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Review article

A systematic review and meta-analysis of the percentage of revised diagnoses in functional somatic symptoms

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ABSTRACT

Background: Functional somatic symptoms (FSS) are bodily complaints of unclear etiology, which are (currently) not fully explained by well-recognized somatic pathology. Doctors are often hesitant to diagnose FSS, due to the risk to miss a somatic disease. The purpose of this study is to review available literature on the percentage of patients diagnosed with FSS reported to have an underlying somatic disease that explains their symptoms previously labeled as FSS.
Methods: We performed a systematic search of Medline, Embase and PsycINFO databases and reference lists of selected articles. We included studies published between January 1980 and July 2014 without language restrictions. Studies that measured the percentage of underlying somatic diseases after a diagnostic evaluation or naturalistic follow-up period in adult patients initially diagnosed with FSS were included. As primary outcome measure the weighted percentage of revised diagnoses was calculated using meta-analyses.
Results: Six diagnostic evaluation studies (total $N = 1804$ patients) and 16 follow-up studies (total $N = 2440$ patients) were included. The percentage of revised diagnosis in patients initially diagnosed with FSS was 8.8% (95% CI 1.0 to 22.2, $p = 0.007$) in diagnostic evaluation studies and 0.5% (95% CI 0.01 to 1.5, $p = 0.03$) in follow-up studies. Partially or possibly related diagnoses were rarely found. No specific somatic diagnosis seemed to be missed systematically.
Conclusions: The percentage of underlying somatic diseases in patients previously diagnosed with FSS is relatively small but unneglectable.

1. Introduction

Functional somatic symptoms (FSS) are bodily complaints of unclear etiology, which are (currently) not fully explained by well-recognized somatic pathology. FSS can be understood both in terms of psychological and organic aspects underlying symptom experience [1]. At the general practitioner 25–50% of the physical symptoms presented remain somatically unexplained [2], whereas these percentages vary between 37 and 66% in other specialties [3]. Costs for patients with these FSS are high [4,5].

Patients with FSS may have long diagnostic trajectories. One reason for this delay is that doctors are often hesitant to diagnose FSS, due to the risk to miss a somatic disease. Diagnostic tests are sometimes ordered to rule out conditions with a low pretest probability or to reassure the patient. However, diagnostic tests do little to reassure these patients or resolve their FSS [6]. Furthermore, a long diagnostic trajectory withholds to inform patient timely about evidence-based psychological and physical activation treatments [7].

The degree to which the fear of missing an underlying somatic diagnosis is realistic remains unknown. In a systematic review focusing on conversion disorder, follow up revealed a missed underlying somatic disease in only 4.2% of the patients [8]. A systematic review on misdiagnoses in the more frequently occurring FSS, such as fatigue, abdominal discomfort, dizziness or syndromes such as irritable bowel syndrome (IBS), chronic fatigue syndrome (CFS) and fibromyalgia (FM), is lacking.

We conducted a systematic review and meta-analysis on how often patients initially diagnosed with FSS, have an underlying somatic disease explaining symptoms during a diagnostic evaluation or a follow-up period. In addition, we explored whether the type of symptom influences the chance of a revised diagnosis.

2. Methods

2.1. Search strategy

PRISMA guidelines were followed [9]. A systematic literature search, dating from January 1980 until July 2014 without language restrictions,

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was conducted in Embase, PsycINFO and Medline by two independent reviewers (E.M.E and L.M.T). Search terms were FSS terms combined with revised diagnosis terms (supplement A). Titles and abstracts were screened, after which full text was retrieved for relevant articles or articles in which relevance was doubted. Of all relevant articles, also reference lists were searched (Fig. 1a and b).

2.2. Inclusion and exclusion criteria

2.2.1. Diagnostic evaluation studies

Included articles reported the percentages of patients who had been previously diagnosed with FSS in whom an underlying somatic disease was detected during a new diagnostic evaluation (i.e., undergoing a battery of diagnostic tests relevant for the type of symptoms).

2.3. Follow-up studies

Included articles reported the percentage of patients diagnosed with FSS at baseline, who, after a follow-up period longer than three months, were diagnosed with an underlying somatic disease that could explain the symptoms previously labeled as FSS.

Symptoms in all studies had to be described as somatically unexplained, non-organic, functional, or psychogenic; studies had to have a sample size of at least $N = 10$; and included participants ≥16 years.

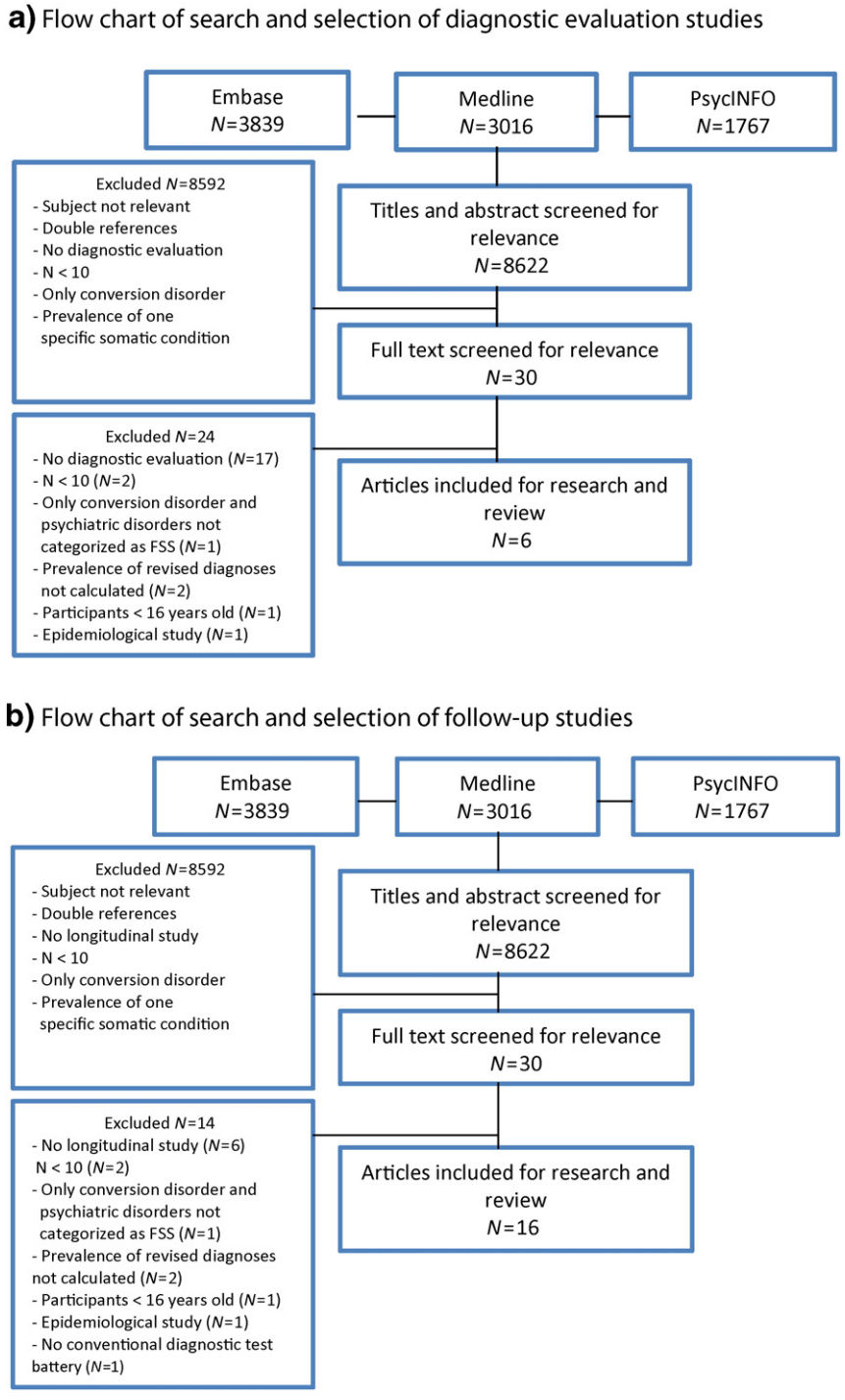

Fig. 1. a Flow chart of search and selection of diagnostic evaluation studies. b Flow chart of search and selection of follow-up studies.