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Comparison of the Effectiveness of Spiritual Therapy and Supportive Psychotherapy on Coping Styles and Subjective Health Complaints in Patients with Metabolic Syndrome

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ABSTRACT

The present study aimed to compare the effectiveness of spiritual therapy and supportive psychotherapy on coping styles and subjective health complaints in patients with metabolic syndrome. This study was conducted using a quasi-experimental design with pretest–posttest and follow-up phases. The research population consisted of patients with metabolic syndrome who attended healthcare centers in Tehran in 2025. A total of 45 eligible patients were randomly assigned to three groups: spiritual therapy, supportive psychotherapy, and control. Research instruments included the Ursin Subjective Health Complaints Questionnaire and the Lazarus Coping Strategies Questionnaire. The spiritual therapy group received the multidimensional Godaso spiritual treatment package (12 sessions), the supportive psychotherapy group received 10 sessions of supportive therapy, and the control group received no intervention. Data were analyzed using repeated measures ANOVA and Bonferroni post-hoc tests. The results indicated that both therapeutic approaches significantly improved coping styles and reduced subjective health complaints ($p < .001$). Spiritual therapy demonstrated greater effectiveness in enhancing problem-focused coping and reducing emotion-focused coping, whereas supportive psychotherapy showed relative superiority in reducing subjective health complaints compared to spiritual therapy. These effects remained stable during the follow-up phase. The findings highlight the importance of multidimensional, culturally grounded psychological interventions in improving psychological and physical outcomes in patients with metabolic syndrome. The results also indicate that spiritual therapy and supportive psychotherapy may complement each other in managing these patients.

Keywords: spiritual therapy, supportive psychotherapy, coping styles, subjective health complaints, metabolic syndrome

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Introduction

Metabolic syndrome has become one of the most urgent global health challenges of the twenty-first century, encompassing a cluster of interrelated cardio-metabolic abnormalities—including central obesity, hyperglycemia, hypertension, and dyslipidemia—that significantly elevate the risk of cardiovascular disease, type 2 diabetes, and mortality (1). In the global landscape of chronic non-communicable diseases, the syndrome demonstrates both increasing prevalence and substantial clinical complexity, with current

estimates framing it as a major public health epidemic (2). Recent integrative reviews underscore that metabolic syndrome is not merely a biomedical condition but a biopsychosocial phenomenon influenced by lifestyle, psychological distress, emotional dysregulation, and sociocultural determinants of health (3). Large-scale epidemiological research confirms its rapid rise across diverse populations, fueled by sedentary lifestyles, stress, nutritional imbalances, and metabolic vulnerability (4). Consistent with these trends, national studies—such as those conducted among Iranian working populations—suggest that metabolic syndrome is increasingly common and often undiagnosed, placing substantial burden on individuals and healthcare systems (5).

The multidimensional nature of metabolic syndrome extends beyond physiological disruptions to significantly affect psychological well-being and coping capacities. Patients commonly experience heightened distress, reduced quality of life, and increased susceptibility to somatic symptom amplification, which further complicates disease management (6). The subjective health complaints associated with chronic conditions often appear disproportionate to measurable pathology, suggesting a strong interplay between psychological stress, cognitive appraisal, and somatic perception (7). Evidence indicates that illness-related stress can impede behavioral adaptation, compromise treatment adherence, and exacerbate clinical outcomes (8). Furthermore, metabolic syndrome is frequently comorbid with other chronic conditions such as diabetes, hypertension, and depression, creating a complexity of treatment demands that require more than routine medical interventions. Thus, understanding the psychological mechanisms that either facilitate or hinder adjustment to metabolic syndrome has become a critical research priority.

A wealth of theoretical and empirical literature demonstrates that coping strategies play a defining role in patients' psychological adjustment to chronic illnesses. Adolescents and adults coping with persistent medical conditions often rely on a broad repertoire of cognitive-behavioral and emotional strategies that shape their psychological outcomes (9). Maladaptive coping—particularly emotion-focused avoidance, worry, rumination, and self-blame—has been consistently linked to heightened stress reactivity, poorer self-management, and greater subjective health complaints (10). Conversely, problem-focused coping, active engagement, and communal coping processes predict better adjustment, adherence, and emotional well-being (8). Scholars argue that strengthening adaptive coping serves as a fundamental pillar of psychosocial intervention across chronic medical populations. Training individuals to develop constructive coping repertoires not only improves psychological outcomes but also influences biomedical variables indirectly through stress-reduction and improved behavioral self-regulation (11). Therefore, any comprehensive therapeutic approach targeting metabolic syndrome should attend to the cognitive, emotional, and behavioral pathways through which patients interact with their illness.

In parallel, scholars have increasingly emphasized the centrality of adherence to treatment as a determinant of health trajectories in chronic illness. Research on medication adherence among individuals with comorbid chronic conditions, such as diabetes and depression, shows that psychosocial factors—beliefs, self-regulation, trust, cultural norms, and patient–provider communication—strongly influence adherence behaviors (12). Cultural frameworks and personal belief systems profoundly shape health attitudes and subjective interpretations of illness, which in turn affect motivation to follow medical recommendations (13). Given that metabolic syndrome requires sustained behavioral change, including dietary modification,

physical activity, stress management, and pharmacological adherence, understanding these psychological and cultural determinants becomes essential.

Considering the interplay between chronic illness and psychological functioning, psychotherapeutic interventions have been widely employed to address emotional distress, promote coping skills, and enhance adherence in metabolic syndrome and related conditions. Supportive psychotherapy, a well-established approach rooted in psychodynamic and relational principles, focuses on fostering a therapeutic alliance, strengthening adaptive capacities, enhancing self-esteem, and facilitating emotional expression (14). Supportive therapy emphasizes empathy, validation, and encouragement, helping patients mobilize internal and external resources to cope with illness-related demands. Contemporary research further confirms the effectiveness of psychodynamic-informed interventions for individuals facing chronic health conditions, particularly when emotional conflict, stress, or maladaptive coping patterns interfere with treatment engagement (15). The broader field of psychodynamic psychiatry reinforces the importance of addressing unconscious processes, emotional conflict, and relational dynamics as part of holistic care for chronically ill patients (16). Additionally, psychotherapeutic frameworks tailored to chronic illness highlight the need for patient-centered, culturally attuned, and integrative approaches that complement medical treatment and enhance long-term adjustment (17).

Beyond conventional psychotherapy approaches, interest in spirituality-based interventions has grown substantially, especially in culturally diverse populations. Spirituality, understood as a multidimensional construct involving connection, meaning, values, and transcendence, has been strongly associated with improved mental health, resilience, and physical well-being (18). In various cultural and religious contexts, spiritual beliefs significantly influence health behavior, coping responses, and illness interpretation (19). The role of religion and spirituality in health has been comprehensively synthesized in recent research, showing consistent associations with reduced stress, improved psychological functioning, and better chronic disease outcomes (20). In clinical psychology, spirituality-oriented therapies have become increasingly integrated into holistic care models, particularly for patients experiencing chronic illness, trauma, or existential distress.

One of the most notable developments in this area is multidimensional spiritual therapy (MST), developed by Jan Bozorgi and colleagues, which posits that spiritual personality structures offer a powerful explanatory framework for understanding both psychological health and psychopathology (21). MST emphasizes cognitive, emotional, behavioral, and relational spiritual processes that enable individuals to develop self-awareness, transcend maladaptive belief systems, and cultivate meaning-oriented coping. Empirical research demonstrates the effectiveness of MST in reducing symptoms of anxiety, trauma, and other psychological disorders (22). Additional clinical trials show that MST is effective in enhancing mental health outcomes across medical populations, such as patients recovering from bypass surgery, suggesting its compatibility with medical treatment contexts (23). A defining feature of MST is its structured approach to refining God-representations, deconstructing maladaptive cognitive schemas, and fostering a coherent, compassionate, and empowering spiritual worldview—processes that can profoundly influence stress reactivity, coping, and subjective experience.

The growing integration of spirituality into clinical practice aligns with broader public health and psychological trends emphasizing cultural sensitivity, personal meaning, and holistic care. Spiritual

frameworks may be particularly relevant in contexts where religious and spiritual identities are foundational to individuals' worldviews, influencing their responses to illness and health recommendations. Considering the Iranian cultural and religious background in which this study is situated, spiritual interventions possess high acceptability and potential impact. Given that maladaptive coping and subjective health complaints contribute significantly to the psychological burden of metabolic syndrome, there is strong theoretical justification for examining whether spiritually oriented approaches outperform or complement supportive psychotherapy in these domains.

Furthermore, the relevance of spiritual identity and belief systems becomes especially salient when addressing the existential uncertainty, lifestyle pressures, and somatic concerns associated with metabolic syndrome. Research on the psychological correlates of chronic illness suggests that individuals often experience disruptions in self-coherence, meaning, and internalized values—factors that spiritually rooted therapies directly address. By transforming the individual's perception of self, life purpose, and relationship with the transcendent, such therapies may offer deeper motivational anchors for behavioral change and improved health perception. Simultaneously, supportive psychotherapy may provide essential emotional containment, interpersonal guidance, and cognitive clarification that mitigate psychological distress and foster adaptive functioning.

Despite extensive theoretical support, empirical comparisons between spiritual therapy and supportive psychotherapy in the context of metabolic syndrome remain limited. No previous study has systematically contrasted their effects on coping styles and subjective health complaints—two central determinants of psychological well-being and disease adaptation. Given the chronic and multifaceted nature of metabolic syndrome, understanding whether spiritually grounded approaches yield unique benefits beyond those of established psychotherapeutic methods is critical for advancing culturally competent clinical practice.

Therefore, the present study was designed to compare the effectiveness of multidimensional spiritual therapy and supportive psychotherapy on coping styles and subjective health complaints in patients with metabolic syndrome.

Methods and Materials

Study Design and Participants

This study employed a quasi-experimental design with a pretest–posttest–follow-up structure and a control group. The statistical population consisted of all individuals who visited healthcare centers in Tehran in 2025 and had been diagnosed with metabolic syndrome. For determining the sample size, an initial sample of 87 patients was selected; based on the inclusion criteria (diagnosis confirmed by a specialist physician, no use of psychotropic medications, and absence of psychiatric disorders), 45 individuals were randomly assigned to three groups: spiritual therapy, supportive psychotherapy, and control. To estimate the required sample size, G*Power software was used (effect size = 0.30, α = .05, statistical power = .80, 3 groups), and the minimum sample size was calculated as 45 participants per group. Participants were selected using purposive sampling and randomly assigned to groups. Exclusion criteria included participation in concurrent treatments and absence from three therapy sessions. The instruments used in the study are presented below.

Data Collection

Subjective Health Complaints Questionnaire: This instrument was developed by Eriksen and Ursin (2002) and consists of 29 items designed to assess the occurrence, severity, and duration of subjective physical and psychological complaints experienced during the past 30 days, without referring to specific diagnostic categories. The questionnaire covers five domains: musculoskeletal pain, pseudo-neurological symptoms, psychological problems, gastrointestinal problems, allergies, and flu-like symptoms. Each item is scored on a scale from 0 to 3, and the total score ranges from 0 (excellent condition) to 87 (high complaint level). The reliability of this tool, based on Cronbach's alpha, was reported as .82 for women and .75 for men in Eriksen and Ursin's (2002) study. In the present study, Cronbach's alpha was .77.

Lazarus Coping Strategies Questionnaire: To assess coping strategies based on the Lazarus and Folkman theory, a 66-item questionnaire was developed in 1988 containing two general subscales: emotion-focused coping and problem-focused coping. Items are rated on a four-point Likert scale ranging from 0 to 3, and the score range for each coping strategy is between 0 and 99. Cronbach's alpha coefficients reported by the developers ranged from .61 to .79. In Saeed's (2019) study, reliability was reported between .79 and .83.

Intervention

The spiritual therapy intervention was delivered in 12 weekly group sessions of 45 minutes, based on the Multidimensional Spiritual Therapy Principles Model by Janbozorgi (2020). The protocol began with introducing the therapeutic approach, establishing the therapeutic contract, and setting SMART goals aligned with both psychological and spiritual aims. Subsequent sessions focused on identifying the limitations of "natural intellect," recognizing cognitive and inhibitory functions of the mind, and fostering trust in one's inner evaluator. The therapy continued with exploring obstacles to rational functioning, restructuring cognitive patterns, and correcting intermediate and core beliefs through structured worksheets. In the mid-phase, participants engaged in experiential exercises such as the "island technique," discussions on the origin and end of existence, and reflective practices aimed at rational discovery of God. Further sessions addressed identifying and deconstructing maladaptive God-images, exploring authentic theological sources, and redefining one's relational understanding of God. The final sessions focused on enhancing self-worth through connection with the divine, examining divine stewardship (rububiyyat), and recognizing distorted secondary "lords." The protocol concluded with constructing a personalized spiritual life plan, evaluating its feasibility, comparing alternative life pathways, and consolidating a stable spiritual identity to guide future behavior.

The supportive psychotherapy intervention consisted of ten 50-minute weekly sessions based on Winston et al. (2004). The process began with establishing a therapeutic alliance through history-taking, clarifying roles, boundaries, and expectations. Early sessions focused on assessing symptoms, adaptive and maladaptive coping patterns, object relations, and overall functioning while initiating self-esteem strengthening exercises. As therapy progressed, case formulation was developed through supportive techniques such as reassurance, validation, and praise, alongside identifying defense mechanisms and adaptive skills. Mid-treatment sessions centered on agreeing upon treatment goals, prioritizing intervention areas, and deepening the therapeutic relationship to facilitate corrective emotional experiences and reinforce trust. Psychoeducation, coping-skill enhancement, reinforcement of motivations, and structured

activities (such as daily planning) were incorporated to strengthen ego functions. Later sessions focused on consolidating gains, reviewing progress, and preparing the patient for termination while ensuring maintenance of therapeutic achievements. The final session was dedicated to comprehensively reviewing accomplishments, establishing a post-therapy plan, and fostering ongoing self-evaluation and appreciation of competencies.

Data analysis

In this research, data were analyzed using SPSS version 21 at descriptive and inferential levels. In the descriptive section, findings were presented using frequency, percentage, mean, and standard deviation. At the inferential level, the Shapiro–Wilk test was used to examine the normality of data distribution, and finally, data were analyzed using repeated measures analysis of variance.

Findings and Results

Table 1 presents the mean, standard deviation, minimum, and maximum age of participants in the experimental and control groups. As shown:

Table 1. Demographic Indicators

	Frequency	Mean	Standard Deviation	Minimum	Maximum
Age – Men					
Spiritual Therapy	7	37.33	5.992	21	41
Supportive Therapy	8	37.600	5.414	21	42
Control	8	35.53	5.326	22	41
Age – Women					
Spiritual Therapy	8	32.41	4.85	19	38
Supportive Therapy	7	33.01	4.74	20	39
Control	7	32.35	4.65	20	38
Years of Marriage					
Spiritual Therapy	–	6.52	1.7	5.1	7.8
Supportive Therapy	–	6.65	1.61	5.4	7.6
Control	–	6.71	1.73	5.6	7.4

To examine the homogeneity of the experimental and control groups regarding age, a one-way analysis of variance (ANOVA) was used. The results of the one-way ANOVA indicated no significant difference in age among the three groups for men ($F = 0.043$, $p = .958$) and for women ($F = 0.054$, $p = .853$). Thus, the experimental and control groups were similar in terms of age. To examine the homogeneity of the groups with respect to years of marriage, a one-way ANOVA was also used. The results indicated no significant difference among the three groups ($F = 0.267$, $p = .713$). Therefore, the groups were also similar in years of marriage. The descriptive findings for the research variables are presented below.

Table 2. Descriptive Examination of Research Variables

	Problem-Focused Style		Emotion-Focused Style		Subjective Complaints	
	Mean	SD	Mean	SD	Mean	SD
Spiritual Therapy						
Pretest	52.2	3.08	41.14	2.45	78.75	5.07
Posttest	63.95	3.20	29.21	2.16	51.1	7.72
Follow-up	62.13	3.33	28.87	2.49	54.53	5.81
Supportive Therapy						
Pretest	56.95	2.83	41.15	3.55	75.95	5.3
Posttest	65.09	3.32	25.35	3.55	48.4	5.77
Follow-up	66.05	3.35	24.93	3.53	45.33	7.23
Control						
Pretest	57.47	3.63	41.07	3.70	76.87	6.17
Posttest	57.53	3.53	40.20	3.38	77.80	6.27
Follow-up	57.93	3.27	40.27	3.43	77.80	6.34

Table 2 shows differences between the two treatment groups across stages of the study and compared to the control group. To examine these differences, inferential analysis was conducted. Repeated measures ANOVA was used, but first the assumptions of the test were examined. Using Mahalanobis distance, it was determined that no multivariate outliers were present. Box's M test was used to assess homogeneity of covariance matrices, and results indicated no significant difference (Mbox = 61.670; F = 2.537; df1 = 36; df2 = 4858.849; p = .121). Overall, it can be stated that parametric testing was appropriate. The results of the analysis are presented in Table 3.

Table 3. Results of Mean Comparisons in Experimental and Control Groups

	Value	F	Hypothesis df	Error df	Significance
Pretest–Posttest	Wilks' Lambda = 0.319	9.509	6	74.000	.000
Pretest–Follow-up	Wilks' Lambda = 0.264	11.655	6	74.000	.000

The significance levels in the table above indicate that the experimental and control groups differ significantly in at least one of the dependent variables. To determine which variables accounted for these differences, between-subjects effects are reported in Table 4.

Table 4. ANCOVA of Scores in Experimental and Control Groups

Dependent Variable	SS	df	MS	F	Sig.	Effect Size
Pretest–Posttest						
Problem-Focused Style	195.195	2	97.598	8.857	.001	.312
Emotion-Focused Style	212.584	2	106.292	8.660	.001	.308
Subjective Complaints	203.431	2	101.716	27.116	.000	.582
Pretest–Follow-up						
Problem-Focused Style	260.036	2	130.018	11.951	.000	.380
Emotion-Focused Style	226.500	2	113.250	9.173	.001	.320
Subjective Complaints	297.945	2	148.972	29.928	.000	.605

As shown in Table 4, significant differences were found between the experimental and control groups in posttest scores of problem-focused coping (F = 8.857, p = .001), emotion-focused coping (F = 8.660, p = .001), and subjective health complaints (F = 27.116, p = .000). This table indicates that after controlling for pretest scores, there were significant differences in adjusted posttest means across groups, and these differences remained at follow-up.

Given these significant differences, pairwise comparisons were conducted using the Bonferroni post-hoc test (Table 5).

Table 5. Bonferroni Post-Hoc Test in Experimental and Control Groups

Dependent Variable	Comparison (I)	Comparison (J)	Mean Difference (I–J)	Std. Error	Sig.
Problem-Focused Coping	Pretest–Posttest				
	Spiritual Therapy	Supportive Therapy	2.963*	1.210	.019
	Spiritual Therapy	Control	5.940*	1.215	.000
	Supportive Therapy	Control	2.978*	1.206	.018
Problem-Focused Coping	Pretest–Follow-up				
	Spiritual Therapy	Supportive Therapy	2.963*	1.210	.019
	Spiritual Therapy	Control	5.940*	1.215	.000
	Supportive Therapy	Control	2.978*	1.206	.018
Emotion-Focused Coping	Pretest–Posttest				
	Spiritual Therapy	Supportive Therapy	−2.702*	1.285	.042
	Spiritual Therapy	Control	−5.371*	1.291	.000
	Supportive Therapy	Control	−2.669*	1.281	.044
Emotion-Focused Coping	Pretest–Follow-up				
	Spiritual Therapy	Supportive Therapy	−2.743*	1.289	.040
	Spiritual Therapy	Control	−5.544*	1.294	.000
	Supportive Therapy	Control	−2.800*	1.285	.035
Subjective Health Complaints	Pretest–Posttest				
	Spiritual Therapy	Supportive Therapy	−3.027*	.710	.000
	Spiritual Therapy	Control	−5.234*	.713	.000
	Supportive Therapy	Control	−2.207*	.708	.003
Subjective Health Complaints	Pretest–Follow-up				
	Spiritual Therapy	Supportive Therapy	−3.897*	.818	.000
	Spiritual Therapy	Control	−6.302*	.822	.000
	Supportive Therapy	Control	−2.405*	.816	.005

As shown in Table 5, spiritual therapy induced greater changes in both emotion-focused and problem-focused coping styles compared to supportive therapy. In addition, supportive therapy demonstrated greater effectiveness than spiritual therapy in reducing subjective health complaints. Overall, the findings indicate that both treatment approaches can reduce subjective health complaints and emotion-focused coping while increasing problem-focused coping, although the noted differences between the two treatments remain evident.

Discussion and Conclusion

The present study sought to compare the effectiveness of multidimensional spiritual therapy and supportive psychotherapy on coping styles and subjective health complaints in patients with metabolic syndrome. The results demonstrated that both interventions significantly increased problem-focused coping, reduced emotion-focused coping, and decreased subjective health complaints compared with the control group. Furthermore, spiritual therapy showed superiority in improving coping styles, whereas supportive psychotherapy showed relatively greater effects on reducing subjective health complaints. These findings align with theoretical frameworks and empirical evidence emphasizing the biopsychosocial and spiritual dimensions of coping and illness adaptation.

The improvement in problem-focused coping among participants receiving spiritual therapy can be understood in light of theoretical explanations attributing an important regulatory function to spiritual beliefs. The multidimensional spiritual therapy model emphasizes restructuring maladaptive cognitions, strengthening trust in an internal spiritual reasoning process, and clarifying existential meaning (21). This therapeutic pathway operates by transforming cognitive schemas, altering self-perception, and fostering a values-based motivational structure that promotes constructive coping. The results of the present study

support these mechanisms, indicating that spiritual therapy equips patients with clearer psychological frameworks and more effective strategies for coping with the demands of metabolic syndrome. Prior clinical studies have similarly documented the efficacy of spiritual interventions in enhancing mental health outcomes and reducing maladaptive thought patterns. For example, multidimensional spiritual therapy was shown to significantly reduce symptoms of trauma and psychological distress among clinical populations (22). Likewise, its effectiveness in reducing anxiety in patients recovering from bypass surgery further validates its applicability in medical settings (23).

The enhancement of adaptive coping observed in this study is also consistent with broad theoretical literature on coping processes. A large body of work suggests that coping styles are critical determinants of psychological adjustment in individuals with chronic medical illnesses. Maladaptive emotional coping has been associated with elevated stress response, impaired adjustment, and increased psychopathology (9). Conversely, problem-focused coping is consistently linked to improved adjustment, increased perceived control, and better treatment adherence (10). The significant increase in problem-focused coping among patients receiving spiritual therapy therefore corroborates prior evidence on the psychological benefits of structured, meaning-centered interventions. The emphasis on self-regulation, reflective inquiry, cognitive reframing, and meaning reconstruction within the spiritual therapy protocol likely contributed to these outcomes.

Additionally, the observed reduction in emotional coping aligns with existing research demonstrating that emotion-focused coping—particularly avoidance, denial, and rumination—is associated with poorer adjustment to chronic illness. This is particularly relevant in metabolic syndrome, where emotional distress may directly exacerbate physiological processes such as inflammation and cortisol dysregulation (8). By reducing reliance on emotion-focused strategies, spiritual therapy may buffer against stress-induced symptom amplification and somatic preoccupation. This finding is further supported by evidence suggesting that spiritual and religious frameworks can promote emotional regulation, reduce worry, and enhance resilience in patients with chronic conditions (20).

In contrast, supportive psychotherapy demonstrated relatively greater effectiveness in reducing subjective health complaints. Subjective health complaints, including somatic sensations such as musculoskeletal pain, fatigue, or gastrointestinal discomfort, often reflect a complex interaction of stress, cognitive interpretation, and emotional reactivity (7). Supportive psychotherapy focuses on strengthening the therapeutic relationship, validating emotional experiences, enhancing self-esteem, and providing reassurance—elements that directly influence patients' perceptions of bodily symptoms (14). This approach offers a stabilizing environment in which individuals can safely express concerns, receive corrective emotional experiences, and experience reduced psychological arousal. The results of the present study indicate that such processes may be uniquely effective in mitigating somatic symptom amplification, a well-documented phenomenon among individuals with chronic illnesses (6).

The superiority of supportive psychotherapy in reducing subjective complaints is also consistent with psychodynamic and relational models emphasizing the role of emotional containment in reducing distress associated with chronic illness. Psychodynamic frameworks highlight how internal conflicts, unconscious fears, and unmet emotional needs can manifest through physical symptoms (16). Contemporary psychodynamic psychotherapy research supports the importance of the therapeutic alliance and emotional

support in improving health-related outcomes (15). Moreover, health psychology literature emphasizes that cultural and personal beliefs significantly shape symptom interpretation and illness behavior, which may be positively influenced through supportive therapeutic engagement (13). Thus, the finding that supportive psychotherapy had stronger effects on subjective complaints is well aligned with both theoretical expectations and prior empirical research.

The overall effectiveness of both interventions can also be understood through the broader lens of metabolic syndrome and its psychological correlates. Metabolic syndrome is associated with heightened psychological stress, emotional dysregulation, and cognitive burden (3). Its global rise has been linked to lifestyle factors, sociocultural pressures, and chronic stress exposure (2). Complex chronic conditions such as metabolic syndrome require sustained behavioral and lifestyle changes, which are influenced by patients' coping resources, emotional well-being, and self-efficacy (24). Both spiritual therapy and supportive psychotherapy address these psychological determinants and therefore hold potential to indirectly enhance physical health by improving the mental frameworks that guide behavioral choices.

The results also reflect the influence of cultural context on therapeutic effectiveness. In societies where spirituality plays a prominent role in personal identity, moral reasoning, and coping practices—such as Iran—spiritual interventions may resonate more deeply and foster greater psychological engagement. Research on health and well-being in Islamic societies emphasizes that religious and spiritual values are integrated into health behaviors, illness interpretation, and coping processes (19). This cultural congruency likely amplified the effectiveness of the multidimensional spiritual therapy used in the present study. Conversely, supportive psychotherapy provides a universal psychological framework that transcends cultural boundaries, potentially explaining its robust impact on subjective symptoms.

Furthermore, the interplay between psychological distress, treatment adherence, and coping has been well documented in chronic illnesses. Studies show that emotional burden and maladaptive beliefs can impede adherence to medical regimens (12). Because supportive psychotherapy strengthens emotional resilience and enhances perceived support, it may indirectly contribute to improved adherence and reduced symptom complaints. Similarly, spiritual therapy has been associated with enhanced meaning, motivation, and internalized purpose, which may improve long-term engagement with health practices (18).

Overall, the findings of this study contribute to an emerging literature advocating for integrative, culturally responsive, and multidimensional psychological interventions in managing chronic metabolic conditions. By demonstrating that both spiritual therapy and supportive psychotherapy yield meaningful improvements in coping and subjective symptoms, the findings reinforce the importance of addressing psychological and existential dimensions of illness alongside biomedical treatment. At the same time, the differentiated effects observed across outcomes provide valuable insight into the complementary roles these interventions may play. Spiritual therapy appears particularly effective for restructuring maladaptive cognitive and emotional coping patterns, whereas supportive psychotherapy is especially suited for addressing subjective distress, emotional needs, and somatic concerns.

Given the rising global prevalence of metabolic syndrome and its substantial psychological burden, these findings highlight the need for holistic patient-centered care models that integrate medical, psychological, and spiritual domains. Such models are consistent with contemporary approaches to chronic illness management, which emphasize the interaction between psychological factors and health behaviors (17). They

also align with emerging evidence suggesting that patient beliefs, values, and cultural frameworks must be considered to optimize therapeutic outcomes (25).

In conclusion, the study's findings demonstrate that both multidimensional spiritual therapy and supportive psychotherapy are effective interventions for individuals with metabolic syndrome, with each addressing distinct yet complementary aspects of coping and subjective health. The results underscore the importance of integrating psychological and spiritual processes into treatment planning for patients with chronic metabolic conditions.

This study has several notable limitations. First, the sample size, although determined by power analysis, was relatively small, which may limit the generalizability of the findings to broader populations with metabolic syndrome. Second, the participants were recruited from urban healthcare centers in Tehran, and cultural, socioeconomic, or regional variations may affect the applicability of the results to other settings. Third, the interventions were delivered in group formats, which may introduce group-specific dynamics not present in individual therapy formats. Fourth, psychological outcomes were measured through self-report instruments, which may be influenced by social desirability, recall bias, or limited insight. Finally, the follow-up period was relatively short, restricting the ability to assess long-term stability of therapeutic gains.

Future studies would benefit from larger and more diverse samples across multiple regions and healthcare settings to enhance the external validity of the findings. Longitudinal studies with extended follow-up periods are needed to examine whether the benefits of spiritual therapy and supportive psychotherapy persist over time. Comparative studies could explore additional psychological interventions, such as cognitive-behavioral therapy or acceptance-based approaches, to determine the relative effectiveness of different psychosocial models. Investigating mediators and moderators—such as personality traits, cultural beliefs, illness duration, or treatment adherence—could clarify which patients benefit most from each type of therapy. Future research should also consider integrating biological markers, such as inflammatory indices or metabolic parameters, to evaluate the physiological impact of psychological interventions.

Clinicians working with patients diagnosed with metabolic syndrome may benefit from adopting integrative treatment plans that combine medical management with structured psychological support. Incorporating spiritual elements into therapy may enhance patient engagement in settings where spirituality is a central cultural value. Supportive psychotherapy techniques can be particularly useful for addressing subjective distress and fostering emotional resilience. Healthcare providers should consider offering both interventions as complementary components within chronic illness care programs. Finally, integrating psychoeducation on coping strategies into routine care may empower patients to better manage the multifaceted challenges associated with metabolic syndrome.

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Authors' Contributions

All authors equally contributed to this study.

Declaration of Interest

The authors of this article declared no conflict of interest.

Ethical Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants.

Transparency of Data

In accordance with the principles of transparency and open research, we declare that all data and materials used in this study are available upon request.

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References

1. Grundy SM. Metabolic Syndrome Update. Trends in Cardiovascular Medicine. 2016;26(4):364-73. doi: 10.1016/j.tcm.2015.10.004.
2. Saklayen MG. The Global Epidemic of the Metabolic Syndrome. Current Hypertension Reports. 2018;20(2):1-8. doi: 10.1007/s11906-018-0812-z.
3. Neeland IJ, Lim S, Tchernof A, Gastaldelli A, Rangaswami J, Ndumele CE, et al. Metabolic Syndrome. Nature Reviews Disease Primers. 2024;10(1):77. doi: 10.1038/s41572-024-00563-5.
4. Jamal Z, Ayoob F, Jalal Z, Esmaeil A, Khalil P. Metabolic Syndrome: A Population-Based Study of Prevalence and Risk Factors. Scientific Reports. 2024;14(1):3987. doi: 10.1038/s41598-024-54367-4.
5. Moredoui Z, Sheikh Fathollahi M, Basharat F, Saleh Z, Saeidi Fard E, Malayi Hosn F, et al. Investigating the Frequency of Metabolic Syndrome and Its Indices in Employees of Rafsanjan University of Medical Sciences in 2016: A Brief Report. Scientific Journal of Rafsanjan University of Medical Sciences. 2017;16(8):789-96.
6. Henningsen P. Management of Somatic Symptom Disorder. Dialogues in Clinical Neuroscience. 2018;20(1):23-31. doi: 10.31887/DCNS.2018.20.1/phenningsen.
7. Eriksen HR, Ursin H. Sensitization and Subjective Health Complaints. Scandinavian Journal of Psychology. 2002;43(2):25-39. doi: 10.1111/1467-9450.00286.
8. Helgeson VS, Jakubiak B, Van Vleet M, Zajdel M. Communal Coping and Adjustment to Chronic Illness: Theory Update and Evidence. Personality and Social Psychology Review. 2018;22(2):170-95. doi: 10.1177/1088868317735767.
9. Compas BE, Jaser SS, Bettis AH, Watson KH, Gruhn MA, Dunbar JP, et al. Coping, Emotion Regulation, and Psychopathology in Childhood and Adolescence: A Meta-Analysis and Narrative Review. Psychological Bulletin. 2017;143(9):939. doi: 10.1037/bul0000110.
10. Compas BE, Jaser SS, Dunn MJ, Rodriguez EM. Coping with Chronic Illness in Childhood and Adolescence. Annual Review of Clinical Psychology. 2022;8(1):455-80. doi: 10.1146/annurev-clinpsy-032511-143108.
11. Saeid N. The Effect of Problem-Solving Training on Dimensions of Coping Strategies with Stress and Responsibility of Students. Social Cognition. 2019;8(2):165-84.
12. Kwakye AO, Larry-Afutu JA, Kretchy IA. Key Drivers of Medication Adherence in Patients with Comorbid Diabetes Mellitus and Depression: A Scoping Review. Journal of Pharmacy Practice and Research. 2025. doi: 10.1002/jppr.70016.

13. Shahin W, Kennedy GA, Stupans I. The Impact of Personal and Cultural Beliefs on Medication Adherence of Patients with Chronic Illnesses: A Systematic Review. Patient Preference and Adherence. 2019:1019-35. doi: 10.2147/PPA.S212046.

14. Winston A, Rosenthal R, Pinsker H, translated by Khalighi Sigarudi E. Guidelines for Learning Supportive Psychotherapy with Clinical Examples. Tehran: Arjomand Publishing; 2023.

15. McCarthy K, Capone C, Leibovich L. The Evidence for Psychodynamic Psychotherapy: A Contemporary Introduction: Taylor & Francis; 2025.

16. Gabbard GO. Psychodynamic Psychiatry in Clinical Practice: American Psychiatric Publishing; 2014.

17. Iyer S. The Role of Psychotherapy in Managing Chronic Illness. Shodh Sagar Journal of Inspiration and Psychology. 2024;1(2):10-6.

18. George LK, Larson DB, Koenig HG, McCullough ME. Spirituality and Health: What We Know, What We Need to Know. Journal of Social and Clinical Psychology. 2020;19(1):102-16. doi: 10.1521/jscp.2000.19.1.102.

19. Koenig HG, Al Shohaib S. Health and Well-Being in Islamic Societies. Cham, Switzerland: Springer; 2024.

20. VanderWeele TJ. Religion and Health: A Synthesis: Oxford University Press; 2017. 357-401 p.

21. Jan Bozorgi M. Multidimensional Spiritual Therapy: The Possibility of Explaining Psychological Phenomena (Health and Disorder) with Spiritual Personality Constructs Based on Religious Sources. Clinical Psychology and Personality. 2020;14(2):173-89.

22. Faraji F, Noohi S, Piyadeh Koohsar A, Jan Bozorgi M. The Effectiveness of God-Centered Multidimensional Spiritual Therapy on Symptoms of Psychological Disorders and Post-Traumatic Stress Disorder. Measurement and Research in Counseling and Psychology. 2021;3(7):1-16. doi: 10.61838/kman.jarac.3.1.1.

23. Nikoui F, Jan Bozorgi M. The Effectiveness of Multidimensional Spiritual Therapy on Anxiety in Patients After Bypass Surgery. Journal of Positive Psychology Research. 2022;8(4):37-54.

24. Williams B, Mancia G, Spiering W, Agabiti Rosei E, Azizi M, Burnier M, et al. Practice Guidelines for the Management of Arterial Hypertension of the European Society of Cardiology and the European Society of Hypertension. Blood Pressure. 2018;27(6):314-40. doi: 10.1080/08037051.2018.1527177.

25. Soleimani MA, Bahrami N, Sharif Nia SH, Yaqoub Zadeh A, editors. Investigating the Validity and Reliability of the Persian Version of the Larson Sexual Satisfaction Questionnaire in Couples2016; Tehran: Congress of the Research Center for Reproductive Health and Infertility.