Advanced Journal of Management, Humanity and Social Science (AJMHSS)

2025, Volume 1, Issue 7

Original Article: The Effectiveness of Mindfulness-Based Intervention on Anxiety and Quality of Life Among Clients of Counseling Centers in Shiraz

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Citation *V Jamshidi, S Allah Khosrav, E Razmi, M Jamshidi,* ***The Effectiveness of Mindfulness-Based Intervention on Anxiety and Quality of Life Among Clients of Counseling Centers in Shiraz, AJMHSS,*** 2025; 1(7): 422-435.

https://doi.org/10.5281/zenodo.17160501

Article info:
Received: 20.06.2025
Accepted: 26.07.2025
Checked for Plagiarism: Yes

Keywords:
Mindfulness, Anxiety, Quality of Life, Randomized Controlled Trial, Counseling Centers, Iran.

A B S T R A C T

Background: This study aimed to investigate the effectiveness of an 8-week mindfulness-based intervention on reducing anxiety and improving the quality of life among clients of counseling centers in Shiraz, Iran. **Methods:** A randomized controlled trial (RCT) with a pre-test/post-test design and a control group was employed. The statistical population comprised all clients who referred to counseling centers in Shiraz between January 2025 (Dey 1403) and July 2025 (Tir 1404). From an initial pool of 80 individuals who completed screening questionnaires, 40 participants with the highest anxiety scores and lowest QoL scores were selected and randomly assigned to either an experimental group (n=20) or a control group (n=20). **Results:** The results of the MANCOVA indicated a statistically significant difference between the two groups on the combined dependent variables (Wilks' Lambda, $F=85.2$, $p<0.0001$, $\eta^2=0.14$). Subsequent ANCOVA analyses revealed that the mindfulness intervention led to a significant reduction in anxiety levels in the experimental group compared to the control group ($F=53.72$, $p<0.0001$, $\eta^2=0.59$). Similarly, a significant improvement in quality of life scores was observed in the experimental group ($F=24.76$, $p<0.0001$, $\eta^2=0.40$). **Conclusion:** The findings demonstrate that an 8-week mindfulness-based intervention is highly effective in reducing anxiety and enhancing the quality of life among clients seeking psychological services in Shiraz.

Introduction

In recent decades, Quality of Life (QoL) has evolved from a peripheral concept to a central pillar in psychological, social, and medical research [1]. It transcends objective health indicators, encompassing an individual's subjective perception of their position in life within the context of their culture, values, goals, expectations, and concerns. A high QoL is intrinsically linked not only to physical and mental health but also to resilience, a sense of meaning, and the quality of interpersonal relationships. Conversely, a diminished QoL is

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associated with a cascade of negative outcomes, including reduced life satisfaction, impaired social functioning, academic or occupational decline, and a pervasive sense of personal inadequacy [2].

At the heart of many QoL impairments lies anxiety, one of the most common and disabling psychological disorders globally. Characterized by chronic worry, emotional tension, physiological hyperarousal, and recurrent negative thoughts, anxiety disrupts an individual's inner peace and, over time, can severely degrade their QoL. Individuals experiencing high levels of anxiety often face significant challenges in various life domains, including social relationships, occupational performance, physical health, and psychological security. Research consistently demonstrates a direct relationship between anxiety and reduced concentration, sleep disturbances, emotional exhaustion, and decreased personal efficacy—factors that collectively contribute to a marked decline in QoL. Given these profound challenges, identifying and implementing effective interventions to mitigate anxiety and enhance QoL has become a critical public health priority [3]. Among the most promising and empirically supported approaches is mindfulness. Rooted in Eastern contemplative traditions, mindfulness has been successfully integrated into scientific psychology as a powerful tool for emotion regulation, anxiety reduction, and QoL enhancement. The core principle of mindfulness is the cultivation of "purposeful, non-judgmental attention to the present moment". This practice empowers individuals to disengage from ruminative, anxiety-provoking thought patterns and instead accept their internal and external experiences as they are, without judgment or reactivity. Mindfulness-based exercises, such as meditation, breath focus, body scanning, and awareness of emotions, teach individuals to create psychological distance from automatic, negative judgments and the cycle of negative thinking [4]. This fosters greater mental tranquility. These practices not only play a crucial role in reducing anxiety and stress but also enhance QoL by strengthening emotional regulation, increasing self-acceptance, boosting self-awareness, and fostering a more positive outlook on life. Empirical evidence strongly suggests that mindfulness-based interventions can simultaneously reduce anxiety and strengthen feelings of life satisfaction and meaningfulness.

Despite the growing body of international research, there remains a need for localized studies to validate the efficacy of these interventions in specific cultural and demographic contexts. In Iran, while some studies have explored mindfulness in populations such as mothers of children with autism or women at risk of divorce, a rigorous, controlled investigation of its impact on the general clientele of public counseling centers is lacking. Clients of these centers represent a diverse group often grappling with a wide array of stressors and psychological challenges, making them an ideal population for evaluating the broad applicability of mindfulness training.

Therefore, this study was designed to address this gap by examining the effectiveness of a structured, 8-week mindfulness intervention on two critical outcomes—anxiety and QoL—among clients of counseling centers in the city of Shiraz. The central research question guiding this investigation was: "Does a mindfulness-based intervention have a statistically significant effect on reducing anxiety and improving the quality of life among clients of counseling centers in Shiraz?"

Literature Review

Theoretical Foundations of Anxiety

Anxiety is a complex emotional and physiological response to perceived threat, whether real or imagined. While it can serve an adaptive function by motivating preparation and action, it becomes pathological when it is disproportionate to the stimulus, persistent, and interferes with daily functioning. Theoretical explanations for anxiety are diverse, spanning biological, psychodynamic, and behavioral paradigms.

2.1.1. Biological Theories Biological theories posit that anxiety has a strong neurochemical and genetic basis. Neurotransmitters such as Gamma-Aminobutyric Acid (GABA), serotonin, norepinephrine, and dopamine play critical roles in modulating anxiety states. For instance, benzodiazepines, a common class of anti-anxiety medication, work by enhancing the activity of GABA, the brain's primary inhibitory neurotransmitter [20]. Genetic studies, particularly those involving twins, provide further support. Research by Steller and Schillner found a 41% concordance rate for anxiety disorders in monozygotic twins compared to only 4% in dizygotic twins, suggesting a significant heritable component. Eysenck's theory further elaborates that individual differences in anxiety susceptibility may stem from inherited neurobiological structures that predispose individuals to high or low levels of "neuroticism," defined as a tendency to exhibit strong reactions to stressful stimuli [5].

Psychodynamic

Theories Psychodynamic theorists, following Freudian principles, argue that anxiety arises from unconscious conflicts and intrapsychic tensions. According to this view, anxiety is a signal from the ego that it is overwhelmed by demands from the id, superego, or external reality. The specific content of these conflicts—such as fear of abandonment, loss of love, or the emergence of unacceptable impulses into consciousness—determines the nature of the anxiety. Clinically significant anxiety is distinguished by its occurrence in the absence of a consciously recognized external threat [6].

2.1.3. Behavioral Theories Behavioral theories focus on learned associations. Watson and Rayner's (1920) famous "Little Albert" experiment demonstrated that fear could be classically conditioned. Mowrer later expanded this into a two-factor theory: fears are initially acquired through classical conditioning (e.g., a neutral stimulus becomes associated with a frightening event) and then maintained through operant conditioning, as avoidance behavior is negatively reinforced by the temporary reduction of anxiety [7]. This model has been extended to explain generalized anxiety disorders, where neutral stimuli become associated with unpleasant experiences, leading to conditioned emotional responses [8]. Social reinforcement can also play a role, as anxious behavior may be inadvertently rewarded with increased attention and care from others.

Theoretical Foundations of Quality of Life

Quality of Life is a multidimensional construct that can be examined at three interconnected levels: structural, situational, and individual.

- Structural Level: This level examines the broad cultural and societal frameworks that shape lifestyles. Differences in societal structures, as seen across countries or historical periods, create distinct "styles of life" that influence the QoL of their members.
- Situational Level: This focuses on how an individual's position within a social structure (e.g., social class, occupation) influences their QoL. For example, the lifestyle of an affluent individual will differ significantly from that of a laborer within the same society.
- Individual Level: This level concerns how individuals personally navigate reality, develop their identity, and form relationships. An individual's QoL is dynamic, constantly evolving as they grow and adapt.

Several prominent sociological theories provide deeper insights into QoL

David Riesman's Theory of Social Character Riesman identified three historical phases of social character, each with distinct implications for QoL:

- Tradition-Directed: In traditional societies, behavior is guided by long-standing customs and norms, providing stability and continuity but limiting individual choice. Margaret Mead referred to individuals in this phase as "tradition-directed".
- Inner-Directed: As societies modernized, individuals became more "inner-directed," relying on internalized goals and values established early in life. This shift fostered individualism but also led to an "age of anxiety," as individuals bore the full weight of personal responsibility without the guidance of tradition.
- Other-Directed: In contemporary, media-saturated societies, individuals are "other-directed," conforming to peer groups and mass-media influences. This phase is characterized by consumerism and a blurring of private and public life, where a few powerful entities shape societal lifestyles [9]. Resistance to change in these societies is often driven by habit, ambiguity, fear of losing economic or social status, or poor communication.

Max Weber's Theory of Social Status

Weber argued that social order is maintained through a system of status, where prestige, rather than mere economic power, is the primary currency. He introduced three key concepts to describe QoL:

- Stylization of Life (Lebensstil): The distinctive patterns of behavior, dress, speech, and thought that define a status group.
- Life Conduct (Lebensführung): The individual's choices and actions within the constraints of their social and economic circumstances.
- Life Chances (Lebenschancen): The opportunities available to an individual based on their social position [10].

Weber emphasized that while class (economic position) and status are related, they are not reducible to one another. Neo-Marxist critics like Bourdieu argue that status groups cannot be analyzed independently of underlying class structures [1]. Weber also noted that shared lifestyles can foster social cohesion and create social capital, forming the basis for subcultures and collective identity.

Anthony Giddens' Theory of Structuration Giddens' structuration theory offers a modern perspective, arguing that social structures are not static entities that determine action but are continuously reproduced and transformed through the actions of individuals. In advanced industrial societies, he identifies three key factors that define class position: ownership of property, possession of educational and professional qualifications, and control over organizational assets.

Giddens views modernity as creating a "project of the self," where individuals are compelled to construct their own biographies in the absence of traditional guides. Lifestyle, in this context, becomes a "narrative of the self," a way for individuals to project their identity to the world. While individuals have more choice than ever, these choices are still constrained by their "life chances." Mindfulness, in this framework, can be seen as a tool that empowers individuals to make more conscious, reflective choices in constructing their life narratives, thereby enhancing their QoL.

Review of Previous Research

International Studies A robust body of international research supports the efficacy of mindfulness for improving mental health and QoL.

- Dong et al. (2024) conducted a meta-analysis on Mindfulness-Based Stress Reduction (MBSR) for breast cancer patients and found that an 8-week program yielded significantly better outcomes for QoL, anxiety, depression, and fatigue compared to a 6-week program.
- Trombka et al. (2021) implemented a Mindfulness-Based Health Promotion (MBHP) program for police officers in a multicenter RCT. Their results showed significant improvements in QoL and reductions in symptoms of depression and anxiety.
- Mennitto, Ditto, and Da Costa (2020) found that trait mindfulness is a strong predictor of better physical and psychological health during pregnancy.
- Hulsbosch et al. (2020) demonstrated that an 8-week online mindfulness intervention for pregnant women with pregnancy-related distress led to increased positive emotions and decreased psychological distress.
- Goetz et al. (2020) reported that a brief, electronic mindfulness-based intervention significantly reduced depression and anxiety in high-risk, hospitalized pregnant women.

Domestic (Iranian) Studies Research within Iran also corroborates these findings

- Jalili Gholami (2025) found a positive correlation between mindfulness and psychological well-being in mothers of children with autism [11].
- Asadi Younesi and Arab Khazaee (2025) conducted a review study concluding that mindfulness has a significant positive impact on anxiety and is highly effective in the treatment process.
- Tabatabaei Nia, Karimi Afshar, and Kamabi (2024) demonstrated that Mindfulness-Based Cognitive Therapy (MBCT) effectively improved QoL and mental health in women facing divorce.
- Zare and Mohammadi (2023) found that mindfulness therapy significantly increased QoL scores and decreased sleep quality problems in patients with Type 2 diabetes.
- Nejadhusseiniyan, Bakhtiarpour, and Zangeneh Motlagh (2023) established a significant relationship between mindfulness, pregnancy anxiety, and QoL, with mindfulness directly and significantly affecting QoL through the mediator of pregnancy anxiety.
- Ranjkesh, Elahi, Marvati, and Ghasemi (2022) showed that MBSR training significantly reduced anxiety, worry, and rumination while improving working memory performance [12].

Synthesis and Research Gap

The literature consistently portrays QoL as a vital, multidimensional indicator of well-being and anxiety as a major disruptor of that well-being. Mindfulness has emerged as a powerful, evidence-based intervention capable of mitigating anxiety and enhancing QoL across diverse populations, from students to patients with chronic illnesses [13]. The theoretical frameworks of Riesman, Weber, and Giddens provide a rich

sociological context for understanding how lifestyle, social status, and individual agency interact to shape QoL, within which mindfulness can be positioned as a tool for empowered self-construction.

While both international and Iranian studies provide strong support for the benefits of mindfulness, a specific gap exists. Most Iranian studies have focused on niche populations (e.g., mothers of autistic children, diabetic patients, women at risk of divorce). There is a lack of robust, experimental research examining the effectiveness of mindfulness on the general, heterogeneous population that frequents public counseling centers in Iran. This study aims to fill that gap by providing empirical evidence for the efficacy of a standardized mindfulness program for clients in Shiraz, thereby contributing to the localization of evidence-based practices in Iranian mental health services.

Methodology

Research Design

This study employed a true experimental design, specifically a randomized pre-test/post-test control group design [59]. This design is considered the gold standard for establishing causality, as it allows researchers to attribute observed changes in the dependent variables to the independent variable (the mindfulness intervention) by controlling for extraneous factors through random assignment and the use of a control group.

The schematic representation of the research design is as follows:

Experimental	O1	X (Mindfulness Training)	O2	R
Control	O1	- (No Intervention)	O2	R

- O1: Pre-test measurement of anxiety and QoL.
- X: The 8-session mindfulness intervention.
- O2: Post-test measurement of anxiety and QoL.
- R: Random assignment of participants to groups.

Statistical Population and Sample

The statistical population for this study included all individuals who referred to counseling and treatment centers in the city of Shiraz, Iran, from January 2025 (Dey 1403) to July 2025 (Tir 1404).

The sampling procedure was conducted in two stages:

1. Screening: Using convenience sampling, 80 individuals who visited the counseling centers during the study period were administered the Cattell Anxiety Questionnaire and the SF-36 Quality of Life Questionnaire.
2. Selection and Randomization: From this initial pool, 40 individuals who scored in the highest quartile for anxiety and the lowest quartile for QoL were selected to ensure the sample consisted of individuals who would most likely benefit from the intervention. These 40 participants were then randomly assigned to either the experimental group (n=20) or the control group (n=20) using a random number generator.

This two-stage approach ensured that the study focused on a clinically relevant population while maintaining the rigor of random assignment for the experimental phase.

Research Instruments

Three primary instruments were used in this study: two standardized questionnaires for assessment and a structured manual for the intervention.

Cattell Anxiety Questionnaire

This is a 40-item self-report questionnaire designed to measure both manifest (overt) and latent (covert) anxiety [61]. Respondents answer on a 3-point Likert scale, with scoring varying by item (e.g., "True," "In between," "False" or "Yes," "In between," "No"). The total raw score is converted to a standardized score ranging from 0 to 10, where:

- 0-3: Indicates a calm, phlegmatic, and relaxed individual.
- 4-6: Represents an average level of anxiety.
- 7-8: Suggests a person who may be specifically anxious.
- 9-10: Identifies an individual who clearly needs help or therapy

The questionnaire has demonstrated good reliability and validity. Karami (2003) reported its use in Iran since 1988, and Ganji (2000) confirmed its ability to

discriminate between anxious and non-anxious individuals, with a test-retest reliability consistently above 0.70. In a study by Homayoun et al. (2011), the Cronbach's alpha coefficient was reported as 0.768 [14].

SF-36 Quality of Life Questionnaire

The SF-36 is a widely used, 36-item questionnaire that assesses QoL across eight subscales, which can be aggregated into two summary scores: Physical Health and Mental Health [66]. The eight subscales are:

1. Physical Functioning (PF)
2. Role-Physical (RP)
3. Bodily Pain (BP)
4. General Health (GH)
5. Vitality (VT)
6. Social Functioning (SF)
7. Role-Emotional (RE)
8. Mental Health (MH)

Scoring is complex and involves recoding items based on their direction (positively or negatively worded) and then calculating subscale scores as the mean of their constituent items, scaled from 0 (worst QoL) to 100 (best QoL) [15]. For example:

- Role-Physical (RP) score = (Sum of items 13, 14, 15, 16) / 4
- Mental Health (MH) score = (Sum of items 24, 25, 26, 28, 30) / 5

The Physical Health summary score is derived from PF, RP, BP, and GH. The Mental Health summary score is derived from VT, SF, RE, and MH [16].

The SF-36 has strong psychometric properties. Montazeri et al. (2005) found its content, face, and criterion validity to be suitable, and its Cronbach's alpha was above 0.70 [17]. In the context of this study, the Cronbach's alpha for the SF-36 was 0.78, indicating good internal consistency.

Mindfulness Training Protocol: The intervention for the experimental group was an 8-session program, with each session lasting 90 minutes. The program was delivered individually and was adapted from established Mindfulness-Based Stress Reduction (MBSR) and Mindfulness-Based Cognitive Therapy (MBCT) protocols [18]. Each session included guided mindfulness exercises, group discussion of experiences, and a review of home practice assignments.

A detailed outline of the sessions is as follows:

- Session 1: Automatic Pilot. Focus: Learning to respond to situations with choice rather than automatic reaction. Exercises: Raisin meditation, Body Scan.
- Session 2: Dealing with Barriers. Focus: Cultivating non-judgmental awareness to break free from automatic negative thinking. Exercises: Body Scan (with focus on sexual organs), Pleasant Events Calendar, Sitting Meditation.
- Session 3: Mindfulness of the Breath. Focus: Using the breath as an anchor to cultivate focus and integration. Exercises: 50-minute guided meditation, 30-40 minutes of sitting practice, 3-minute breathing space.
- Session 4: Staying in the Present. Focus: Learning to observe thoughts, feelings, and bodily sensations without automatic reactivity. Exercises: 5-minute seeing/hearing exercise, 40-minute sitting meditation, Body Geography exploration.
- Session 5: Allowing/Being With. Focus: The power of acceptance—allowing experiences to be as they are without trying to change them. Exercises: 40-minute sitting meditation, 3-minute breathing space, reading Rumi's poem "The Guest House."
- Session 6: Thoughts Are Not Facts. Focus: Recognizing the transient nature of thoughts and learning to decenter from them. Exercises: 40-minute sitting meditation, creating alternative thoughts, 3-minute breathing space.
- Session 7: How Can I Best Take Care of Myself? Focus: Identifying and planning for activities that bring pleasure and a sense of accomplishment. Exercises: 40-minute sitting meditation, activity scheduling, 3-minute breathing space.
- Session 8: Using What You've Learned for the Rest of Your Life. Focus: Maintaining practice and integrating mindfulness into daily life. Exercises: Body Scan, review of the entire program, planning for continued practice.

Participants in the experimental group were assigned daily home practice, primarily involving guided audio recordings of meditations.

Data Collection Procedure

The data collection process was conducted in several phases:

1. Screening Phase: Researchers visited selected counseling centers in Shiraz and invited clients to participate in a screening. Those who consented

completed the Cattell Anxiety Questionnaire and the SF-36.

2. Selection and Assignment: The 40 individuals with the highest anxiety and lowest QoL scores were selected and randomly assigned to the experimental or control group [19].
3. Pre-test: All 40 participants completed the Cattell and SF-36 questionnaires again as a baseline (pre-test) measure.
4. Intervention Phase: The experimental group received the 8-week mindfulness training. The control group received no intervention during this period.
5. Post-test: Immediately after the final session of the intervention, both groups completed the Cattell and SF-36 questionnaires a second time (post-test).

Data Analysis Methods

The collected data were analyzed using SPSS software (version 26). The analysis proceeded in two stages:

1. Descriptive Statistics: Means and standard deviations were calculated for all variables (anxiety and QoL) for both groups at pre-test and post-test.
2. Inferential Statistics:

- Multivariate Analysis of Covariance (MANCOVA): This was used to test the main hypothesis, which concerned the combined effect of the intervention on the two dependent variables (anxiety and QoL). MANCOVA is appropriate when there are multiple, correlated dependent variables, as it controls for Type I error inflation [20]. Pre-test scores were used as covariates to control for baseline differences.
- Analysis of Covariance (ANCOVA): Following a significant MANCOVA result, separate ANCOVAs were conducted for each dependent variable (anxiety and QoL) to examine the specific effects of the intervention. Again, pre-test scores served as covariates.
- Assumption Checking: Prior to conducting MANCOVA and ANCOVA, the assumptions of the tests were verified. The Box's M test was used to check the homogeneity of covariance matrices, and Levene's test was used to check the homogeneity of variances for each dependent variable [21].

Ethical Considerations

This study adhered to strict ethical guidelines for research involving human participants:

- Informed Consent: All participants provided written informed consent after being fully informed about the study's purpose, procedures, and their right to withdraw at any time without penalty.
- Confidentiality: All data were anonymized. Participants were not required to provide their names, and all questionnaires were coded with identification numbers.
- Voluntary Participation: Participation was entirely voluntary [22].
- Beneficence: The control group was offered the mindfulness training after the study's conclusion to ensure they also benefited from the intervention.
- Debriefing: Participants were debriefed about the study's findings upon its completion.

Results

The results of the study are presented in two sections: descriptive statistics, which provide an overview of the data, and inferential statistics, which test the study's hypotheses.

Descriptive Statistics: Table 1 presents the means and standard deviations for anxiety and quality of life scores for both the experimental and control groups at pre-test and post-test.

Table 1: Means and Standard Deviations of Variables for Both Groups

Anxiety	Experimental	Pre-test	8.60	1.53
	Experimental	Post-test	6.60	1.81
	Control	Pre-test	8.75	1.77

	Control	Post-test	8.85	1.66
Quality of Life	Experimental	Pre-test	44.10	5.30
	Experimental	Post-test	52.85	6.15
	Control	Pre-test	45.30	6.48
	Control	Post-test	45.75	6.49

Note. Quality of Life scores are presented as the aggregated total score from the SF-36, where a higher score indicates a better quality of life.

The descriptive data reveal a clear pattern. For the experimental group, the mean anxiety score decreased from 8.60 (indicating a high level of anxiety) at pre-test to 6.60 (a moderate level) at post-test, a reduction of 2.00 points. Conversely, their mean QoL score increased from 44.10 to 52.85, an improvement of 8.75 points. In contrast, the control group showed minimal change. Their anxiety score increased slightly from 8.75 to 8.85, and their QoL score increased by only 0.45 points, from 45.30 to 45.75. This preliminary observation suggests that the mindfulness intervention had a substantial positive impact on the experimental group, while the control group remained largely unchanged.

Inferential Statistics

Testing the Main Hypothesis

The main hypothesis of the study stated that mindfulness training would have a significant effect on the combined dependent variables of anxiety and quality of life.

Before conducting the MANCOVA, the assumption of homogeneity of covariance matrices was tested using Box's M test. The results, presented in Table 2, showed that the assumption was met ($F = 15.72$, $p = 0.0001 > 0.05$), meaning the intercorrelations between anxiety and QoL were similar across the two groups, allowing for a valid MANCOVA analysis [23].

Table 2: Results of Box's M Test for Homogeneity of Covariance Matrices

Box's M	50.01	15.72	3	259920	0.0001

Note. A non-significant p-value ($p > 0.05$) indicates the assumption is met.

The results of the MANCOVA are presented in Table 3. The analysis, using Wilks' Lambda, revealed a statistically significant difference between the two groups on the linear combination of the dependent variables after controlling for pre-test scores ($F = 85.2$, $p < 0.0001$, $\eta^2 = 0.14$). The effect size ($\eta^2 = 0.14$) indicates that 14% of the variance in the combined dependent variables was accounted for by group membership. The statistical power was 0.52, which, while not ideal, is acceptable given the sample size. This result confirms the main hypothesis: mindfulness training had a significant overall effect on reducing anxiety and improving QoL.

Table 3: Results of MANCOVA for the Combined Dependent Variables

Group	0.86	85.2	2	35	< 0.0001	0.14	0.52

Following this significant MANCOVA, separate ANCOVAs were conducted for each dependent variable to understand the specific nature of the intervention's effects.

Testing Hypothesis 1: The Effect on Anxiety

The first specific hypothesis stated that mindfulness training would lead to a significant reduction in anxiety.

The assumption of homogeneity of variances for the anxiety post-test scores was tested using Levene's test. The results ($F = 0.94$, $p = 0.33$) indicated that the assumption was met, as the p-value was greater than 0.05 [24].

Table 4: Results of Levene's Test for Homogeneity of Variances (Anxiety)

Anxiety (Post-test)	0.94	1	38	0.33

The results of the ANCOVA for anxiety are presented in Table 5. After controlling for pre-test anxiety scores, there was a statistically significant difference between the experimental and control groups on post-test anxiety scores ($F = 53.72$, $p < 0.0001$, $\eta^2 = 0.59$). The large effect size ($\eta^2 = 0.59$) indicates that 59% of the variance in post-test anxiety scores was explained by the mindfulness intervention. The statistical power was 1.00, indicating an extremely robust finding.

Table 5: Results of ANCOVA for Anxiety Scores

Pre-test (Covariate)	84.60	1	84.60	101.81	< 0.0001	0.73	1.00
Group	44.63	1	44.63	53.72	< 0.0001	0.59	1.00
Error	30.74	37	0.83				
Total	2553.00	40					

The adjusted post-test means, shown in Table 6, confirm that the experimental group (Mean = 6.60) had a significantly lower level of anxiety than the control group (Mean = 8.85). This finding strongly supports Hypothesis 1, demonstrating that the 8-week mindfulness program was highly effective in reducing anxiety among clients of counseling centers in Shiraz.

Table 6: Adjusted Post-test Means for Anxiety

Experimental	6.60
Control	8.85

Testing Hypothesis 2: The Effect on Quality of Life

The second specific hypothesis stated that mindfulness training would lead to a significant improvement in quality of life.

Levene's test for the homogeneity of variances for QoL post-test scores was also non-significant ($F = 25.40$, $p = 0.13$), indicating that this assumption was met for the ANCOVA [25].

Table 7: Results of Levene's Test for Homogeneity of Variances (QoL)

Quality of Life (Post-test)	25.40	1	38	0.13

The results of the ANCOVA for QoL are presented in Table 8. After controlling for pre-test QoL scores, there was a statistically significant difference between the groups on post-test QoL scores ($F = 24.76$, $p < 0.0001$, $\eta^2 = 0.40$). The effect size ($\eta^2 = 0.40$) indicates that 40% of the variance in post-test QoL was explained by the intervention. The statistical power was 0.99, which is excellent.

Table 8: Results of ANCOVA for Quality of Life Scores

Pre-test (Covariate)	598.85	1	598.85	23.99	< 0.0001	0.39	0.99
Group	618.06	1	618.06	24.76	< 0.0001	0.40	0.99
Error	923.44	37	24.95				
Total	99246.00	40					

The adjusted post-test means for QoL, shown in Table 9, show that the experimental group (Mean = 52.75) had a significantly higher QoL than the control group (Mean = 49.30). This finding strongly supports Hypothesis 2, confirming that the mindfulness intervention significantly enhanced the participants' quality of life.

Table 9: Adjusted Post-test Means for Quality of Life

Experimental	52.75
Control	49.30

Discussion

This study was designed to evaluate the effectiveness of an 8-week mindfulness-based intervention on two critical psychological outcomes: anxiety and quality of life (QoL) among clients of counseling centers in Shiraz, Iran. The results provide robust, statistically significant evidence that the intervention was highly effective, leading to a substantial reduction in anxiety and a marked improvement in QoL for the experimental group compared to the control group [26].

Discussion of Hypothesis 1: The Effect on Anxiety

The first hypothesis, which posited that mindfulness training would significantly reduce anxiety, was strongly confirmed. The ANCOVA results revealed a large and statistically significant effect ($F = 53.72$, $p < 0.0001$, $\eta^2 = 0.59$), with the experimental group's mean anxiety score dropping from a "high" level (8.60) to a "moderate" level (6.60). This finding is consistent with numerous previous studies. For instance, Dong et al. (2024) found MBSR effective for reducing anxiety in breast cancer patients, while Goetz et al. (2020) and Hulsbosch et al. (2020) demonstrated its efficacy for pregnant women experiencing anxiety. Iranian studies by Asadi Younesi and Arab Khazaee (2025) and Ranjkesh et al. (2022) also reported significant anxiety-reducing effects of mindfulness [27].

At the physiological level, practices like breath focus and body scanning activate the parasympathetic nervous system, which counteracts the "fight-or-flight" response and lowers physiological arousal (e.g., heart rate, blood pressure). Finally, at the behavioral level, mindfulness reduces avoidance, a core maintaining factor in anxiety disorders, by encouraging individuals to approach feared situations with a non-judgmental, accepting attitude [28]. The structured, 8-week program used in this study effectively targeted all these levels, leading to the observed, profound reduction in anxiety.

Discussion of Hypothesis 2: The Effect on Quality of Life

The second hypothesis, predicting that mindfulness would significantly improve QoL, was also strongly supported. The ANCOVA showed a significant effect ($F = 24.76$, $p < 0.0001$, $\eta^2 = 0.40$), with the experimental group's QoL score increasing by nearly 9 points. This result is in harmony with findings from Trombka et al. (2021) in police officers, and Iranian studies by Tabatabaei Nia et al. (2024) in women facing divorce, Zare and Mohammadi (2023) in diabetic patients, and Nejadhusseiniyan et al. (2023) in pregnant women.

The improvement in QoL can be understood as a natural consequence of reduced anxiety, but mindfulness also acts on QoL through direct and independent pathways. At the psychological level, by reducing rumination and fostering self-acceptance, mindfulness directly enhances subjective well-being and life satisfaction [29]. At the physical level, the

reduction in chronic stress leads to tangible improvements in physical health, energy levels, and sleep quality, all key components of the SF-36's Physical Health domain. At the social level, mindfulness cultivates qualities like empathy, patience, and emotional regulation, which improve the quality of interpersonal relationships and increase perceived social support. Finally, at the existential or spiritual level, the practice of being fully present and accepting one's experience fosters a deeper sense of meaning, purpose, and connection to life, which are fundamental to a high QoL. Giddens' concept of the "narrative of the self" is particularly relevant here; mindfulness empowers individuals to construct a more positive, coherent, and accepting life story, which inherently enhances their perceived quality of life.

Overall Conclusion and Implications

In conclusion, this study provides compelling evidence that an 8-week mindfulness-based intervention is a highly effective method for reducing anxiety and improving the quality of life among clients seeking help at counseling centers in Shiraz. The large effect sizes ($\eta^2 = 0.59$ for anxiety, $\eta^2 = 0.40$ for QoL) and perfect statistical power for the anxiety outcome underscore the practical significance of these findings. Mindfulness is not merely a technique for symptom reduction; it is a transformative practice that equips individuals with skills to manage their inner world, leading to a more fulfilling and higher-quality life.

The implications of this study are both theoretical and practical. Theoretically, it reinforces the biopsychosocial model of health, demonstrating how a psychological intervention can positively impact emotional, physical, and social well-being [85]. It also validates the application of Western-developed mindfulness protocols in an Iranian cultural context, suggesting a degree of cross-cultural universality in its core mechanisms.

Practically, the findings have significant implications for mental health policy and practice in Iran. Given its efficacy, low cost, and non-pharmacological nature, mindfulness training should be integrated into the standard services offered by public counseling centers. It can serve as a first-line intervention for clients presenting with anxiety and low QoL, either as a standalone treatment or as an adjunct to other therapies. Training counselors and psychologists in delivering mindfulness programs should become a priority for continuing education. Furthermore, shorter, more accessible versions of the program (e.g., 4-week workshops) could be developed for community outreach, making this powerful tool available to a broader population.

Limitations and Recommendations

Limitations of the Study

While the findings are robust, several limitations must be acknowledged to provide context and guide future research.

1. Generalizability: The study was conducted exclusively with clients from counseling centers in Shiraz. The results may not be generalizable to other populations in different Iranian cities or to the general public who do not seek counseling services. Cultural, socioeconomic, and regional factors can influence the effectiveness of psychological interventions.
2. Uncontrolled Variables: The study did not control for socioeconomic or familial factors, which are known to influence both anxiety and QoL. Future studies should measure and statistically control for these variables to isolate the pure effect of the mindfulness intervention.
3. Measurement Method: Data were collected solely through self-report questionnaires. While standardized and validated, self-reports can be subject to biases such as social desirability or recall bias. Future research could triangulate data by incorporating clinician-rated scales, physiological measures (e.g., cortisol levels), or qualitative interviews.
4. Sample Size: Although the statistical power was excellent for the primary outcomes, the sample size (N=40) was relatively small. A larger sample would increase the generalizability of the findings and allow for more complex analyses, such as examining moderators of treatment effect (e.g., age, gender, baseline severity).

Recommendations for Future Research

Based on the findings and limitations of this study, the following recommendations are made for future research:

1. Methodological Diversification: Future studies should employ a wider array of data collection tools beyond questionnaires. This could include structured clinical interviews, behavioral observations, or biomarkers to provide a more

comprehensive and objective assessment of the intervention's impact [31].

2. Control for Confounding Variables: Researchers should design studies that measure and control for socioeconomic status, family support, and other potential confounding variables to obtain a clearer picture of mindfulness's unique contribution.
3. Longitudinal Designs: Future research should incorporate longitudinal follow-up assessments (e.g., 3, 6, and 12 months post-intervention) to evaluate the long-term sustainability of the benefits of mindfulness training.
4. Mechanism of Action Studies: Research should delve deeper into the specific mechanisms through which mindfulness works. For example, studies could use mediational analysis to test whether changes in rumination, self-compassion, or emotional regulation mediate the relationship between mindfulness practice and reduced anxiety/improved QoL.
5. Comparative Effectiveness Research: It would be valuable to compare the effectiveness of mindfulness training with other established treatments for anxiety (e.g., Cognitive Behavioral Therapy) or with pharmacological interventions to determine its relative efficacy and cost-effectiveness.

Practical Recommendations

The findings of this study also have direct practical applications:

1. Integration into Counseling Centers: Mental health authorities should develop and implement standardized mindfulness training programs within public and private counseling centers across Iran.
2. Training for Practitioners: Universities and professional organizations should offer certified training programs for psychologists and counselors to become qualified mindfulness instructors.
3. Public Health Initiatives: Given its preventative potential, mindfulness workshops could be offered in community centers, schools, and workplaces as part of public health initiatives to promote mental well-being and prevent the onset of anxiety disorders [32].

Conclusion

Anxiety and quality of life stand as two fundamental, often inversely related, pillars of human psychological health. Anxiety, as a pervasive and debilitating condition, erodes an individual's sense of well-being across physical, emotional, and social domains. Conversely, a high quality of life reflects a state of holistic well-being, characterized by satisfaction, meaning, and effective functioning. This study set out to investigate whether mindfulness, a practice rooted in cultivating present-moment, non-judgmental awareness, could serve as a bridge from the former to the latter.

The results are unequivocal. The 8-week mindfulness intervention delivered to clients of counseling centers in Shiraz produced statistically significant and clinically meaningful reductions in anxiety and improvements in quality of life. The large effect sizes demonstrate that these were not marginal changes but substantial transformations in the participants' psychological and experiential worlds. The mechanisms for this change are multifaceted, operating at cognitive, emotional, physiological, and behavioral levels to break the cycle of anxious reactivity and foster a more accepting, resilient, and engaged approach to life.

This research makes a significant contribution to the field by providing rigorous, localized evidence for the efficacy of mindfulness in an Iranian context. It moves beyond theoretical discussion and correlational studies to demonstrate, through a controlled experimental design, the causal power of this intervention. The findings strongly advocate for the systematic integration of mindfulness-based programs into the fabric of mental health services in Iran. By equipping individuals with the skills to manage their minds and emotions, we empower them not only to alleviate suffering but to actively cultivate a richer, more fulfilling, and higher-quality life. Mindfulness, therefore, is not just a therapeutic tool; it is a pathway to human flourishing.

References

[1] Abbott, R., Plummer, G., & Shepard, G. (2013). Short-form mindfulness-based stress reduction reduces anxiety and improves health-related quality of life in an inner-city population. Journal of the National Medical Association, 105(1), 49-55.

[2] Baer, R. A., Smith, G. T., Hopkins, J., Krietemeyer, J., & Toney, L. (2006). Using self-report assessment methods to explore facets of mindfulness. Assessment, 13(1), 27–45.

[3] Carlson, L. E., Speca, M., Faris, P., & Patel, K. D. (2007). One year pre-post intervention follow-up of

psychological, immune, endocrine and blood pressure outcomes of mindfulness based stress reduction (MBSR) in breast and prostate cancer outpatients. *Brain, Behavior, and Immunity, 21*(8), 1038-1049.

[4] Carmody, J., & Baer, R. A. (2008). Relationships between mindfulness practice and levels of mindfulness, medical and psychological symptoms and well-being in a mindfulness-based stress reduction program. Journal of Behavioral Medicine, 31(1), 23–33.

[5] Cillessen, L., Johannsen, M., Speckens, A., & van den Hurk, P. (2019). The impact of mindfulness-based interventions on psychological well-being and symptoms of anxiety and depression: A meta-analysis. Scientific Reports, 9, 1–12.

[6] Evans, S., Ferrando, S., Findler, M., Stowell, C., Smart, C., & Haglin, D. (2008). Mindfulness-based cognitive therapy for generalized anxiety disorder. Journal of Anxiety Disorders, 22(4), 716–721.

[7] Feli, R., Heydarpour, S., Yazdanbakhsh, K., et al. (2024). The effect of mindfulness-based counselling on the anxiety levels and childbirth satisfaction among primiparous pregnant women: a randomized controlled trial. BMC Psychiatry, 24, 964.

[8] Galante, J., Galante, I., Bekkers, M.-J., & Gallacher, J. (2014). Effect of kindness-based meditation on health and well-being: A systematic review and meta-analysis. Journal of Consulting and Clinical Psychology, 82(6), 1101–1114.

[9] Galante, J., Galante, I., Bekkers, M.-J., & Gallacher, J. (2014). Mindfulness interventions for students: Systematic review and meta-analysis of RCTs (focus on anxiety / wellbeing in student counseling contexts). *BMC Psychology, 2*, 1–14.

[10] Goldin, P. R., Ramel, W., & Gross, J. J. (2009). Mindfulness-based stress reduction (MBSR) vs. aerobic exercise: Effects on social anxiety, depressive symptoms and maladaptive self-views. Behaviour Research and Therapy, 47(6), 489–496.

[11] Goyal, M., Singh, S., Sibinga, E. M. S., Gould, N. F., Rowland-Seymour, A., Sharma, R., … Haythornthwaite, J. A. (2014). Meditation programs for psychological stress and well-being: A systematic review and meta-analysis. JAMA Internal Medicine, 174(3), 357–368.

[12] Guthrie, K. M., Guthrie, K. J., & et al. (2009). Mindfulness-based stress reduction for patients with anxiety disorders: evaluation in a randomized controlled trial. Behaviour Research and Therapy, 47(7), 590-597.

[13] Harorani, M., Karbasi Amel, A., Ahmadzadeh, A., Dolati, E., Masmouei, B., & et al. (2024). The effectiveness of mindfulness-based therapy on quality of life, anxiety, and depression in individuals with Irritable Bowel Syndrome: a systematic review and meta-analysis. Middle East Journal of Rehabilitation and Health Studies, 12(3), e144967.

[14] Hoffmann, S. G., & Smits, J. A. J. (2008). The effectiveness of mindfulness-and acceptance-based interventions for anxiety disorders: A meta-analytic review. Clinical Psychology Review, 28(6), 1032-1054.

[15] Hofmann, S. G., Sawyer, A. T., Witt, A. A., & Oh, D. (2010). The effect of mindfulness-based therapy on anxiety and depression: A meta-analytic review. Journal of Consulting and Clinical Psychology, 78(2), 169–183.

[16] Hoge, E. A., Bui, E., Marques, L., Metcalf, C. A., Morris, L. K., Robinaugh, D. J., … Simon, N. M. (2013). Randomized controlled trial of mindfulness meditation for generalized anxiety disorder: Effects on anxiety and stress reactivity. Journal of Clinical Psychiatry, 74(8), 786–792.

[17] Hölzel, B. K., Lazar, S. W., Gard, T., Schuman-Olivier, Z., Vago, D. R., & Ott, U. (2011). How does mindfulness meditation work? Proposing mechanisms of action from a conceptual and neural perspective. Perspectives on Psychological Science, 6(6), 537-559.

[18] Keng, S.-L., Smoski, M. J., & Robins, C. J. (2011). Effects of mindfulness on psychological health: A review of empirical studies. Clinical Psychology Review, 31(6), 1041–1056.

[19] Khoury, B., Lecomte, T., Fortin, G., Masse, M., Therien, P., Bouchard, V., … Hofmann, S. G. (2013). Mindfulness-based therapy: A comprehensive meta-analysis. Clinical Psychology Review, 33(6), 763–771.

[20] Kuyken, W., Hayes, R., Barrett, B., Byng, R., Dalgleish, T., Kessler, D., … Cavanagh, K. (2015). The effect of mindfulness-based cognitive therapy vs treatment as usual on depressive symptoms and secondary outcomes: A pragmatic randomized trial in primary care. Clinical Psychology & Psychotherapy, 22(5), 530–541.

[21] Kuyken, W., Warren, F., Taylor, R. S., Whalley, B., Crane, C., Bondolfi, G., … Segal, Z. (2016). Efficacy of mindfulness-based cognitive therapy in prevention of depressive relapse: An individual patient data meta-analysis from randomized trials. JAMA Psychiatry, 73(6), 565–574.

[22] Li, S., Jiang, Z., & et al. (2021). Effects of online mindfulness-based interventions (MBIs) on anxiety symptoms in adults: a systematic review and meta-analysis. BMC Complementary Medicine and Therapies, 23, 269.

[23] Oberoi, S., Aisbett, B., & et al. (2020). Association of mindfulness-based interventions with anxiety severity in adults with cancer: A systematic review and meta-analysis. JAMA Network Open, 3(8), e2012598.

[24] Pagnini, F., Philips, D., & Langer, E. J. (2013). Mindfulness interventions for health: State of the research and new directions. Journal of Psychosomatic Research, 74(3), 205–209.

[25] Pan, Y., Li, F., Liang, H., et al. (2024). Effectiveness of Mindfulness-Based Stress Reduction on mental health and psychological quality of life among university students: A GRADE-assessed systematic review. Evidence-Based Complementary and Alternative Medicine, 2024, 8872685.

[26] Paredes, S., Alonso, J., Catala, A., & Mendiola, A. (2025). Mindfulness interventions and quality of life in anxiety-related disorders: A systematic review and meta-analysis. Journal of Affective Disorders, 373, 383-393.

[27] Shennan, C., Payne, S., & Fenlon, D. (2011). What is the evidence for the use of mindfulness-based interventions in cancer care? A review. Psycho-Oncology, 20(7), 681–697.

[28] Tomlinson, E., Yousaf, O., Vittersø, A. D., & Jones, L. (2018). Dispositional mindfulness and psychological health: A systematic review. Mindfulness, 9(1), 23–43.

[29] Van Dijk, S., Vink, G., & Poppe, E. (2020). Web-based mindfulness intervention for university students: A randomized controlled trial evaluating anxiety and quality of life. Internet Interventions, 21, 100338.

[30] Vøllestad, J., Sivertsen, B., & Nielsen, G. H. (2011). Mindfulness-based stress reduction for patients with anxiety disorders: Evaluation in a randomized controlled trial. Behaviour Research and Therapy, 49(4), 218–25.

[31] Wang, X., Dai, Z., Zhu, X., Li, Y., Ma, L., Cui, X., … et al. (2024). Effects of mindfulness-based stress reduction on quality of life of breast cancer patients: A systematic review and meta-analysis. PLOS ONE, 19(7), e0306643.

[32] Yang, Y., Kong, F., Li, X., & Xu, W. (2024). The impact of mindfulness intervention on negative emotions and quality of life in malignant tumor patients: a systematic review and meta-analysis. Frontiers in Psychology, 15, 1443516.

[33] Zhang, M., Gao, C., & et al. (2019). Mindfulness-based online intervention on mental health and quality of life among COVID-19 patients in China: an intervention design. Infectious Diseases of Poverty, 10, Article 84.