

Evaluating the effectiveness of mindfulness-based sexual therapy for women with sexual dysfunction: A systematic literature review

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Abstract

This study aimed to explore and synthesize the effectiveness of mindfulness-based therapy in addressing sexual dysfunction that adversely impacts the quality of women sexual relationships with the partners. Systematic Literature Review (SLR) methodology was used based on Preferred Reporting Items for Systematic Review and Meta-Analysis (PRISMA) guidelines. In this study, a systematic literature search was conducted on integrated databases, namely SagePub, Science Direct, Springer, and PubMed, for articles published between 2014 and 2023. The search terms used were "mindfulness sexual therapy" and a total of eight articles were selected based on predefined inclusion and exclusion criteria. The results showed that mindfulness-based therapy could be a valuable and promising intervention for enhancing sexual function in women with sexual dysfunction and low relationship quality. Future studies should conduct similar analyses with male subjects.

Keywords

Literature review, mindfulness-based therapy, sexuality, sexual dysfunction, women

Introduction

Sexual dysfunction is defined as conditions capable of disrupting the desire or ability to achieve sexual satisfaction. Issues related to this condition comprise emotional and behavioral aspects, thereby requiring professional assistance. According to previous functional neuroimaging studies, mindfulness can enhance emotional regulation by improving cortical regulation of limbic circuits and attention control (Sipe & Eisendrath, 2012). The International Statistical Classification of Diseases also states that sexual dysfunction includes various ways in which an individual cannot engage in sexual relations as desired (World Health Organization, 2011). In general, sexual response is a psychosomatic process, indicating that both psychological and somatic processes typically contribute to dysfunction. The condition impairs the desire or ability to achieve sexual satisfaction (Strassberg & Paleman, 2017), and represents a heterogeneous group of disorders, usually characterized by clinically significant disturbances in the capacity of an individual to respond sexually or difficulties in experiencing sexual pleasure (American Psychiatric Association, 2022).

Previous epidemiological studies showed a high number of women experiencing sexual problems. This prevalence varies depending on the location, for example, in the United States, an estimated 43.1% of women experience sexual dysfunction, with low sexual desire being the most common issue at 37.7% (Apostolou, 2016). Furthermore, the incidence of female sexual dysfunction (FSD) in Turkey was reported at 48.3%, in Ghana at 72.8%, and in Indonesia at 66.2%, resulting in an average prevalence rate of 58.04% (Ramadhani et al., 2018). This implies that more than half of women in each country

may potentially experience sexual dysfunction (Ramadhani et al., 2018).

Using Female Sexual Function Index (FSFI) instrument, cases of sexual dysfunction among 702 women in Indonesia reached 34.5%, with 2.8% had sexual disorder, 24.5% had low desire, 10.3% had low arousal, and 36% had orgasmic dysfunction (Manurung & Rahardjo, 2023). This prevalence rate shows that female sexual function should not be underestimated, due to the ability to impact the quality of life for more than half of the female population. In general, sexology studies examine four phases in normal sexual activity, namely arousal, the method to the orgasm, orgasm, and relaxation (Ventegodt, 2008). According to sexology phenomena, the most dominant problem is a lack of sexual dysfunction in women.

Longitudinal studies have shown a higher cross-sectional prevalence of sexual dysfunction in older women compared to younger population. However, the incidence of this condition also increases with age. The discrepancy in prevalence rates across age groups suggests a multifactorial etiology influencing female sexual function (Apostolou, 2016). The occurrence of sexual dysfunction in women during sexual activities is classified in DSM V-TR (Diagnostic and Statistical Manual of Mental Disorders Fifth Edition Text Revision) as Female Sexual Interest (American Psychiatric Association, 2022). The failure to achieve sexual satisfaction

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can occur due to dysfunction factors. According to DSM V-TR, sexual dysfunction refers to the inability of an individual to respond to sexual stimuli or experience pleasure (American Psychiatric Association, 2022). In post-industrial societies, differences in sexual behavior may contribute to the classification of women with lower sexual motivation as experiencing dysfunction (Apostolou, 2016).

Sexual dysfunction disorders experienced by women are indicated by a decrease in interest in thoughts and a lack of receptivity to sexual activity invitations. Generally, mental health disorders constitute a prominent risk factor for FSD. The perception of women with sexual problems on how to achieve satisfaction can significantly impact response to difficulties. For example, women who believe sexual satisfaction takes effort and open communication tend to be more resilient and adaptable during challenges, leading to better overall well-being (Uppot et al., 2024). These groups of women frequently report sexual difficulties despite still valuing sexuality as a crucial component of overall well-being (Basson & Gilks, 2018). Several factors can contribute to sexual dysfunction in women, including negative automatic thoughts, strong emotions such as anxiety or sadness, and difficulty reaching orgasm or feeling aroused during intimacy (Peixoto, 2023).

Based on the hierarchy of needs, sexuality is a psychological aspect that drives individuals to express sexual dysfunctions to partners (Fathi, 2013). In general, trait anxiety has been connected to hypoarousal and anhedonia in sexual context. This suggests that physiological signs of arousal may be interpreted as threatening instead of pleasurable in women with high-trait anxiety (Basson & Gilks, 2018). Furthermore, a history of anxiety disorders is associated with an increased prevalence of sexual pain. Anxiety or fear can also arise due to the anticipated pain during sexual activity. Sexual dysfunction and problems are often associated with disorders, assessments, anxiety, self-criticism related to performance, and a lack of attention to sexual stimuli (Bhugra & Colombini, 2013; Sood et al., 2022). To address these problems, methods related to mindfulness and full attention can be implemented and developed in sexual therapy. In this context, self-compassion includes kindness and a gentle attitude towards oneself during distress. It can help manage negative emotions that might arise around sex, leading to more fulfilling sexual experiences and potentially reducing dysfunction (Peixoto, 2023).

Mindfulness has a strong correlation with positive sexual activity, regardless of whether the individual has a partner or not (Sood et al., 2022). Neural mechanisms associated with improved emotion regulation through mindfulness practice include a diminished activation of the amygdala, suggesting a decrease in emotional arousal (Tang et al., 2015). This could be particularly beneficial for women with sexual dysfunction who may experience heightened emotional stress. Mindfulness-based practices can be a valuable tool for couples to address stress and anxiety, which are well-established impediments to intimacy (Krieger et al., 2023). By fostering relaxation, emotional regulation, and a general sense of calmness in the relationship, mindfulness can enhance emotional connection and create a more conducive environment for intimacy.

Individual satisfaction plays a crucial role in sexual activity because it is associated with perceived satisfaction in other

aspects of life. Sexual satisfaction is an affective response that arises from an individual's subjective evaluation of sexual relationship (Lawrance & Byers, 1995). Mindfulness-based interventions were found to be effective in reducing cognitive interference and anxiety experienced by women during sexual activity (Hucker & McCabe, 2014). These interventions also led to an increase in present-moment focus and bodily awareness, particularly of pleasurable sensations. The application of mindfulness-based therapy has shown improvements in sexual dysfunction, overall function, distress, as well as constructs related to thoughts and mood (Paterson et al., 2017).

Previous studies reported that face-to-face mindfulness interventions for sexual dysfunction in women yielded significant results. However, the feasibility of delivering such interventions online without personalized guidance has been observed in relatively small sample sizes, mainly comprising women with higher education levels and middle to upper-economic backgrounds (Brotto et al., 2022). This limitation underscores the need to assess evidence-based data on the clinical effectiveness of various mindfulness interventions among a more diverse subject population not only in higher education levels and middle to upper economic backgrounds but rather in general.

This study was conducted to explore the effectiveness of mindfulness-based sexual therapy to address dysfunction. The review focused on the role of mindfulness in enhancing sexual function, as well as sexual and relational satisfaction. Additionally, an overview of the impact on the quality of life and intimacy was evaluated. Various sexual mindfulness interventions and methods that could be implemented and developed in sexual therapy were also explored. Therefore, this study aimed to provide an up-to-date evaluation of available literature on mindfulness therapy for sexual function in women.

Method

This study used Systematic Literature Review (SLR) method, which aimed to collect all empirical evidence consistent with predefined eligibility criteria to specifically address study questions. The process typically starts with the identification of relevant studies through a comprehensive search strategy. After selecting the studies, the data extraction phase includes systematically collecting pertinent information. This comprises details on results, methods used, sample populations, and other relevant contextual information (Page et al., 2021). The collected data are then analyzed through a mixed method. This method was selected because, fundamentally, the title along with the references predominantly required quantitative studies. However, a more detailed qualitative discussion of the meaning behind the existing quantitative results was also considered.

In this study, only articles published between 2014 and 2023 were included in the review. The keywords used in the literature search were "mindfulness sexual therapy" AND "sexual function" AND "sexual dysfunction". The search was conducted on integrated databases including SagePub, Science Direct, Springer, and PubMed. This systematic literature review was guided by Preferred Reporting Items for Systematic Review and Meta-Analysis (PRISMA) guidelines

(Page et al., 2021). To ensure that the selected references were of high quality, several assessment criteria were considered. In this context, the articles should be relevant to the topic, as well as provide comprehensive information related to the issues, methods, samples, and results in a systematic manner. Furthermore, only publications from SagePub, Science Direct, Springer, and PubMed were considered.

Several inclusion and exclusion criteria were established for the selection of relevant articles. The inclusion criteria used were as follows: 1) empirical and experimental studies, 2) subjects were women with sexual dysfunction, 3) all age groups, 4) interventions must be based on mindfulness sexual therapy, and 5) studies published between 2013 and 2023. On the other hand, the exclusion criteria included 1) literature review or meta-analysis studies, 2) published before 2013, 3) non-representative samples and weak study designs, and 4) studies that have not been peer-reviewed or have a high risk of bias. The synthesis of results was then performed through a comparative table, which provided additional information. After inputting all articles, an analysis was conducted followed by the categorization of studies with similar explanations, and systematic organization. To prevent bias, information obtained from these references was presented clearly, whether through statistical figures or interview responses. Preventing this bias is crucial in efforts to avoid any ambiguity in the results.

Although SLR is a robust method for synthesizing existing studies, there are certain limitations. For example, a significant weakness is the potential for publication bias. Considering SLR relies on published literature, studies with positive or significant results are more likely to be published than those with neutral or negative. This can lead to an overrepresentation of certain perspectives or outcomes in the review, skewing the overall synthesis. Although the process of setting strict inclusion and exclusion criteria is necessary for maintaining rigor, it may inadvertently exclude relevant studies that do not perfectly fit the predetermined criteria. The exclusion can result in a limited perspective on the study topic. The time-consuming and resource-intensive nature of SLR is also a practical limitation, specifically when there is a need for quick or timely reviews. Despite these weaknesses, SLR remains a valuable tool for evidence synthesis in studies when conducted diligently and with awareness of the limitations.

PRISMA provides a systematic method to identify, screen, and select articles for review. The process typically comprises several key steps, starting with a comprehensive search of relevant databases, using carefully constructed search strings. The identified articles were then screened based on predefined inclusion and exclusion criteria, in relation to title and abstract. Subsequently, the selected articles were subjected to a more detailed evaluation through a full-text assessment. During this phase, relevant data were extracted from each article, focusing on key variables, methods, and results. PRISMA emphasizes transparency, hence, the reasons for excluding articles at each stage should be documented. Finally, the selected articles were synthesized and analyzed in the context of the study question or objective. In this process, adherence to PRISMA guidelines ensures methodological rigor and transparency in the identification and selection of articles for inclusion in a systematic review.

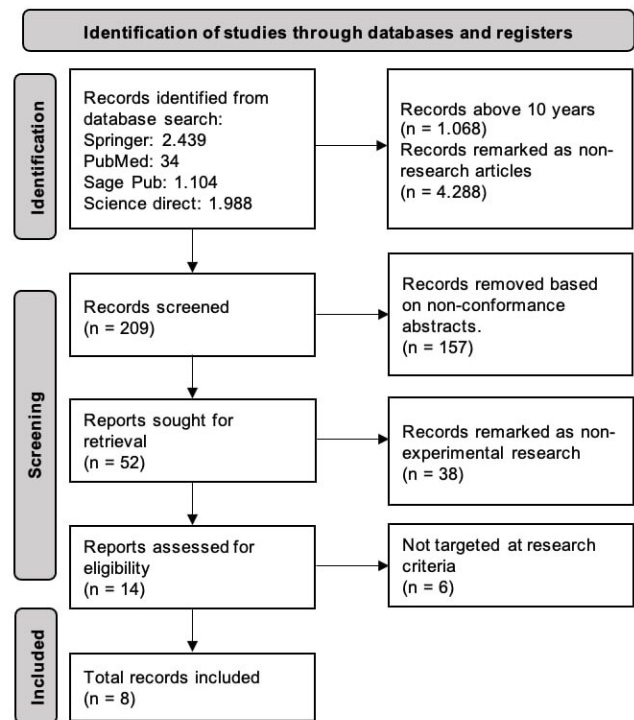


Figure 1. Article Identification Using PRISMA Flowchart

This study used PRISMA flowchart by identifying journals in Springer, PubMed, SagePub, and Science Direct databases using the keywords "mindfulness sexual therapy" AND "sexual function" AND "sexual dysfunction". Journals over 10 years old and not marked as scientific articles were excluded in the identification stage, resulting in 209 articles that could proceed to the next stage. In the screening stage, journals whose abstracts were not in line with the objectives and keywords of this study were eliminated. Furthermore, non-experimental journals and those which did not match the target criteria were removed. This resulted in eight journals that were subsequently examined.

Result

In the eight articles reviewed, the total number of participants was 669, including women in search of therapy for sexual desire/arousal difficulties, had sexual interest/arousal disorder (SIAD) and no other health disorders, diagnosed with breast cancer in the last 2 years at stages 0-4, had SIAD as per DSM-V classification, experienced childhood sexual abuse, had epilepsy disorders. The selection of eight articles included was based on considerations of source credibility, completeness of data and information, mindfulness-based therapy interventions, and the previously mentioned criteria. Table 1 shows the included articles that examine the role of mindfulness-based therapy in addressing sexual dysfunction in women.

Table 1. The Articles Examined in This SLR Study and Intervention Characteristics

Author(s)	Title	Sample	Outcome Measurements	Study and Interventions	Results
Brotto et al (2016)	“Mindfulness-based sex therapy improves genital-subjective arousal concordance in women with sexual desire/arousal difficulties”	Women seeking therapy for sexual desire/arousal difficulties (n=79 women).	“Contemporaneous Assessment of Subjective Sexual Arousal”, “Female Sexual Function Index (FSFI)”, “Female Sexual Distress Scale (FSDS)”	Mindfulness-Based Sex Therapy. This study used randomized control trial. Participants were assigned to either the immediate therapy group or the delayed therapy group through random assignment.	This study found that mindfulness-based sex therapy had a positive effect on sexual functioning in women with sexual desire/arousal difficulties. The therapy improved the concordance between self-reported sexual arousal and psychophysiological sexual response. Mindfulness-based sex therapy might improve sexual functioning in women by increasing their awareness and perception of sexual response.
Brotto et al (2022)	“Feasibility of an online mindfulness-based intervention for women with sexual interest/arousal disorder”	Women with sexual interest/arousal disorder (SIAD) and no other health disorders (n=30 women).	“Female Sexual Function Index (FSFI)”, “Female Sexual Distress Scale-Revised (FSDS-R)”	Online mindfulness-based cognitive therapy intervention (eSense-Mindfulness). This study was a single-arm feasibility trial. Both quantitative data (using questionnaires) and qualitative data (through participant feedback) were collected to assess the feasibility and acceptability of the intervention.	Mindfulness exercises and information on partner communication were the most relevant. Limited efficacy testing showed large effect sizes for reductions in sex-related distress and improvements in sexual desire, arousal, and satisfaction. However, smaller effect sizes were observed for improvements in lubrication, orgasm, and vaginal pain. The results suggest that delivering mindfulness interventions for sexual dysfunction online, without personalized guidance, can be feasible and potentially effective.
Chang et al. (2022)	“Impact of mindfulness-based stress reduction on female sexual function and mental health in patients with breast cancer”	Women diagnosed with breast cancer in the last 2 years at stages 0-4 (n=26 women).	“The Female Sexual Function Index (FSFI)”, “The Depression, Anxiety, and Stress Scale (DASS-21)”, The EQ-5D”	Mindfulness-based stress reduction (MBSR). This study used a randomized controlled trial design, with participants allocated into two groups: a 6-week mindfulness-based stress reduction (MBSR) group and a usual care group.	MBSR was found to improve parts of female sexual function, including arousal, lubrication, and satisfaction, with small to medium effect sizes. MBSR showed significant benefits on mental health, specifically reducing anxiety and stress, with large effect sizes. This study concluded that MBSR can improve female sexual function and mental health, except for sexual desire and depression, in women with breast cancer.
Gunst et al (2018)	“A randomized, waiting-list-controlled study shows that brief, mindfulness-based psychological interventions are effective for the therapy of women’s low sexual desire”	Women with sexual interest/arousal disorder as per DSM-V classification (n=20 women).	“Female Sexual Function Index (FSFI)”, “Sexual Interest and Desire Inventory–Female (SIDI-F)”, “Female Sexual Distress Scale-Revised (FSDS-R)”, “Revised Dyadic Adjustment Scale (RDAS)”, “Perceived Relationship Quality Components Inventory (PRQC)”, “Brief Symptom Inventory–18 (BSI-18)”	Brief Mindfulness-Based Psychological Interventions. This study was a randomized, waiting-list-controlled study, with participants randomly allocated to one of the therapy conditions or a waiting-list condition.	The intervention resulted in significantly higher sexual desire immediately following therapy compared to the waiting list condition. The improvements were sustained at follow-up, accompanied by improvements in some secondary outcomes. This study suggests that mindfulness-based therapy are suitable option for treating low sexual desire in women and was found to be effective in improving sexual desire and sexual distress in women.

Guyon et al (2023)	“Who am I as a sexual being? The role of sexual self-concept between dispositional mindfulness and sexual satisfaction among child sexual abuse survivors”	Individuals who have experienced childhood sexual abuse (n= 175, 60.6% women, 39.4% men).	“Mindful Attention Awareness Scale (MAAS)”, “Sexuality Scale (SS)”, “Global Measure of Sexual Satisfaction”	Dispositional Mindfulness. This study examined the relationships between variables and tested complex theoretical models.	Higher levels of dispositional mindfulness were associated with greater sexual self-esteem and lower sexual depression, which in turn were associated with higher levels of sexual satisfaction. Mindfulness-based interventions and addressing sexual self-concept can be valuable in improving sexual satisfaction and the overall recovery process of adult survivors of childhood sexual abuse.
Jaderek et al (2023)	“Assessment of the effect of mindfulness monotherapy on sexual dysfunction symptoms and sex-related quality of life in women”	Women with sexual dysfunction and no other disorders (n= 93 women).	“Sexual Satisfaction Questionnaire (KSS)”, “The Female Sexual Function Index (FSFI)”, “The Five Facet Mindfulness Questionnaire (FFMQ)”	Mindfulness Monotherapy. The methodology for assessing the effectiveness of mindfulness monotherapy in treating sexual dysfunctions in women involved conducting a 4-week mindfulness-based therapy (MBT) program for two groups of heterosexual females: one with psychogenic sexual dysfunction (WSD) and one with no sexual dysfunction (NSD).	Women with sexual dysfunction reported significant improvements in sexual desire, arousal, lubrication, and orgasm after mindfulness program. However, there was no significant improvement in the pain domain. Women without sexual dysfunction reported a significant increase in sexual desire but no significant changes in arousal, lubrication, orgasm, and pain. Mindfulness monotherapy has the potential to be a new therapeutic program for specialists and provide more effective help to women with sexual dysfunctions.
Lin et al (2019)	“Mindfulness-based cognitive therapy for sexuality (MBCT-S) improves sexual functioning and intimacy among older women with epilepsy: A multicenter randomized controlled trial”	Women with epilepsy disorders (n=220 women).	“Female Sexual Function Index (FSFI)”, “Female Sexual Distress Scale-Revised Version (FSDS)”, “Personal Assessment of Intimacy in Relationships Scale (PAIRS)”, “Sexual Five-Facet Mindfulness Questionnaire (FFMQ-S)”, “Sexual Attitudes and Beliefs Survey (SABS)”	Mindfulness-based Cognitive Therapy for Sexuality (MBCT-S). This study used randomized controlled trial that focused on mindfulness-based cognitive therapy for sexuality (MBCT-S) and the impact on older women with epilepsy.	Mindfulness-based cognitive therapy for sexuality (MBCT-S) and the impact on older women with epilepsy showed that MBCT-S was effective in improving sexual function and reducing sex-related distress. The improvements were found in sexual function, sexual distress, and intimacy among the participants who received MBCT-S sessions. The results indicate that MBCT-S can enhance sexual functioning and intimacy among older women with epilepsy.
Paterson, et al (2016)	“A pilot study of eight-session mindfulness-based cognitive therapy adapted for women’s sexual interest/arousal disorder”	Women with sexual desire/arousal disorder (n=26 women).	“Modified Female Sexual Function Index (FSFI)”, “Sexual Interest/Desire Inventory (SIDI)”, “Female Sexual Distress Scale-Revised (FSDS-R)”, “Five Facet Mindfulness Questionnaire (FFMQ)”.	Mindfulness-Based Cognitive Therapy. This pilot study aimed to test the feasibility and efficacy of an eight-session mindfulness-based cognitive therapy for sexuality (MBCT-S) program for women with sexual interest/arousal disorder.	An eight-session mindfulness-based cognitive therapy for sexuality (MBCT-S) program significantly improved sexual desire, overall sexual function, and sex-related distress in women with sexual interest/arousal disorder. Self-compassion, interoceptive awareness, and mindfulness were underlying factors contributing to the improvements in sexual desire, sexual function, and sex-related distress.

Based on the results, no studies discussed the effectiveness of using mindfulness-based therapy for people with sexual dysfunction. The only available studies focused on the procedure, implementation, and effect on sexual dysfunction. The results show a positive influence but do not explain the magnitude, both in the form of percentages and objective assessments. Therefore, this study conducted an objective assessment related to the effectiveness of mindfulness-based therapy for people with sexual dysfunction based on the results synthesized.

Discussion

This study found that mindfulness-based therapy has a significant impact on women experiencing sexual dysfunction. The therapy operates by guiding participants to not be overwhelmed by the experienced dysfunction but rather focus on thoughts and actions of healing, disregarding any criticisms, remarks, or pressures. These results were derived from the eight articles, which were subsequently synthesized and summarized. The difference between this study and the eight articles lies in the model used. This study focused on literature search by collecting various relevant references, while the referenced articles were predominantly direct studies, including both field and secondary investigations with medical record data. Additionally, this study combined several participant characteristics broadly while still considering relevance to each other. The referenced articles, on the other hand, were fixated on one participant characteristic as the main focus. Apart from these differences, there is a similarity in terms of the intervention used, namely mindfulness-based therapy, with a focus on women experiencing sexual dysfunction. However, further studies are needed to fully understand the potential benefits and mechanisms of change associated with mindfulness interventions.

Implementing mindfulness-based sexual therapy mechanisms can elevate sexual function in women (Brotto et al., 2016). This suggests that therapy related to women's sexual function has the potential to enhance and maintain both physical and subjective dysfunction. The results also indicate that in the future, studies conducted on this topic may consider the adoption of mindfulness-based sexual dysfunction concordance as a relevant endpoint in addressing issues related to sexual dysfunction or arousal. Mindfulness helps couples move past expectations, fostering a sense of wonder and exploration that strengthens intimacy (Krieger et al., 2023).

Participants who completed all assessments reported high levels of usability and ease of understanding all content (Brotto et al., 2022). Mindfulness exercises and information on partner communication were found to be the most relevant aspects. The analysis of the intervention's effects showed large effect sizes for reducing sexual distress and increasing sexual dysfunction, arousal, and satisfaction. There were smaller effect sizes for improving semen viscosity, orgasm, and vaginal pain. Furthermore, the results suggest that face-to-face mindfulness therapy for women sexual dysfunction demonstrates excellent feasibility when delivered online without personalized guidance. This implies that the use of mindfulness monotherapy to address symptoms of sexual dysfunction and enhance sexual relationship quality can

provide a novel solution for women experiencing such symptoms significantly, without imposing additional mental or physical pressure.

Mindfulness-based stress reduction did not significantly increase sexual dysfunction or reduce depression levels in breast cancer patients. However, it improved certain aspects of sexual function in terms of the quality of genitals (Chang et al., 2022). This result serves as the basis for recommending the inclusion of mindfulness-based stress reduction in clinical health education curricula, particularly to provide education to women with breast cancer. The recommendation aims to potentially increase enthusiasm in elevating overall quality of life, particularly concerning sexual dysfunction and genital function. Patients receiving mindfulness-based therapy tend to show moderate to large improvements in sexual desire, arousal, lubrication, orgasm, and satisfaction, indicating the potential efficacy (Stephenson & Kerth, 2017).

A comparison was carried out to observe the level of sexual dysfunction in women before and after therapy using mindfulness-based therapy with another method focused on scheduling sexual activities (Gunst et al., 2019). The results showed that women subjected to therapy using both methods reported a significantly higher level of sexual dysfunction compared to the control. This conclusion was based on the analysis of the FSFI index, which fell within the range of 0.75 - 1.06. The study, in general, did not find significant differentiation between the two methods used but concluded that mindfulness-based therapy, in this case, is the most suitable and effective option for addressing and treating sexual dysfunction in women.

By testing the influence of mindfulness on sexual satisfaction and considering the presence of intervening or mediator variables, this study provided insights into the underlying mechanisms for potential association (Guyon et al., 2023). The results, through path analysis, showed that mindfulness was positively related to sexual satisfaction through two intervening variables namely high sexual self-esteem and lower sexual depression. The integrative model built in this mediation regression found an influence of 66.5% in enhancing sexual satisfaction. The results underscored the vital role played by mindfulness and the conceptualization of sexuality in satisfaction among survivors of child sexual violence. The implication is the discussion of trauma-informed interventions to address sexual satisfaction issues experienced by survivors of child sexual violence to prevent these problems from persisting into adulthood.

The overall risk of sexual dysfunction decreased from 90.6% baseline to 46.7% at follow-up in Women with Sexual Dysfunction (WSD) group, and from 32.5% at baseline to 6.9% at follow-up in No Sexual Dysfunction (NSD) group (Jaderek et al., 2023). Participants in WSD group reported significant improvements in levels of sexual dysfunction, arousal, lubrication, and orgasm between measurements, although not in the domain of pain. Meanwhile, participants in NSD group reported a significant increase in sexual dysfunction levels between measurements, but not in levels of arousal, lubrication, orgasm, and pain. Significant improvements in the quality of life related to sexuality were observed in both groups. The results of this study present an opportunity for translating into the development of new

therapy programs for specialists, offering more effective assistance to women experiencing sexual dysfunction.

The improvement in sexual function, distress, and intimacy was found in PP (patient and partner) and PPHP (patient, partner, and healthcare provider) groups at 1-month and 6-month follow-ups (Lin et al., 2019). PPHP group, compared to PP group, had a greater increase in intimacy at both follow-ups. Regarding sexual function, PPHP group performed better than PP group at 6-month follow-up. Mindfulness-based cognitive therapy for sexuality appeared effective in improving sexual function and reducing distress among older adult women in Iran. However, the results cannot be considered significant at this point and should be tested in other populations. Mindfulness practices increase awareness of the body and improve emotional regulation skills (Thirumaran et al., 2020). In this context, meditation can reduce negative and boost positive emotions (Tang et al., 2015). This emotional regulation could be a powerful tool for women with sexual dysfunction, helping in the management of emotional hurdles that often come with the condition.

In a previous study, women reported a significant improvement in sexual dysfunction, overall function, and a reduction in distress (Paterson et al., 2017). This improvement was independent of expectations regarding the available therapy, the duration of sexual relationships, or dysfunction. After participating in mindfulness training, women reported a greater mental focus on sexual desire and a rise in physical sensations of arousal, suggesting mindfulness may improve excitement (Mize, 2015). Mindfulness-based cognitive therapy for sexuality method used in this study effectively elicited a significantly improved mood and attention, which played a role in enhancing and mediating the improvement in sexual function.

Women benefit more than men in response to college-based meditation training, showing decreased negative affect, improved mindfulness, and self-compassion skills (Rojiani et al., 2017). This exposition is based on data that indicate the high feasibility and significance of the eight-session mindfulness-based cognitive therapy in enhancing sexual function. It also lays the groundwork for a larger randomized controlled trial (RCT) with an extended follow-up period. Mindfulness exercises can help women develop a kinder attitude during sex that may reduce negative thoughts and feelings capable of preventing sexual fulfillment (Krieger et al., 2023).

Based on the results of previous studies, mindfulness-based sexual therapy has been able to effectively reduce sexual dysfunction through various ways such as stimulating thoughts related to sex and improving sexual function. The therapy assists participants in managing dysfunction by helping concentrate on healing thoughts and actions to overcome self-criticism and pressures. Although the implementation is limited, in general, mindfulness-based sexual therapy is considered to help people with sexual dysfunction, specifically women. This therapy can be socialized and developed according to needs that may continue to change at any time. Conducting continuous studies and elaboration with other methods is an option to sustain mindfulness-based sexual therapy and increase the effectiveness in addressing sexual dysfunction problems.

Study Consistency

In general, consistent results have indicated that mindfulness-based therapy could be a significant solution for addressing dysfunction issues and improving sexual relationship quality, even though the studies varied in terms of subject characteristics, total participants, measurement tools, and interventions. The fundamental similarity among these studies lies in the focus on "women with symptoms or conditions related to sexual dysfunction and low or diminished sexual quality." The measurement tools used were adjusted to the characteristics of the subjects, aiming to maximize the potential results from the studied participants. According to the review, the most used measurement tool is FSFI. This instrument is designed to be a multidimensional assessment of women's sexual function, intended for clinical evaluation. The advantages are validation based on Diagnostic and Statistical Manual of Mental Disorders Fourth Edition (DSM 4) and development through multiple stages, including the selection of initial elements, initial substance testing, and linguistic and conceptual validity based on expert consultations.

Study Implication

Based on the results, several implications can be drawn, for example, mindfulness-based therapy is recommended by experts, including doctors and relevant healthcare professionals in the therapy of dysfunction and enhancing sexual quality of women. This recommendation is based on the results indicating that mindfulness-based therapy significantly addresses sexual dysfunction issues compared to other therapy, as reported by participants. Regarding the policy-related implication, although mindfulness-based stress reduction did not significantly increase sexual dysfunction or decrease depression levels in breast cancer patients, it enhanced certain aspects of sexual function in terms of the quality of sexual organs (Chang et al., 2022).

From a practical standpoint, mindfulness-based therapy can be recommended to anyone, specifically women, experiencing sexual dysfunction issues and low sexual relationship quality. It offers a valuable alternative for people who are single or cannot have intercourse (Stephenson & Kerth, 2017). In contrast to sensate focus therapy, which usually needs a partner, mindfulness-based therapy works for individuals, making it a more accessible option for improving sexual well-being. The use of mindfulness monotherapy to address symptoms of social dysfunction and improve sexual relationship quality has provided a novel solution for women, without imposing additional mental and physical pressure (Brotto et al., 2022).

Theoretically, the reviewed studies offer a new perspective on addressing dysfunction issues and low sexual relationship quality through mindfulness-based therapy. Future studies in this area may consider the adoption of mindfulness-based method as a relevant last point in the therapy of women with issues related to sexual dysfunction or arousal (Brotto et al., 2016).

Limitations

The strength of this study lies in the literature search method and the quality of the articles included. The literature search method was systematically conducted, reducing bias in the

selection of articles analyzed by searching international journals related to mindfulness-based therapy. This was because, at the local level, only a few studies integrated sexual dysfunction issues and low sexual relationship quality. However, on the international level, studies on the connection between dysfunction issues and low sexual relationship quality with mindfulness-based therapy have been extensively conducted with significant results. The reference screening process through meta-analysis before analysis using SLR method depicted the efforts of previous studies in presenting results with high-quality references.

This study has two main limitations, firstly, the scope of the literature primarily focused on women. However, issues related to sexual dysfunction and low sexual relationship quality were not exclusive to women but also affected men. Secondly, the literature search was limited to peer-reviewed scientific journals and did not include "grey literature." By excluding "grey literature," SLR might overlook potential sources of information that could offer different perspectives and relevant data regarding sexual dysfunction issues.

Knowledge Gap and Future Study Directions

Based on the results, future studies into sexual dysfunction and arousal issues in women should incorporate mindfulness-based sexual dysfunction concordance as a primary outcome measure. Mindfulness training could be a tool to close the gap in emotional well-being between men and women (Rojiani et al., 2017). Since women often benefit more, different methods of mindfulness training might be needed for men, catering to specific ways of handling challenges.

This study only used female participants, hence, future studies are recommended to examine males. This is because issues related to sexual dysfunction and low sexual relationship quality are not exclusive to women but also affect men. By conducting studies on male participants, subsequent results will reduce the perception that women are the primary beneficiaries of mindfulness-based therapy. Furthermore, issues such as dysfunction and low sexual relationship quality, including problems namely impotence and premature ejaculation in men, can indirectly be addressed through mindfulness-based therapy.

Future studies are expected to broaden the scope of investigation in two ways, first, by incorporating male subjects, comparisons can be made regarding the effectiveness and significance of applying mindfulness-based therapy to both women and men. Comparing mindfulness-based therapy with other methods for individuals with dysfunction and low sexual relationship quality is crucial to validate whether the therapy has the most significant impact. Secondly, by including "grey literature" in SLR, publication bias can be minimized, providing more comprehensive information about intervention effectiveness. Literature published in scientific journals tends to be biased towards positive studies that yield significant results. Negative results or unpublished studies tend to be part of "grey literature." Excluding these studies may lead to missing out on a more complete understanding.

Conclusion and Implications

In conclusion, mindfulness-based therapy is useful for improving sexual function in women. This is consistent

with policy implications where the therapy can be recommended by experts, including doctors and relevant healthcare professionals, for use in addressing and treating dysfunction and enhancing sexual quality of women. From a practical standpoint, mindfulness-based therapy is effective, specifically for women experiencing sexual dysfunction issues and low sexual relationship quality. Regular implementation provides significant positive effects related to sexual concerns.

From a theoretical perspective, the reviewed studies have offered a new perspective on how to address dysfunction issues and low sexual relationship quality through mindfulness-based therapy. Future studies are expected to expand the scope of the investigation, specifically in terms of participants to obtain comparisons of the effectiveness and significance of applying the therapy to both women and men. Additionally, comparison with other therapy is crucial to validate whether mindfulness-based therapy has the most significant impact. This suggestion is intended to improve overall quality of life, with a focus on enhancing sexual function and genital health.

Declaration

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Author contributions

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Conflict of interest

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