KMANPUB | Health Nexus Vol. 5 No. 1 (2027): 1-17

Article history:
Received 20 May 2026
Revised 24 August 2026
Accepted 01 September 2026
Initial Publication 09 September 2026
Final Publication 01 January 2027

Effectiveness of a Mindfulness-Based Group Intervention on Shame, Sexual Anxiety, and Self-Confidence in Individuals with Sexual Dysfunction

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A r t i c l e I n f o

Article type:
Original Research

How to cite this article:
Hajavi, Z., Madadi Cholche, P., Soleiman Heshmat, M., Shojaei, A., & Barekat, A. (2027). Effectiveness of a Mindfulness-Based Group Intervention on Shame, Sexual Anxiety, and Self-Confidence in Individuals with Sexual Dysfunction. *Health Nexus, 5*(1), 1-17.
https://doi.org/10.61838/kman.hn.6013

A B S T R A C T

The present study aimed to investigate the effectiveness of a mindfulness-based group intervention in reducing shame and sexual anxiety and increasing self-confidence among individuals with sexual dysfunction. This quasi-experimental study employed a pretest-posttest-follow-up design with a control group. The statistical population consisted of individuals with sexual dysfunction who attended specialized sexual health clinics in Tehran, Iran, between September and December 2025. Thirty eligible participants were selected through convenience sampling and randomly assigned to an experimental group (n = 15) and a control group (n = 15). The experimental group received an eight-session mindfulness-based group intervention, whereas the control group received no corresponding intervention during the study period. Data were collected using the Internalized Shame Scale, the Sexual Anxiety Subscale of the Multidimensional Sexuality Questionnaire, and the Rosenberg Self-Esteem Scale. Data were analyzed using repeated-measures analysis of variance and Bonferroni-adjusted pairwise comparisons in SPSS version 26 at a significance level of .05. Repeated-measures analyses revealed significant between-group effects for sexual anxiety, $F = 71.655$, $p < .001$, $\eta^2 = .589$; shame, $F = 99.362$, $p < .001$, $\eta^2 = .665$; and self-confidence, $F = 40.737$, $p < .001$, $\eta^2 = .449$. Significant time effects were also observed for sexual anxiety, $F = 177.248$, $p < .001$, $\eta^2 = .780$; shame, $F = 238.065$, $p < .001$, $\eta^2 = .826$; and self-confidence, $F = 279.796$, $p < .001$, $\eta^2 = .848$. Multivariate analysis further showed a significant time × group interaction, Pillai's Trace = .976, $F = 108.043$, $p < .001$, $\eta^2 = .976$. Bonferroni comparisons indicated no significant baseline differences between groups, whereas significant differences favoring the intervention group were observed at posttest and follow-up for all three outcomes ($p < .001$). Mindfulness-based group intervention was effective in reducing sexual anxiety and shame and improving self-confidence in individuals with sexual dysfunction, and these improvements remained significant at follow-up, suggesting that mindfulness may be a useful adjunctive psychological intervention in sexual health settings.

Keywords: *Mindfulness, Sexual Dysfunction, Sexual Anxiety, Shame, Self-Confidence, Group Intervention*

1. Introduction

Sexual functioning constitutes an important dimension of physical health, psychological well-being, intimate relationships, and overall quality of life. Sexual dysfunction refers to persistent or recurrent difficulties in one or more phases of the sexual response cycle, including desire, arousal, erection, ejaculation, orgasm, or satisfaction, and may occur in both women and men. Such difficulties are not limited to physiological impairment; rather, they often emerge from the interaction of biological, psychological, interpersonal, and sociocultural factors. Epidemiological evidence has long demonstrated that sexual dysfunction is relatively common in both sexes and is associated with a wide range of risk factors, including age, chronic medical conditions, psychological distress, relational difficulties, and negative beliefs about sexuality (1). More recent research has further shown that sexual dysfunction may be particularly pronounced among individuals experiencing chronic illnesses, where disease-related physiological changes may interact with emotional distress, altered body image, fatigue, and interpersonal strain to compromise sexual functioning (2). Accordingly, contemporary conceptualizations increasingly emphasize the need to understand sexual dysfunction as a multidimensional phenomenon rather than merely as a localized physiological problem.

The psychological consequences of sexual dysfunction can be substantial because sexual performance and sexual responsiveness are often closely tied to perceptions of desirability, adequacy, intimacy, and personal worth. Repeated sexual difficulties may foster anticipatory fear, self-monitoring, avoidance of sexual contact, concern about a partner's evaluation, and negative interpretations of bodily responses. These processes can establish a self-reinforcing cycle in which anxiety about sexual performance interferes with physiological arousal and attention to pleasurable stimuli, thereby increasing the likelihood of further unsuccessful or unsatisfactory sexual experiences. Within this cycle, individuals may become increasingly focused on monitoring their performance rather than experiencing sexual sensations, emotional closeness, and present-moment pleasure. Sexual anxiety is therefore not simply a consequence of sexual dysfunction but may also function as a maintaining factor that perpetuates the disorder through heightened autonomic arousal, cognitive distraction, and avoidance. Research examining pathways between attachment, sexual mindfulness, sexual anxiety, and sexual self-esteem has demonstrated that sexual anxiety is closely interconnected with sexual satisfaction and self-evaluative processes, suggesting that interventions targeting anxious self-monitoring may have broader effects on sexual well-being (3).

Shame is another particularly important psychological process in sexual dysfunction. Sexual shame involves negative self-evaluations related to sexual thoughts, desires, behaviors, bodily responses, identity, or perceived sexual inadequacy. Unlike guilt, which generally concerns a negative judgment about a particular behavior, shame is more likely to involve a global negative appraisal of the self. An individual experiencing sexual difficulties may therefore move from thinking that a sexual experience was unsuccessful to believing that he or she is defective, undesirable, inadequate, or fundamentally incapable of satisfying a partner. This distinction is clinically important because shame tends to promote concealment, withdrawal, avoidance, and self-criticism, all of which may interfere with communication and intimacy. Studies have shown that sexual shame can emerge as a distinct form of distress in contexts involving perceived moral conflict, sexual behavior, and negative sexual self-evaluation (4). Similarly, research among individuals with histories of childhood sexual abuse has identified meaningful associations among sexual shame, relationship satisfaction, perceived compulsivity, moral incongruence, and self-compassion, underscoring the broader relational and self-evaluative consequences of shame in sexual contexts (5).

The importance of shame becomes even more evident when sexuality is embedded within experiences of trauma or interpersonal violation. A recent meta-analysis examining sexual violence and shame demonstrated that shame is a prominent psychological correlate of sexual trauma and may contribute significantly to subsequent emotional and relational difficulties (6). Although not all individuals with sexual dysfunction have experienced sexual trauma, this literature illustrates how shame can become deeply integrated into sexual self-concept and bodily experience. Once sexual problems are interpreted as evidence of personal inadequacy, individuals may become increasingly

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reluctant to communicate with partners, seek professional help, or remain emotionally present during sexual activity. The resulting secrecy and self-criticism may intensify both anxiety and sexual avoidance. This is particularly relevant in sociocultural contexts where sexuality may be surrounded by restrictive norms, stigma, limited sexual education, or difficulty openly discussing sexual concerns.

Alongside shame and sexual anxiety, self-confidence and sexual self-esteem are central to the experience of sexual functioning. Individuals who repeatedly experience difficulty with erection, ejaculation, desire, arousal, or orgasm may begin to evaluate their overall competence through the lens of sexual performance. Consequently, sexual dysfunction may undermine not only domain-specific sexual confidence but also broader feelings of personal worth. This is important because low self-esteem can increase sensitivity to perceived rejection, encourage excessive comparison with idealized expectations, and amplify catastrophic interpretations of sexual difficulties. Conversely, stronger sexual self-esteem is associated with more adaptive sexual functioning and reduced anxiety. The path analytic findings reported by Lafortune and colleagues indicated that sexual mindfulness, sexual anxiety, and sexual self-esteem form interconnected pathways through which relational and attachment processes may affect sexual satisfaction (3). Similarly, mindfulness-based cognitive therapy has been shown to improve sexual self-esteem while reducing infertility-related stigma among infertile women, suggesting that mindfulness may positively influence self-evaluation even in populations facing highly stigmatized reproductive and sexual concerns (7).

Mindfulness has received increasing attention as a potentially useful approach for addressing these interconnected cognitive, emotional, and bodily mechanisms. Mindfulness generally refers to purposeful awareness of present-moment experiences with an attitude of openness and reduced judgment. Rather than attempting to eliminate unwanted thoughts or emotions, mindfulness encourages individuals to observe internal experiences as temporary events without automatically reacting to them. In sexual contexts, this capacity may be particularly valuable because sexual dysfunction is often maintained by excessive self-monitoring, anticipatory anxiety, judgment of bodily responses, and preoccupation with performance. Mindfulness may help individuals redirect attention from evaluative thoughts toward immediate sensations, emotional connection, and bodily experience. Theoretical reviews have proposed several mechanisms through which mindfulness-based therapies may improve sexual functioning, including reduced cognitive interference, greater interoceptive awareness, improved emotion regulation, decreased experiential avoidance, enhanced acceptance, and reduced performance-related self-focus (8).

One of the most frequently proposed mechanisms of mindfulness in sexual health is the enhancement of body awareness. Sexual response depends heavily on attention to internal and external sensory cues, yet individuals with sexual dysfunction may become disconnected from bodily signals because attention is dominated by worries about performance or negative self-evaluation. Mindfulness training encourages individuals to observe physical sensations without immediately interpreting them as signs of success or failure. Experimental evidence has demonstrated that mindfulness training can increase awareness of bodily responses to sexual stimuli, with important implications for female sexual dysfunction (9). Such findings support the notion that mindfulness may facilitate a shift away from spectatoring, in which individuals monitor themselves from an external evaluative perspective, toward direct engagement with the sensory and emotional experience of sexuality.

The therapeutic relevance of mindfulness extends beyond body awareness. Mindfulness may also reduce the automatic identification of the self with negative sexual thoughts. For example, thoughts such as “I will fail,” “my partner will judge me,” or “there is something wrong with me” may be experienced as unquestionable truths when individuals lack psychological distance from them. Mindfulness encourages individuals to notice such cognitions as passing mental events. This decentered perspective may reduce the influence of catastrophic thinking on emotional arousal and behavior. In this regard, reviews of mindfulness-based treatments for sexual dysfunction have suggested that the reduction of cognitive distraction and maladaptive self-monitoring may be among the principal pathways through which treatment improves sexual functioning (8). Meta-analytic evidence focused specifically on female sexual dysfunction has also indicated beneficial effects of

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mindfulness-based therapies, supporting the broader clinical relevance of this approach (10).

A growing empirical literature supports the application of mindfulness-based interventions to sexual dysfunction. A systematic review of mindfulness meditation-based interventions for sexual dysfunction identified promising effects across different sexual difficulties and highlighted improvements in desire, arousal, satisfaction, and sexual distress (11). Subsequent systematic syntheses have reinforced these conclusions. Selice and Morris reviewed the research literature on mindfulness and sexual dysfunction and concluded that mindfulness is associated with multiple dimensions of improved sexual functioning and may be particularly useful for addressing psychological mechanisms such as distraction, anxiety, and negative judgment (12). Similarly, a systematic review and meta-analysis involving both men and women found that mindfulness-based therapies demonstrated clinically relevant benefits for sexual dysfunction, although variations in intervention protocols, populations, and measurement approaches remained important methodological considerations (13). These findings suggest that mindfulness may be applicable across different forms of sexual dysfunction rather than being limited to a single diagnostic category.

The evidence regarding mindfulness and sexuality has also expanded beyond intervention trials. A systematic review examining mindfulness-based interventions and sexuality concluded that mindfulness is associated with improvements in multiple sexual outcomes and may influence sexuality through increased awareness, reduced judgment, greater acceptance, and improved regulation of attention and emotion (14). In men, a scoping review similarly demonstrated that mindfulness is relevant to sexual activity, sexual functioning, and the psychological processes surrounding sexual experience (15). These observations are important because much of the earlier mindfulness literature focused predominantly on women, whereas sexual dysfunction also affects large numbers of men and may involve distinctive patterns of performance anxiety, erectile concerns, ejaculation-related anxiety, and self-evaluative distress. The expanding literature therefore supports the use of mindfulness-based approaches with mixed or diagnostically heterogeneous populations.

The effectiveness of mindfulness may also be partly explained by its influence on broader psychological functioning. Structural equation modeling research has demonstrated significant relationships between mindfulness and women's sexual function, with depression and sexual discourse operating as mediating variables (16). These findings suggest that mindfulness may improve sexual functioning not only through direct changes in attentional processes but also by reducing negative affect and facilitating healthier communication about sexuality. Effective sexual communication is especially relevant for individuals with sexual dysfunction because avoidance of disclosure may increase misunderstandings, pressure, and perceived failure within intimate relationships. Improved present-moment awareness and reduced judgment may enable individuals to communicate needs and limitations more openly and to approach sexual experiences with less pressure for a specific performance outcome.

Clinical trials provide additional support for these mechanisms. Mindfulness-based cognitive-behavioral sex therapy has been shown to improve sexual desire disorder, reduce sexual distress, enhance sexual self-disclosure, and improve overall sexual functioning in women (17). Such findings are particularly relevant to the present study because they demonstrate that mindfulness can be integrated into structured therapeutic interventions that address both sexual symptoms and associated emotional distress. Rather than treating sexual dysfunction solely as a physiological problem, these interventions target the individual's relationship with thoughts, emotions, bodily sensations, and interpersonal communication. This broader approach is consistent with contemporary biopsychosocial understandings of sexual health.

Another important area of investigation concerns sexual mindfulness as a protective psychological capacity. In an Iranian sample, sexual mindfulness was associated with reduced vulnerability to intimate partner violence victimization, suggesting that awareness, present-moment attention, and greater attunement to sexual experiences may have implications beyond symptom reduction and may contribute to personal agency and relational safety (18). Although the mechanisms involved in intimate partner violence differ from those involved in sexual dysfunction, these findings illustrate the broader relevance of mindful

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awareness within intimate and sexual relationships. They also support the cultural applicability of mindfulness-related constructs in Iranian populations, which is particularly important when designing interventions for sexual health concerns in Iran.

At the same time, mindfulness should not be conceptualized as uniformly beneficial under all conditions. Recent research has highlighted the possibility that mindfulness may interact with pre-existing self-evaluative tendencies. Fender and colleagues found that the relationship between mindful awareness and sexual shame among sexual and gender minority women was moderated by self-criticism and self-kindness, indicating that mindfulness may not automatically reduce shame when it occurs in the context of harsh self-judgment (19). This finding has important clinical implications. Merely increasing awareness of difficult sexual thoughts or bodily sensations may be insufficient if that awareness remains judgmental. Accordingly, mindfulness-based interventions for sexual dysfunction may be more effective when present-moment awareness is explicitly combined with nonjudgment, acceptance, and self-compassion. This rationale is especially relevant for individuals experiencing sexual shame because increased awareness without a compassionate stance could potentially intensify attention to perceived inadequacy.

The integration of mindfulness with acceptance and self-compassion may therefore represent a particularly suitable approach for reducing sexual shame and rebuilding self-confidence. Shame often involves an urge to hide, disengage, or attack the self, whereas mindful acceptance encourages the individual to remain present with uncomfortable emotions without treating them as defining features of identity. By learning to observe shame-related sensations and thoughts without immediate avoidance or self-condemnation, individuals may gradually weaken the association between sexual difficulty and global self-worth. This process may also allow greater tolerance of uncertainty during sexual interactions, reducing the demand for perfect performance. Findings concerning the relationships among sexual shame and self-compassion reinforce the potential importance of this mechanism (5). Likewise, evidence that mindfulness-based therapy can improve sexual self-esteem suggests that such interventions may contribute to a more stable and less performance-dependent sense of personal value (7).

Recent theoretical work has further expanded understanding of the psychophysiological pathways through which mindfulness may affect sexual desire and sexual response. Stompe and colleagues described mindfulness as a potentially important component in the treatment of sexual desire disorders because of its effects on attentional regulation, autonomic arousal, interoception, expectancy, and emotional processing (20). These mechanisms are highly relevant to individuals who experience anxiety-related inhibition of sexual response. Excessive sympathetic activation, muscular tension, anticipatory fear, and persistent self-monitoring can interfere with sexual arousal and pleasure. Mindfulness practices such as breath awareness, body scanning, and nonreactive observation may reduce automatic escalation of these physiological and cognitive responses, thereby allowing more flexible engagement with sexual experience.

Importantly, sexual dysfunction rarely occurs in isolation from emotional and relational contexts. Feelings of inadequacy may undermine willingness to initiate sexual contact; anxiety may increase physiological tension; shame may promote secrecy; and reduced self-confidence may intensify dependence on performance as a source of validation. These variables may therefore reinforce one another. An individual who anticipates sexual failure may become anxious, closely monitor bodily responses, experience reduced arousal, interpret the resulting difficulty as evidence of inadequacy, and subsequently experience shame and lower self-confidence. At the next sexual encounter, this prior experience may increase anticipatory anxiety, creating a self-perpetuating cycle. Mindfulness-based interventions are theoretically well suited to interrupting this cycle because they simultaneously target attention, emotional reactivity, bodily awareness, experiential avoidance, and self-judgment.

Despite the growing literature on mindfulness and sexual health, several important gaps remain. Many previous studies have focused on specific populations, particularly women with low desire, gynecological conditions, infertility, or specific sexual complaints, while fewer studies have examined mixed groups of individuals presenting with a broader spectrum of sexual dysfunctions. Systematic

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reviews have repeatedly noted heterogeneity in diagnostic groups, treatment formats, outcome measures, and intervention duration (11-13). Moreover, much of the literature has emphasized sexual function itself, sexual distress, desire, or satisfaction, while comparatively fewer investigations have simultaneously examined internalized shame, sexual anxiety, and general self-confidence. Yet these variables may represent clinically significant mechanisms through which sexual dysfunction affects broader psychological well-being.

The need for research on these outcomes is further supported by recent evidence indicating that mindfulness-related benefits may depend on how individuals relate to self-critical and shame-based experiences (19). Similarly, the strong relationship between shame and sexual or trauma-related distress suggests that shame deserves direct assessment rather than being treated merely as a secondary symptom (4, 6). From a clinical perspective, an intervention that improves sexual functioning while leaving intense shame, anxiety, or negative self-evaluation unchanged may have limited long-term effectiveness. Conversely, reducing shame and performance anxiety while strengthening self-confidence may help individuals approach sexual experiences with greater flexibility, openness, and resilience.

The Iranian sociocultural context also warrants specific attention. Sexual concerns may be difficult to disclose because of privacy concerns, social stigma, cultural expectations, and limited opportunities for open discussion of sexual difficulties. These factors can delay help-seeking and increase internalized shame. Evidence from Iranian samples has already suggested that mindfulness-related processes are meaningfully associated with sexual and relational outcomes (7, 18), while recent Iranian research has also demonstrated an interrelationship between mindfulness and sexual functioning through psychological and communicative pathways (16). Nevertheless, intervention research examining mindfulness-based group treatment for individuals with different forms of sexual dysfunction remains limited. Group-based treatment may be particularly useful because it can reduce perceived isolation, normalize difficult experiences, create opportunities for shared learning, and challenge the belief that sexual dysfunction represents a unique personal defect.

Taken together, existing evidence indicates that mindfulness-based interventions may improve sexual functioning by increasing body awareness, reducing cognitive distraction, regulating anxiety, decreasing experiential avoidance, improving sexual communication, and cultivating a less judgmental relationship with sexual thoughts and sensations (8-10, 14). Systematic and meta-analytic findings further support the therapeutic potential of mindfulness for sexual dysfunction across different populations (11-13), while newer research emphasizes the roles of self-compassion, shame, sexual self-esteem, depression, communication, and psychophysiological regulation in determining sexual outcomes (5, 16, 19, 20). Therefore, examining whether a structured mindfulness-based group intervention can simultaneously reduce internalized shame and sexual anxiety while strengthening self-confidence may contribute to a more comprehensive understanding of psychological treatment for sexual dysfunction.

Accordingly, the aim of the present study was to investigate the effectiveness of a mindfulness-based group intervention on shame, sexual anxiety, and self-confidence in individuals with sexual dysfunction.

2. Methods and Materials

2.1. Study Design and Participants

The present study employed a quasi-experimental pretest–posttest design with a control group to investigate the effectiveness of a mindfulness-based group intervention in reducing internalized shame and sexual anxiety and improving self-confidence among individuals with sexual dysfunction. The statistical population consisted of individuals with sexual dysfunction, including erectile dysfunction, premature ejaculation, reduced sexual desire, and other disorders involving sexual arousal or orgasm, who attended specialized sexual health clinics and treatment centers in Tehran, Iran, between September and December 2025. Given the accessibility of the target population, the practical limitations of recruiting individuals with clinically identified sexual dysfunction, and the sample-size requirements commonly applied in quasi-experimental intervention studies, a total sample of 30 eligible participants was selected. Participants were recruited using convenience

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sampling from individuals attending selected clinics during the study period. After recruitment and assessment of the eligibility criteria, participants were randomly assigned to either the experimental group or the control group, with 15 participants in each group. Random assignment was used to reduce allocation bias and increase the internal validity of the study. The principal inclusion criteria were having a clinical diagnosis of a sexual dysfunction, willingness to participate in a group-based psychological intervention, ability to attend the intervention sessions regularly, and no use of psychotropic medications or medications likely to substantially affect sexual functioning during the three months preceding enrollment. Individuals who did not meet these requirements or were unwilling to continue participation were not included in the intervention process. Before participation, the objectives and general procedures of the study were explained to the participants, and they were informed about the confidentiality of their information and the voluntary nature of participation. Outcome variables were assessed using standardized self-report measures before the beginning of the intervention and again following completion of the intervention. The experimental group received the mindfulness-based group intervention, whereas the control group did not receive the mindfulness intervention during the corresponding study period.

2.2. Data Collection Tools

The Internalized Shame Scale (ISS) was developed by Cook in 1988 to assess a relatively persistent experience of shame characterized by feelings of inadequacy, inferiority, worthlessness, and negative self-evaluation. The original instrument consists of 30 items, of which 24 assess internalized shame and six represent positive self-esteem items. In studies specifically focusing on shame, the 24 shame-related items are commonly used to calculate the internalized shame score, whereas the six positive self-esteem items may serve a supplementary function. The scale primarily measures internalized shame as an overall construct rather than as a set of firmly established independent dimensions; nevertheless, its items cover experiences such as feelings of defectiveness and worthlessness, self-criticism, a desire to hide oneself, sensitivity to the judgments of others, and feelings of alienation or interpersonal disconnection. Responses are rated on a five-point Likert scale ranging from “never” to “almost always.” Each item is scored from 1 to 5, while positively worded self-esteem items are reverse-scored when the complete form is used. When only the 24-item shame component is scored, total scores range from 24 to 120, with higher scores indicating greater levels of internalized shame. Previous psychometric investigations have demonstrated satisfactory internal consistency and test–retest reliability as well as evidence supporting the convergent and construct validity of the scale. In the present study, the internal consistency of the Persian version was evaluated using Cronbach’s alpha in the study sample.

The Sexual Anxiety Subscale of the Multidimensional Sexuality Questionnaire (MSQ) was used to assess sexual anxiety. The Multidimensional Sexuality Questionnaire was developed by Snell, Fisher, and Walters in 1993 and contains 60 items organized into 12 five-item subscales. These dimensions include sexual self-esteem, sexual depression, sexual preoccupation, sexual concern, sexual motivation, sexual monitoring, fear of sex, sexual anxiety, sexual assertiveness or control, sexual esteem-related evaluation, sexual consciousness, and sexual satisfaction. In accordance with the objectives of the present study, only the five-item Sexual Anxiety Subscale was administered. This subscale evaluates the degree to which individuals experience apprehension, tension, fear, discomfort, and anxiety in relation to sexual activity and sexual performance. Responses are provided using a five-point Likert-type scale ranging from statements equivalent to “not at all characteristic of me” to “very characteristic of me.” The responses to the five items are summed to obtain the sexual anxiety score, which, depending on the scoring convention of the version administered, generally ranges from 5 to 25, with higher scores reflecting greater sexual anxiety. Any reverse-scored items were scored according to the official scoring key of the Persian version used in the study. The internal consistency of the subscale was also examined in the present sample using Cronbach’s alpha.

The Rosenberg Self-Esteem Scale (RSES), developed by Rosenberg in 1965, was used as the operational measure of participants’ general self-confidence through their overall evaluation of personal worth, competence, and self-acceptance. The scale consists of 10 items and measures a global self-esteem construct rather than independent

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E-ISSN: 2981-2569

subdimensions. Five items are positively worded and assess feelings of self-worth, satisfaction with oneself, and positive self-regard, whereas five negatively worded items assess feelings of inadequacy, worthlessness, and dissatisfaction with oneself. In its commonly used format, responses are rated on a four-point Likert scale ranging from "strongly disagree" to "strongly agree." Positively worded items are scored directly and negatively worded items are reverse-scored. Depending on the scoring convention adopted for a particular version, the total score can range from 10 to 40 or, in alternative scoring systems, from 0 to 30. In the present study, scoring was performed according to the scoring instructions of the selected Persian version, with higher total scores indicating greater global self-esteem and, operationally, greater self-confidence. The Rosenberg Self-Esteem Scale has demonstrated satisfactory internal consistency, construct validity, and convergent validity across different populations, including Iranian samples. Its internal consistency in the present study was assessed using Cronbach's alpha.

2.3. Intervention Protocols

The experimental group participated in an eight-session mindfulness-based group intervention designed to address the cognitive, emotional, and bodily processes associated with sexual dysfunction, particularly internalized shame, sexual anxiety, self-critical evaluation, and reduced self-confidence. In the first session, emphasis was placed on establishing a safe therapeutic group environment, developing therapeutic rapport, and introducing the fundamental principles of mindfulness, including present-moment awareness and the distinction between functioning on "automatic pilot" and acting with deliberate awareness. Participants practiced basic mindful-breathing exercises and discussed personal expectations and difficulties associated with sexual health in a nonjudgmental environment intended to reduce initial shame and discomfort. The second session focused on bodily and sensory awareness and strengthening the connection between attention and bodily experience. Participants were introduced to the body-scan exercise and were encouraged to observe bodily sensations, including uncomfortable sensations, without attempting to evaluate, avoid, suppress, or modify them. This practice was intended to reduce disconnection from bodily cues and performance-related anxiety while promoting greater acceptance of bodily experiences. The third session addressed intrusive thoughts, sexual performance concerns, and experiential avoidance. Participants learned to observe negative thoughts, such as expectations of failure or fears of being judged by a sexual partner, as transient mental events rather than objective facts. Mindful observation of thoughts and cognitive distancing were practiced to reduce attempts to suppress anxiety-related cognitions and interrupt the cycle linking negative expectations to sexual performance anxiety. The fourth session specifically addressed shame through nonjudgmental acceptance. Participants practiced identifying the emotional and physical manifestations of shame, such as facial warmth, chest heaviness, muscular tension, or the urge to hide, and were encouraged to experience these reactions as temporary human experiences rather than evidence of a defective identity. The fifth session focused on the physiological and emotional components of sexual anxiety. Participants learned to recognize autonomic arousal, muscular tension, and anticipatory anxiety and practiced using mindful attention to create a psychological space between a triggering sexual situation and an automatic anxious response, thereby increasing the possibility of choosing a calmer and more adaptive response. The sixth session focused on self-evaluation, body image, and self-confidence. Through mindfulness and self-compassion exercises, participants were trained to identify harsh self-judgments and replace habitual self-criticism with a more accepting and compassionate stance toward themselves. Particular emphasis was placed on separating personal worth from sexual performance and reducing the tendency to define oneself on the basis of sexual difficulties. The seventh session emphasized the integration of mindfulness skills into everyday interpersonal and sexual experiences. Participants discussed and practiced remaining fully present during emotionally or sexually relevant situations, directing attention toward immediate sensory experience rather than monitoring themselves from an external evaluative perspective or becoming preoccupied with performance outcomes. The eighth and final session was devoted to consolidating acquired skills, reviewing individual progress, identifying possible future challenges, and developing a personal plan for continued mindfulness practice. Participants reviewed strategies for responding to future

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experiences of shame, anxiety, self-criticism, or temporary sexual difficulties and were encouraged to maintain regular mindfulness practice in order to reduce the likelihood of returning to maladaptive patterns of avoidance and performance-focused self-evaluation.

2.4. Data Analysis

The collected data were analyzed using IBM SPSS Statistics version 26. Descriptive statistics, including means and standard deviations, were calculated to summarize participants' scores on internalized shame, sexual anxiety, and self-esteem/self-confidence across the assessment stages. Before conducting the primary inferential analyses, the statistical assumptions required for repeated-measures analysis were examined. The normality of the distributions was evaluated, and Mauchly's test of sphericity was used to assess the sphericity assumption for within-subject effects. When the assumption of sphericity was violated, an appropriate correction, such as the Greenhouse–Geisser adjustment, was considered for the interpretation of the within-subject effects. Repeated-measures analysis of variance was then employed to examine changes in internalized shame, sexual anxiety, and self-confidence across measurement occasions and to determine whether patterns of change differed between the experimental and control groups. The principal effects of measurement time, group membership, and the interaction between time and group were examined for each dependent variable. When statistically significant effects were identified, Bonferroni-adjusted pairwise comparisons were conducted to determine the specific differences between measurement occasions while controlling for inflation of the Type I error rate resulting from multiple comparisons. All statistical tests were conducted using a two-tailed significance criterion, and the level of statistical significance was set at $p < .05$.

3. Findings and Results

The study included 30 individuals diagnosed with sexual dysfunction who were randomly assigned to the mindfulness-based group intervention and control groups, with 15 participants in each group. Participants were between 30 and 50 years of age. The mean age of participants was 44.50 years (SD = 4.52) in the mindfulness-based intervention group and 45.03 years (SD = 4.59) in the control group. Analysis of variance indicated that there was no statistically significant difference between the two groups in terms of age, $F = 0.480$, $p = .620$. Thus, the experimental and control groups were comparable with respect to age at baseline, reducing the likelihood that age differences accounted for subsequent differences in the study outcomes.

Table 1

Descriptive Statistics for Sexual Anxiety, Shame, and Self-Confidence by Group and Measurement Stage

Variable	Group	Pretest M	Pretest SD	Posttest M	Posttest SD	Follow-up M	Follow-up SD
Sexual anxiety	Mindfulness-based intervention	16.88	1.24	10.84	1.28	11.92	1.29
	Control	17.46	1.30	17.92	1.35	17.50	1.79
Shame	Mindfulness-based intervention	18.07	1.05	11.15	0.73	12.07	0.93
	Control	18.19	1.23	17.53	1.85	18.53	1.47
Self-confidence	Mindfulness-based intervention	14.73	1.58	21.76	2.51	20.30	2.63
	Control	14.57	1.27	16.76	1.27	16.69	1.15

As presented in Table 1, the two groups showed relatively similar scores on the study variables at pretest. In the mindfulness-based intervention group, mean sexual anxiety decreased from 16.88 (SD = 1.24) at pretest to 10.84 (SD = 1.28) at posttest and remained relatively low at the follow-up assessment, M = 11.92 (SD = 1.29). Similarly, mean shame declined from 18.07 (SD = 1.05) at pretest to 11.15 (SD = 0.73) at posttest and was 12.07 (SD = 0.93) at follow-up. In contrast, self-confidence increased from 14.73 (SD = 1.58) at pretest to 21.76 (SD = 2.51) at posttest and remained higher than the baseline level at follow-up, M = 20.30 (SD = 2.63). The control group demonstrated considerably smaller changes across the three assessment stages. The descriptive pattern therefore suggested reductions in sexual anxiety and shame and an increase in self-confidence following the mindfulness-based group intervention, with the improvements generally maintained during the follow-up period.

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Before performing the repeated-measures analyses, the relevant statistical assumptions were examined. The results of the Shapiro–Wilk test indicated that the normality assumption was satisfied for sexual anxiety and self-confidence at the follow-up assessment in the experimental group ($p > .05$), whereas the distribution of shame departed from normality ($p < .05$). Accordingly, the findings concerning shame should be generalized with some caution. Bartlett's test of sphericity was statistically significant, $\chi^2 = 479.441$, $p < .001$, supporting the presence of sufficient correlations among the dependent variables for multivariate analysis. Box's M test was also statistically significant, Box's $M = 603.75$, $F = 1.231$, $p < .001$, indicating that the homogeneity of covariance matrices assumption was not fully satisfied. Because the groups were equal in size, the multivariate analysis was considered relatively robust to this violation, and Pillai's Trace was used because of its greater robustness under violations of multivariate assumptions. The multivariate results demonstrated significant effects for group, Pillai's Trace = .961, $F = 153.827$, $p < .001$, $\eta^2 = .961$; time, Pillai's Trace = .985, $F = 178.202$, $p < .001$, $\eta^2 = .985$; and the time × group interaction, Pillai's Trace = .976, $F = 108.043$, $p < .001$, $\eta^2 = .976$. Greenhouse–Geisser-corrected statistics were used for the within-subject analyses where the sphericity assumption was not satisfied.

Table 2

Repeated-Measures Analysis of Variance for Sexual Anxiety, Shame, and Self-Confidence

Effect	Variable	Sum of Squares	df	Mean Square	F	p	η^2
Between-group effect	Sexual anxiety	97.855	1	97.855	71.655	< .001	.589
Between-group effect	Shame	91.558	1	91.558	99.362	< .001	.665
Between-group effect	Self-confidence	111.077	1	111.077	40.737	< .001	.449
Time effect, Greenhouse–Geisser	Sexual anxiety	304.321	1.919	158.619	177.248	< .001	.780
Time effect, Greenhouse–Geisser	Shame	494.321	1.743	282.685	238.065	< .001	.826
Time effect, Greenhouse–Geisser	Self-confidence	563.897	1.968	286.597	279.796	< .001	.848

As shown in Table 2, the between-group effect was statistically significant for all three dependent variables. A significant group effect was observed for sexual anxiety, $F = 71.655$, $p < .001$, $\eta^2 = .589$, indicating that 58.9% of the relevant variance was associated with group membership. The between-group effect was also significant for shame, $F = 99.362$, $p < .001$, $\eta^2 = .665$, and self-confidence, $F = 40.737$, $p < .001$, $\eta^2 = .449$. The Greenhouse–Geisser-corrected within-subject analyses further revealed significant effects of time for sexual anxiety, $F = 177.248$, $p < .001$, $\eta^2 = .780$; shame, $F = 238.065$, $p < .001$, $\eta^2 = .826$; and self-confidence, $F = 279.796$, $p < .001$, $\eta^2 = .848$. These large effect sizes indicate substantial changes in the outcome variables across the measurement occasions. Taken together with the significant multivariate time × group interaction, the results demonstrate that the pattern of change over time differed significantly between the mindfulness-based intervention and control groups. Specifically, participation in the mindfulness-based group intervention was associated with lower sexual anxiety and shame and higher self-confidence relative to the control condition.

Table 3

Bonferroni-Adjusted Pairwise Comparisons Between the Experimental and Control Groups Across Assessment Stages

Variable	Assessment Stage	Group 1	Group 2	Mean Difference	SE	p
Sexual anxiety	Pretest	Mindfulness-based intervention	Control	-0.577	0.353	.109
	Posttest	Mindfulness-based intervention	Control	-6.077	0.366	< .001
	Follow-up	Mindfulness-based intervention	Control	-1.577	0.434	< .001
Shame	Pretest	Mindfulness-based intervention	Control	-0.115	0.318	.719
	Posttest	Mindfulness-based intervention	Control	-5.385	0.392	< .001
	Follow-up	Mindfulness-based intervention	Control	-2.462	0.343	< .001
Self-confidence	Pretest	Mindfulness-based intervention	Control	0.154	0.399	.701
	Posttest	Mindfulness-based intervention	Control	5.000	0.554	< .001
	Follow-up	Mindfulness-based intervention	Control	3.615	0.564	< .001

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The Bonferroni-adjusted comparisons presented in Table 3 showed no statistically significant differences between the mindfulness-based intervention and control groups at pretest for sexual anxiety (MD = -0.577, SE = 0.353, p = .109), shame (MD = -0.115, SE = 0.318, p = .719), or self-confidence (MD = 0.154, SE = 0.399, p = .701). These findings support the baseline comparability of the two groups for all three outcome variables. At posttest, however, the experimental group had significantly lower sexual anxiety (MD = -6.077, SE = 0.366, p < .001) and shame (MD = -5.385, SE = 0.392, p < .001) and significantly higher self-confidence (MD = 5.000, SE = 0.554, p < .001) than the control group. Statistically significant between-group differences were also observed at follow-up for sexual anxiety (MD = -1.577, SE = 0.434, p < .001), shame (MD = -2.462, SE = 0.343, p < .001), and self-confidence (MD = 3.615, SE = 0.564, p < .001). Thus, the post-hoc findings indicate that the mindfulness-based group intervention was effective in reducing sexual anxiety and shame and increasing self-confidence and that statistically significant treatment effects remained evident at follow-up, supporting the maintenance of the intervention effects over time.

4. Discussion and Conclusion

The present study investigated the effectiveness of a mindfulness-based group intervention in reducing shame and sexual anxiety and increasing self-confidence among individuals with sexual dysfunction. The findings indicated that the intervention produced significant improvements in all three outcome variables. Participants who received the mindfulness-based group intervention reported significantly lower levels of sexual anxiety and shame and significantly higher levels of self-confidence at posttest compared with the control group. Moreover, the significant differences between the intervention and control groups remained evident at the follow-up assessment, indicating that the effects of the intervention were not limited to the immediate post-intervention period. The repeated-measures analyses also demonstrated significant effects of time and group as well as a significant time-by-group interaction, indicating that the pattern of change over time differed substantially between participants who received the mindfulness-based intervention and those in the control condition. Taken together, these results support the effectiveness of mindfulness-based group intervention as a psychological approach for addressing important emotional and self-evaluative difficulties associated with sexual dysfunction.

The first major finding was that mindfulness-based group intervention significantly reduced sexual anxiety. This result is consistent with the growing body of evidence suggesting that mindfulness can improve sexual functioning by reducing performance-related anxiety, cognitive distraction, and excessive monitoring of sexual responses. Sexual anxiety often develops when individuals become preoccupied with whether they will perform adequately, satisfy their partner, become sufficiently aroused, achieve orgasm, or avoid repeating previous sexual difficulties. Such concerns shift attention away from pleasurable and relational aspects of sexual experience toward continuous monitoring and evaluation of performance. This pattern can increase physiological tension and interfere with normal sexual responding, thereby reinforcing anxiety. Previous research has demonstrated that sexual mindfulness is related to lower sexual anxiety and that sexual anxiety serves as an important pathway linking psychological and relational factors to sexual satisfaction (3). The present findings are therefore compatible with the view that increasing mindful awareness can weaken the cycle of anticipatory anxiety and maladaptive self-monitoring.

The reduction in sexual anxiety can also be explained through the attentional mechanisms of mindfulness. Mindfulness trains individuals to intentionally direct attention to present-moment bodily and sensory experiences and to return attention when it becomes captured by intrusive thoughts or catastrophic predictions. In the context of sexual dysfunction, this attentional shift may be especially important because anxious individuals frequently disengage from direct sensory experience and become absorbed in evaluative thoughts. Stephenson proposed that mindfulness-based treatments may improve sexual functioning through reductions in cognitive interference, self-focused attention, and negative judgment while simultaneously increasing acceptance and awareness of sexual sensations (8). Experimental findings have similarly demonstrated that mindfulness training can increase awareness of bodily responses to sexual stimuli, supporting a mechanism in which individuals become more attuned to actual physical sensations rather than remaining preoccupied with

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evaluative thoughts (9). In the present intervention, exercises involving mindful breathing, body scanning, and nonjudgmental observation of bodily sensations may have reduced the tendency to interpret every bodily response as evidence of success or failure.

The present finding regarding sexual anxiety also corresponds with systematic and meta-analytic evidence on mindfulness-based interventions for sexual dysfunction. Jaderek and Lew-Starowicz found that mindfulness meditation-based interventions showed promising effects on several aspects of sexual dysfunction, including sexual distress, desire, arousal, and satisfaction (11). Similarly, Selice and Morris concluded that mindfulness is associated with improvement in sexual functioning through mechanisms that include reduced anxiety, diminished cognitive distraction, enhanced body awareness, and improved emotional regulation (12). Banbury and colleagues further reported, in a systematic review and meta-analysis involving both men and women, that mindfulness-based therapies can produce meaningful improvements in sexual difficulties (13). The present study extends these findings by demonstrating that sexual anxiety itself may be directly responsive to a structured group-based mindfulness intervention in individuals presenting with different forms of sexual dysfunction.

Another important finding was the significant reduction in shame following the intervention. Shame represents a particularly problematic emotional response in sexual dysfunction because it involves a negative evaluation of the self rather than simply dissatisfaction with a specific sexual event. Individuals who repeatedly experience sexual difficulties may interpret those difficulties as evidence that they are defective, inadequate, undesirable, or incapable of satisfying their partner. Such interpretations may contribute to withdrawal, concealment, avoidance of intimacy, and reluctance to discuss sexual concerns. The present findings indicate that mindfulness-based group work may help individuals separate the experience of sexual difficulty from global judgments about their personal worth. Through repeated practice in observing difficult thoughts and emotions without judgment, participants may have learned to experience shame as a temporary psychological state rather than as proof of a defective identity.

This interpretation is supported by research demonstrating the importance of shame in sexual and trauma-related distress. Hassanpour and colleagues showed in their meta-analysis that shame is strongly implicated in the psychological consequences of sexual violence, highlighting the broader role of shame in shaping sexual self-concept and emotional distress (6). Floyd and colleagues also identified sexual shame as a distinct form of distress associated with negative sexual self-evaluation (4). Although the participants in the present study were selected because of sexual dysfunction rather than sexual trauma or moral incongruence, these findings are relevant because they demonstrate that shame can become an independent psychological burden in sexual contexts. The reduction observed in the present study suggests that mindfulness may help weaken the tendency to convert sexual difficulties into global self-condemnation.

The intervention's emphasis on acceptance and self-compassion may have played an important role in reducing shame. Mindfulness involves more than simple awareness; therapeutic mindfulness generally encourages awareness combined with openness, nonjudgment, and acceptance. This distinction is important because increased awareness of sexual difficulties could theoretically intensify distress if it is accompanied by harsh self-criticism. Recent findings have shown that the relationship between mindful awareness and sexual shame can vary depending on levels of self-criticism and self-kindness, suggesting that mindfulness is most likely to be beneficial when awareness is combined with a compassionate orientation toward the self (19). In the present intervention, participants were encouraged to notice critical self-evaluations and replace habitual self-condemnation with a more compassionate and accepting response. Such exercises may have reduced the intensity of shame by allowing participants to acknowledge sexual difficulties without equating those difficulties with personal inadequacy.

The group format may also have contributed to the reduction in shame. Sexual dysfunction is often experienced privately, and individuals may mistakenly believe that their difficulties are unusual or uniquely embarrassing. Participating in a structured group setting can reduce this perceived isolation by normalizing sexual difficulties and demonstrating that others experience similar fears, anxieties,

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and self-critical thoughts. Although the present study did not directly measure group cohesion or normalization, these processes may have supported reductions in concealment and self-stigmatization. This interpretation is consistent with findings suggesting that sexual shame is closely associated with relationship processes, perceived compulsivity, moral incongruence, and self-compassion (5). A psychologically safe group setting may therefore provide an interpersonal context in which shame-related beliefs can be reconsidered while participants simultaneously practice nonjudgmental awareness.

The third major finding was that mindfulness-based group intervention significantly increased self-confidence. This result can be understood in relation to the close association between sexual functioning and self-evaluation. Individuals with sexual dysfunction may increasingly define their competence and desirability according to their sexual performance. Repeated difficulties with erection, ejaculation, desire, arousal, or orgasm may therefore erode both sexual self-esteem and broader self-confidence. The mindfulness intervention explicitly encouraged participants to separate personal worth from sexual performance and to observe negative self-evaluations without automatically endorsing them. As participants became less preoccupied with performance and more accepting of internal experiences, their sense of self-worth may have become less dependent on immediate sexual outcomes.

This interpretation is consistent with previous studies examining mindfulness and sexual self-esteem. Zarean and colleagues found that mindfulness-based cognitive therapy was effective in improving sexual self-esteem and reducing infertility-related stigma among infertile women (7). Although infertility and sexual dysfunction are clinically distinct conditions, both may threaten an individual's sexual and relational self-concept and may generate feelings of inadequacy or stigma. The improvement in self-confidence observed in the present study is therefore consistent with the possibility that mindfulness promotes a more stable and accepting evaluation of the self. Lafortune and colleagues also demonstrated that sexual mindfulness, sexual anxiety, and sexual self-esteem are interconnected within pathways influencing sexual satisfaction (3). Consequently, the simultaneous reduction in sexual anxiety and increase in self-confidence observed in the present study may reflect mutually reinforcing psychological changes rather than entirely independent treatment effects.

The improvement in self-confidence may additionally reflect changes in body awareness and perceived control. Individuals with sexual dysfunction may experience their bodies as unreliable or unresponsive and may consequently lose confidence in their capacity to engage successfully in sexual activity. Mindfulness-based body awareness encourages individuals to observe bodily sensations without forcing or controlling them. This approach can transform the relationship with the body from one characterized by surveillance and frustration to one characterized by curiosity and responsiveness. Silverstein and colleagues demonstrated that mindfulness training can increase awareness of physiological sexual responses, suggesting that mindfulness may strengthen the correspondence between bodily processes and subjective awareness (9). As participants in the present study became more capable of recognizing and tolerating bodily responses without immediate judgment, they may have developed greater confidence in their ability to remain present and engaged even when sexual experiences were imperfect.

The findings are also consistent with evidence from clinical interventions combining mindfulness with sex therapy principles. Rashedi and colleagues reported that mindfulness-based cognitive-behavioral sex therapy improved sexual desire, sexual distress, sexual self-disclosure, and sexual function (17). Their findings suggest that mindfulness can influence not only symptom severity but also communication and emotional processes related to sexuality. Greater willingness to disclose concerns, needs, and insecurities may reduce interpersonal pressure and contribute indirectly to greater self-confidence. Similarly, Bahrami and colleagues demonstrated that the relationship between mindfulness and women's sexual function may be partly mediated by depression and sexual discourse (16). These findings support the view that mindfulness-based interventions may produce broad effects because they influence emotional distress, communication, self-perception, and attentional processes simultaneously.

The maintenance of significant differences at follow-up is another noteworthy finding. Although the mean scores indicated some attenuation of improvement after the posttest, participants in the intervention group continued to

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demonstrate substantially lower sexual anxiety and shame and higher self-confidence than the control group. This pattern suggests that participants retained and continued to apply at least some of the mindfulness skills learned during treatment. Mindfulness interventions differ from approaches that depend exclusively on therapist-guided cognitive restructuring because they involve skills that can be practiced independently in daily life. Breathing exercises, body scanning, present-moment attention, acceptance of uncomfortable emotions, and observation of thoughts can be used repeatedly in situations where sexual anxiety or shame arises. This ongoing usability may help explain why the treatment effects remained evident beyond the active intervention period.

The sustainability of the findings is also consistent with the theoretical mechanisms proposed for mindfulness-based treatments. Once individuals learn to recognize the onset of performance-related thoughts or self-critical responses, they may be better able to interrupt automatic cycles before these become fully activated. Stephenson's theoretical review emphasized that changes in attention, acceptance, interoceptive awareness, emotion regulation, and cognitive reactivity may collectively contribute to lasting improvements in sexual functioning (8). Meta-analytic evidence regarding mindfulness-based therapies for female sexual dysfunction has similarly supported beneficial effects across clinically relevant sexual outcomes (10). The present follow-up findings suggest that such mechanisms may also be relevant to a broader group of individuals with sexual dysfunction and to psychological outcomes such as shame and self-confidence.

The results may further be interpreted in light of recent psychophysiological perspectives on mindfulness and sexual desire disorders. Stompe and colleagues proposed that mindfulness may influence sexual functioning through regulation of autonomic arousal, attention, interoception, emotional processing, and expectancy (20). Sexual anxiety commonly involves increased sympathetic activation, muscular tension, vigilance, and anticipatory fear, all of which may interfere with sexual response. By learning to observe these responses without escalating them through catastrophic interpretation, participants may have developed greater flexibility in their reactions to sexually relevant situations. The intervention's emphasis on creating a psychological space between stimulus and response may have allowed participants to experience anxiety without automatically withdrawing from sexual or intimate situations.

The present findings also have relevance within the Iranian cultural context. Sexual problems may be particularly difficult to disclose in contexts where open communication about sexuality is limited and sexual difficulties are associated with embarrassment, stigma, or concerns about social judgment. Khorasani and colleagues demonstrated that sexual mindfulness has meaningful implications for the relational experiences of Iranian women and may contribute to greater awareness and empowerment in sexual contexts (18). The current results add to this evidence by suggesting that mindfulness-based interventions may be culturally applicable for addressing psychological consequences of sexual dysfunction in Iranian clinical populations. The group format may be especially valuable where social stigma contributes to secrecy because shared therapeutic experiences can reduce perceived isolation while preserving a structured and confidential environment.

Overall, the findings support a multidimensional understanding of the effectiveness of mindfulness-based intervention for sexual dysfunction. Rather than acting solely on one symptom, mindfulness appears capable of influencing a network of mutually reinforcing processes. Reductions in sexual anxiety may facilitate greater attention to pleasurable sensations; improved body awareness may decrease performance monitoring; reduced shame may weaken avoidance and self-concealment; and greater self-confidence may encourage more adaptive engagement in intimate relationships. These changes may then reinforce one another. Systematic reviews examining mindfulness-based interventions and sexuality have similarly concluded that mindfulness may influence sexual functioning through several interrelated cognitive, emotional, interpersonal, and somatic mechanisms (14, 15). The current findings therefore contribute to the literature by demonstrating simultaneous improvements in shame, sexual anxiety, and self-confidence within a single intervention framework.

Several limitations should be considered when interpreting the findings. First, the sample consisted of only 30 participants recruited through convenience sampling from selected sexual health clinics in Tehran, which limits

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the statistical power and generalizability of the results to broader populations. Second, the participants represented individuals with different forms of sexual dysfunction, including difficulties involving desire, arousal, erection, ejaculation, and orgasm, and the relatively small sample did not permit separate analyses according to diagnostic category. Third, the study relied primarily on self-report measures, which may be influenced by social desirability, recall bias, or reluctance to disclose sensitive sexual experiences. Fourth, the follow-up period was relatively limited, making it impossible to determine whether treatment gains would remain stable over longer periods. Fifth, the study did not include an active comparison treatment, and therefore some of the observed effects may have been influenced by nonspecific factors such as therapist attention, group support, expectancy, or repeated assessment. Finally, one of the outcome distributions did not fully satisfy the normality assumption, and the covariance homogeneity assumption was also violated, indicating that some statistical findings should be interpreted with appropriate caution despite the use of relatively robust procedures.

Future studies should replicate the present findings using larger samples recruited from multiple treatment centers and different geographical regions to improve statistical power and external validity. Researchers should consider stratifying participants according to specific types of sexual dysfunction and examining whether mindfulness-based treatment has differential effects on desire, arousal, erectile, ejaculation, and orgasmic disorders. Longer follow-up assessments, such as six-month and one-year evaluations, would clarify the durability of treatment effects. Future trials should also compare mindfulness-based group interventions with active treatments such as cognitive-behavioral sex therapy, acceptance-based interventions, couple therapy, or structured sexual education. The inclusion of partner-reported outcomes, clinician-rated measures, behavioral indicators, and physiological measures could reduce reliance on self-report data. It would also be useful to examine potential mediators and moderators of treatment response, including self-compassion, body awareness, experiential avoidance, emotion regulation, relationship satisfaction, sexual communication, severity and duration of dysfunction, and adherence to home mindfulness practice. Further studies could also explore whether treatment effects differ according to gender, relationship status, age, cultural attitudes toward sexuality, and comorbid psychological symptoms.

The findings suggest that clinicians working with individuals experiencing sexual dysfunction may benefit from incorporating structured mindfulness exercises into psychological and sex-therapy interventions. Mindful breathing, body scanning, nonjudgmental observation of sexual thoughts, awareness of physiological anxiety, and acceptance-based responses to shame may be particularly useful when clients demonstrate excessive performance monitoring or self-criticism. Therapists should explicitly help clients distinguish sexual performance from global personal worth and should incorporate self-compassion when working with intense shame. Group-based delivery may be particularly appropriate for clients who feel isolated or believe that their sexual problems uniquely reflect personal inadequacy, provided that confidentiality and psychological safety are carefully maintained. Clinicians should also encourage regular home practice so that mindfulness skills become available during real-life intimate situations rather than remaining restricted to therapy sessions. Where appropriate, mindfulness training may be integrated with sexual education, couple communication skills, medical treatment, and individualized sex therapy to address the biological, psychological, and relational dimensions of sexual dysfunction in a coordinated manner.

Authors' Contributions

All authors contributed substantially to the study and to manuscript development, and all approved the final version.

Declaration

The authors declare that artificial intelligence tools were used only to assist with language editing, translation, and improvement of the manuscript's readability. All conceptualization, study design, data collection, data analysis, interpretation of findings, and final approval of the manuscript were performed by the authors. The authors take full responsibility for the accuracy, integrity, and originality of the content.

Transparency Statement

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Data are available for research purposes upon reasonable request to the corresponding author.

Acknowledgments

The authors thank the participating centers, clinicians, adolescents, and guardians who made the study possible.

Declaration of Interest

The authors report no conflict of interest.

Funding

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

Ethics Considerations

The study placed a high emphasis on ethical considerations. Informed consent obtained from all participants, ensuring they are fully aware of the nature of the study and their role in it. Confidentiality strictly maintained, with data anonymized to protect individual privacy. The study adhered to the ethical guidelines for research with human subjects as outlined in the Declaration of Helsinki.

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E-ISSN: 2981-2569

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Health Nexus
E-ISSN: 2981-2569