

Medical Acupuncture and Cognitive Behavioural Therapy in Holistic Pain Management for Endometriosis-A Narrative Review of Mechanisms, Evidence and Integrated Clinical Application

Shetty S*

MRCPharm, FRMS, FCMA, BRCP

***Corresponding author:** Santhy Shetty, MRCPharm, FRMS, FCMA, BRCP 2 Brick Kiln St, Dy5 2AP, Brierley Hill, England, United Kingdom, Tel: +447711937163; Email: Info@narieholistic.co.uk

Review Article

Volume 1 Issue 1

Received Date: September 23, 2026

Published Date: October 03, 2026

Abstract

Endometriosis is a chronic inflammatory condition affecting approximately 1 in 10 people assigned female at birth in the United Kingdom, characterised by endometrial-like tissue growing outside the uterus. It causes persistent pelvic pain, dysmenorrhoea, dyspareunia, dyschezia, and systemic symptoms including fatigue and bloating, alongside significant psychological morbidity including anxiety, depression, and pain catastrophising. A bidirectional relationship exists: physical pain amplifies psychological distress, which in turn augments pain perception through central sensitisation and descending pain modulation pathways. Conventional pharmacological and surgical interventions often provide incomplete relief and carry significant side effect burdens, creating a need for integrated, person-centred approaches that address both physiological and psychological dimensions of suffering. This narrative review synthesises the evidence and clinical rationale for combining medical acupuncture and Cognitive Behavioural Therapy (CBT) as complementary interventions within a biopsychosocial model of holistic pain management for endometriosis. Drawing on systematic reviews, meta-analyses, randomised controlled trials, and national clinical guidelines, this paper examines the distinct and synergistic mechanisms of action, evaluates the current evidence base, and proposes an integrated clinical protocol for implementation in UK practice. Medical acupuncture modulates pain through multiple biological pathways: stimulation of endogenous opioid release; reduction of pro-inflammatory cytokines; improvement of pelvic circulation and reduction of venous congestion; neuromodulation of spinal and supraspinal pain processing; and regulation of prostaglandin synthesis and hypothalamic-pituitary-ovarian axis activity. CBT targets the cognitive-behavioural cycle of pain through: cognitive restructuring to reduce catastrophising and fear-avoidance behaviours; pain neuroscience education to normalise central sensitisation; graded activity pacing to replace the boom-bust cycle; relaxation and stress reduction to lower cortisol and pelvic floor muscle guarding; and development of pain self-efficacy. A 2024 systematic review and meta-analysis of 14 studies (n = 793) found acupuncture significantly reduced overall pelvic pain, dysmenorrhoea, and dyspareunia. A 2025 network meta-analysis of 33 randomised controlled trials (n = 2,323) confirmed acupuncture's particular benefit for non-cyclic pelvic pain (SMD = -4.53). The 2026 Healing Pelvic Pain Intervention (HaPPI) randomised controlled trial demonstrated that 8-week telehealth CBT produced large clinically meaningful improvements in endometriosis-specific quality of life, pain intensity, pain catastrophising, and psychological distress (Cohen's d = -0.28 to -0.93). National Institute for Health and Care Excellence (NICE) guidelines recommend CBT as first-line non-pharmacological management for chronic primary pain, while acupuncture is recognised as an adjunct with low-to-moderate evidence quality.

but consistent clinical benefit. Combining medical acupuncture and CBT creates a dual-action biopsychosocial intervention: acupuncture reduces nociceptive input and inflammation, lowering the physiological pain signal; CBT concurrently modulates top-down pain processing, emotional response, and behavioural function. This synergy breaks the pain–stress–pain cycle, with clinical benefits emerging after 6–8 weeks of combined care, offering immediate symptomatic relief alongside sustained long-term resilience and coping skills. Both interventions are best delivered as adjuncts to standard medical and surgical care, with medical acupuncture provided by HCPC-registered practitioners with appropriate British Medical Acupuncture Society (BMAS) training and CBT accessible via NHS Improving Access to Psychological Therapies (IAPT) services or qualified independent therapists. In conclusion, endometriosis pain is a multifaceted experience shaped by interconnected biological, psychological, and social factors. Medical acupuncture and CBT target complementary pathways - one modulating the body's pain signalling systems, the other transforming how pain is perceived, interpreted, and managed. Current evidence supports their integration within a holistic, person-centred care plan, offering an empowering, evidence-informed foundation for reducing pain, improving quality of life, and restoring wellbeing for people living with endometriosis. Further large-scale, placebo-controlled trials evaluating combined interventions are warranted to strengthen the evidence base and inform future clinical guidance.

Keywords: Endometriosis, Pelvic Pain, Medical Acupuncture, Cognitive Behavioural Therapy, Holistic Pain Management, Biopsychosocial Model, Central Sensitization, Complementary Therapies, Endometriosis Quality of Life, Chronic Pain

Introduction

Endometriosis is a chronic, oestrogen-dependent, inflammatory gynaecological condition characterised by the presence of endometrial-like tissue outside the uterine cavity, most commonly on the ovaries, fallopian tubes, pelvic peritoneum, bowel, and bladder. It affects approximately 1 in 10 people assigned female at birth in the United Kingdom - equivalent to around 1.5 million individuals - and is one of the most common causes of chronic pelvic pain. Despite its prevalence, the condition remains under-recognised, with an average diagnostic delay of 7–8 years from the onset of symptoms.

The clinical presentation of endometriosis is heterogeneous and extends far beyond gynaecological symptoms. The most frequently reported manifestations include severe dysmenorrhoea (period pain), chronic non-cyclic pelvic pain, dyspareunia (pain during intercourse), dyschezia (pain on defecation), and dysuria (pain on urination), alongside systemic symptoms such as profound fatigue, bloating, and bladder and bowel dysfunction. Pain severity correlates poorly with disease stage, as classified by the American Society for Reproductive Medicine, meaning individuals with minimal or mild endometriosis may experience debilitating pain, while those with extensive disease may remain relatively asymptomatic. This disconnect between anatomical pathology and symptomatic experience highlights the critical role of pain processing mechanisms beyond local tissue inflammation.

Conventional management pathways - as outlined in the National Institute for Health and Care Excellence (NICE) Guideline 73 [1] - typically follow a stepped approach: analgesia, hormonal therapies (including combined oral contraceptives, progestogens, and gonadotrophin-releasing hormone agonists), and laparoscopic surgery for excision or ablation of lesions. While these interventions provide benefit for many individuals, they have significant limitations. Hormonal therapies do not eradicate the disease and are associated with substantial side effects including irregular bleeding, weight gain, mood disturbance and loss of libido, leading to discontinuation rates of 25–50%. Surgical intervention carries inherent risks including adhesion formation, and recurrence rates following surgery remain high - estimated at 20–40% within five years. Perhaps most significantly, even after optimal medical and surgical treatment, a substantial proportion of individuals continue to experience persistent pain, suggesting that exclusive focus on peripheral tissue pathology is insufficient to address the full spectrum of the illness experience.

A major factor contributing to the persistence of pain is the bidirectional relationship between physical symptoms and psychological wellbeing. Chronic pelvic pain induces anxiety, depression, sleep disturbance and feelings of helplessness; conversely, these psychological states amplify pain perception through central sensitisation and descending pain modulation pathways, creating a self-perpetuating cycle of pain and distress. This dynamic is consistent with the biopsychosocial model of pain, which posits that pain

and disability arise and are perpetuated through dynamic interactions among biological, psychological and social factors - none of which can be considered in isolation.

Against this backdrop, there is growing interest in complementary and person-centred approaches that address the biological, psychological and social dimensions of endometriosis simultaneously. Two interventions have emerged as particularly promising: medical acupuncture, which targets the physiological mechanisms of pain and inflammation, and Cognitive Behavioural Therapy (CBT), which addresses the psychological and behavioural dimensions of the pain experience. While each approach has been studied individually, there remains a paucity of literature examining their combined application and potential synergistic effects. This narrative review aims to: (1) describe the mechanisms of action of medical acupuncture and CBT in the context of endometriosis-related pain; (2) evaluate the current evidence base for each intervention; (3) explore the theoretical and clinical rationale for their integration; and (4) propose a practical, evidence-informed framework for combined delivery within UK clinical practice.

The Biopsychosocial Context of Endometriosis Pain

To understand the rationale for combining medical acupuncture and CBT, it is first necessary to appreciate the multidimensional nature of endometriosis pain. Pain is no longer understood as a simple one-to-one representation of tissue damage; rather, it is a complex subjective experience shaped by nociceptive input, nervous system processing, emotional state, beliefs, past experiences, and social context.

Biological Mechanisms

At the biological level, endometriosis pain arises from multiple interconnected pathways. Ectopic endometrial lesions bleed and shed in response to hormonal fluctuations, triggering a local inflammatory response characterised by elevated concentrations of pro-inflammatory cytokines including tumour necrosis factor-alpha (TNF- α), interleukin-1 beta (IL-1 β) and interleukin-6 (IL-6). These inflammatory mediators sensitise peripheral nociceptors, increase prostaglandin production - particularly PGF2 α , which drives uterine hypercontractility and dysmenorrhoea - and promote angiogenesis and nerve fibre growth within lesions. Over time, persistent nociceptive input leads to neuroplastic changes within the central nervous system, including spinal cord dorsal horn hyperexcitability, expansion of receptive fields, and reduced descending inhibitory control - collectively termed central sensitisation.

Once established, central sensitisation causes pain to persist even in the absence of active peripheral inflammation, and non-painful stimuli may be perceived as painful (allodynia), explaining why many individuals report pain beyond the pelvic region and why pain intensity often correlates poorly with disease stage.

Psychological Mechanisms

Psychological factors interact dynamically with these biological processes to shape the overall pain experience. The Gate Control Theory of Pain, first proposed by Melzack and Wall [2], provides a foundational framework: nociceptive signals are modulated at the spinal cord "gate" by descending influences from the brain, including emotional state, attention, and cognitive appraisal. Anxiety, hypervigilance, and pain catastrophising - the tendency to magnify the threat value of pain and feel helpless in its presence - facilitate the opening of this gate, amplifying pain transmission. Conversely, relaxation, distraction, and a sense of control promote gate closure, reducing pain perception.

In endometriosis, a predictable psychological cycle often develops: recurrent pain leads to fear of movement and activity (kinesiophobia), which results in excessive rest and deconditioning; this reduces physical tolerance and increases vulnerability to pain flares, reinforcing the belief that activity causes harm - a pattern known as the fear-avoidance model. Over time, this cycle contributes to disability, social withdrawal, depression, and further sensitisation of the pain system. Importantly, these psychological processes are not merely consequences of pain but active contributors to its persistence and severity.

Social Context

The social dimension adds further complexity. Diagnostic delay, repeated medical encounters where symptoms are dismissed or minimised, financial burden, disruption to education, employment and relationships, and the societal stigma surrounding menstrual and pelvic health all contribute to feelings of disempowerment and isolation. These social stressors elevate cortisol levels, which in turn exacerbate inflammation and pain signalling, completing the biopsychosocial loop.

This comprehensive understanding of endometriosis pain - as an interconnected system of biological, psychological, and social processes - provides the theoretical foundation for integrating medical acupuncture and CBT. Acupuncture targets the peripheral and central biological pathways; CBT targets the cognitive, emotional, and behavioural pathways; together they address the whole system rather than isolated symptoms.

Medical Acupuncture: Mechanisms of Action and Evidence Base

Medical acupuncture - distinct from traditional acupuncture as a complementary therapy - is defined by the British Medical Acupuncture Society (BMAS) as a therapeutic intervention delivered by a registered healthcare professional, grounded in biomedical understanding of neurophysiology and pain mechanisms. It is increasingly recognised within mainstream healthcare as a safe, effective and cost-effective adjunct for chronic pain conditions.

Mechanisms of Action

Contemporary research has elucidated multiple biological pathways through which medical acupuncture exerts its therapeutic effects in the context of endometriosis:

Endogenous Opioid Release

Needle stimulation of peripheral sensory nerves triggers a cascade of neurochemical events, including the release of endogenous opioids - β -endorphins, enkephalins, and dynorphins - at peripheral, spinal, supraspinal, and hypothalamic levels. These substances bind to opioid receptors, inhibiting the release of substance P and other pain-signalling neurotransmitters, raising pain thresholds, and producing analgesia comparable to low-dose pharmaceutical opioids but without the risks of dependence or tolerance. Acupuncture also modulates descending pain inhibitory pathways originating in the periaqueductal grey and rostral ventromedial medulla, enhancing the body's natural ability to suppress pain signals before they reach conscious perception.

Anti-Inflammatory Effects

Acupuncture significantly downregulates the production and release of pro-inflammatory cytokines including TNF- α , IL-1 β , and IL-6, while upregulating anti-inflammatory mediators such as IL-10. This occurs through inhibition of nuclear factor kappa B (NF- κ B) signalling - a key molecular pathway driving inflammation in endometriosis lesions - and modulation of hypothalamic-pituitary-adrenal (HPA) axis activity, leading to more appropriate cortisol regulation. By reducing the inflammatory burden within the pelvic cavity, acupuncture directly addresses one of the primary drivers of peripheral nociception.

Improved Pelvic Circulation and Reduced Venous Congestion

Chronic pelvic congestion is increasingly recognised as a major contributor to persistent non-cyclic pelvic pain in

endometriosis. Acupuncture produces local vasodilation and improves microcirculation through activation of sensory nerve fibres that release calcitonin gene-related peptide (CGRP) and other vasoactive substances. Enhanced blood flow reduces tissue hypoxia, promotes clearance of inflammatory waste products, and may reduce pelvic venous pressure - all of which contribute to the characteristic dull, aching pelvic pain that is often the most difficult symptom to manage with conventional treatments.

Neuromodulation and Regulation of Central Sensitisation

Through repeated stimulation over weeks to months, acupuncture induces long-term neuroplastic changes within the central nervous system, effectively "resetting" hypersensitised pain pathways. Functional neuroimaging studies demonstrate that acupuncture deactivates brain regions associated with pain processing and emotional distress, including the anterior cingulate cortex, insula, and amygdala, while activating the default mode network and regions associated with endogenous pain inhibition. This dual effect - reducing nociceptive input from below while modulating central processing from above - makes acupuncture particularly well-suited for chronic pain states where central sensitisation has become established.

Prostaglandin and Hormonal Modulation

Acupuncture appears to regulate prostaglandin metabolism, reducing the ratio of PGF2 α (pro-contractile, pro-inflammatory) to PGE2 (anti-inflammatory, relaxant), thereby reducing uterine hypercontractility and dysmenorrhoea. There is also emerging evidence that acupuncture modulates hypothalamic-pituitary-ovarian axis activity, influencing follicle-stimulating hormone (FSH), luteinising hormone (LH), and oestradiol levels in a physiological rather than suppressive manner - potentially offering hormonal regulation without the side effects of pharmaceutical agents.

Evidence Base

The clinical evidence supporting acupuncture for endometriosis-related pain has grown substantially in recent years:

A systematic review and meta-analysis by Che et al. [3] included 14 randomised controlled trials involving 793 women with endometriosis. The authors found acupuncture significantly reduced overall pelvic pain (standardised mean difference [SMD] = -1.03, 95% confidence interval [CI] -1.34 to -0.72), dysmenorrhoea (SMD = -1.14, 95% CI -1.56 to -0.72), and dyspareunia (SMD = -0.87, 95% CI -1.21 to -0.53), with corresponding improvements in quality of life. A 2025 network meta-analysis compared five categories

of non-pharmacological intervention across 33 RCTs involving 2,323 women. Acupuncture was the most effective intervention for pelvic pain (SMD = -4.53, SUCRA = 99.1%), outperforming physical therapy, psychological interventions, nutritional supplementation, and exercise. For overall pain, acupuncture ranked second only to physical therapy (SMD = -1.27) and was significantly superior to conventional care. Rubi-Klein, et al. [4] conducted a randomised placebo-controlled crossover trial involving 55 women with endometriosis, demonstrating that 10 sessions of authentic acupuncture produced significant pain reduction compared to placebo, with effects maintained at three-month follow-up. De Sousa, et al. [5] similarly found that acupuncture produced significant improvements in pain and quality of life compared to sham acupuncture, with benefits persisting until two months post-treatment. Yang, et al. [6] meta-analysis of acupuncture monotherapy confirmed significant reductions in dysmenorrhoea, pelvic pain and dyspareunia, with the greatest effect observed after 10–12 weekly sessions.

In terms of clinical guidance, NICE NG73 [1] notes that complementary therapies including acupuncture are not currently recommended as first-line interventions due to the overall low-to-moderate quality of evidence and heterogeneity of study designs.

However, the guideline explicitly acknowledges that many women report meaningful symptom relief and that these approaches should not be dismissed if they work for the individual. Importantly, medical acupuncture is distinguished from traditional acupuncture in this context, with the guideline recommending that any acupuncture should be delivered by a properly trained healthcare professional.

Typical Clinical Protocol: Based on the available trials and clinical consensus, a standard course of medical acupuncture for endometriosis involves 10–12 sessions delivered twice weekly for the first four weeks, then weekly for the subsequent six to eight weeks, with maintenance sessions every 2–4 weeks timed according to the menstrual cycle. Points commonly used include CV4 (Guanyuan), SP6 (Sanyinjiao), ST36 (Zusanli), SP10 (Xuehai), and local pelvic points, with needle retention for 20–30 minutes and stimulation manual or electrical as tolerated. Electro-acupuncture appears to produce larger effect sizes than manual acupuncture in several meta-analyses, though both are effective.

Cognitive Behavioural Therapy

Mechanisms of Action and Evidence Base

While acupuncture modulates the physiological side of the pain equation, CBT addresses the cognitive, emotional,

and behavioural dimensions that determine how pain is experienced, interpreted, and responded to. CBT is a structured, collaborative, skills-based psychological therapy that operates on the principle that thoughts, feelings, physical sensations, and behaviours are interconnected - and that changing unhelpful thought patterns and behaviours can improve emotional and physical outcomes.

Mechanisms of Action

CBT intervenes at multiple points within the biopsychosocial cycle of endometriosis pain:

Cognitive Restructuring and Reduction of Pain Catastrophising

Pain catastrophising - defined as an exaggerated negative mental set brought to bear during actual or anticipated pain experience - is one of the strongest psychological predictors of pain intensity, disability, and healthcare utilisation in endometriosis. CBT teaches individuals to identify, challenge, and replace catastrophic and unhelpful thoughts ("This pain will never end," "I am being damaged," "I can't cope") with balanced, evidence-based appraisals ("This is a flare-up; it will pass like the others," "My nervous system is sensitised, not my organs being permanently harmed," "I have strategies that help"). By altering the cognitive appraisal of pain, CBT reduces the emotional distress that otherwise amplifies pain signalling via descending facilitation pathways.

Pain Neuroscience Education

A foundational component of CBT for chronic pain - often delivered before other techniques - is education about the biology of pain. Individuals learn that pain does not equal tissue damage that the nervous system can become sensitised and hyper-protective, and that thoughts, emotions, and stress directly influence pain transmission. This knowledge normalises the experience of persistent pain, reduces fear and hypervigilance, and creates the psychological safety required to begin re-engaging with daily activities. In endometriosis, where symptoms are often dismissed or misunderstood, education also validates the individual's experience and restores a sense of agency over their own body.

Graded Activity Pacing and Breaking the Boom-Bust Cycle

Most people with endometriosis fall into a pattern of "boom-bust": overexerting themselves on good days to compensate for lost time, then crashing into severe pain and exhaustion for several days, leading to guilt and fear of activity. This cycle maintains deconditioning, increases pain

sensitivity, and reinforces the belief that activity is dangerous. CBT replaces this with graded activity pacing - consistent, sustainable activity levels that stay below the pain threshold, gradually building tolerance without triggering flares. Over time, this reduces disability and restores confidence in physical capacity.

Relaxation, Stress Reduction, and Physiological Regulation

Chronic stress elevates cortisol, which in turn increases inflammation, pelvic floor muscle guarding, and central sensitisation - all key drivers of endometriosis pain. CBT integrates relaxation training including diaphragmatic breathing, progressive muscle relaxation, and mindfulness-based techniques that activate the parasympathetic nervous system, lower cortisol levels, and reduce the unconscious pelvic floor muscle tension that contributes to refer pelvic pain and dyspareunia. These techniques also improve sleep quality - a critical factor since sleep deprivation independently increases pain sensitivity by up to 30%.

Development of Pain Self-Efficacy and Resilience

Perhaps the most enduring benefit of CBT is the development of pain self-efficacy - the belief that one can successfully execute the behaviours required to manage pain and achieve desired outcomes. Research consistently demonstrates that self-efficacy is a stronger predictor of disability and quality of life than actual pain intensity or disease severity. Through collaborative goal-setting, mastery experiences, and relapse prevention planning, CBT builds lasting resilience: even when pain occurs, the individual has the skills, confidence, and emotional resources to manage it without it dominating their life.

Evidence Base

The evidence for CBT in endometriosis has advanced from preliminary observational studies to high-quality randomised controlled trials:

The 2026 Healing Pelvic Pain Intervention (HaPPI) RCT - the largest trial of CBT for endometriosis to date - randomised 246 women to either 8 weeks of telehealth CBT or standard education [7]. The CBT group demonstrated large, clinically meaningful improvements across all primary outcomes: endometriosis-specific quality of life (EHP-30), pelvic pain intensity, pain catastrophising, anxiety, depression, and pain-related disability. Effect sizes were large (Cohen's $d = -0.28$ to -0.93) and were maintained at 6-month follow-up. A 2025 systematic review and meta-analysis by Friggi Sebe Petrelluzzi [8] synthesised findings from 12 studies involving 894 women with endometriosis.

The authors concluded that psychological interventions - predominantly CBT - significantly reduced pain intensity (SMD = -0.61), depression (SMD = -0.54), anxiety (SMD = -0.58), and stress (SMD = -0.73), while improving vitality, social functioning, and emotional wellbeing. Lorencatto [9] demonstrated that group-based CBT focusing on coping skills, stress management, and cognitive techniques significantly improved pain in women with endometriosis ($p < 0.0001$), with effects independent of any change in medical treatment. Zhang [10]. Systematic review of pain-focused psychological interventions confirmed significant reductions in pain catastrophising and psychological distress, with the largest effects observed in interventions longer than 8 weeks and those that included both cognitive and behavioural components.

In terms of clinical guidance, CBT has the strongest endorsement of any non-pharmacological intervention for chronic pain: NICE NG193 [1] - the national guideline on chronic primary pain - explicitly recommends CBT as a first-line non-pharmacological intervention, delivered in conjunction with physical and psychological support, for all people with chronic primary pain lasting more than 3 months [11]. The British Pain Society's 2023 consensus statement similarly identifies CBT as the gold-standard psychological intervention for chronic pelvic pain, including endometriosis. In the UK, CBT is available on the NHS through Improving Access to Psychological Therapies (IAPT) services. Individuals can self-refer or be referred by their GP, and should specifically request a service that specialises in long-term conditions or chronic pain, as general IAPT services may not have specific endometriosis expertise. Private CBT therapists with experience in chronic pain are also available through professional bodies including the British Association for Behavioural and Cognitive Psychotherapies (BABCP) [12].

Typical Clinical Protocol: A standard CBT intervention for endometriosis consists of 8–12 weekly sessions of 60–90 minutes, delivered individually or in groups. The structure typically follows a consistent sequence: assessment and collaborative goal-setting; pain neuroscience education; cognitive restructuring targeting catastrophising and fear-avoidance; graded activity pacing and behavioural activation; relaxation and stress management skills; and relapse prevention planning. Homework practice between sessions is an essential component, as it is the application of skills in daily life that produces long-term change.

Synergy and Integration: Combining Medical Acupuncture and CBT

The strongest argument for integrating medical acupuncture and CBT lies not in their individual efficacy, but in their complementary mechanisms and the synergistic

relationship that emerges when they are delivered together. Each intervention addresses dimensions of the pain experience that the other cannot, creating a whole greater than the sum of its parts.

The Mechanism of Synergy

The interaction between acupuncture and CBT operates as a positive feedback loop: Acupuncture reduces nociceptive input and inflammation → the physiological pain signal reaching the brain is diminished → CBT has less intense and less distressing material to work with → CBT reduces catastrophising, anxiety, and stress → cortisol levels fall and descending pain facilitation is reduced → the nervous system becomes less sensitised → acupuncture has a more stable and responsive physiological substrate to treat → further improvements in pain threshold and quality of life.

This synergy can be understood through the lens of the Gate Control Theory

acupuncture works from the bottom up - closing the pain gate by reducing peripheral nociception and spinal cord excitability - while CBT works from the top down - closing the gate by modulating the emotional and cognitive influences that otherwise keep it open [13]. Together they exert a dual-action effect on pain processing that neither can achieve in isolation.

The clinical implications are significant. When used alone, acupuncture may provide symptomatic relief, but if the underlying psychological cycle of fear-avoidance and catastrophising remains unaddressed, pain often returns once treatment stops - a pattern commonly observed in clinical practice. Conversely, CBT alone requires the individual to engage with and process pain signals that may be overwhelming; when pain is severe, the cognitive resources required to implement CBT strategies may simply be unavailable. Acupuncture reduces the intensity of the signal, making the psychological work of CBT accessible and effective.

Complementary Strengths

Dimension Medical Acupuncture Addresses CBT Addresses Pathophysiology Inflammation, prostaglandins, pelvic congestion, peripheral nociception - Nervous system Spinal and supraspinal neuromodulation, reduces sensitisation from below Descending modulation, reduces sensitisation from above through stress/cortisol regulation Pain perception Raises pain threshold biologically Changes how pain is interpreted and emotionally responded to Function Reduces pain during movement and activity, making engagement possible Replaces boom-bust cycle with

sustainable pacing, builds long-term capacity Emotional impact Reduces the physical driver of distress Directly targets anxiety, depression, helplessness, and catastrophising.

Timeframe Relief typically emerges within 4-6 weeks; maintenance required Skills build over 8-12 weeks; effects persist long-term with minimal maintenance Sustainability Effects wane without ongoing sessions Creates self-management skills that remain with the individual indefinitely This complementary profile suggests that acupuncture is best viewed as creating the conditions for change, while CBT is viewed as providing the tools for long-term living well with the condition [14].

Proposed Integrated Clinical Protocol

Based on the available evidence and clinical reasoning, the following integrated protocol is proposed for use in UK clinical practice: Phase Timeline Medical Acupuncture Component CBT Component

Phase 1: Foundation C Stabilisation Weeks 1-4 Weekly sessions; points selected based on symptom pattern; electro-acupuncture where appropriate; focus on pain reduction and establishing baseline response Weekly sessions; assessment, collaborative goal-setting, pain neuroscience education, normalisation of symptoms; introduction of basic relaxation skills.

Phase 2: Integration C Skill Building Weeks 5-8 Every 2 weeks; points adjusted to menstrual cycle phase; focus on maintenance of pain control and regulation Weekly sessions; cognitive restructuring targeting catastrophising and fear-avoidance; introduction of graded activity pacing; stress management practice.

Phase 3: Consolidation C Empowerment Weeks 9-12 Sessions timed pre-menstrually for preventative effect; focus on symptom anticipation and prevention Sessions reduce to every 2 weeks; relapse prevention planning; flare-up management strategies; review of progress and future goal-setting.

Phase 4: Sustained Support Months 4-12 Monthly maintenance sessions, adjusted according to individual need Monthly booster sessions; continued home practice; access to IAPT or ongoing private therapy as required

Implementation Considerations:

- Both interventions are adjuncts, not replacements, for standard medical and surgical care. The individual's GP and specialist team should always be informed, and all changes discussed collaboratively.
- Medical acupuncture should be delivered by a HCPC-registered healthcare professional (e.g., doctor, nurse, pharmacist, (physiotherapist) who has completed appropriate training with the British Medical

- Acupuncture Society (BMAS) or equivalent.
- CBT should be delivered by a BABCP-registered cognitive behavioural therapist or appropriately trained mental health professional and can be accessed via NHS IAPT services with a specific request for chronic pain or long-term conditions expertise.
- Shared care documentation and regular communication between the acupuncture practitioner, CBT therapist, GP, and gynaecologist is essential to ensure a cohesive, coordinated care plan.
- Expectation management is critical: while combined care offers significant benefit, it rarely eliminates pain entirely. The goal is improved quality of life, restored function, and greater sense of control - not "cure" - particularly given the chronic nature of the underlying condition.

Challenges, Limitations, and Future Directions

While the theoretical rationale and preliminary clinical evidence for integrating medical acupuncture and CBT are compelling, several important limitations and challenges must be acknowledged.

Evidence Limitations

The majority of acupuncture studies to date are small, heterogeneous in design, and vary widely in treatment protocols, making direct comparison and meta-analysis difficult. Many lack adequate blinding or credible placebo controls, leading to uncertainty about the relative contribution of specific physiological effects versus non-specific therapeutic effects - though it is important to note that even placebo and context effects are clinically meaningful in chronic pain management [15]. Similarly, while CBT research is more robust and consistent, studies specifically in endometriosis remain relatively few, and long-term follow-up beyond 12 months remains limited. Most significantly, there are currently no published randomised controlled trials evaluating the combined delivery of acupuncture and CBT compared to either intervention alone or to standard care. While the synergy is theoretically strong and supported by clinical observation, empirical demonstration of added benefit remains an important priority for future research.

Implementation Barriers in the UK

Several practical barriers currently limit widespread integration within NHS and private practice: lack of integrated care pathways - acupuncture and CBT are typically commissioned and delivered through completely separate services with little or no formal mechanism for collaboration or shared care planning; access inequalities - while CBT is

theoretically available via IAPT, waiting times can exceed 12 months in many areas, and services specialising in chronic pelvic pain are rare [16]. Medical acupuncture is largely unavailable on the NHS outside of a small number of specialist pain centres, meaning access is often dependent on private funding; workforce capacity - there is a shortage of HCPC-registered medical acupuncture practitioners with specific endometriosis experience, and similarly few CBT therapists with specialised training in chronic pelvic pain and gynaecological conditions; cultural and professional attitudes - some healthcare professionals remain sceptical of acupuncture, viewing it as "Alternative" rather than evidence-based medicine, which can create barriers to referral and collaborative care.

Future Research Priorities

To address these gaps and advance the field, the following research priorities are proposed: combined intervention RCTs - randomised controlled trials comparing integrated acupuncture + CBT against acupuncture alone, CBT alone, and standard care, with primary outcomes including pain intensity, quality of life, pain catastrophising, and healthcare utilization; mechanistic studies - use of quantitative sensory testing, neuroimaging, and inflammatory biomarker analysis to objectively demonstrate the physiological effects of acupuncture and their modulation by psychological interventions; implementation research - evaluation of models of integrated care delivery, including cost-effectiveness analysis to demonstrate value to NHS commissioners; long-term follow-up - studies tracking outcomes over 2-5 years to determine whether the combined approach truly alters the long-term trajectory of the condition; qualitative research - exploration of the patient experience of integrated care to identify barriers, facilitators, and the components that individuals find most valuable [17].

Conclusion

Endometriosis is a complex, chronic, and often debilitating condition whose impact extends far beyond the physical symptoms of pelvic pain. The bidirectional relationship between inflammation, nociception, central sensitisation, psychological distress, and social disempowerment creates a cycle that cannot be fully broken by conventional medical or surgical treatment alone. A truly holistic approach - grounded in the biopsychosocial model - requires interventions that work simultaneously at the biological, psychological, and social levels.

Medical acupuncture and Cognitive Behavioural Therapy represent two evidence-informed, safe, and complementary interventions that together address the full spectrum of the endometriosis pain experience. Acupuncture modulates the

physiological pathways: reducing inflammation, improving pelvic circulation, raising endogenous pain thresholds, and calming hypersensitised nervous systems. CBT transforms the psychological experience: reducing catastrophising and fear-avoidance, building coping skills, restoring agency, and breaking the cycle of pain–stress–pain.

When combined, they create a synergistic partnership where each makes the other more effective - acupuncture creates the space for CBT to work, and CBT ensures those benefits are sustained over the long term.

For the person living with endometriosis, this integrated approach offers something that conventional treatments often do not: empowerment. It shifts the narrative from “what is being done to me” to “what I can do for myself,” combining the best of modern medical science with person-centred, self-determined care. It is not a replacement for standard treatment, but an expansion of it - an acknowledgement that the person is more than their pathology, and that healing requires addressing the whole being. The evidence base continues to grow, and further research is needed to fully quantify the benefits of combined care. However, on the strength of current evidence, clinical experience, and the compelling theoretical framework presented here, there is already a strong case for integrating medical acupuncture and CBT within comprehensive, person-centred endometriosis care pathways across the UK [18]. In doing so, we move closer to a healthcare system that not only treats the condition, but truly supports the person - helping them not just to survive endometriosis, but to live well despite it.

References

1. National Institute for Health and Care Excellence (2021) Chronic pain (primary and secondary) in over 16s: assessment of all chronic pain and management of chronic primary pain (NG193). London: NICE.
2. Melzack R, Wall PD (1965) Pain mechanisms: a new theory. *Science* 150(3699): 971-9.
3. Che C, Li X, Lu S, Yang J, Liu Y (2024) Acupuncture for clinical improvement of endometriosis-related pain: a systematic review and meta-analysis. *Arch Gynecol Obstet* 310(4): 2101-2114.
4. Rubi-Klein S, Schiessl A, Seitz C, Friese K (2024) Acupuncture for pain relief in women with endometriosis: a randomized placebo-controlled crossover trial. *Eur J Obstet Gynecol Reprod Biol* 296: 134-140.
5. De Sousa A, De Carvalho J, Nogueira J (2024) Acupuncture versus sham acupuncture for endometriosis-related pain: a randomised controlled trial. *J Obstet Gynaecol Res* 50(4): 1245-1253.
6. Yang F, Wang L, Wang YW, Chu LC (2025) Acupuncture monotherapy for endometriosis-related pain: A systematic review and meta-analysis. *Medicine (Baltimore)* 104(34): e44005.
7. Evans SK, Mikocka-Walus A, Skvarc D, Mackay M, O'Shea M, et al (2026) Telehealth cognitive behavioural therapy improves health-related quality of life and pain in endometriosis: the Healing Pelvic Pain Intervention (HaPPI)-a randomized controlled trial. *Hum Reprod Open* 2026(1): 006.
8. Friggi Sebe Petrelluzzi K, de Sa MD, Nogueira-Neto JF, Viana MC (2025) Cognitive Behavioral Therapy in Endometriosis: A Systematic Review. *J Psychosom Obstet Gynaecol* 46(2): 123-135.
9. Lorencatto F, Mason H, Prentice A (2007) Group cognitive behavioural therapy for women with endometriosis: effects on pain and quality of life. *J Psychosom Res* 63(2): 187-193.
10. Zhang Y, Liu H, Wang X (2024) Pain-focused psychological interventions in women with endometriosis: A systematic review. *Nurs Pract Res* 9(3): 310-325.
11. National Institute for Health and Care Excellence (2017) Endometriosis: diagnosis and management (NG73). London: NICE.
12. Zheng XI, Yu W, Haiping LI, Zhang J (2026) Comparative Effectiveness of Non-Pharmacological Interventions for Pain and Quality of Life in Women with Endometriosis: A Systematic Review and Network Meta-Analysis. *J Pain Res* 19: 3451-3465.
13. Valihora HP (2025) Experiences of disempowerment amongst endometriosis patients: Toward comprehensive care to address the psychosocial impact of chronic illness. *J Health Psychol* 30(14): 4298-4313.
14. De Sousa A, Pereira C (2024) Holistic Approaches in Endometriosis as an Effective Method of Supporting Traditional Treatment: A Systematic Search and Narrative Review. *Holist Nurs Pract* 38(5): 321-335.
15. Macrae C, Davies H (2025) The good pain consultation in endometriosis: Early introduction of biopsychosocial pain education. *Hum Reprod* 39(Suppl_1): i45.
16. Lund I, Lundeborg T (2016) Is acupuncture effective in the treatment of pain in endometriosis? A systematic review and meta-analysis. *J Pain Res* 9: 157-165.
17. Sebe Petrelluzzi KF (2025) Cognitive Behavioral Therapy in Endometriosis: A Systematic Review and Meta-Analysis. *J Psychosom Obstet Gynaecol* 46(2): 89-101.
18. Smith CA, Armour M, Zhu X (2024) Integrative Strategies for Managing Endometriosis-A Comprehensive Narrative Review. *Can J Gynecol Obstet* 46(3): 217-231.