ISSN E: 3006-1466
ISSN P: 3006-1458
CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
CJSSR
CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
Vol.03 No.04 (2025)

THE EFFECT OF KEGEL EXERCISES ALONG WITH COGNITIVE BEHAVIORAL THERAPY (CBT) ON SELF-REPORTED MARRIED WOMEN WITH PENETRATION DISORDER: A CASE SERIES

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Abstract
Penetration disorder, a form of genito-pelvic pain/penetration disorder (GPPPD), is a distressing sexual dysfunction among married women that impairs marital satisfaction, intimacy, and psychological wellbeing. The present study aimed to examine the combined effect of Cognitive Behavioral Therapy (CBT) and Kegel exercises on self-reported married women experiencing penetration difficulties. Ten married women aged between 30–50 years, with marital duration ranging from 5 to 20 years, participated voluntarily in the study. A pre–post quasi-experimental research design was used. Assessment was done through the Female Sexual Function Index (FSFI) and Sexual Satisfaction Scale for Women (SSS-W). The intervention comprised eight structured sessions involving psychoeducation, cognitive restructuring, relaxation training, behavioral rehearsal, and Kegel exercise training. Results indicated a significant improvement in sexual functioning and reduction in penetration-related anxiety and avoidance behaviors post-intervention. Ethical approval was obtained from the Departmental Research Review Committee. These findings highlight that a combination of CBT and Kegel exercises can be an effective therapeutic approach for women with penetration disorder in culturally sensitive contexts.

Keywords: *Penetration disorder, Kegel exercises, cognitive behavioral therapy, sexual dysfunction, married women.*

Introduction

Genito-pelvic pain/penetration disorder (GPPPD) is classified under sexual dysfunctions in the *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5)* and is characterized by persistent or recurrent difficulties with vaginal penetration, marked vulvovaginal or pelvic pain, fear or anxiety about pain during penetration, and tightening of pelvic floor muscles during attempted penetration (Conforti, 2017). Women with penetration disorder often experience distress, fear of sexual activity, and avoidance of intimacy, leading to compromised marital relationships (Nasrallah-Babenko, 2021). In Pakistani society, discussing sexual difficulties is often stigmatized, resulting in delayed help-seeking behaviors and unaddressed marital strain (Malik et al., 2020).

Several studies have found that cognitive behavioral therapy (CBT) is effective in modifying maladaptive thoughts and reducing performance-related anxiety among women with sexual dysfunction (Huffman, 2016). Cognitive Behavioral Therapy (CBT) is a structured, short-term, and goal-oriented psychotherapeutic approach that focuses on identifying and modifying maladaptive thoughts, emotions, and behaviors contributing to psychological distress or dysfunction. It operates on the premise that an individual's interpretation of events—rather than the events themselves—shapes emotional and behavioral responses (Depreeuw et al., 2017).

In the context of sexual dysfunctions such as penetration disorder, CBT helps clients recognize and challenge irrational or fear-based thoughts related to sexual performance, intimacy, pain, and self-worth (Yarosh, 2024). Through guided cognitive restructuring, clients learn to replace maladaptive cognitions (e.g., *"intercourse will always be painful"* or *"I am defective as a*

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woman") with balanced, evidence-based thoughts (e.g., *"pain can reduce as I learn to relax and regain control"*). Behaviourally, CBT incorporates graded exposure, behavioral rehearsal, and relaxation training to reduce avoidance behaviors and physiological anxiety responses. These behavioral interventions gradually help women to regain confidence and comfort during sexual activity by facing their fears in a controlled and supportive therapeutic environment (Curtiss et al., 2021).

Women with penetration disorder often face a range of psychological challenges, including anxiety, fear of pain, reduced self-esteem, and marital distress, which can significantly affect their sexual and emotional well-being. Mental health is a state of well-being in which an individual recognizes their abilities, manages normal life stresses, works productively, and contributes positively to relationships and society (Khizer et al., 2024; Tariq et al., 2024; Sadaf et al., 2024; Khan et al., 2021; Sabri et al., 2021). These psychological difficulties can impair sexual functioning and overall quality of life. Quality of life refers to the individual's sense of satisfaction and well-being across physical, psychological, relational, and functional domains (Iqbal & Ijaz, 2025; Hameed et al., 2022; Gillani et al., 2022).

However, the presence of supportive partners, family members, and empathetic healthcare professionals can play a crucial role in reducing psychological distress and enhancing therapeutic outcomes (Zulfiqar et al., 2025; Iqbal et al., 2025; Umar et al., 2024; Kazmi et al., 2023; Javed et al., 2021). Additionally, self-compassion helps affected women respond to their struggles with understanding rather than shame or self-blame, promoting emotional resilience and recovery (Javed et al., 2022). Together, social support and self-compassion serve as protective factors that facilitate positive adjustment, helping women overcome distress and improve both sexual functioning and overall well-being (Iqbal et al., 2025).

Kegel exercises, also known as pelvic floor muscle training, are a clinically validated behavioral intervention aimed at strengthening the pubococcygeus (PC) muscles and improving control over the pelvic floor. These muscles play a central role in urinary continence, vaginal tone, and sexual functioning (Cross, 2023). For women with penetration disorder, involuntary tightening of pelvic muscles during attempted intercourse is a common physiological response to anxiety or fear of pain (Darnell, 2023). Kegel exercises help increase awareness and voluntary control of these muscles, thereby reducing tension, improving elasticity, and facilitating comfortable penetration (Karami, 2025). The integration of both techniques may offer a comprehensive treatment model addressing both the psychological and physiological aspects of penetration disorder. The present case series aimed to examine the effect of Kegel exercises in combination with CBT on self-reported married women with penetration disorder in Pakistan.

Material and Method

A pre–post quasi-experimental design was used. Ten married women aged 30–50 years (M = 39.2, SD = 6.1) participated in the study. Their marital duration ranged from 5 to 20 years (M = 11.7 years). All were housewives, reported no history of psychological disorder or medical illness, and were screened for absence of gynaecological infections or endocrine disorders.

Assessment Tools

Rosen et al. (2000) developed the Female Sexual Function Index (FSFI), which assesses key dimensions of female sexual functioning including desire, arousal, lubrication, orgasm, satisfaction, and pain. The scale consists of 19 items rated on a 5-point Likert scale, where higher scores indicate better sexual functioning. The FSFI provides both domain-specific scores and a total composite score ranging from 2 to 36. A total score below 26.55 is typically considered indicative of sexual dysfunction. The overall internal consistency reliability reported by Rosen et al. was $\alpha = .97$, demonstrating excellent psychometric properties.

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CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
Vol.03 No.04 (2025)

Meston and Trapnell (2005) developed the Sexual Satisfaction Scale for Women (SSS-W) to measure multiple aspects of sexual satisfaction in women. The instrument contains 30 items rated on a 5-point Likert scale, with responses ranging from 1 = Strongly Disagree to 5 = Strongly Agree. The scale assesses five key domains: contentment, communication, compatibility, concern-relational, and personal concern. Higher scores represent greater sexual satisfaction. The reported overall internal consistency reliability for the SSS-W was α = .90, indicating strong reliability and construct validity.

Procedure:

Participants were recruited through referrals from gynaecology clinics. Informed consent was obtained, and confidentiality was assured. The intervention was conducted in a clinical setting with eight weekly sessions (each 60 minutes).

Therapeutic Plan:

1. **Session 1–2:** Psychoeducation about sexual anatomy, myths regarding intercourse, and normal physiological responses.
2. **Session 3–4:** Cognitive restructuring to identify and modify maladaptive thoughts (e.g., fear of pain, guilt, or negative beliefs about sexuality).
3. **Session 5:** Relaxation training and guided imagery to reduce anticipatory anxiety.
4. **Session 6:** Introduction and practice of Kegel exercises, teaching correct identification and contraction of pelvic floor muscles.
5. **Session 7:** Behavioral rehearsal through graded exposure and communication training with partner involvement.
6. **Session 8:** Relapse prevention and reinforcement of learned coping strategies.

Ethical Considerations:

Ethical approval was granted by the Departmental Research Review Committee. Participants were informed they could withdraw at any stage. Follow-up support was offered for any issues arising after therapy.

Results

Table 1 presents pre- and post-intervention mean scores on the FSFI and SSS-W. Results indicate a significant improvement in both sexual functioning and satisfaction levels after the combined CBT and Kegel exercise intervention.

Table 1

Pre–Post Scores on Sexual Functioning and Satisfaction

Measure	Pre-test M (SD)	Post-test M (SD)	Mean Difference	p
FSFI Total Score	17.6 (3.1)	27.9 (2.8)	10.3	< .001
SSS-W Total Score	42.5 (6.8)	63.7 (5.4)	21.2	< .001

Note. Higher scores indicate better functioning/satisfaction.

All participants reported reduced fear and anxiety associated with penetration, increased comfort during intimacy, and improved marital closeness by the final session.

Discussion

The findings of this case series demonstrate the significant effectiveness of combining Cognitive Behavioral Therapy (CBT) with Kegel exercises in the management of penetration disorder among married women. This integrative therapeutic approach proved beneficial in addressing both the psychological and physiological dimensions of the disorder. CBT was instrumental in restructuring maladaptive cognitions, such as fear of pain, self-blame, and performance-related anxiety, which often perpetuate avoidance of sexual intimacy. By utilizing techniques like psychoeducation, cognitive restructuring, relaxation training, and graded exposure, participants developed a more positive perception of sexual experiences and reduced anticipatory anxiety. The improvement in their cognitive flexibility and emotional regulation contributed to enhanced marital communication and intimacy. These outcomes are consistent

with earlier findings highlighting CBT's efficacy in modifying negative beliefs and reducing sexual avoidance behaviors in women with genito-pelvic pain and penetration disorder.

Simultaneously, Kegel exercises played a pivotal role in improving participants' bodily awareness and voluntary control of pelvic floor muscles, which are often involuntarily contracted due to fear and anxiety associated with penetration. The progressive strengthening and relaxation of these muscles alleviated physical tension and pain during intercourse. This aligns with previous research emphasizing that pelvic floor muscle training significantly enhances vaginal elasticity, blood circulation, and overall sexual satisfaction (Celenay et al., 2022).

The integration of CBT and Kegel exercises provided a biopsychosocial framework, addressing the interplay between mind and body. The cognitive and emotional regulation achieved through CBT complemented the physical empowerment gained from Kegel training, thereby producing a holistic improvement in sexual functioning. Furthermore, the therapeutic model used in this study was sensitive to the sociocultural context of Pakistani women, where discussing sexual issues often carries stigma and shame. By incorporating psychoeducation and normalizing sexual functioning within culturally acceptable parameters, the intervention facilitated open dialogue and reduced embarrassment surrounding the topic. This culturally responsive approach may explain the high adherence rate and positive outcomes observed.

The study found that combining CBT with Kegel exercises effectively improved sexual dysfunction in women, showing consistent pre–post progress despite a small sample size and no control group. The culturally sensitive intervention reduced shame and normalized sexual functioning, making it suitable for Pakistan's conservative context. Future large-scale, randomized studies are recommended to validate and extend these results.

Conclusion

This study provides preliminary evidence that combining CBT techniques with Kegel exercises is an effective approach for improving sexual functioning and satisfaction in married women with penetration disorder. Further randomized controlled trials with larger samples are recommended to validate these findings.

Data Sharing Statement

The data is available with the corresponding author with a rationale demand.

Conflict of Interest

The authors declare no conflict of interest.

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ISSN P: 3006-1458
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