Fibromyalgia: pain, depression and stress

1 in 20 people are affected by fibromyalgia
80-90% of those diagnosed are women
First-degree relatives are 8 TIMES MORE LIKELY to have fibromyalgia
PATHOPHYSIOLOGY: changes in the central nervous system lead to central sensitisation resulting in AMPLIFIED PAIN PERCEPTION

SYMPTOMS
- widespread pain and tenderness
- fatigue
- cognitive disturbance
- emotional distress

LIST OF SYMPTOMS BY BODY SYSTEM:
MUSCULOSKELETAL: myofascial pain, multiple trigger points (see below), cramping, aching, fatigue, tuftiness, weakness, restless legs, morning stiffness, temporomandibular joint (TMJ) dysfunction
NEUROLOGICAL: chronic headaches/migraines, sleep disorders, cognitive impairment, memory impairment, anxiety, depression, dizziness, numbness, alodynia
DIGESTIVE: nausea, abdominal pain, bloating, irritable bowel syndrome
SKIN: dry skin, rash, itchy/burning skin, tingling sensation
EYES: sensitivity to light, dry eyes, blurred vision, rapidly worsening vision
URINARY: increased urinary frequency, dysuria, irritable bladder
REPRODUCTIVE (female): dysmenorrhea

PATHOPHYSIOLOGY OF FIBROMYALGIA

Brain is hypersensitive to pain signals.
Down-regulation or decrease in opioid receptor activity that may exaggerate pain sensitivity.
Increased levels of inflammatory cytokines in the brain contribute to "fibro fog".

S-adenosylmethionine (SAMe)

Involved in the metabolism of neurotransmitters including serotonin, dopamine and noradrenaline.
Supplementation seen to improve in neurotransmitter levels and improved binding at receptor sites.14-16
Has been shown to improve pain, fatigue, stiffness and mood in patients with medically diagnosed fibromyalgia.17

Magnesium
Important for the maintenance of healthy mood, nervous system and energy production. Magnesium relieves nervous tension, which may in turn lead to decreased sleeplessness.18
Deficiency associated with activation of low-grade chronic inflammation (by triggering the excessive production and release of IL-1β, TNF-α and pro-inflammatory cytokines) and increased production of free oxygen radicals. Deficient intakes of magnesium and vitamin B6 associated with an increased risk of inflammation.19
Patients given magnesium claimed to have improved energy levels, a better emotional state and less sleeplessness.20

Coenzyme Q10 (CoQ10)
CoQ10 is an essential electron carrier in the mitochondrial respiratory chain and a strong antioxidant. It functions to stabilise cell membranes, supporting cellular integrity and function, and helps the body’s energy reserves and energy production.

Pyridoxal-5-phosphate (P5P) activated vitamin B6
Vitamin B6 cannot be synthesised in the human body and must therefore be obtained from a dietary source. Its phosphate ester derivative P5P is the active form and has the most importance in human metabolism.21
In the brain, the synthesis of serotonin, melatonin and other neurotransmitters is catalysed by P5P-dependent enzymes.22 Adequate levels of vitamin B6 are important for the regulation of mental processes and maintenance of healthy mood.