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REVIEW ARTICLE

Factitious disorder: clinical manifestations and warning findings – a systematic review

Transtorno factício: manifestações clínicas e achados de alerta – uma revisão sistemática

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ABSTRACT

Introduction: Factitious Disorder (FD) is defined by the intentional fabrication or exaggeration of symptoms by the patient without obvious external motivational incentives, often accompanied by clearly identifiable fraud. Current diagnostic criteria for FD have low sensitivity. **Objective:** To identify key warning findings associated with FD to assist in accurate diagnosis. **Methods:** A systematic review was conducted in adherence to PRISMA guidelines. Searches were performed across six indexing databases using a combination of terms, including "factitious disorder", "clinical presentation", "signs and symptoms", "warning signs", and "differential diagnosis". Title screening and data extraction were carried out by independent pairs of reviewers who analyzed the full texts of eligible articles. Studies published within the last 25 years describing warning findings of FD were included. **Results:** The review identified 423 titles, of which 56 articles were selected for full-text reading, ultimately including 45 articles. A total of 528 warning findings were noted across 31 medical specialties and 16 affected systems. The clinical manifestations were divided into two categories: subjective and objective findings. Psychiatry was the medical specialty most frequently mentioned, while the integumentary system was the most affected. Frequently cited warning findings included: a history of multiple hospitalizations, medical procedures, and consultations; inconsistent or atypical clinical histories; unexplained symptoms; unusual medical knowledge; relationships with healthcare professionals; and normal test results despite reported symptoms. **Conclusion:** FD presents with diverse manifestations, necessitating heightened awareness and specialized training for health professionals to ensure early diagnosis, effective management, and the avoidance of unnecessary or potentially harmful interventions.

Keywords: Factitious disorder; Munchausen syndrome; Warning signs; Red flags; Clinical manifestations; Differential diagnosis.

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RESUMO

Introdução: O Transtorno Factício (TF) é definido pela fabricação ou exagero intencional de sintomas por parte do paciente, sem incentivos motivacionais externos evidentes, frequentemente acompanhado por fraude claramente identificável. Os critérios diagnósticos atuais para o TF apresentam baixa sensibilidade. **Objetivo:** Identificar os principais sinais de alerta associados ao TF para auxiliar na precisão do diagnóstico. **Métodos:** Foi realizada uma revisão sistemática em conformidade com as diretrizes do PRISMA. As buscas foram feitas em seis bases de dados utilizando uma combinação de termos, incluindo "transtorno factício", "apresentação clínica", "sinais e sintomas", "sinais de alerta" e "diagnóstico diferencial". A triagem de títulos e a extração de dados foram realizadas por pares independentes de revisores que analisaram os textos completos dos artigos elegíveis. Estudos publicados nos últimos 25 anos que descrevem os achados de alerta do TF foram incluídos. **Resultados:** A revisão identificou 423 títulos, dos quais 56 artigos foram selecionados para leitura do texto completo, resultando na inclusão de 45 artigos. Um total de 528 achados de alerta foi identificado em 31 especialidades médicas e 16 sistemas afetados. As manifestações clínicas foram divididas em duas categorias: achados subjetivos e objetivos. Psiquiatria foi a especialidade médica mais frequentemente mencionada, enquanto o sistema tegumentar foi o mais afetado. Os achados de alerta citados com frequência incluíram: histórico de múltiplas hospitalizações, procedimentos médicos e consultas; histórias clínicas inconsistentes ou atípicas; sintomas inexplicáveis; conhecimento médico incomum; relações com profissionais de saúde; e resultados normais em testes, apesar dos sintomas relatados. **Conclusão:** O TF apresenta manifestações diversas, necessitando de maior conscientização e capacitação especializada dos profissionais de saúde para garantir o diagnóstico precoce, o manejo eficaz e a prevenção de intervenções desnecessárias ou potencialmente nocivas.

Palavras-chave: Transtorno factício; Síndrome de Munchausen; Sinais de alerta; *Red flags*; Manifestações clínicas; Diagnóstico diferencial.

Introduction

Munchausen syndrome, initially described in 1951[1], refers to a condition in which individuals exaggerate or fabricate their own symptoms, being likened to the literary character Baron von Münchhausen, famous for his lies and exaggerations[2]. However, the use of this term has been widely contested by healthcare professionals, who consider "Munchausen" disrespectful and inadequate in capturing the severity of the disorders, which can lead to fatal consequences[3]. In response, medical institutions such as the American Psychiatric Association and the World Health Organization have distanced themselves from this terminology, adopting "factitious disorder" (FD) in their most recent classifications[4].

The prevalence of FD is estimated to be between 0.5% and 2%[5]. The etiology of the behaviors observed in FD still lacks adequate understanding, and a reliable common etiological factor has not been established, complicating its diagnosis[3].

The most recent diagnostic criteria for FD, according to the DSM-5, include the falsification of psychological or physical signs or symptoms, or the induction of disease or injury (including injury by proxy or imposed on another), associated with a clearly identified deceit. Additionally, the individual presents themselves to others as injured, ill, or disabled. This deceptive behavior persists even in the

absence of obvious external incentives and cannot be better explained by another mental disorder[3].

Although the DSM-5 diagnostic criteria provide an adequate conceptual framework for FD, their practical application presents limitations[3]. Criteria such as "falsification of signs or symptoms" and "deceptive behavior in the absence of obvious external incentives" are difficult to objectively verify in the clinical context[6]. In practice, the intentionality of the behavior is rarely directly observable, often relying on inferences based on the clinical course over time. For example, patients may present with inconsistent clinical findings, with repeatedly inconclusive examinations or results incompatible with the reported history, as well as multiple prior hospitalizations across different healthcare services. While these features raise suspicion, they do not, in isolation, fulfill formal diagnostic criteria. Thus, clinicians often lack more objective tools to support early recognition of the disorder[7,8].

In light of this scenario, the objective of this systematic review is to identify the main warning findings of FD, examining clinical aspects and behavioral evidence that may represent risk factors or indicate the presence of the condition, contributing to its proper recognition. Efforts were made to gather elements that support the DSM-5 criteria, providing insights for general practitioners and specialists to recognize subjective and objective findings identifiable in the medical history, physical examination, and complementary tests, indicating FD as a possible diagnostic hypothesis or differential diagnosis, especially in clinical presentations with unusual manifestations or lacking correspondence with usual propedeutic findings. Finally, considering the wide range of clinical presentations of FD, this study also aimed to describe the medical specialties involved in the management of these patients, as well as the affected organ systems.

Methods

The objective of the study was defined using the SPIDER strategy[9] as presented in Table 1. A systematic review was then conducted in accordance with the principles of the *Preferred Reporting Items for Systematic Reviews and MetaAnalyses* (PRISMA) guidelines[10]. This study was registered with the *International prospective register of systematic reviews* (PROSPERO) under the identification number CRD42024588689.

The search for articles was conducted on September 11, 2024, utilizing the scientific indexing databases Lilacs, SciELO, PubMed, Web of Science, Scopus, and Embase. Subject descriptors and keywords related to "factitious disorder", "clinical presentation", "signs and symptoms", "warning signs", and "differential diagnosis" were used, all extracted from the *Descritores em Ciências da Saúde* (DeCS) for texts in Portuguese and from the *Medical Subject Headings* (MeSH) for texts in English. The exact search terms are presented in Table 2. The search keys for each database are shown in Table 3.

After searching the databases, the articles found were organized in the electronic tool Rayyan[11] with the elimination of duplicate articles. Reviewers TFN and PHSO independently analyzed the titles and abstracts for inclusion for full-text reading, with conflicts resolved through consensus. Any persistent conflict was resolved by ASL. Studies published in English, Spanish, or Portuguese that addressed FD, described its warning findings, and were published from the year 2000 onwards were selected for full reading. The inclusion and exclusion criteria used are described below:

Inclusion criteria

Articles that address FD and its warning findings, observational or experimental studies, qualitative and/or quantitative research. Case reports of adolescents or adults (aged 13 years or older), review articles, systematic reviews, or cohort studies were included.

Exclusion criteria

Articles in languages other than English, Portuguese, or Spanish were excluded, as well as articles that did not involve studies with humans, publications in pediatric journals, articles analyzing pediatric patients (individuals under 13 years of age), presentations at pediatric scientific events, and articles published before the year 2000.

The full-text reading of the articles was carried out by two pairs of reviewers (TFN and PHSO / VOA and TLFF), in a blinded and independent manner, and the articles for inclusion in the review were selected according to the same inclusion criteria as the previous stage. The same pairs of reviewers performed the data extraction from the included articles, which were consolidated in an EXCEL spreadsheet. Discrepancies were resolved by consensus among the reviewer pairs. The following data were collected: article

Table 1. SPIDER strategy.

S – sample – adult patients suspected of or diagnosed with Factitious Disorder
PI – phenomenon of interest – clinical presentations of patients suspected of or diagnosed with Factitious Disorder, main differential and clinical behavioral warning findings that suggest Factitious Disorder
D – design – in reviews, systematic reviews and case reports of patients diagnosed with Factitious Disorder
E – evaluation – identifying warning findings and patterns of behavior in patients that healthcare providers should be aware of
R – type of research – qualitative research, observational studies.

Source: Elaborated by the authors.

title; author(s); publication journal; year of publication; country of publication; study type; classification of FD (by proxy?); number of participants (cases reported in the article); reported case data (gender, age, main affected system, main specialty involved, profession, and other relevant information); main affected system(s); medical specialty(ies) involved; clinical manifestations; and red flags indicated by the authors.

The identified clinical manifestations were classified into two categories: subjective findings, which correspond to the information obtained during the interview, and objective findings, which are those verified through physical examination or complementary tests. Finally, a narrative synthesis of the collected data was performed, aiming to respond to the objectives proposed in the review.

Table 2. Keywords selected.

IN ENGLISH:	1) "Munchausen syndrome" 2) "factitious disorder" 3) "alarm signs" 4) "red flags" 5) "warning signs" 6) "clinical indicators" 7) "diagnostic criteria"
IN PORTUGUESE:	1) "Síndrome de Munchausen" 2) "transtorno factício" 3) "sinais de alarme" 4) "sinais de alerta" 5) "indicadores clínicos" 6) "comportamento enganoso"
IN SPANISH	1) "Síndrome de Munchausen" 2) "trastorno facticio" 3) "señales de alarma" 4) "señales de alerta" 5) "banderas rojas" 6) "indicadores clínicos"

Source: Elaborated by the authors.

Results

The search in the indexing databases resulted in the identification of 423 titles, of which 150 were excluded due to duplication. Among the 273 titles and abstracts analyzed, 56 articles were selected for full-text reading, ultimately resulting in the inclusion of 45 articles for analysis (Figure 1). Some characteristics of the articles included in the systematic review are presented in Table 4.

Affected systems

In the analysis of the main systems affected in patients with FD, 7 articles (15.55%) did not allow classification into a specific system. In the remaining articles (84.44%), it was possible to identify 16 different affected systems. The most frequently affected systems were integumentary (16.67%), digestive (10.61%), mental (10.61%) and endocrine (9.09%). The distribution of the affected systems is shown in Table 5.

Table 3. Search keys.

DATA BASE	SEARCH KEYS
SCIELO	("Munchausen syndrome" OR "factitious disorder" OR "Síndrome de Munchausen" OR "trastorno facticio" OR "síndrome de Munchausen")
LILACS	("Sindrome de Munchausen" OR "Transtorno Factício") AND ("sinais e sintomas" OR "sinais de alerta" OR "diagnostico clinico" OR "diagnostico diferencial")
SCOPOUS	(TITLE-ABS-KEY ("Factitious Disorder" OR "Munchausen Syndrome") AND TITLE-ABS-KEY ("alarm signs" OR "red flags" OR "warning signs" OR "warning signals" OR "clinical indicators" OR "diagnostic criteria")) AND (LIMIT-TO (LANGUAGE , "English") OR LIMIT-TO (LANGUAGE , "Spanish"))
PUBMED	((Factitious Disorder[Title/Abstract]) OR (Munchausen Syndrome[MeSH Terms])) AND ((alarm signs) OR (red flags) OR (warning signs) OR (warning signals) OR (clinical indicators) OR (diagnostic criteria))
WEB OF SCIENCE	(Factitious Disorder) OR (Munchausen Syndrome) (Topic) AND (alarm signs) OR (red flags) OR (warning signs) OR (warning signals) OR (clinical indicators) OR (diagnostic criteria) (Topic) and English or Spanish (Languages)
EMBASE	('factitious disorder'/exp OR 'factitious disorder' OR (factitious AND ('disorder'/exp OR disorder)) OR 'munchausen syndrome'/exp OR 'munchausen syndrome' OR (munchausen AND ('syndrome'/exp OR syndrome))) AND ('alarm signs' OR (alarm AND signs) OR 'red flags' OR (('red'/exp OR red) AND flags) OR 'warning signs' OR (('warning'/exp OR warning) AND signs) OR 'warning signals' OR (('warning'/exp OR warning) AND signals) OR 'clinical indicators' OR (('clinical'/exp OR clinical) AND ('indicators'/exp OR indicators)) OR 'diagnostic criteria'/exp OR 'diagnostic criteria' OR (('diagnostic'/exp OR diagnostic) AND criteria))

Source: Elaborated by the authors.

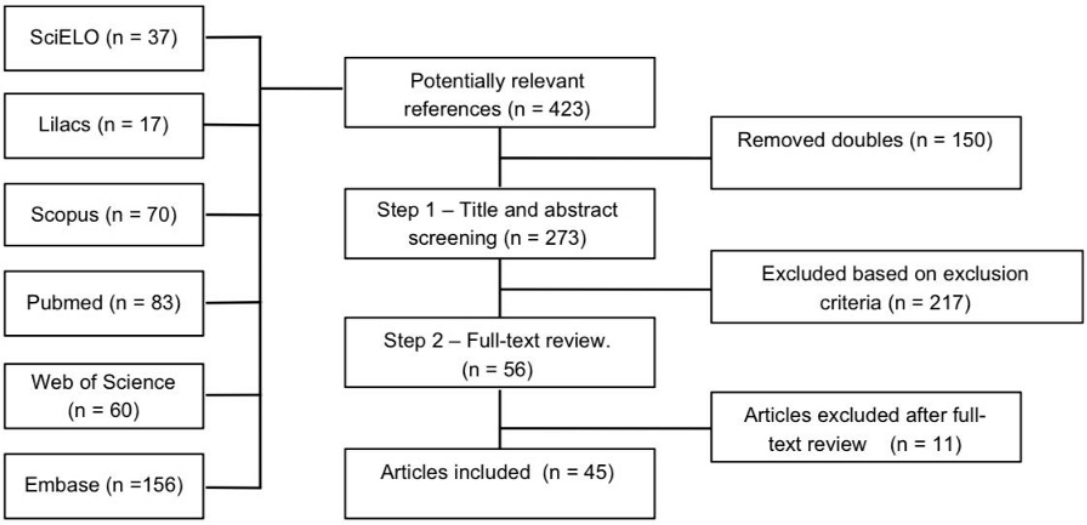

Figure 1. Search results according to the PRISMA protocol.

Source: Elaborated by the authors.

Table 4. Characteristics of the articles included in the systematic review.

Author	Journal	Year of publication	Country of publication	Type of study	Number of reported cases
Franco et al.[12]	Revista Latino Americana de Bioética	2020	Colombia	Narrative Review	0
Cruz-Portelles et al.[13]	Nefrología (Madrid)	2012	Spain	Case(s) Report and Review	1
Gattaz et al.[14]	Revista da Associação Médica Brasileira	2003	Brazil	Case(s) Report and Review	1
Caselli et al.[3]	Psychology Research and Behavior Managemen	2017	United Kingdom	Review	0
Krahn et al.[15]	American Journal of Psychiatry	2003	United States	Review	0
Oviedo et al.[16]	Revista de la Facultad de Ciencias Médicas de Córdoba	2002	Argentina	Case Report	1
Silva et al.[17]	Anais Brasileiros de Dermatologia	2010	Brazil	Case Report	1
Birman et al.[18]	Journal of the American Academy of Orthopaedic Surgeons	2012	United States	Review	0
Steinwender et al.[19]	Wien Klin Wochenschr	2005	Austria	Case Report	1
Girolami et al.[20]	Hematology	2014	Italy	Systematic Review	0
Gao et al.[21]	Chest Journal	2020	United States	Case Report	1
Tlacuilo-Parra et al.[22]	Clinical and experimental rheumatology	2000	Italy	Cases Series	8
Mailis-Gagnon et al.[23]	The Clinical journal of pain	2008	United States	Case Report	4
Comoglu et al.[24]	Brazilian Journal of Otorhinolaryngology	2020	Brazil	Case Report	1
Pereira et al.[25]	CoDAS	2019	Brazil	Letter to the Editor	0
Pedrosa et al.[26]	Arquivos Brasileiros de Endocrinologia & Metabologia	2005	Brazil	Case(s) Report and Review	1

continue...

... continuation Table 4

Author	Journal	Year of publication	Country of publication	Type of study	Number of reported cases
De Oliveira et al.[27]	Revista Brasileira de Ortopedia	2013	Brazil	Case Report	2
Schnellbacher et al.[28]	Current psychiatry reports	2016	United States	Review	0
Bonamonte et al.[29]	Italian journal of dermatology and venereology	2022	Italy	Review	0
Alinejad et al.[30]	Innovations in clinical neuroscience	2011	United States	Case(s) Report and Review	1
Menezes et al.[31]	Brazilian Journal of Psychiatry	2002	Brazil	Case(s) Report and Review	1
Maldonado [32]	The American Journal of Forensic Psychiatry	2002	United States	Review	0
Abeln et al.[33]	The Nursing clinics of North America	2018	United States	Review	0
Teixeira-Jr et al.[34]	Arquivos de Neuro-Psiquiatria	2005	Brazil	Case Report	1
Aranha et al.[35]	Revista de Medicina (São Paulo)	2007	Brazil	Case Report	1
Santino et al.[36]	Journal of the Portuguese Society of Dermatology and Venereology	2021	Portugal	Case(s) Report and Review	1
Molano et al.[37]	Revista Colombiana de Psiquiatría	2012	Colombia	Case Report	1
Kinns et al.[6]	Annals of clinical biochemistry	2013	England	Review	0
Commentz et al.[38]	Revista chilena de neuro-psiquiatría	2022	Chile	Case(s) Report and Review	1
Diaz-Puentes et al.[39]	Iatreia	2019	Colombia	Case Report	1
Hausteiner-Wiehle et al.[7]	Deutsches Ärzteblatt International	2020	Germany	Review	0
Alfeld et al.[40]	Australasian Journal of Dermatology	2021	New Zealand	Case Report	1
Bérar et al.[8]	BMC psychiatry	2021	England	Case Series	0
Ameratunga et al.[41]	Allergy, asthma, and clinical immunology	2013	England	Case Report	1
San Miguel et al.[42]	Actas Españolas de Psiquiatría	2003	Spain	Case Report	2
Filho et al.[2]	Einstein (São Paulo)	2017	Brazil	Narrative Review	0
Andrade et al.[43]	Jornal Brasileiro de Pneumologia	2005	Brazil	Case Report	1
Brito et al.[44]	Revista Cubana de Medicina	2000	Cuba	Narrative Review	0
Amr et al.[5]	Advances in Skin & Wound Care	2017	United States	Case Series	3
Fischer et al.[45]	Journal of forensic sciences	2017	United States	Case Report	1
Aparicio-Turbay et al.[46]	Acta Medica Colombiana	2019	Colombia	Case Report	1
Kawada[47]	Hong Kong Journal of Emergency Medicine	2022	Japan	Case Report	1
Rivera[48]	Psychosomatic Medicine	2012	United States	Case Report	1
Alicandri-Ciufelli et al.[49]	The Laryngoscope	2012	United States	Systematic Review	0
Chafetz et al.[50]	The Clinical Neuropsychologist	2020	England	Review	0

Source: Elaborated by the authors.

Medical specialties involved

In the analysis of the main medical specialties involved in the care of patients with FD, 6 articles (13.33%) did not allow classification into a specific specialty. In the remaining articles (84.44%), 31 different medical specialties were identified. The most frequently reported specialties were Psychiatry (18.18%), Emergency Medicine (7.79%), Neurology (7.79%) and Endocrinology (6.49%) (Table 6).

Characterization of reported patients

Of the 45 articles analyzed, 28 (62.22%) contained case reports and information about patients with FD, identifying a total of 42 patients (73.80% women). The age ranged from 14 to 61 years, with a mean age of 32.28 years. In 3 cases, their ages were not specified. The professions of patients included: 8 in the health field (4 nurses, 1 physician, 1 laboratory technician, 1 health agent, 1 healthcare professional), 1 medical library employee, 1 municipal civil servant, 1 teacher and public servant, 1 security personnel, 2 students, 1 homemaker, and 1 unemployed individual. In 25 cases, the profession was not specified.

Clinical manifestations

A total of 528 clinical manifestations (CM) related to the diagnosis of FD were identified. Of these, 492 (93.18%) could be grouped into 71 distinct groups based on semantic similarity. Of the 71 groups formed, 17 contained more than 7 CMs each, representing 326 of the grouped CMs (61.74% of the total). The remaining 202 CMs (38.26%) were distributed among the smaller groups, including 36 ungrouped CMs due to insufficient similarities. Of the 17 main groupings, 9 were classified as subjective findings (216 CMs) and 8 were classified as objective findings (110 CMs). By 'subjective,' it refers to the conclusions that are generally obtained through the interview. A list of CMs categorized into subjective and objective findings is published as supplementary material (Supplementary Appendix 1 - Supplementary Material*).

The most frequent subjective findings were: history of multiple admissions, hospitalizations, procedures, and medical consultations; inconsistent clinical history and atypical symptoms; unusual medical knowledge and relation to the health field; history of psychiatric illnesses and personality disorders; history of abuse, neglect, or dysfunctional family environment; refusal or resistance to psychiatric treatment; pathological lying, symptom fabrication, and manipulation of tests; evasive, aggressive, or irritable behavior; abrupt abandonment of treatment and hospital escape.

The most frequent objective findings included: normal examinations despite reported symptoms; persistent pursuit of diagnostic and therapeutic procedures; recurrent symptoms resistant to treatment and emergence of new symptoms; improvement under observation and deterioration without supervision; lack of response to treatment or unexpected reactions; atypical skin lesions; lesions that worsen or persist without explanation; unusual or suspicious laboratory findings.

Table 5. Distribution of the affected systems among patients diagnosed with factitious disorder.

Affected System	Number of articles	Percentage (%)
Integumentary	11	16,67%
Digestive	7	10,60%
Mental	7	10,60%
Endocrine	6	9,09%
Central Nervous System	5	7,58%
Genitourinary	5	7,58%
Musculoskeletal	5	7,58%
Respiratory	5	7,58%
Others	15	22,72%

Source: Elaborated by the authors.

Table 6. Distribution of medical specialties involved in the clinical management of patients with factitious disorder.

Specialty	Number of articles	Percentage (%)
Psychiatry	14	18,18%
Emergency Medicine	6	7,79%
Neurology	6	7,79%
Endocrinology	5	6,49%
Internal Medicine	4	5,19%
Pulmonology	3	3,90%
General Surgery	3	3,90%
Dermatology	3	3,90%
Gastroenterology	3	3,90%
Others	30	38,96%

Source: Elaborated by the authors.

It is important to highlight that the groups "Atypical skin lesions" and "Lesions that worsen or persist without explanation" were identified as highly suggestive of FD in dermatological contexts, underscoring the importance of specific clinical attention in this specialty. Similarly, the groupings related to psychiatric history, abuse, resistance to psychiatric treatment, and manipulative behavior were considered highly suggestive of FD in patients receiving psychiatric follow-up.

Discussion

Various medical specialties may encounter patients with FD, and the need for interdisciplinary collaboration among

* Access Supplementary Appendix 1 on the article's page on the RMMG website.

different professionals may become evident. Despite a growing understanding of the disorder, diagnostic challenges and the lack of consensus on specific criteria continue to be obstacles to effective diagnosis and clinical management. FD can manifest by mimicking signs and symptoms across various organ systems, reflecting the multifaceted nature of the disorder. This review identified 16 different affected systems, with the integumentary (16.67%) and digestive (10.61%) systems being the most frequently affected. The presence of findings from multiple systems in a single patient suggests that FD is not restricted to a single clinical field but is rather a cross-cutting issue. This breadth requires healthcare professionals to maintain a high level of suspicion in the presence of warning findings for FD, given the ease with which symptoms can be confused with other organic conditions. The diversity of medical specialties involved in the management of FD was noteworthy. Psychiatry was the most frequently cited specialty, with 18.18% of articles highlighting the importance of this area in understanding the disorder. The high rate of comorbidity between FD and psychiatric disorders, such as personality disorders, underscores the centrality of psychiatry in the diagnosis and treatment of FD. The necessity for a multidisciplinary approach becomes clear when observing that FD is not confined to a single specialty but requires collaboration among various health professionals. The literature indicates that for effective diagnosis, clinicians must be familiar not only with the physical and psychological findings but also with the behavioral dynamics that characterize FD, such as a history of multiple admissions, procedures, and medical consultations[13], as well as a history of wandering in search of a new hospital for admission[14].

Data regarding the patient profile indicate that FD predominantly affects women and is more prevalent among young and middle-aged adults. The female predominance is consistent with previous studies indicating a higher prevalence of FD among women, although the reason for this disparity is not fully understood[7,8,13,14,16,22-24,28,33,38].

An interesting aspect is the high rate of individuals from the health field among patients with FD (19.05%), raising the hypothesis that medical knowledge may facilitate the simulation of symptoms or the manipulation of tests. The association between health-related professions and a higher likelihood of presenting FD has been noted in several studies[2,6,8,13,14,20,22,25,28-33,35,41,43,44,49]. This factor should be considered by physicians and other healthcare professionals, who may face difficulties in identifying the disorder in patients with medical training or experience, consequently increasing the possibility of a higher degree of manipulation of clinical data. Patients with training or involvement in the health field find it easier to manipulate healthcare systems to their advantage, whether by inducing symptoms or controlling diagnoses and treatments[6,8,13,31-33,41,44]. These individuals interpret laboratory tests well, have knowledge of vital signs and other physical examination findings, and understand how their conditions may be perceived by physicians, making them more skilled in simulating or exaggerating illnesses[6,8,13,31-33,41,44]. This association reinforces the need for healthcare professionals to be particularly vigilant toward patients with a medical history or background in the field, as they may further obscure the true nature of the disorder.

The categorization and grouping of clinical manifestations was one of the main objectives of this review. A total of 528 clinical manifestations were identified, of which 492 were grouped into 71 distinct categories. The division between subjective findings (66.26%) and objective findings (33.74%) was a relevant data point, indicating that the diagnosis of FD often relies on subjective findings, such as inconsistent medical history and multiple hospitalizations. The identification of objective findings, such as normal examinations despite persistent symptoms, was also significant, as these can be crucial for raising suspicion that the disorder is not of organic origin. Findings of atypical skin lesions, for instance, carry substantial diagnostic value as they are often associated with self-harm.

Despite the study's success in classifying objective and subjective data, a significant challenge was noted in the lack of clarity in the DSM-5 diagnostic criteria for FD. The criteria for diagnosis remain vague and unclear, complicating the standardization of diagnosis among healthcare professionals[3]. The absence of a widely accepted set of criteria for the identification of FD is one of the biggest barriers to early and effective diagnosis. Additionally, it is important to emphasize that there are several subtypes of FD[4]. For example, affected individuals may induce clinical findings through the improper manipulation of body fluids, such as blood and feces, or by abusing medications[4]. The medical literature documents numerous cases related to this latter practice, including the clandestine use of substances like thyroxine, steroids, inappropriate use of insulin (manifesting as "factitious hypoglycemia"), and even adrenaline[4]. Another challenging aspect in diagnosing FD is that physical symptoms can be largely indistinguishable from clinical manifestations of real illnesses[48]. The analysis of concomitant psychiatric symptoms has limited utility due to their high prevalence in non-factitious cases[48]. However, a detailed patient history may provide clues regarding the presence of FD[48].

The diagnosis of FD is of paramount importance, as the syndrome can mimic genuine diseases, resulting in unnecessary and potentially harmful interventions[48]. The methods employed by patients to induce symptoms often lead to severe complications, such as brain injuries, coma, and even death[4]. On the other hand, the approach in investigation and treatment may lead to significant morbidity and mortality, due to unnecessary procedures, often untimely and iatrogenic, such as pancreatectomies, unnecessary laparotomies, removal of adrenal glands, or resection of pituitary tumors[4].

Despite the associated risks, patients often demonstrate a willingness to face considerable difficulties to maintain the illusion of illness[7]. As a result, FD frequently culminates in repeated hospital admissions, prolonged periods of hospitalization, and increased stress on already overburdened

healthcare systems[2,3]. This rise in cost is primarily generated by conducting unnecessary and inconclusive tests and procedures. Even more serious is the untimely therapeutic intervention in patients with erroneous diagnoses, often leading to prolonged hospitalization[25]. Furthermore, when the factitious nature of the disorder becomes evident, it is common for the medical team to experience negative countertransference, marked by feelings of distress, anger, and conflict among the team, patient, and family[35].

The difficulty for physicians in diagnosing FD is a complex issue with ethical, legal, and practical implications. The hesitation to label patients with this disorder may be justified by concerns about judicialization and the desire to protect the doctor-patient relationship. Physicians may fear that a diagnosis of FD could undermine the patient's credibility and consequently lead to legal actions. Ethical dilemmas also play a crucial role in the resistance to diagnosis. Diagnosing a disorder that involves deception can be seen as a violation of the principle of non-maleficence. This apprehension about formally diagnosing FD often translates into a reduction in case documentation in medical records. Underreporting leads to a scarcity of publications on the topic in the medical literature.

This systematic review presents several limitations. There has been a scarcity of articles on FD published after 2015, which restricts the updating of the topic and prevents the most recent findings regarding diagnosis and management from being widely applied. Additionally, the difficulty in accurately determining which professional attended to the patient in various reviewed studies poses challenges in understanding how different specialties collaborate in the diagnosis and management of FD. It is also noteworthy that there is a lack of longitudinal and cohort studies on FD, which would be essential for tracking the evolution of the disorder over time and for identifying risk factors, therapeutic options, and prognosis. Moreover, the exclusion of publications related to pediatric populations in this work underestimated the occurrence of FD by proxy, which is more common among children[2].

A strong aspect of this study is that it is the first systematic review to structurally address the distribution of affected systems, involved medical specialties, clinical-demographic profiles of patients, and the warning findings described in the literature. The categorization of findings into objective and subjective also represents an interesting methodology, which can assist future works in defining more precise and applicable diagnostic criteria in clinical practice.

Conclusion

The findings of this systematic review enhance the clinical understanding of FD, highlighting the diversity of its manifestations, the multiplicity of medical specialties involved, and the occurrence of subjective and objective warning findings. The analysis of 45 articles revealed 528 clinical manifestations, organized into thematic groupings that may support the early recognition of the condition, contributing to the reduction of unnecessary procedures and iatrogenesis. The predominance of young female patients with a link to the health field underscores the importance of a thorough medical history amid a high degree of suspicion in cases that appear strange and deviate from usual behavior. The structured categorization of subjective and objective findings represents a methodological advance that may guide future diagnostic and clinical management guidelines for FD.

Highlights

- 528 clinical manifestations identified and organized into 71 thematic groups.
- Predominance of subjective findings such as multiple admissions and inconsistent history.
- Patients from the health field accounted for 19% of reported cases.
- Psychiatry and the integumentary system were the most frequently involved.
- The organization of findings by affected systems, objective findings, and subjective findings may support the creation of more effective clinical protocols for FD.

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Supplementary Materials can be accessed on the article's page on our website. Visit the website at: https://rmmg.org/.

Authors' Contributions

We describe contributions to the papers using the taxanomy (CRediT) provide above:

Conceptualization: TF Novais; PHS Oton. *Investigation*: TF Novais; V de O Alves; TLF Félix; PHS Oton. *Methodology*: AS Leite. *Visualization & Writing*: TF Novais; PHS Oton; AS Leite. *Review & editing*: TF Novais; PHS Oton; AS Leite. *Project administration, Supervision & Writing – original draft*: AS Leite. *Data curation & Formal Analysis*: TF Novais; V de O Alves.

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