Fibromyalgia pain, depression and stress

Medicine

in developed countries up to
1 in 20
people are affected by
fibromyalgia[1]

80-90%
of those diagnosed are
women[2]

First-degree relatives are
8 TIMES MORE LIKELY
to have fibromyalgia[2,3]

Exact cause remains
UNKNOWN
However, disease onset has been related to:[2,4]
- GENETICS
- PHYSICAL OR EMOTIONAL TRAUMA
- INFECTION
- AUTOIMMUNE DISORDERS

PATHOPHYSIOLOGY:
changes in the central nervous sytem lead to **central sensitisation** resulting in
AMPLIFIED PAIN PERCEPTION[5]

It is estimated that only
1 in 4
people with fibromyalgia are
DIAGNOSED
with the condition[6]

on average it takes
5 YEARS
for a person to be correctly diagnosed[7]

SYMPTOMS[4]

- 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, twitches, weakness, restless legs, morning stiffness, temporomandibular joint (TMJ) dysfunction

NEUROLOGICAL: chronic headaches/migraines, sleep disorders, cognitive impairment, memory impairment, anxiety, depression, dizziness, numbness, allodynia

DIGESTIVE: nausea, abdominal pain, bloating, irritable bowel syndrome

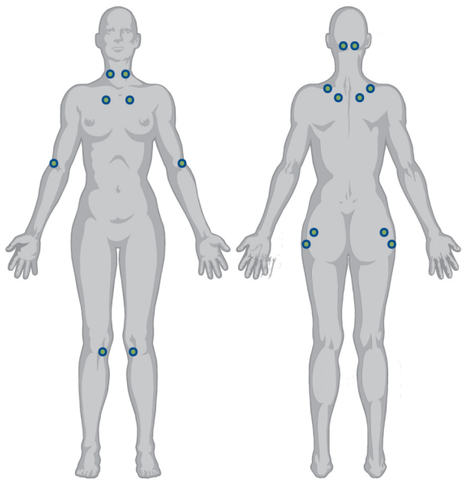
SKIN: dry skin, rashes, itchy/burning skin, tingling sensation

EYES: sensitivity to light, dry eyes, blurred vision, rapidly worsening vision

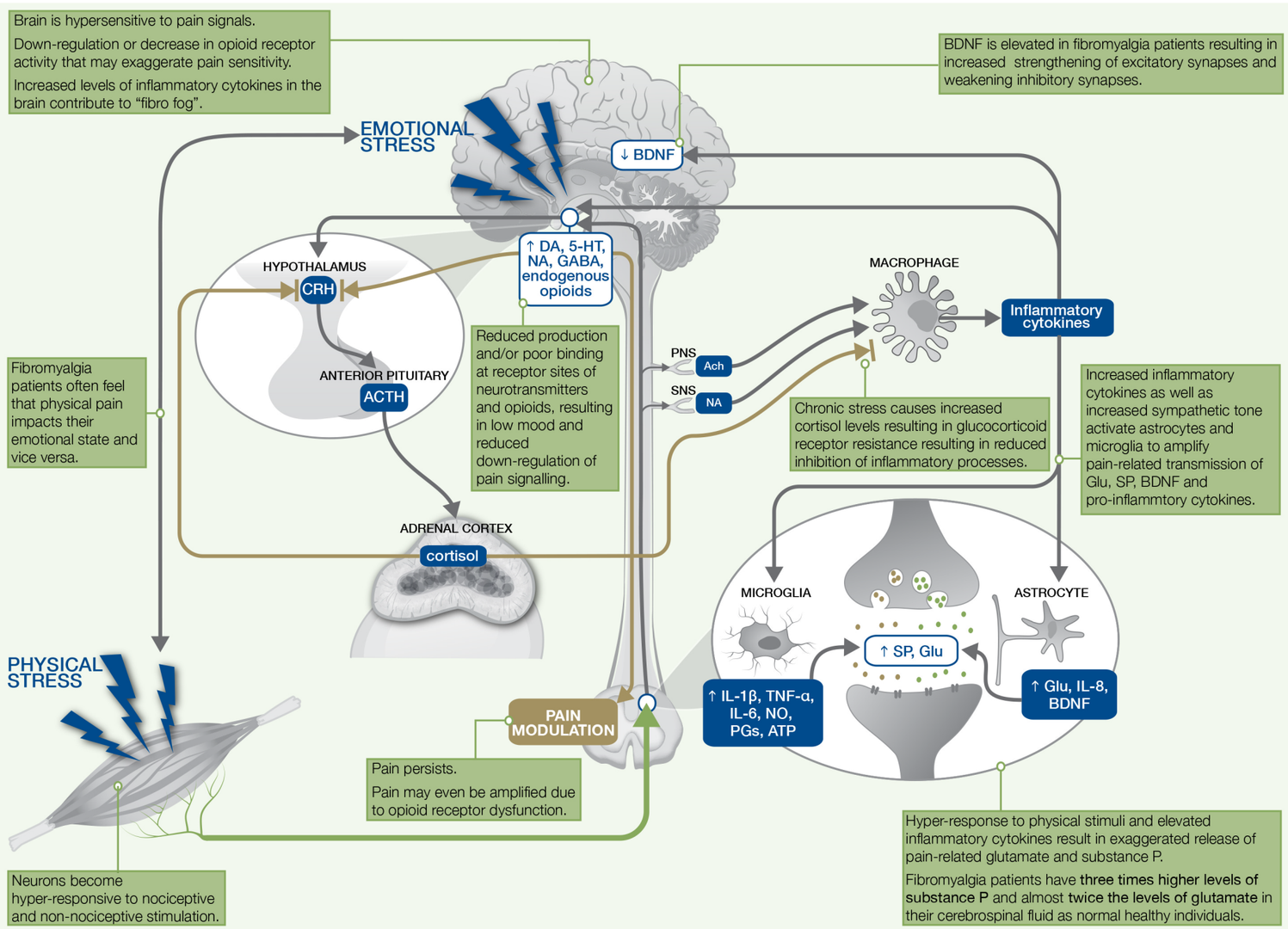
URINARY: increased urinary frequency, dysuria, irritable bladder

REPRODUCTIVE (female): dysmenorrhoea

TENDER POINTS



PATHOPHYSIOLOGY OF FIBROMYALGIA[8-14]



5-HT: serotonin; Ach: acetylcholine; ACTH: adrenocorticotropin releasing hormone; ATP: adenosine triphosphate; BDNF: brain derived neurotrophic factor; CRH: corticotropin releasing hormone; DA: dopamine; GABA: gamma-aminobutyric acid; Glu: glutamate; IL-1β: interleukin-1 beta; IL-6: interleukin-6; IL-8: interleukin-8; NA: noradrenaline; NO: nitric oxide; PGs: prostaglandins; SP: substance P; TNF-α: tumour necrosis factor-alpha.

NUTRITION-BASED SOLUTIONS

S-adenosylmethionine (SAMe)

Involved in the metabolism of neurotransmitters including sertonin, dopamine and noradrenaline.[15]

Supplementation sees improvement in neurotransmitter levels and improved binding at receptor sites.[15,16]

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 neuropeptides) 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.[21] Adequate levels of vitamin B6 are important for the regulation of mental processes and maintenance of healthy mood.