

Systematic literature review on clinical manifestations in FM and PTSD

Methodology

We performed a systematic literature review using the electronic database MEDLINE.

Publications from their inception to May 2023 were included.

The search string combines terms related to the condition (FM or PTSD), type of action

(prevalence) and symptom of interest. Proximity operators were used and MeSH (Medical

Subject Headings) terms were applied where appropriate.

The search strategy is presented in table I (FM) and II (PTSD).

Search string example:

“fibromyalgia”[Title] AND
 (“fibromyalgia”[MeSH Terms]
 OR “chronic
 pain”[MeSH Terms] OR “(chronic
 pain”[MeSH Terms] OR “multisite
 pain” OR “generalized
 pain” OR “widespread pain”) AND
 (“prevalence”[MeSH Terms] OR
 “epidemiology”[MeSH
 Terms] OR “frequency”) AND
 (“trauma” OR “psychological trauma”
 OR “emotional trauma” OR
 “physical trauma” OR “traumatic
 experience” OR “traumatic event”)

Results

The search strategy returned a total of 2489 articles (336 for FM and 2153 for PTSD).

We analysed the results of 3 randomly-selected symptoms:

• Example 1: Avoidance in FM.

The search string retrieved a total of 9 articles.

Six articles were off-topic, focusing on harm avoidance (Balbaloglu *et al.*, 2018; Nijs *et al.*, 2013; Turk *et al.*, 2004), food avoidance and eating disturbances (López-Rodríguez *et al.*, 2017), metal allergies in FM (Stejskal *et al.*, 2013) and association between FM and migraine (de Tommaso *et al.*, 2014).

One article reviewed PTSD-symptoms in general in FM, with no par-

Table I. Search string: prevalence of PTSD-symptoms in FM.

		Searched terms	Results (n)
Condition	Fibromyalgia	Fibromyalgia (MeSH) Chronic pain (MeSH) Chronic pain, widespread Widespread pain Multisite pain Generalized pain	
Action	Frequency	Epidemiology (MeSH) Prevalence (MeSH) Frequency	22
Symptom	Trauma	Trauma Psychological trauma Emotional trauma Physical trauma Traumatic experience Traumatic event	
	Intrusion	Intrusion Intrusive thoughts Intrusive memories Flashbacks Re-experiencing Nightmares Dreams (MeSH) Night terrors (MeSH) Recollection Distressing memories Distress memory Unwanted thoughts	8
	Avoidance	Avoidance Avoidant behavior Avoidance coping Psychological numbing Emotional numbing Social withdrawal	9
	Cognitive/memory dysfunction	Cognitive dysfunction (MeSH) Memory disorders (MeSH)	6
	Mood disorder	Mood disorders (MeSH) Emotional disturbance Affective disorder Emotional disorder	44
	Negative cognition	Negative cognition Negative beliefs Negative thinking Negative expectations Pessimism	0
	Hyperparousal/reactivity	Hyperarousal Hypersensitivity (MeSH) Overreactivity Sensorial hypersensitivity	13
	Hypervigilance/ environmental sensitivity	Hypervigilance Overalert Hyperalertness Excessive alertness Difficulty relaxing	2
	Chronic headache	Chronic headache Headache (MeSH) Migraine Migraine disorders (MeSH)	32

		Searched terms	Results (n)
Symptom	Abdominal pain/ irritable bowel syndrome	Abdominal pain (MeSH) Abdominal cramps Colic (MeSH) Irritable bowel syndrome (MeSH)	18
	Interstitial cystitis	Interstitial cystitis Chronic pelvic pain syndrome	7
	Depression	Depression (MeSH) Depressive disorder (MeSH)	115
	Anxiety	Anxiety (MeSH) Anxiety disorders (MeSH)	60
	Neuroticism	Neuroticism (MeSH) Emotional sensitivity Emotional volatility	0
	Perfectionism	Perfectionism (MeSH) Self-criticism	0
	Introversion	Introversion, psychological (MeSH) Introspection Inner-directedness Self-containment Reservedness Shyness (MeSH)	0
	Rumination	Rumination Overthinking Obsessive thought Repetitive thought Intrusive thought Self-doubt Brooding	0

ticular focus on avoidance (Sherman *et al.*, 2000).

The other 2 articles were on-topic but did not mention the prevalence of avoidance in FM (Cohen *et al.*, 2002; Buskila *et al.*, 2009).

- Example 2: Abdominal pain/irritable bowel syndrome in PTSD.

The search string retrieved a total of 4 articles.

One article was off-topic, focusing on mindfulness in PTSD and irritable bowel syndrome (Harding *et al.*, 2018).

The other 3 articles were on topic but only one provides a prevalence (25%) of irritable bowel syndrome in PTSD (Kearney *et al.*, 2022).

Among the remaining 2 articles, one reports the prevalence of irritable bowel syndrome in soldiers in general (not exclusively on soldiers with diagnosed PTSD) (White *et al.*, and the other establishes an association between irritable bowel syn-

drome and trauma (but, again, not with PTSD) (Goodwin *et al.*, 2013).

- Example 3: Perfectionism in PTSD. The search string retrieved a total of 3 articles.

All of them were off-topic focusing on suicide in trauma victims (Wherry *et al.*, 2013), association of trauma with self-injuring behaviour (Claes *et al.*, 2007) and OCD-related perfectionism (Lochner *et al.*, 2016).

Given i) the high disparity in the numbers of results between the two conditions (with a disproportionately higher number of results for PTSD, compared to FM) and per symptom (with symptoms with more than a thousand results and others with none) and ii) the low profitability of the results obtained in the preliminary research above, we decided not to proceed with the systematic literature review and look for another more adequate and feasible methodology.

Table II. Search string: prevalence of FM-symptoms in PTSD.

		Searched terms	Results (n)
Condition	PTSD	Stress disorders, post-traumatic (MeSH) PTSD Post-traumatic stress	
Action	Frequency	Frequency (MeSH) Prevalence (MeSH) Presence	
Symptom	Pain	Chronic widespread pain Chronic pain (MeSH) Multifocal pain Multisite pain Generalized pain	32
	Sleep disturbance	Sleep wake disorders (MeSH) Insomnia Sleep initiation and maintenance disorders (MeSH) Sleep disruption Fragmented sleep Sleep quality (MeSH) Disturbed sleep Dyssomnias (MeSH) Irregular sleep patterns Disrupted sleep-wake cycle Altered sleep architecture Sleep deprivation (MeSH) Sleep dysregulation Sleep difficulties	199
	Fatigue	Fatigue (MeSH) Burnout, psychological (MeSH)	46
	Chronic headache	Chronic headache Headache (MeSH) Migraine Migraine disorders (MeSH)	37
	Abdominal pain/irritable bowel syndrome	Abdominal pain (MeSH) Abdominal cramps Colic (MeSH) Irritable bowel syndrome (MeSH)	4
	Interstitial cystitis	Interstitial cystitis Chronic pelvic pain syndrome	3
	Depression	Depression (MeSH) Depressive disorder (MeSH)	1084
	Anxiety	Anxiety (MeSH) Anxiety disorders (MeSH)	715
	Neuroticism	Neuroticism (MeSH) Emotional sensitivity Emotional volatility	5
	Perfectionism	Perfectionism (MeSH) Self-criticism	3
	Introversion	Introversion, psychological (MeSH) Introspection Inner-directedness Self-containment Reservedness Shyness (MeSH)	2
	Rumination	Rumination Overthinking Repetitive thought Intrusive thought Self-doubt Brooding	23