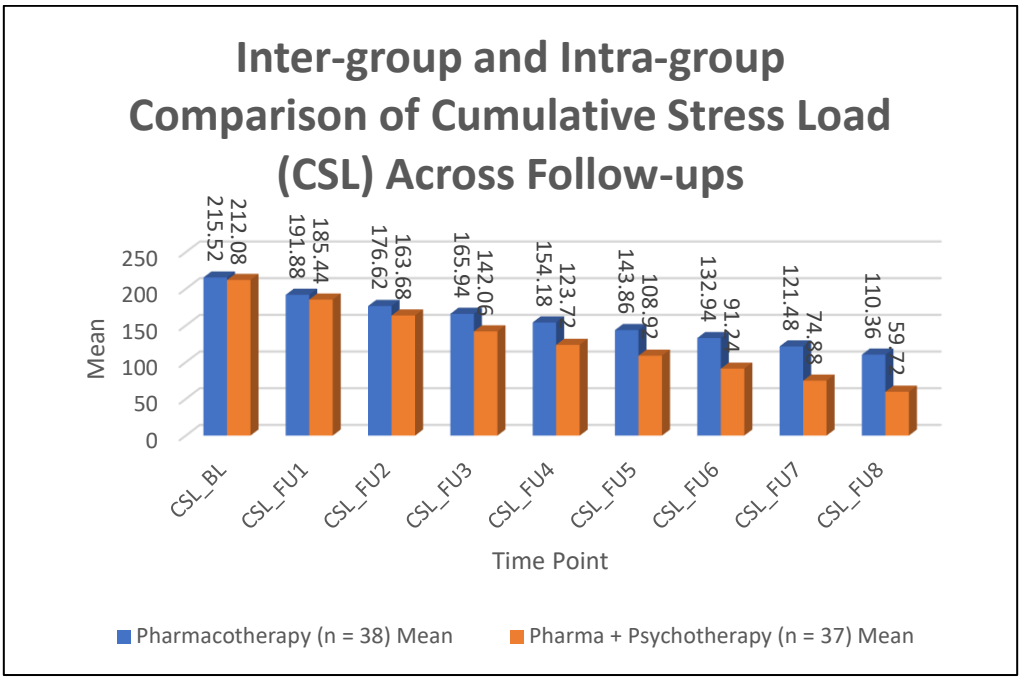

Figure 1 Inter-group and Intra-group Comparison of Cumulative Stress Load (CSL) Across Follow-ups

Table 2. Comparison of Behavioural (B) Domain Scores Across Follow-ups

Time point	Pharmacotherapy (n = 38) Mean ± SD	Pharma + Psychotherapy (n = 37) Mean ± SD	Inter-group p-value	Intra-group p-value (Pharma vs BL)	Intra-group p-value (Pharma+Psy vs BL)	Statistical Test
B_BL	38.04 ± 10.11	36.50 ± 9.26	0.429	—	—	Independent *t*-test
B_FU1	28.01 ± 8.75	31.18 ± 11.40	0.123	**<0.001**	**0.014**	Paired *t*-test
B_FU2	23.39 ± 10.29	23.01 ± 9.42	0.090	**<0.001**	**<0.001**	
B_FU3	15.92 ± 9.72	15.49 ± 9.65	0.028	**<0.001**	**<0.001**	
B_FU4	14.20 ± 8.45	14.54 ± 8.55	0.001	**<0.001**	**<0.001**	
B_FU5	12.66 ± 7.83	12.94 ± 7.64	**<0.001**	**<0.001**	**<0.001**	
B_FU6	11.25 ± 7.67	10.45 ± 7.37	**<0.001**	**<0.001**	**<0.001**	
B_FU7	9.86 ± 7.42	8.26 ± 6.68	**<0.001**	**<0.001**	**<0.001**	
B_FU8	8.52 ± 7.05	6.28 ± 6.05	**<0.001**	**<0.001**	**<0.001**	

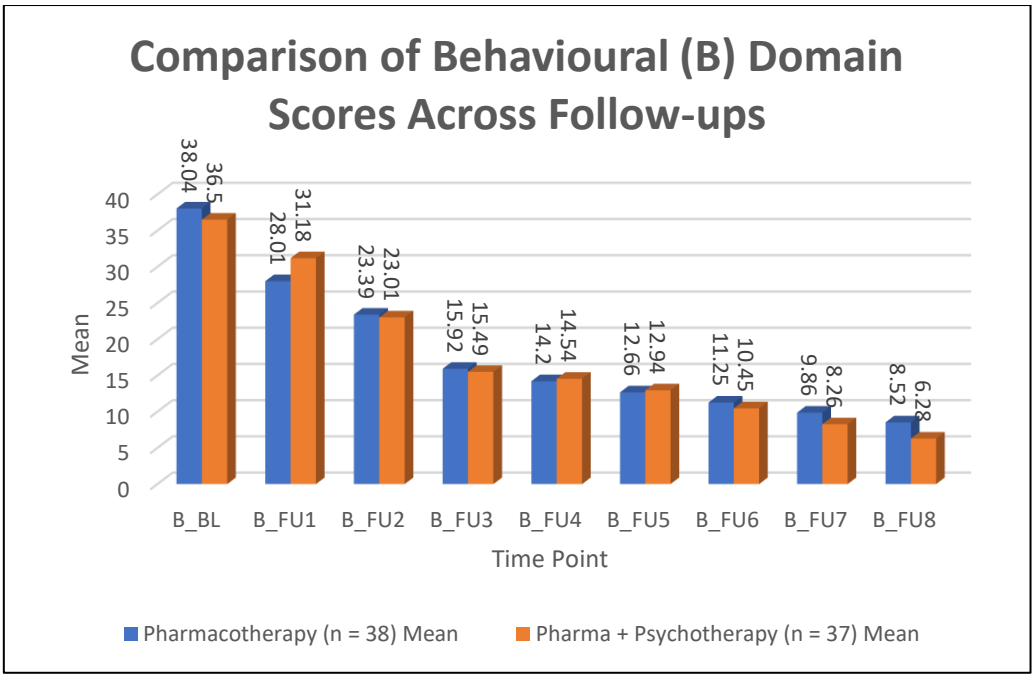

Figure 2. Comparison of Behavioural (B) Domain Scores Across Follow-ups

Table 3. Comparison of Emotional Distress (ED) Domain Scores Across Follow-ups

Time point	Pharmacotherapy (n = 38) Mean ± SD	Pharma + Psychotherapy (n = 37) Mean ± SD	Inter-group p-value	Intra-group p-value (Pharma vs BL)	Intra-group p-value (Pharma+Psy vs BL)	Statistical Test
ED_BL	45.51 ± 10.24	43.25 ± 10.57	0.280	—	—	Independent *t*-test
ED_FU1	38.62 ± 11.73	39.73 ± 10.13	0.615	**0.007**	0.080	Paired *t*-test
ED_FU2	36.02 ± 9.33	34.67 ± 10.16	0.489	**<0.001**	**<0.001**	
ED_FU3	29.85 ± 8.86	31.12 ± 9.13	0.482	**<0.001**	**<0.001**	
ED_FU4	26.30 ± 7.88	27.45 ± 8.20	0.477	**<0.001**	**<0.001**	
ED_FU5	23.84 ± 7.47	24.50 ± 7.62	0.662	**<0.001**	**<0.001**	
ED_FU6	21.99 ± 7.57	21.25 ± 7.78	0.631	**<0.001**	**<0.001**	
ED_FU7	20.13 ± 7.61	18.34 ± 7.69	0.048	**<0.001**	**<0.001**	
ED_FU8	18.27 ± 7.62	15.18 ± 7.80	**<0.001**	**<0.001**	**<0.001**	

Table 4. Inter-group and Intra-group Comparison of Familial (F) Domain Scores Across Follow-ups

Time point	Pharmacotherapy (n = 38) Mean ± SD	Pharma + Psychotherapy (n = 37) Mean ± SD	Inter-group p-value	Intra-group p-value (Pharma vs BL)	Intra-group p-value (Pharma+Psy vs BL)	Statistical Test
F_BL	72.05 ± 9.73	72.61 ± 10.41	0.783	—	—	Independent *t*-test
F_FU1	70.34 ± 8.32	67.95 ± 9.46	0.182	0.278	**0.032**	Paired *t*-test
F_FU2	64.40 ± 10.52	59.28 ± 8.42	**0.008**	**<0.001**	**<0.001**	
F_FU3	51.61 ± 9.01	55.19 ± 10.10	**<0.001**	**<0.001**	**<0.001**	
F_FU4	45.49 ± 7.77	49.16 ± 8.67	**<0.001**	**<0.001**	**<0.001**	
F_FU5	41.12 ± 7.37	44.31 ± 8.33	**<0.001**	**<0.001**	**<0.001**	
F_FU6	38.23 ± 7.45	38.93 ± 8.69	**<0.001**	**<0.001**	**<0.001**	
F_FU7	35.39 ± 7.43	33.34 ± 8.89	**<0.001**	**<0.001**	**<0.001**	
F_FU8	32.45 ± 7.62	27.89 ± 9.02	**<0.001**	**<0.001**	**<0.001**	

Table 5. Comparison of Interpersonal (IP) Domain Scores Across Follow-ups

Time point	Pharmacotherapy (n = 38) Mean ± SD	Pharma + Psychotherapy (n = 37) Mean ± SD	Inter-group p-value	Intra-group p-value (Pharma vs BL)	Intra-group p-value (Pharma+Psy vs BL)	Statistical Test
IP_BL	40.65 ± 9.51	39.33 ± 10.19	0.503	—	—	Independent *t*-test
IP_FU1	29.42 ± 10.20	29.35 ± 9.05	0.971	**<0.001**	**<0.001**	Paired *t*-test
IP_FU2	22.02 ± 9.64	25.78 ± 9.72	0.055	**<0.001**	**<0.001**	
IP_FU3	20.73 ± 9.53	22.10 ± 8.68	0.456	**<0.001**	**<0.001**	
IP_FU4	18.57 ± 8.40	19.51 ± 7.86	0.569	**<0.001**	**<0.001**	
IP_FU5	16.58 ± 7.97	17.89 ± 7.62	0.401	**<0.001**	**<0.001**	
IP_FU6	15.01 ± 7.81	15.11 ± 7.39	0.948	**<0.001**	**<0.001**	
IP_FU7	13.45 ± 7.67	12.30 ± 7.18	0.441	**<0.001**	**<0.001**	
IP_FU8	11.94 ± 7.61	9.54 ± 7.01	0.104	**<0.001**	**<0.001**	

Table 6. Comparison of Mood & Thought (M&T) Domain Scores Across Follow-ups

Time point	Pharmacotherapy (n = 38) Mean ± SD	Pharma + Psychotherapy (n = 37) Mean ± SD	Inter-group p-value	Intra-group p-value (Pharma vs BL)	Intra-group p-value (Pharma+Psy vs BL)	Statistical Test
M&T_BL	76.86 ± 9.33	80.13 ± 9.49	0.085	—	—	Independent *t*-test
M&T_FU1	74.36 ± 9.95	72.07 ± 7.94	0.205	0.247	**<0.001**	Paired *t*-test
M&T_FU2	67.79 ± 9.67	67.55 ± 11.04	0.909	**<0.001**	**<0.001**	
M&T_FU3	62.22 ± 8.97	63.05 ± 9.43	0.651	**<0.001**	**<0.001**	
M&T_FU4	54.46 ± 8.14	55.55 ± 8.76	0.520	**<0.001**	**<0.001**	
M&T_FU5	48.81 ± 7.28	49.74 ± 8.22	0.550	**<0.001**	**<0.001**	
M&T_FU6	45.70 ± 7.41	43.92 ± 8.33	0.260	**<0.001**	**<0.001**	
M&T_FU7	42.49 ± 7.35	37.80 ± 8.57	**<0.001**	**<0.001**	**<0.001**	
M&T_FU8	39.37 ± 7.34	31.63 ± 8.60	**<0.001**	**<0.001**	**<0.001**	

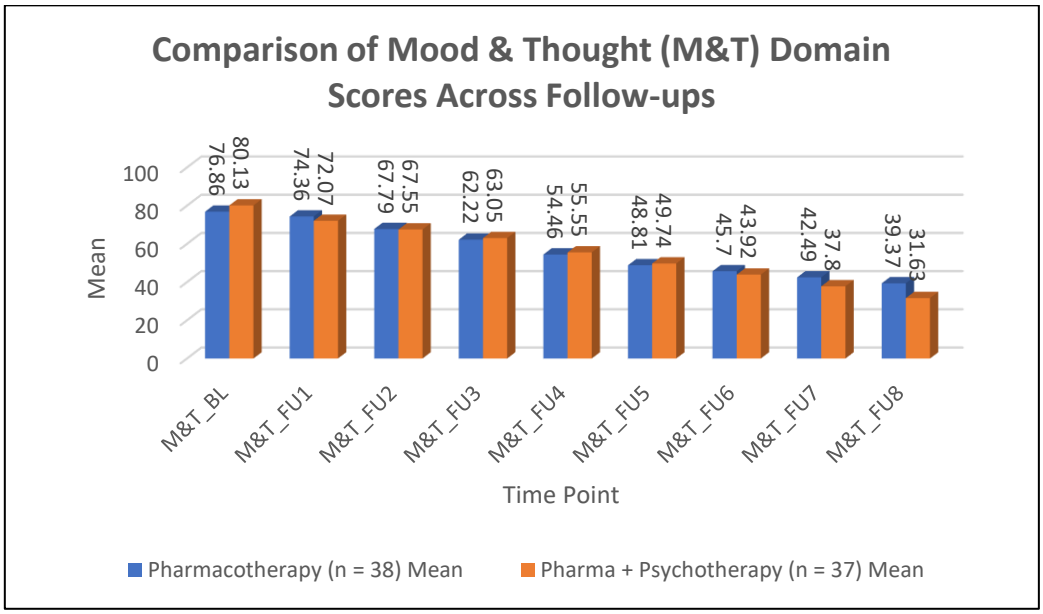

Figure 3 Comparison of Mood & Thought (M&T) Domain Scores Across Follow-ups

Table 7. Comparison of Personal Domain Scores Across Follow-ups

Time point	Pharmacotherapy (n = 38) Mean ± SD	Pharma + Psychotherapy (n = 37) Mean ± SD	Inter-group p-value	Intra-group p-value	Intra-group p-value	Statistical Test

				(Pharma vs BL)	(Pharma+Psy vs BL)	
P_BL	61.53 ± 8.86	65.12 ± 8.19	**0.038**	—	—	Independent *t*-test
P_FU1	57.67 ± 8.47	58.31 ± 10.79	0.740	**0.019**	**<0.001**	Paired *t*-test
P_FU2	52.77 ± 9.24	51.44 ± 11.28	0.523	**<0.001**	**<0.001**	
P_FU3	42.42 ± 8.51	45.04 ± 10.51	0.173	**<0.001**	**<0.001**	
P_FU4	37.65 ± 7.49	39.40 ± 9.54	0.310	**<0.001**	**<0.001**	
P_FU5	33.95 ± 6.98	35.62 ± 8.82	0.299	**<0.001**	**<0.001**	
P_FU6	31.44 ± 7.04	30.57 ± 8.94	0.588	**<0.001**	**<0.001**	
P_FU7	28.99 ± 7.06	25.66 ± 8.77	**<0.001**	**<0.001**	**<0.001**	
P_FU8	26.50 ± 7.13	20.69 ± 8.46	**<0.001**	**<0.001**	**<0.001**	

Table 8. Comparison of Physical Health (PHY) Domain Scores Across Follow-ups

Time point	Pharmacotherapy (n = 38) Mean ± SD	Pharma + Psychotherapy (n = 37) Mean ± SD	Inter-group p-value	Intra-group p-value (Pharma vs BL)	Intra-group p-value (Pharma+Psy vs BL)	Statistical Test
PHY_BL	64.72 ± 9.55	59.37 ± 10.52	**0.009**	—	—	Independent *t*-test
PHY_FU1	56.18 ± 9.04	55.87 ± 11.36	0.006	**<0.001**	0.150	Paired *t*-test
PHY_FU2	47.28 ± 10.36	43.30 ± 10.72	**<0.001**	**<0.001**	**<0.001**	
PHY_FU3	34.68 ± 10.73	35.30 ± 10.07	**<0.001**	**<0.001**	**<0.001**	
PHY_FU4	30.92 ± 9.97	31.34 ± 9.07	**<0.001**	**<0.001**	**<0.001**	
PHY_FU5	28.35 ± 8.40	28.18 ± 8.53	**<0.001**	**<0.001**	**<0.001**	
PHY_FU6	25.81 ± 8.36	23.86 ± 8.32	**<0.001**	**<0.001**	**<0.001**	
PHY_FU7	23.09 ± 8.14	19.42 ± 8.32	**<0.001**	**<0.001**	**<0.001**	
PHY_FU8	20.51 ± 8.18	15.16 ± 8.29	**<0.001**	**<0.001**	**<0.001**	

Table 9. Comparison of Social (S) Domain Scores Across Follow-ups

Time point	Pharmacotherapy (n = 38) Mean ± SD	Pharma + Psychotherapy (n = 37) Mean ± SD	Inter-group p-value	Intra-group p-value (Pharma vs BL)	Intra-group p-value (Pharma+Psy vs BL)	Statistical Test
S_BL	58.84 ± 9.68	61.27 ± 10.01	0.214	—	—	Independent *t*-test
S_FU1	54.39 ± 9.54	55.63 ± 9.77	0.521	**0.006**	**<0.001**	Paired *t*-test
S_FU2	48.21 ± 9.63	47.30 ± 9.84	0.645	**<0.001**	**<0.001**	
S_FU3	42.06 ± 9.41	41.57 ± 9.69	0.796	**<0.001**	**<0.001**	
S_FU4	38.29 ± 8.72	37.18 ± 8.94	0.537	**<0.001**	**<0.001**	
S_FU5	34.90 ± 8.41	33.01 ± 8.62	0.259	**<0.001**	**<0.001**	
S_FU6	31.63 ± 8.35	28.46 ± 8.50	**<0.001**	**<0.001**	**<0.001**	
S_FU7	28.42 ± 8.26	24.01 ± 8.33	**<0.001**	**<0.001**	**<0.001**	
S_FU8	25.36 ± 8.21	19.58 ± 8.40	**<0.001**	**<0.001**	**<0.001**	

Table 10. Comparison of Stress Coping (SC) Domain Scores Across Follow-ups

Time point	Pharmacotherapy (n = 38) Mean ± SD	Pharma + Psychotherapy (n = 37) Mean ± SD	Inter-group p-value	Intra-group p-value (Pharma vs BL)	Intra-group p-value (Pharma+Psy vs BL)	Statistical Test
SC_BL	69.44 ± 9.12	71.86 ± 9.44	0.203	—	—	Independent *t*-test
SC_FU1	64.83 ± 8.77	63.12 ± 8.69	0.318	**0.004**	**<0.001**	Paired *t*-test
SC_FU2	58.21 ± 9.03	55.47 ± 9.26	0.128	**<0.001**	**<0.001**	
SC_FU3	52.44 ± 8.71	49.03 ± 8.95	**0.041**	**<0.001**	**<0.001**	
SC_FU4	47.69 ± 8.49	43.52 ± 8.73	**0.015**	**<0.001**	**<0.001**	
SC_FU5	43.31 ± 8.26	38.94 ± 8.61	**0.011**	**<0.001**	**<0.001**	

SC_FU6	39.88 ± 8.24	34.01 ± 8.39	**<0.001**	**<0.001**	**<0.001**	
SC_FU7	36.45 ± 8.21	29.18 ± 8.47	**<0.001**	**<0.001**	**<0.001**	
SC_FU8	33.09 ± 8.16	24.76 ± 8.52	**<0.001**	**<0.001**	**<0.001**	

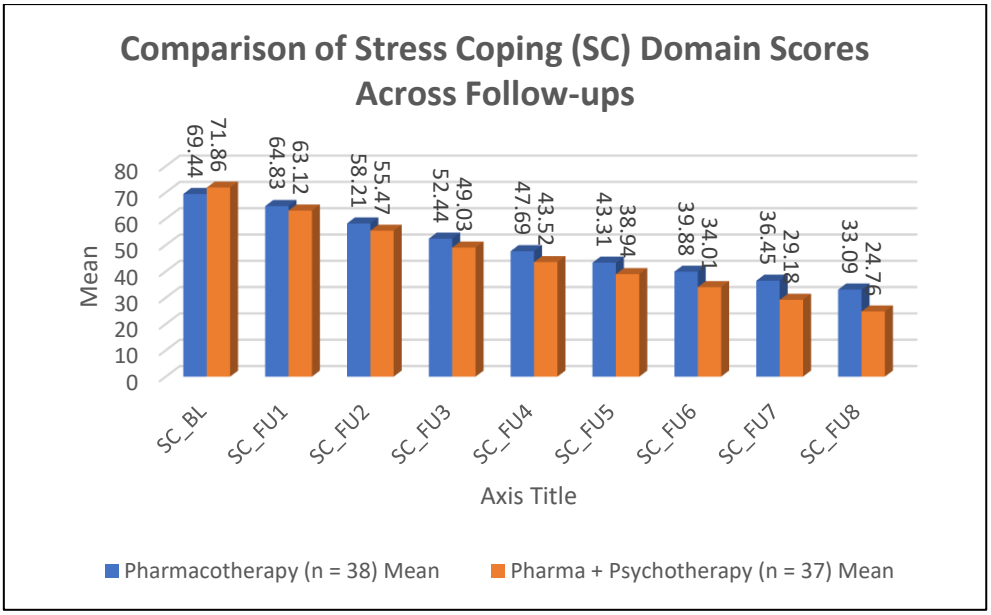

Figure 4 Comparison of Stress Coping (SC) Domain Scores Across Follow-ups

DISCUSSION

The present study demonstrated a significant reduction in cumulative stress load in both treatment groups; however, participants receiving pharmacotherapy combined with dimension-based psychotherapy showed significantly greater improvement from the third follow-up onward. Mean CSL decreased from 212.08 ± 36.44 to 59.72 ± 17.83 in the combined therapy group compared with 215.52 ± 38.91 to 110.36 ± 25.64 in the pharmacotherapy-alone group (p<0.001). These findings are consistent with Bahlmann et al. (2022) [14], who reported that the Relapse Prevention Intervention after Suicidal Event (RISE) improved psychological stabilization and relapse prevention in patients following suicide attempts, supporting the benefit of adjunctive psychotherapy.Behavioural stress scores improved significantly in both groups, with greater reduction in the combined therapy group (from 36.50 ± 9.26 to 6.28 ± 6.05) than in the pharmacotherapy group (from 38.04 ± 10.11 to 8.52 ± 7.05; p<0.001). Similar findings were reported by Bahlmann et al. (2022) [14], who observed improvements in behavioural regulation and reduced recurrence of suicidal crises following structured psychotherapy.Both groups showed significant reductions in emotional distress, with the combined therapy group achieving lower scores at the final follow-up (15.18 ± 7.80) than the pharmacotherapy group (18.27 ± 7.62; p<0.001). These findings agree with Aigner et al. (2006) [15], who demonstrated that reductions in depressive symptoms were accompanied by improved quality of life and psychosocial functioning.Familial stress decreased significantly in both groups, with greater improvement in the combined therapy group (27.89 ± 9.02) compared with the pharmacotherapy group (32.45 ± 7.62; p<0.001). Aschan et al. (2013) [16] reported that adverse family circumstances and socioeconomic disadvantage were major contributors to suicidal behaviour, emphasizing the importance of addressing family-related stress during treatment.Interpersonal stress improved significantly in both groups, although inter-group differences were not statistically significant at most follow-up visits. Scores decreased from 39.33 ± 10.19 to 9.54 ± 7.01 in the combined therapy group and from 40.65 ± 9.51 to 11.94 ± 7.61 in the pharmacotherapy group. Aschan et al. (2013) [16] similarly identified interpersonal adversity as an important determinant of suicidal behaviour, suggesting that improvement in interpersonal functioning requires sustained psychosocial intervention.

Mood and thought scores improved significantly in both groups, with significantly greater reductions in the combined therapy group by the seventh and eighth follow-ups (31.63 ± 8.60 vs. 39.37 ± 7.34; p<0.001). These findings support the American Psychiatric Association (2010) [17] practice guideline, which recommends integrating cognitive and psychotherapeutic interventions with pharmacotherapy for patients at suicidal risk.Both groups demonstrated significant improvement in personal stress, with greater reductions observed in the combined therapy group (20.69 ± 8.46) than in the pharmacotherapy group (26.50 ± 7.13; p<0.001). Aigner et al. (2006) [15] also reported that improvement in depressive symptomatology was associated with better personal functioning and enhanced quality of life.Physical health-related stress decreased significantly in both groups, with the combined therapy group showing greater improvement (15.16 ± 8.29) than the pharmacotherapy group (20.51 ± 8.18; p<0.001). Similar observations were made by Aigner et al. (2006) [15], who found that reduced depressive symptoms were associated with improvements in physical health and overall well-being.Social stress scores improved progressively in both treatment groups, with significantly greater improvement in the combined therapy group from the sixth follow-up onward. Final scores were 19.58 ± 8.40 in the combined therapy group

and 25.36 ± 8.21 in the pharmacotherapy group (p<0.001). Aschan et al. (2013) [16] similarly demonstrated that poor social support and socioeconomic disadvantage were strongly associated with suicidal behaviours.Stress-coping scores improved significantly in both groups, with greater improvement in the combined therapy group. Scores declined from 71.86 ± 9.44 to 24.76 ± 8.52 compared with 69.44 ± 9.12 to 33.09 ± 8.16 in the pharmacotherapy group (p<0.001). These findings are consistent with Bahlmann et al. (2022) [14], who reported enhanced coping skills following structured psychotherapy. Additionally, Bai et al. (2022) [18] highlighted the increasing burden of depression among young individuals, emphasizing the need for interventions that strengthen adaptive coping mechanisms to reduce suicide risk.

CONCLUSION

The present study demonstrated that multidimensional stress assessment effectively identified the major stress domains contributing to suicidal risk among young females. Although both treatment approaches significantly reduced cumulative stress burden, pharmacotherapy combined with dimension-based psychotherapy produced earlier, greater, and more sustained improvements across multiple stress domains than pharmacotherapy alone. These findings support the incorporation of individualized stress profiling and targeted psychotherapeutic interventions into the routine management of young females with suicidal risk.

Limitation of the Study

The study was conducted at a single tertiary care center with a relatively small sample size, which may limit the generalizability of the findings. Additionally, the follow-up period was relatively short, precluding assessment of the long-term sustainability of treatment effects and recurrence of suicidal behaviour.

REFERENCES

1. World Health Organization. Suicide: Fact sheet. Geneva: World Health Organization; 2025.
2. World Health Organization. Suicide worldwide in 2021: Global health estimates. Geneva: World Health Organization; 2024.
3. Bridge JA, Goldstein TR, Brent DA. Adolescent suicide and suicidal behaviour. *J Child Psychol Psychiatry*. 2006;47(3-4):372–94.
4. Hawton K, Saunders KEA, O'Connor RC. Self-harm and suicide in adolescents. *Lancet*. 2012;379(9834):2373–82.
5. Carretta RF, et al. Gender differences in risks of suicide and suicidal behaviours: A literature review. *Harv Rev Psychiatry*. 2024;32(4):209–23.
6. Turecki G, Brent DA. Suicide and suicidal behaviour. *Lancet*. 2016;387(10024):1227–39.
7. O'Connor RC, Kirtley OJ. The integrated motivational-volitional model of suicidal behaviour. *Philos Trans R Soc Lond B Biol Sci*. 2018;373(1754):20170268.
8. Franklin JC, Ribeiro JD, Fox KR, Bentley KH, Kleiman EM, Huang X, et al. Risk factors for suicidal thoughts and behaviours: A meta-analysis of 50 years of research. *Psychol Bull*. 2017;143(2):187–232.
9. Chamarro A, et al. Stress and suicide risk among adolescents: The role of emotional regulation and behavioural factors. *BMC Public Health*. 2024;24:1128.
10. Aschan L, Goodwin L, Cross S, Moran P, Hotopf M, Hatch SL. Suicidal behaviours in South East London: Prevalence, risk factors and the role of socio-economic status. *J Affect Disord*. 2013;150(2):441–9.
11. Nock MK, Borges G, Bromet EJ, Alonso J, Angermeyer M, Beautrais A, et al. Cross-national prevalence and risk factors for suicidal ideation, plans and attempts. *Br J Psychiatry*. 2008;192(2):98–105.
12. Ahmed F, et al. Suicide and self-harming among young women: A multidimensional analysis. *Healthcare (Basel)*. 2025;13(11):1284.
13. Franklin JC, Ribeiro JD, Fox KR, Bentley KH, Kleiman EM, Huang X, et al. Risk factors for suicidal thoughts and behaviours: A meta-analysis of 50 years of research. *Psychol Bull*. 2017;143(2):187–232.
14. Bahlmann L, Lübbert MBJS, Sobanski T, Kastner UW, Walter M, Smesny S, et al. Relapse Prevention Intervention after Suicidal Event (RISE): feasibility study of a psychotherapeutic short-term program for inpatients after a recent suicide attempt. Front Psychiatry. 2022;13:937527.
15. Aigner M, Förster-Streffleur S, Prause W, Freidl M, Weiss M, Bach M. What does the WHOQOL-BREF measure? Measurement overlap between quality of life and depressive symptomatology in chronic somatoform pain disorder. Soc Psychiatry Psychiatr Epidemiol. 2006;41(1):81-86.
16. Aschan L, Goodwin L, Cross S, Moran P, Hotopf M, Hatch SL. Suicidal behaviours in South East London: prevalence, risk factors and the role of socio-economic status. J Affect Disord. 2013;150(2):441-449.
17. American Psychiatric Association. Practice guideline for the assessment and treatment of patients with suicidal behaviours. Arlington (VA): American Psychiatric Association; 2010.
18. Bai R, Dong W, Peng Q, Bai Z. Trends in depression incidence in China, 1990-2019. J Affect Disord. 2022;296:291-297.