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Münchausen syndrome by proxy: a literary review and a reminder for every health care professional

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Abstract

Münchhausen syndrome by proxy (MBPS), also commonly referred to as Medical Child Abuse (MCA), and now officially classified in the DSM-5-TR as Factitious Disorder Imposed on Another (FDIOA), is a severe condition that involves a caregiver who fabricates or induces signs and symptoms of physical, psychiatric, or developmental disorders in a child or other dependent victim. The primary motivation is the achievement of psychological gain—such as attention and sympathy—rather than obvious external benefits.

Unfortunately this is frequently observed by health teams in clinics, hospital wards and emergency rooms and undoubtedly, these conditions generate high costs and unnecessary procedures in health care facilities and sometimes can evolve into the death of the child, depending on the gravity of the illness or the abuse. It is important for both physical and mental health of the children to diagnose as soon as possible this disorder and that’s why our team decided to write this review, in order to provide a complete and updated manuscript about such often misdiagnosed pathology so dangerous for children.

Key Words

Münchhausen syndrome by proxy – MBPS - FDIOA - Factitious disorder imposed on another FDIA- Paediatric Condition Falsification - Medical Child Abuse - caregiver-fabricated illness - Münchhausen by proxy syndrome - MBP

Main text

1.1 Introduction

Münchhausen syndrome by proxy (MBPS) is a form of child abuse, that typically occurs when a caregiver abusively and compulsively falsifies physical, psychiatric or developmental disorders in a child or adult victim in order to satisfy the psychological need to gain attention. There generally are no obvious external monetary rewards. [1, 2]

The name Münchhausen syndrome by proxy was used for the first time in 1977 by Meadow, to describe children whose mothers produce histories of illness to their children by fabricated physical signs and symptoms, or even by alterated laboratory tests. The term “Münchhausen” is associated with Baron Münchhausen (Karl Friedrich Hieronymus Freiherr von Münchhausen, 1720-1797), to whom fantastic and unreal stories about his life and experiences were attributed. [3]

This study reviews the literature about MBPS. This is a narrative, non-systematic review including case reports, case series, and reviews indexed in PubMed from the first paper published on this subject in 1977 to April 2025. We used the following keywords “Münchhausen syndrome by proxy” and “factitious disorders imposed on another” to research articles in literature on this subject.

1.2 Definition

The Diagnostic and Statistical Manual of Mental Disorders, fifth edition text revision (DSM5-TR), defines factitious disorders as those imposed on other (previously called in DSM -IV as “factitious disorders by proxy”) as Münchhausen syndrome by proxy. [Table 1]

Diagnostic criteria of FDIOA (Munchausen syndrome by proxy)

1. Falsification of physical or psychological signs or symptoms, or induction of injury or disease, in another, associated with identified deception.
2. The individual presents another individual (victims are generally children or elders or pets) to others as ill, impaired, or injured.
3. The deceptive behavior is evident even in the absence of obvious external rewards.
4. The behavior is not better explained by another mental disorder, such as delusional disorder or another psychotic disorder

The diagnosis is received by the perpetrator, not the victim of the abuse. It has to be specified if there is a single episode of abuse, or if there are recurrent episode (two or more events of falsification of illness and/or induction of injury) [4]

Table 1- Diagnostic criteria of FDIOA (DSM5 - TR)

The International Classification of Diseases for Mortality and Morbidity Statistics, 11th Revision, v2024-01, defines the MBPS as Factitious disorder imposed on another code 6D51 and describes this disorder as characterized by feigning, falsifying, or inducing medical, psychological, or behavioral signs and symptoms or injury in another person, most commonly a child dependent. If a pre-existing disorder or disease is present in the other person, the individual intentionally aggravates existing symptoms or falsifies or induces additional symptoms. The individual seeks treatment for the other person or otherwise presents him or her as ill, injured, or impaired based on the feigned, falsified, or induced signs, symptoms, or injuries. The deceptive behavior is not solely motivated by obvious external rewards or incentives (e.g., obtaining disability payments or avoiding criminal prosecution for child or elder abuse). The diagnosis is assigned to the perpetrator not to the person who is presented as having the symptoms. [4, 5]

1.3 Prevalence

The prevalence of MBPS remains challenging to determine due to the pervasive role of deception and intentional symptom falsification in population, which contributes to significant underdiagnosis. Further complicating efforts at determining prevalence is the fact that health care professionals infrequently record the diagnosis, even in recognized cases. Nevertheless, recent studies generally validate the established estimates of Factitious Disorder (including both imposed on self and another). Factitious disorder imposed on self is estimated to be present in approximately 1% of all patients admitted to general hospital settings a date derived from psychiatric consultation referrals in major U.S. and international centers, while the annual incidence rate for MBPS is consistently reported to be rare, ranging from 1 to 28 cases per million children This low incidence is misleading, as the condition is encountered far more frequently in tertiary care settings and specialized pediatric units than in primary care, often presenting as a series of "difficult-to-explain" and relapsing illnesses. [4, 6-8]

1.4 Perpetrators characteristics

The typical profile of the perpetrator is young (mean age of 25–31.3 years), female (97.6%–100%), married (43%–75.8%), and often the mother of the victim (76.5%–100%). Many have been diagnosed with somatoform disorders, factitious disorders, or both. At least 75% have a comorbid personality disorder, including borderline, histrionic, antisocial, and anxious/dependent types, with many having a combination of these conditions. Co-occurring psychiatric conditions such as depression, substance or alcohol abuse, self-harm, eating disorders, and pathological lying are also common. About a quarter may have comorbid learning disorders. Some perpetrators may report the loss or separation of a parent at a young age. A history of physical, emotional, or sexual abuse was also reported by some perpetrators. It is worth noting that all MBPS perpetrators are pathological liars. Lying is the core feature of Factitious Disorders. Some perpetrators, as part of their larger fabricated stories, may falsely report parental separation or abuse to satisfy self-serving

psychological needs. Yates et al. reviewed 796 cases of perpetrators of MBPS and found that factitious disorder imposed on self (FDIS) was identified in nearly one-third of the perpetrators. Therefore, children of individuals with FDIS are considered to be at an increased risk of FDIOA. Furthermore, collusion between the victim and perpetrator as well as long-term exposure to MBPS may predispose the victim to eventually developing FDIS, resulting in a vicious cycle spanning over generations. [9]

Judith Libow and Herbert Schreirer of the Children's Hospital Medical Center of Oakland classified MSP according to parental typologies:

- The help seekers. Normally in this case there is a single episode of imaginary illness rather than a long series of medical experiences. Faced with the evidence, the mother reacts with relief, is willing to collaborate with clinicians and does not betray any sign of hostility or rejection. The deception allows her to seek medical care for herself, legitimizing the need for psychological help through her “sick” child;
- Active Inducers. In this case the parent directly and actively causes symptoms in the child through suffocation, injections or poisoning. What is surprising is that these mothers are extraordinarily cooperative and grateful towards doctors, so much so that they seem like ideal mothers;
- Doctor-employees. In these cases the deception is limited to a false account of the child's medical history. There is no direct intervention on the symptoms. Because of these false symptoms, the child undergoes many unnecessary and painful tests. Mothers are convinced that their children are really sick and are resentful if doctors and hospital staff do not confirm their beliefs. Children in this group are typically older. Mothers tend to be more hostile, paranoid and demanding towards the doctors on whom they are 'dependent'. [10 - 14]

Another subtype of perpetrator has been identified as “serial” when the perpetrator repeats with multiple children in the same family the same illness at the same time. Often in cases of serial MSP the children "get sick" one at a time, usually around the same age as the previous sibling, but cases have been reported in which all the children were hospitalized at the same time. [15 - 17] Help Seekers use the factitious illness to communicate their own feelings of distress, and usually readily accept psychotherapy; doctor-employees are obsessed with the goal of obtaining medical treatment and are typically more suspicious, antagonistic and paranoid; Active Inducers cause active and direct harm, and are very resistant to therapeutic interventions. It's difficult to place a perpetrator in one of these categories, as their motivations are often undisclosed. However, it can be inferred that Active Inducers, being the more insistent type of perpetrator, engage in more aggressive falsification behavior (perhaps Induction, Simulation and Coaching), whereas Doctor employees might opt for more subtle forms of falsification (False Information or Withholding Information) without necessarily causing direct harm. On the other hand, Help Seekers usually only falsify for a short period of time, until the underlying reason for the falsification can be addressed. [18]

1.5 Methods of causing illness

The American Professional Society on the Abuse of Children’s (APSAC) classified the deception of MBPS by the caregiver to the child in:

- Reporting false Information: the caregiver gives false information to the clinician especially about current symptoms and limitations in the child, child’s medical history, prior findings, recommendations, or treatments of the patient.
- Withholding Information to the clinicians: the caregiver in this case fails to provide the correct information of the patient, trying to hide important details that would help the clinician to explain the child’s current presentation.

- Exaggeration of symptoms: the perpetrator amplifies the description of the children's limitations, making the children appear more severely ill or impaired than they actually are.
- Simulation of disease: the caregiver modifies biological lab tests or diagnostic imaging to yield abnormal results.
- Neglecting the child: the caregiver fails to take care of the child by withholding medications, nutrition, or treatments to exacerbate previous symptoms and avoid the recovery of the child.
- Inducing illness: the perpetrator induces illness by directly creating symptoms or impairments to the child.
- Coaching: the perpetrator manipulates the child to answer questions by clinicians and others in order to substantiate and corroborate his/her false claims.[16]

A pre existing medical condition may be present in the victim, but the deceptive behavior or induction of injury associated with deception causes others to view the victim as more ill or impaired, and this can lead to excessive clinical intervention. The methods used to create symptoms in children are heterogeneous and often cruel. One of the most cruel methods used to induce illness described in literature was the insertion of trocar needles into the body of two-month-old twins. The first one had needles in the heart and diaphragm, the other, who unfortunately died from a hemorrhage, lodged needles in the liver. [16] Some children in the literature were poisoned with rat poison [20], insecticides [21], purgatives [22] , arsenic [23], thallium [24] , mineral oil [25], laxatives [22], tranquilizers [26] and sedatives [27], antiepileptic drugs (such as clobazam [28]) table salt [29-30] and even massive quantities of water. Physical attacks include, among others: pinpricks on the face and body, facial injuries from instruments or nails (as in the cases described by Megan L. Swonke and her team of two twins with repeated nasal lesions) [31, 32], and suffocation by pressing a hand or pillow on the child's face.[33] Other equally dangerous physical attacks were voluntary undernutrition [34] and a dirty and neglected home environment, induction of epileptic attacks [35] or loss of consciousness. [27]

Other recent case reports of the literature highlight the perpetrators' growing sophistication and ability to manipulate modern medical technology. The abuse is no longer confined to crude methods; instead, it also involves the manipulation of life-sustaining equipment and complex laboratory results. For instance, were documented cases where caregivers tamper with central venous lines (CVLs) or feeding tubes to introduce bacterial contaminants, feces, or non-sterile substances, intentionally causing sepsis or recurrent, severe infections that are difficult to trace [35,36]. Furthermore, with the rise of accessible medical monitoring devices, there have been documented instances of caregivers intentionally manipulating pulse oximeters to show critically low oxygen saturation readings, leading to unnecessary intubations and prolonged stays in the Intensive Care Unit (ICU) [37]. Another alarming trend is the induction of complex metabolic disturbances, such as the surreptitious administration of large doses of thyroid hormones (thyrotoxicosis) to mimic severe systemic disease [38], or the excessive use of insulin to cause hypoglycemic crises [39]. These methods demonstrate the perpetrator’s intent to maintain the sick role using highly specific and medically challenging presentations.

1.6 Clinical presentation

Cases of MBPS may present as an acute situation in the hospital. However, they often have a chronic evolution, with frequent exacerbations. Not only primary care doctors or pediatricians are likely to encounter this form of abuse, as they are the first contact with most pathological situations. Any child victim of abuse may encounter nurses, pharmacists, therapists, lab technologists, and many other allied professionals. Interestingly, healthcare providers play an unintentional role in cases of MBPS, by enabling the abuse and subjecting the victim to unnecessary diagnostic exams and tests. Generally, a lot of time passes before the healthcare team begins to consider the idea that the little patient's illness is procured by the caregiver. [4, 19] Signs and symptoms that might be present on the victim are very variable depending on the abuse perpetuated; this great variability is one of the reasons why this disorder is so difficult to diagnose.

1.6.1 Neurological symptoms

Procured Neurological symptoms	***Induction Mechanisms***	***Clinical Red Flags / Suspicious Features***
Seizures	- Asphyxia, - carotid sinus pressure, - incorrect medication dosing, - overdose or poisoning, - complete falsification of absent symptoms.	Prolonged, unexpected, or extraordinary seizures. Elaborate medical history provided by the same caregiver at each presentation. Signs and symptoms inappropriate and incongruous with typical seizure manifestations. Multiple medical evaluations that have been inconclusive or negative. Appropriate treatment that is ineffective or poorly tolerated. Family history of other siblings with similar chronic, relapsing seizures.
Ataxia (Gait Abnormalities)	- Toxicity from neurological medications	Positive serum medication levels when the medication is not prescribed.
Weakness or Paralysis	- Inappropriate administration of substances (e.g. ipecac)	Subjective complaints of weakness or paralysis with a normal neurological examination
Chronic Headaches	- Caregiver describing symptoms incongruous with the child's objective presentation and persistently demanding extensive evaluation or alternative / inappropriate medications.	Headaches may resolve by the time the child presents for medical care, or the child may not appear to be in pain as reported by the caregiver.
Visual Changes	- Inappropriate administration of many medications. Caregiver	Nystagmus (toxic doses of many neurological medications or other drugs like diphenhydramine). Miosis

exaggerating the degree of visual impairment.	(in organophosphate intoxication like Chlorpyrifos, along with urination, diarrhea, salivation, etc.).

Table 2 – Neurological symptoms in MBPS

Procured neurological symptoms are very frequent in MBPS. Seizures for example have been shown to be induced by caregivers via asphyxia, carotid sinus pressure, incorrect medication dosing, overdose or poisoning, or even complete falsification of absent symptoms. The initial complaint presentation may be as simple as “spells” or “episodes” that are an exaggeration of normal phenomena, such as spitting up or fussiness. The report of these symptoms is then escalated after the initial presentation receives a prompt and through medical evaluation. These spells may escalate to such described symptoms as eyes rolling back, body and limb jerking, staring spells, limb stiffness or spasms, back arching, apnea, cyanosis, or emesis. Seizures, as a medical affliction in children, often evoke a high level of medical concern, public awareness, and general sympathy. This concern and attention can increase fabrication causing escalation of fictitious symptoms and presentations. The chronic, relapsing, and even escalating natural clinical course of epilepsy makes it an ideal medical complaint to conceal a lengthy course of MBPS. Clinical features that may warn of MBPS in the case of seizures include prolonged seizures that are unexpected or extraordinary, elaborate medical history provided by the same caregiver at each presentation, signs and symptoms that are inappropriate and incongruous with typical manifestations of seizure disorders, multiple medical evaluations by various medical providers that have been inconclusive or negative, appropriate treatment for seizures that is ineffective or poorly tolerated, and a family history of other siblings with similar chronic, relapsing seizures. [40,41] Ataxia on the other hand is often caused by toxicity from neurological medications. When considering potential agents as a cause of gait abnormalities in children, measuring serum medication levels can be helpful. If a child has a positive result from a suspected medication when not being prescribed

the medication, then ingestion should be considered. However, self-ingestion of the medication must be properly dismissed before considering MBPS as the cause. [42] Symptoms of weakness or paralysis have been described for example in a patient with myopathy secondary to inappropriate ipecac administration by a caregiver. [43] There often may be subjective complaints of weakness or paralysis with a normal neurological examination. Chronic headaches which are incongruous with the child's objective presentation can be described by the parents. In these cases the caregiver persistently demands extensive evaluation and alternative or inappropriate medications for the child. Often the headaches may resolve by the time the child presents for medical care or the child may not appear to be in pain as reported by the caregiver. [44] With regard to visual changes, inappropriate administration of many medications can be to blame. However, a caregiver may exaggerate the degree of visual impairment a child has in this condition. [45] Toxic doses of many neurological medications and other drugs such as diphenhydramine can result in nystagmus.[46] Miosis can be seen for example in intoxication by Chlorpyrifos, an organophosphate compound, together with other signs caused by its mechanism of action (inhibition of the acetylcholinesterase enzyme), such as urination, diarrhea, diaphoresis, lacrimation, excitation of central nervous system, salivation, and consciousness disturbance. [47] [Table 2]

1.6.2 Psichiatric symptoms

Fabricated psychiatric symptoms	***Example description given by the caregiver***	***Risks of misdiagnosis***
Mood symptoms **Anxiety symptoms** **ADHD symptoms**	- Depressed mood, loss of interest, social isolation, emotional fragility, insicurity - apathy, - sleep disorders, - anxiety, - significant mood changes, - attention deficit,	Major Depressive Disorder, Bipolar Disorder, ADHD,

	- hypochondriasis, - substance abuse	Generalized Anxiety Disorder.
Psychotic symptoms **Dissociative symptoms**	- Hallucinations (visual/auditory), - delusions, loss of lucidity, - confusional states. - Catatonia: Immobility/stupor, mutism, staring, rigidity, slurred speech.	Psychotic Disorder, Schizophrenia, Dissociative Identity Disorder, Primary Catatonia.
***Eating* disorders symptoms** ***Feeding Disorders* symptoms**	Symptoms mimicking: - Anorexia Nervosa (underfeeding/malnutrition), - Avoidant Restrictive Food Intake Disorder (ARFID), - specific deficiencies (Scurvy).	Anorexia Nervosa, ARFID Failure to Thrive.

Table 3 – Psychiatric symptoms in MPBS

Fabricated psychiatric symptoms are also very frequent in MBPS. Psychiatrists can be falsely led to a diagnosis of psychotic disorders, multiple personality disorders, attention deficit disorder or other psychopathology depending on the type of psychiatric symptoms described by the caregiver. The caregiver can described false symptoms as depressed mood, loss of interest, apathy, sleep disorders, hypochondriasis, substance abuse, significant mood changes, or deficit attention, visual or auditory perceptions altered by hallucinations, delusions, loss of lucidity, and confusional states, anxiety disorder. [48] Another psychiatric disorder that has been reported in FDIOA is for example the catatonia: a picture of immobility/stupor, mutism, staring, verbigeration with hypernasality and slurred speech, rigidity, aggressive and stereotypic speech, mutism and withdrawal, which has been described in a 12-year-old female with a history of concerns of child abuse and Munchausen by proxy imposed by the mother.[49] Eating disorders by proxy are also reported in literature, such as bulimia or anorexia nervosa. For example anorexia nervosa can be

seen in literature in an underfed child whose mother had suffered from the same problem: in this case, the woman's fear that her son might eat too much and the subsequent limitation to feeding could be considered a projection of the mentality characteristic of her anorexia onto the child. [50 - 53] In another case involving a 8-year-old boy, avoidant restrictive food intake disorder leading to undernutrition and scurvy was supposed, but observation of the mother-child relationship, analysis of the child's eating behavior, and retrospective analysis of his personal history suggested that the selective eating behavior had probably been induced by the mother over many years [34]. [Table 3]

1.6.3 Gastrointestinal symptoms

Gastrointestinal symptoms are also described in literature and must be considered as consequences of MBPS, for example a case of pharyngeal dysphagia and acquired tracheoesophageal fistula (TEF) in a six-month-old child, with fever, persistent oral ulcers, intermittent bleeding from the ulcers, failure to thrive (FTT), and poor appetite. Because of the recurrent bleeding from the tracheostomy tube during the hospital stay, despite normal coagulation and platelet profile, a diagnostic laryngoscopy was made, that pointed out the presence of retropharyngeal inflicted injuries caused by the mother, as she was the only one with the child during the recurrent bleeding episodes. [54] Haematemesis is also seen in patient with MBPS such as in the case of a 11-year old girl in Turkey with an initial focus of hemorrhage on the ascending colon detected in Tc-99m scintigraphy but not confirmed by colonoscopy that instead suggested focal active colitis in the ascending and the descending colon. Helicobacter pylori (HP) positivity was detected with gastroscopy, for which she started on mesalazine for colitis and lansoprazole, amoxicillin and ciprofloxacin for HP eradication[55]. [Table 4]

Symptom/Manifestation	***Description and Method of Induction/Simulation***	***Clinical Significance in MBPS***

Vomiting	Frequent, unexplained, and often intractable (resistant to standard treatment).It can be: - **Feigned** (by exaggerating the report of episodes). - **Induced** (via concealed administration of **emetics** like **Ipecac syrup**, laxatives, or other drugs/substances)	One of the most common symptoms. Induction can lead to severe **electrolyte imbalances**, metabolic alkalosis, and even esophageal/dental damage
Diarrhea	Persistent, unexplained, often refractory to standard therapies. - **Induced** through the hidden administration of **laxatives, cathartics**, or **bowel medications**	Can be **simulated** by contaminating stool samples with foreign substances Can cause severe and potentially fatal **dehydration** and **fluid/electrolyte imbalances** (e.g., hypokalemia)
Gastrointestinal Bleeding	Presence of blood in vomit (**Hematemesis**) or stools (**Hematochezia, Melena**), with no clear medical explanation. - **Induced** through direct mucosal injury (e.g., the retropharyngeal injuries in the case provided [54]), or administration of **anticoagulants** or irritants. **Simulated** by adding external blood (self or animal) to samples	Bleeding is among the most frequent presentations, potentially leading to **anemia** and **hemorrhagic shock**
Failure to Thrive (FTT) / Malnutrition.	Poor growth and low weight, sometimes associated with reported anorexia or food refusal.	Often associated with induced GI symptoms (vomiting, diarrhea) that prevent nutritional

	- **Induced** by **deliberate calorie restriction** or inadequate feeding	absorption or increase losses
Swallowing Difficulties (Dysphagia)	Difficulty or pain upon swallowing. - Induced by physical trauma to the pharynx or esophagus	May lead to respiratory complications
Active Colitis/Intestinal Inflammation.	Possible consequence of introducing **irritant substances** or **infectious agents** to simulate an infection or Chronic Inflammatory Bowel Disease	Leads to invasive investigations (colonoscopies) and unnecessary treatments
Chronic Intestinal Pseudo-Obstruction *(CIPO) or* ***Dysmotility Symptoms suggestive of a bowel blockage*** -	Abdominal distension, pain, vomiting without a true mechanical obstruction. Can be simulated or induced by drugs that affect gut motility or by toxic substances	Patients may be subjected to Total Parenteral Nutrition (TPN), gastrostomies/jejunostomies, and multiple specialty consultations
Recurrent Infections/Sepsis	Unexplained fever, GI tract alterations, and recurrent sepsis (systemic infection) .- **Induced** by deliberately injecting **contaminated material** (fecal bacteria, urine, saliva) into Central Venous Lines (CVL) or the gastrointestinal tract	Recurrent infections are a severe cause of **morbidity** and **mortality** in MBPS patients

Table 4 - Gastroenterological symptoms in MSBP [54 – 59]

1.6.4: Endocrinological symptoms

Endocrinological symptoms are very frequent in children. In the cases described recently in literature a 18-month-old female presented recurrent hypoglycemic attacks due to the administration of high doses of insulin by

the mother, which was insisting on a pancreatectomy, rather than going for a positron emission tomography scan. [60] Furthermore a 4 year old girl presented the typical symptoms of diabetes mellitus, polyuria, polydipsia, and weight loss with recent report of blood sugar (BS) of 201 mg/dL and HbA1c of 8.7%; the child was fourth-born to a nonconsanguineous Muslim couple, with two elder healthy daughters, death of one newborn son due to pneumonia, and a recent miscarriage. The mother presented diabetes during index pregnancy, and was taking oral medicines; paternal grandmother also had diabetes. The lab reports presented to the clinicians by the mother had been neatly altered with black pen and did not matched the results obtained in blood test examination made by clinicians during hospitalization, furthermore the mother's psychological evaluation suggested the presence of stressors (recent miscarriage, her father's death, son's death, not having a male child, and husband staying in a different city) that lead to a diagnosis of MBPS. [61] [Table 5]

Symptom	***Condition Description and Method of Induction***	***Clinical Significance in MBPS***
Hypoglycemia (Low Blood Sugar).	Recurrent and unexplained episodes of low blood sugar, often severe, leading to seizures, coma, or permanent neurological damage. - **Induced** by the concealed administration of high doses of **insulin** or **oral hypoglycemic agents** (e.g., sulfonylureas)	This is a highly dangerous form of abuse, as severe hypoglycemia can result in irreversible **brain injury** or **death**. The mother often insists on invasive testing or surgery (e.g., pancreatectomy)
"Diabetes Mellitus" Symptoms	Feigned symptoms of **Polyuria** (frequent urination), **Polydipsia** (excessive thirst), and **Weight Loss**, often with reported high Blood Sugar	Leads to the misdiagnosis and potential administration of unnecessary insulin or other diabetes treatment, causing iatrogenic harm.

	(BS) and high HbA1c (as in the case provided [61]). - **Simulated** by altering lab reports (e.g., changing BS and HbA1c values with a pen) - **Induced** by over-hydration to cause polyuria or by administering diuretics/laxatives to cause weight loss	The alteration of lab results is a key sign of manipulation
Hypernatremia/Hyponatremia and Fluid Imbalances	Severe and recurring disturbances in sodium levels (too high or too low) and water balance. - **Induced** by administering excessive amounts of **salt** (hypernatremia) or **water/diuretics** (hyponatremia/dehydration)	These severe electrolyte imbalances are a major cause of morbidity and mortality, often mimicking primary renal or endocrine disorders
Hypercalcemia/Hypocalcemia.	Unexplained high or low calcium levels. - **Induced** through the administration of high doses of **Vitamin D analogs** or **calcium supplements/chelators**	Can lead to serious complications including renal failure (hypercalcemia) or tetany/seizures (hypocalcemia)
Growth Hormone Deficiency (Feigned).	Child presents with poor growth velocity and short stature. - **Feigned** by providing false height/weight measurements or by tampering with growth hormone stimulation tests	Leads to unnecessary, costly, and sometimes painful diagnostic procedures, including growth hormone stimulation tests and expensive hormone treatment
Adrenal Insufficiency/Cushing's Syndrome.	Symptoms related to abnormal cortisol levels (e.g., unexplained	The use of high-dose steroids to induce Cushingoid features is a

weakness, fatigue, hyperpigmentation, or conversely, weight gain and moon facies). - **Induced** by concealed administration of high-dose **corticosteroids** (Cushingoid features) or, less commonly, by administering drugs that suppress the adrenal axis	documented form of MBPS, resulting in severe systemic side effects

Table 5 - Endocrinological symptoms in MBPS [60 – 64]

1.6.5 Fabricated Bleedings

Fabricated bleedings were seen in a case of a 12 year-old girl and in a 7 year-old child with MBPS. The first one presented Vaginal bleeding (menorrhagia) described by the family as non responsive to the standard treatment despite reassuring clinical examinations, The second one presented anogenital bleeding. The child had a very complex medical history, with many extensive laboratory testing, imaging studies, and diagnostic procedures that were negative for any etiology. [65,66] [Table 6]

Type of Bleeding	*Description and Method of Induction/Simulation*	*Clinical Significance in MBPS*
Vaginal Bleeding (Menorrhagia).	Episodes of genital or vaginal bleeding, often reported as heavy or non-responsive to standard therapy, despite reassuring examinations. - **Feigned:** Exaggerated or false reporting of the bleeding amount. - **Induced:** Direct application of blood to the genital area (blood drawn	Leads to invasive gynecological workups, coagulation studies, and unnecessary hormonal treatments. Genital bleeding in a pre-pubertal child is a strong **red flag** for abuse

	from elsewhere) or inflicted trauma to the mucosa (rare)	
Anogenital/Rectal Bleeding.	Presence of blood around the anus or in the rectal/perianal area. - **Feigned:** Contamination of undergarments or diapers with exogenous blood. - **Induced:** Perianal or rectal trauma inflicted by the caregiver with sharp or irritating objects	Often prompts suspicion of Inflammatory Bowel Disease (IBD), anal fissures, or, in the context of MBPS, physical abuse
Hematemesis / Melena (Gastrointestinal)	Vomiting blood or black (melena) / bright red (hematochezia) stools. - **Induced:** Covert administration of **anticoagulants** (e.g., Warfarin) or irritant substances - **Feigned:** Adding blood (often concealed) to vomitus or stool samples before presentation	A very common GI symptom. Persistence despite normal coagulation parameters is a key sign of suspicion.
Hematuria (Blood in Urine)	Presence of blood (visible or microscopic) in the urine. - **Feigned:** Contamination of the urine sample with external blood (the most common method) - **Induced:** Administration of substances that damage the kidneys or urinary tract, or anticoagulants	Results in extensive nephrological and urological investigations, including cystoscopy, before sample manipulation is suspected
Epistaxis (Nosebleeds) or Excessive Bleeding from Minor Trauma	Repeated, unexplained nosebleeds or prolonged,	Often triggers expensive and comprehensive

excessive bleeding from trivial cuts or venipuncture sites. - **Feigned:** False reporting of severity or duration. - **Induced:** Deliberate physical trauma, or administration of **anticoagulants**	evaluations for inherited **coagulation disorders** (e.g., hemophilia, von Willebrand disease), which typically return normal results

Table 6 - Fabricated bleedings in MBPS [65 – 69]

1.6.6 Dermatological symptoms

Fabricated dermatological symptoms were also very variable in MBPS. In a case described by Jay D Fisher**,** a six years old boy was led to the department by his mother with concerns that her son had a skin and scalp infestation and, despite the absence of any clinical findings being found on exam, the mother was disproportionately concerned. The mother returned to the ED with her child,three weeks later, concerned that her son had an inflamed scalp and eyes. The mother insisted that the child was infested with bugs and she had sought care at two other locations where the child was prescribed permethrin on both visits. She had been applying the medication repeatedly. On exam the boy's scalp had been shaved and was erythematous and irritated; his eyebrows and eyelashes had also been shaved off and likely contributed to an irritant conjunctivitis from repeated applications of topical permethrin lotion. No evidence of infestation was identified. The child was removed from the mother's custody and placed into the custody of the grandparents. Six weeks later with basic skin care and erythromycin ophthalmic ointment for the eyes, the child's hair, eyebrows and eyelashes had grown back, and the scalp irritation had resolved. Delusional parasitosis by proxy was diagnosed and the mother received psychiatric care. [70] In another case described by Chandra S Sirka in a 15-month-old girl, the dermatological examination revealed blisters and healed leaf-shaped scars of different sizes which were suggestive of scalds. Smell of different varieties of oils, dribbling of hot oil

from body at various intervals, and mother being the first to notice appearance of new skin lesions in all past episodes lead to suspicion of cutaneous MBPS with mother being the culprit. [71] [Table 7]

Symptom Presentation	**Description and Method of Induction**	**Clinical Significance in MBPS**
Dermatitis / Skin Irritation	Erythema (redness), scaling, and irritation, often refractory to treatment. - **Induced:** Repeated application of **irritating topical medications** (e.g., Permethrin lotion, as in the case provided, caustic chemicals, or excessive friction/scrubbing	Mimics contact dermatitis, eczema, or exaggerated treatment side effects. The removal of hair (shaved scalp, eyebrows, eyelashes) to "facilitate treatment" is a strong sign of intentional harm
Scalds and Burns	Blisters, erosions, and scars, often described as accidental, sometimes in unusual patterns or locations. - **Induced:** Direct application of **hot liquids or oils,** cigarettes, or hot objects to the skin	The lesions often show different stages of healing (chronic nature of abuse) and their appearance/location may be inconsistent with the reported mechanism of injury, prompting suspicion of non-accidental trauma
Chronic Non-Healing Wounds/Ulcers	Ulcerations that fail to heal or become persistently infected, despite appropriate care. - **Induced: Contamination** of the wound with foreign material (e.g., feces, dirt) or by reopening the wound deliberately	Leads to repeated hospitalizations, biopsies, and antibiotic use. Lack of healing when the child is separated from the caregiver is diagnostic
Rashes/Lesions of Undetermined Origin	Non-specific eruptions, petechiae, or peculiar skin	Often triggers expensive workups for rare

	markings. - **Induced:** Injection or application of **caustic agents** (e.g., cleaning products) or sharp objects (pinpricks)	autoimmune, vasculitic, or infectious disorders before abuse is considered
Delusional Parasitosis by Proxy (Feigned Infestation)	The caregiver insists the child is infested with insects or parasites, despite repeated negative clinical and laboratory findings. - **Feigned/Induced:** The caregiver may present **foreign debris or lint** as "bugs" or cause self-inflicted injuries due to aggressive "treatment"	This is a variant where the motive is to obtain medication and express pathological concern. The treatment itself (e.g., repeated Permethrin) often causes the actual symptoms (irritant dermatitis)
Abnormal Pigmentation.	Changes in skin color, such as jaundice (yellowing). - **Induced:** Application of substances like **Betadine** (povidone-iodine) to simulate jaundice	Mimics hepatic dysfunction or bile duct obstruction, leading to unnecessary liver function tests and imaging studies

Table 7 – Dermatological symptoms in MBPS[70 – 75]

1.6.7 – Immunological symptoms

Immune symptoms are present in a lot of cases in literature. Kuhne described for example a cSLE like syndrome in a 9-year-old male patient, with a history of multiple hospitalizations due to seizures with altered levels of consciousness. The mother reported malar rash, photosensitivity, alopecia, arthralgia, arterial hypertension, macroscopic hematuria, seizure and positive antinuclear antibodies. He was treated with intravenous methylprednisolone, prednisone and mycophenolate mofetil. At 8 years and 8 months, he was hospitalized again due to fever and visible hematuria. Laboratory tests at this time were unremarkable, including

negative results for antinuclear antibodies, anti-double stranded DNA, anticardiolipin, anti-Ro/SSA, anti-La/SSB, anti-RNP, and anti-Sm antibodies. Multiple urine cultures grew Enterococcus faecium, Acinetobacter species, Stenotrophomonas maltophilia, and Serratia marcescens, but without associated pyuria. One month later, at 8 years and 9 months, he was admitted to the emergency department presenting with high fever, headache, vomiting, sensitivity to light, sound sensitivity, and dizziness. Physical examination revealed agitation, confusion, unsteady gait, slurred speech, horizontal nystagmus, facial expressions indicating pain, rapid heartbeat, and weight loss. Brain magnetic resonance angiography and cerebrospinal fluid analysis yielded normal results. During this hospitalization, he experienced an episode of nosebleed and ear pain, along with excoriation in the auditory canal. The suspicion of might be neuropsychiatric systemic lupus erythematosus (cSLE) mimicking his previous presentation was considered, but phenytoin toxicity was confirmed, with a serum concentration of 45.4 mcg/mL (therapeutic range: 10-20 mcg/mL). Immediate separation of the mother and patient was carried out, and she was replaced by a different legal guardian. After one week, all neurological and other symptoms were completely resolved. Subsequently, the child was placed under the custody of his father following a court decision and was transferred to another state. [24] [Table 8]

Symptom presentation	***Description and Method of Induction***	***Clinical Significance in MBPS***
Recurrent/Persistent Fever	High, unexplained fever that is often refractory to standard antipyretics and investigation. - Induced: Injection of contaminated substances (e.g., bacteria, feces, water) into the body (IV	Fever is a key symptom of infection or systemic disease. Its recurrence leads to numerous diagnostic tests, broad-spectrum antibiotic use, and prolonged hospital stays, increasing iatrogenic risk

	lines, subcutaneous, urinary tract) - Feigned: Manipulation of thermometers (heating the tip, dipping in warm liquid)	
Systemic Lupus Erythematosus (SLE)-like Syndrome	Feigned or fabricated symptoms and signs mimicking Systemic Lupus Erythematosus (SLE) or **CNS Lupus** (cSLE). - **Feigned:** Reporting non-specific symptoms like malar rash, photosensitivity, alopecia, arthritis, and seizures (as in the case provided [72]). - **Simulated:** Manipulation of lab results (reporting positive ANA, anti-dsDNA, etc.)	The complexity of rheumatological disease makes it a perfect target. Negative antibody tests and the disappearance of symptoms upon separation are critical diagnostic clues
Recurrent/Atypical Infections (Sepsis)	Frequent, serious infections (e.g., urinary tract, sepsis, cellulitis), often involving **unusual pathogens** with low virulence (e.g., *Enterococcus faecium*, *Stenotrophomonas maltophilia*) and absent or minimal pyuria - **Induced:** Introduction of environmental or fecal bacteria into indwelling lines (IV catheters, ports), urine collection tubes, or open wounds	This is a highly dangerous form of MBPS that results in repeated use of broad-spectrum antibiotics, Central Venous Line (CVL) placement, and septic episodes, carrying a high risk of **morbidity and mortality**
Drug Toxicity.	Symptoms mimicking immunological/neurological disease caused by the	The resulting clinical picture (e.g., slurred speech, confusion,

	caregiver administering excessive doses of prescribed or non-prescribed medications. - **Induced:** Overdosing the child (e.g., **Phenytoin toxicity)** often masking the symptoms as an acute flare of the suspected disease (cSLE).	nystagmus from Phenytoin) appears like a severe disease complication. Drug levels above the therapeutic range confirm intentional poisoning
Allergic/Anaphylactic Reactions	Fabricated symptoms of severe allergic reactions (e.g., swelling, rash, respiratory distress). - **Feigned:** Exaggerated reporting of symptoms after exposure to normal food or medication. - **Induced:** Covert administration of **histamine or other substances** that cause visible reactions	Leads to unnecessary dietary restrictions, carrying an FTT risk, and potentially dangerous epinephrine administration

Table 8 – Immunological and infective symptoms in MBPS [24, 76 – 83]

Fabricated hematologic symptoms can also be seen as in the case described in a 7 year old girl wich presented acute intermittent porphyria, refractory seizures and red urine due to poisoning of chronic monocrotophos organophosphate. [Table 9] [Table 10]

Symptom	***Condition and Method of Induction***	***Description***	***Clinical Significance in MBPS***
Anemia	Unexplained or profound low red blood cell count/hemoglobin, often recurrent and resistant to	Leads to extensive investigation for blood loss, nutritional deficiencies, and sometimes	

	standard iron/nutritional therapy. - Induced: Phlebotomy (repeated, unauthorized blood drawing by the caregiver) or induced bleeding (e.g., GI bleeding from anticoagulants) - Feigned: Adding diluent (e.g., water) to blood samples before lab testing	unnecessary transfusions, putting the child at risk
Coagulopathy (Bleeding Disorders)	Symptoms suggesting a severe clotting defect, such as easy bruising, petechiae, or excessive bleeding from minor trauma. - **Induced:** Covert administration of **anticoagulant drugs** (e.g., Warfarin, Aspirin, or rodenticides containing anticoagulants)	This is a highly dangerous form of MBPS. A key diagnostic clue is the presence of an anticoagulant drug in the child's plasma despite a negative history, or an unusual pattern of abnormal clotting tests (e.g., prolonged Prothrombin Time (PT) while other factors are normal)
Thrombocytopenia (Low Platelets).	Unexplained or artificially low platelet count. - **Induced:** Rarely, through medication (like certain antibiotics) or direct contamination of blood samples to cause *in vitro* platelet clumping/destruction - **Feigned:** Reports of excessive bruising/petechiae to suggest Immune Thrombocytopenia (ITP)	Results in unnecessary bone marrow biopsies and immunosuppressive therapy (steroids, IVIg)

Leukocytosis / Leukopenia (White Blood Cell Abnormalities)	Abnormally high or low white blood cell counts. - **Induced (Leukocytosis):** Covert administration of **corticosteroids** (causes high WBCs) or injection of contaminated material (infection). - **Induced (Leukopenia):** Covert administration of **chemotherapeutic** or immunosuppressive agents	Misdiagnosis can lead to unnecessary treatment for rare cancers (leukemia) or severe immune deficiency
Polycythemia	Unexplained increase in red blood cell count/hemoglobin. - Induced: Rare; often by administering substances that affect red cell production or oxygen saturation levels	Leads to investigations for primary bone marrow disorders or chronic respiratory diseases

Table 9 – Hematological symptoms in MBPS [21, 47, 84 – 87]

System Affected / Symptoms	*Established Frequency*	*Mechanisms of Falsification / Induction*	*Differential Diagnoses*
Gastrointestinal (Diarrhea, Vomiting, Abdominal Pain)	20% - 25%	- Poisoning (e.g., laxatives), - starvation, - contamination of food / samples.	- Severe Food Allergy / Intolerance, - Malabsorption Syndromes, - Inflammatory Bowel Disease (IBD) - Functional Neurological Symptom Disorder (FNSD)
Neurological (Seizures, Lethargy, Weakness)	15% - 30%	- Falsified history, - drug induction (sedatives and others), - hypoxia (smothering).	- Epilepsy/Seizure Disorder, - Mitochondrial or Complex Genetic Disorders

Hemorrhagic Hematological (Bleeding, Anemia, Bruising)	40% - 44%	- Inflicted injury, - anticoagulants, - contamination of labs (blood/urine).	- Bleeding Disorders, - Severe Iron-Deficiency Anemia, - Vasculitis.
Respiratory (Apnea, Cyanosis, Persistent Cough)	15% - 27%	- Suffocation/Smothering, - manipulating monitoring equipment, - over-treating a minor cough.	- Sudden Infant Death Syndrome (SIDS), - Atypical Asthma, - Sleep Apnea.
Infectious (Recurrent Fevers, Sepsis, Skin Lesions)	8% - 10% for fevers; Dermatological symptoms are also common.	- Contaminating blood and wound sites (bacteria and feces), - manipulating the thermometer.	- Undiagnosed Immunodeficiency, - Fever of Unknown Origin (FUO), - Dermatitis Artefacta.
Endocrine / Metabolic (Hypoglycemia, Electrolyte Imbalances)	Low, but high-risk	- Administering Insulin or diabetic medications - diuretics (dehydration and imbalance).	- Metabolic Disorders, - Rare Endocrine Syndromes (as Pseudo-Bartter Syndrome).

Table 10 - summarizing table with the most frequent symptoms of MBPS [56, 88]

1.7 Diagnosis of FDIOA

An essential criterion in the DSM 5 for the diagnosis of FDIOA is identifying the deception, which is conscious, carefully planned, and well concealed. In MBPS, the falsification provides gains to the perpetrator, that can be monetary or related to fulfill psychological needs of solitude, attachment, family status or love. Usually the symptoms present in the child are not characteristic of known diseases or are incongruous with the physical examination and this confuses pediatricians and other clinicians and leads them to further investigations.

Dr. Donna Rosenberg of the University of Colorado Health Sciences Center in Denver enlights four main characteristics of MBPS:

- the child's illness is simulated and/or caused by caregiver;

- the child is frequently presented to the attention of clinicians for medical assessment and care resulting in multiple medical procedures (medical tests and treatments)
- the person responsible for the mistreatment denies knowing etiology of the child's illness
- Acute symptoms and signs usually stop when the child is separated from the perpetrator [89]

Other red flags of the pathology identified by Herbert A. Schreier e Judith A. Libow and by Teresa F. Parnell e Deborah O. Day are:

- a child suffering from multiple medical problems that do not respond to multiple treatment or which pathology evolution is unusual and inexplicable;
- a clinical picture incongruous in which the test results are discordant or absurd;
- a parent highly involved in the hospital environment for the child care which shows off his/her medical knowledge;
- a parent who seems to require permanent attention, who never leaves the hospital and the child's bedside;
- a parent who seems strangely calm when the medical problems are detected and who requires more procedures, even invasive ones and not necessary for the clinical case, who often requests transfer to other facilities for further investigations especially if the clinicians doesn't listen his or her demand;
- a parent who works in the medical field or shows a strong interest in this profession;
- the presence among the brothers and sisters of similar cases ended in the death of the patient;
- a parent who suffers from conditions similar to those of their child;
- a relationship between the parents that seems to be characterized by a detached emotional attitude, the other parent usually does not show up at the hospital and does not speak to the doctors;
- a parent who continuously talks about misfortunes that are affecting the family while their child is in hospital;

- a parent who is constantly seeking admiration or attention;
- the patient's condition inexplicably worsens when discharge is scheduled;
- the patient's condition improves significantly when the parent is removed from the hospital environment [10 - 14].

Identifying MBPS in a clinical setting is a challenge, as the deception might be hidden and not evident at first glance. The parent is usually very important for the anamnesis and the historical medical background of the child for clinicians, so often doctors trust them and don’t question the medical history provided by caregivers, who seem concerned and unlikely want to cause harm to the child. The difficulty in this case lies in differentiating between genuine and fabricated illness. In fact, the two can coexist, as people with FDIOA might exploit genuine illness of their victims. It’s not necessary, therefore, to exclude true illness to apply the diagnosis of MBPS. The strange clinical presentation of the victim leads to intensive and often invasive diagnostic work-up, which facilitates the manipulation by the perpetrator and feeds their psychological needs. Additionally, multiple hospitalizations come with their own risks, as they can cause complications such as resistant infections, which not only further harm the victim, but can further confuse the medical staff. The approach to any case of suspected abuse should be multidisciplinary. Firstly, a clinical history, with a chronological description of events, should be written and complete with information from family members and previous medical records. Secondly, if the victim is at risk of direct or iatrogenic harm, the situation should be reported to the appropriate authorities (eg Child Protective Services). Although confronting the perpetrator can sometimes deter further abuse, falsification due to FDIOA is unlikely to stop simply upon diagnosis and confrontation. Therefore, the child and perpetrator should be separated, and healthcare professionals should evaluate the persistence of signs and symptoms in the absence of the caregiver. Psychiatric support should be sought, both for the victim and the perpetrator. An option available to confirm abuse is Covert Video Surveillance (CVS). CVS could potentially be lifesaving and may elicit a

more open response from the abusers, leading them to confess and even try to rectify their behaviour. On the other hand CVS in hospitals raises very complex ethical, deontological and even legal issues, as most healthcare systems have a pathway for child protection that should not be deviated from. [19]

1.8 Differential diagnosis

The diagnosis of factitious disorder requires careful differentiation from other medical conditions, including other evident mental health disorders. Suspicion of possible mental or medical conditions indicative of factitious disorder by proxy should be considered when a hospitalized patient exhibits any of the following signs: an unusual presentation that does not align with known medical conditions or mental disorders; symptoms or behaviors that only occur during observation; tendencies toward pseudologia fantastica; abnormal conduct within the hospital setting, such as refusal to follow hospital rules or frequent disputes with healthcare providers; an unusual interest in medical terminology and hospital procedures; covert use of substances; evidence of multiple treatments, such as numerous surgeries or repeated courses of electroconvulsive therapy; a history of extensive travel; limited or no visits during hospitalization; a fluctuating clinical course; and a rapid onset of complications or new illnesses despite negative initial investigations. In contrast, somatoform disorders involve physical complaints that are not fully explained by medical conditions, but unlike factitious disorder, these symptoms are not intentionally fabricated. Simulation involves the intentional production of symptoms motivated by external incentives, such as financial gain, avoiding law enforcement, or securing shelter. In contrast, factitious disorder is characterized by the presentation of symptoms without any external rewards or obvious external motives. Individuals engaging in simulation may fabricate symptoms to gain hospitalization or other benefits, and these symptoms often cease once they are no longer advantageous. [3]

Conditions that may mimic Munchausen syndrome by proxy and which must be considered in the differential diagnosis:

- **Deception to avoid legal liability.** Caregivers who fabricate or exaggerate injuries in dependents solely to shield themselves from legal repercussions are not classified as having factitious disorder imposed on another. This is because their motivation stems from external incentives, such as avoiding liability, which are evident even without overt external rewards (Criterion C). Conversely, caregivers who, upon assessment—including review of medical records, interviews, and observation—are found to lie beyond what is necessary for immediate self-protection may be diagnosed with factitious disorder imposed on another.[4]
- **Somatic symptom and related disorders.** In conditions like somatic symptom disorder and care-seeking anxiety disorders, individuals may display disproportionate concern and frequent pursuit of medical attention for perceived health issues. However, there is no indication that they are intentionally providing false information or engaging in deception. [4]
- **Malingering.** Malingering involves deliberate fabrication or exaggeration of symptoms motivated by external gains, such as financial compensation or time off work. Unlike factitious disorder, where deception is not solely driven by external rewards, malingering is characterized by overt motives for personal benefit. Nonetheless, both conditions can coexist in a single individual, with motivations that may change over time depending on the context.[4]

- **Functional neurological symptom disorder (conversion disorder).** Functional neurological symptom disorder is characterized by neurological symptoms that are inconsistent with neurological pathophysiology. Factitious disorder with neurological symptoms is distinguished from functional neurological symptom disorder by evidence of deceptive falsification of symptoms.[4]

- **Borderline personality disorder.** Individuals with borderline personality disorder might deliberately harm themselves physically without suicidal intent. However, for a diagnosis of factitious disorder, the injury must be intentionally induced with deceptive intent.[4]
- **Medical condition or mental disorder not associated with intentional symptom falsification.** Symptoms that do not align with recognized medical or psychiatric conditions may raise suspicion for factitious disorder. It is important to note that the presence of factitious disorder does not rule out the coexistence of genuine medical or mental health issues. For instance, a person manipulating blood sugar levels to mimic symptoms of diabetes may also genuinely have diabetes.[4]

1.9 The treatment of FDIOA

1.9.1 The treatment for the perpetrator

Understanding the psychopathology of individuals who perpetrate Munchausen by Proxy (MBPS) is crucial when addressing the needs of affected families. MBPS share similarities with conditions such as addictions, eating disorders, impulse control issues, and pedophilia, primarily due to their persistent nature and deliberate concealment of the problematic behavior, which can also constitute criminal acts against others. These disorders involve ongoing, long-term challenges related to illness perception and personal identity, often presenting with unexpected or unexplained symptoms. Frequently, individuals do not receive a clear psychiatric diagnosis. Many with MBPS can appear superficially "normal" or even superior during interviews, and they often deny any involvement in abuse.

Before devising a treatment plan, clinicians should assess for common co-occurring conditions. Most MBPS abusers are also found to have personality disorders (Ayoub, 2010; Bass & Jones, 2011; Bools, Neale & Meadow, 1994) or Somatic Symptom Disorders, including Factitious

Disorder Imposed on Self (Ayoub, 2010; Bass & Jones, 2011; Bools et al., 1994). They may also have engaged in other criminal behaviors (Bass & Jones, 2011; Bools et al., 1994). Many exhibit insecure attachment styles (Adshead & Bluglass, 2005), unresolved trauma or loss, PTSD (Adshead & Bluglass, 2005; Ayoub, 2010; Grey & Bentovim, 1996), and a history of childhood abuse (Bass & Jones, 2011; Grey & Bentovim, 1996). A small number acknowledge their abusive actions (Ayoub, 2010). These individuals often display impaired coping mechanisms and low self-esteem but seek validation, admiration from healthcare professionals, and sometimes try to outdo the medical staff. They are capable of denying or repressing awareness of their abusive behaviors, sometimes recalling past episodes where they gained attention through illness or medical issues (Adshead & Bluglass, 2005). Effective therapy should focus on encouraging the perpetrator to accept responsibility for their abusive actions. Psychological interventions such as narrative therapy, trauma-focused cognitive-behavioral therapy, dialectical behavior therapy, and family therapy can be beneficial. These approaches aim to develop a comprehensive care plan for the child, involve parents actively in the treatment process, and enhance the family's overall well-being. Special attention should be given to siblings and the father of the victim, as they may have been neglected or affected during the abuse. Fathers may require individual therapy to process their emotions and feelings of guilt related to their lack of awareness. When couples or families are involved, couples therapy or marital counseling are also vital, especially if domestic violence or marital conflict is present, with the goal of co-parenting. In cases where reunification occurs or separation does not happen, there is an increased risk of re-abuse and higher lethality, particularly with younger children. Diagnosing MBPS involves ruling out other psychiatric conditions like psychosis or delusional disorders, as deception in factitious disorders is typically deliberate and well-planned. Nonetheless, many perpetrators have other psychiatric diagnoses that need targeted treatment—such as depression or anxiety, which may require antidepressants or anxiolytics for symptom relief. Substance abuse,

including alcohol and drugs, is also common, necessitating pharmacological interventions to support abstinence. Co-occurring psychiatric conditions like Factitious Disorder Imposed on Self, conversion disorder, or personality disorders should be addressed through psychotherapy. Some perpetrators may have experienced childhood trauma and attachment issues, which psychotherapy should aim to resolve.

Emerging research suggests that therapies involving substances like MDMA and oxytocin could be promising for trauma survivors, although there is limited evidence regarding their use specifically in individuals with MBPS or those engaged in MBPS behaviors. [90] [Table 11]

ACCEPTS treatment model acronym

Effective treatment for individuals who have harmed a child typically focuses on several key areas:

- **Acknowledgement (AC):** The primary goal is for the individual to **accept responsibility** for their past harmful behaviors, whether intentional or not. This means detailing their maladaptive actions and truly understanding how they endangered the child. This crucial step empowers both the abuser and their partner to realize they can control and change their actions. For those under criminal investigation, confidential therapy can be invaluable in facilitating this acknowledgment.
- **Coping (C):** A secondary aim is to help the individual **develop a broader range of healthy coping strategies** for managing their emotions, recognizing that abusive behavior is no longer an acceptable option neither for themselves, nor for their victims
- **Empathy (E):** The third component involves fostering **empathy for the child victim(s)**. This requires the abuser and their partner to have an appropriate emotional response to the child's suffering (or potential suffering) caused by the abuser's actions. It also extends to empathy for harm resulting from a partner's failure to protect the child.
- **Parenting (P):** Developing **appropriate parenting skills** is vital, with a strong emphasis on always putting the child's needs before their own.
- **Taking Charge (T):** Many abusers report feeling powerless, sometimes gaining indirect control by focusing on a child's illness or disability to get attention from health professionals. This therapeutic goal helps them **recognize and appropriately use their own power**. Partners may also experience similar feelings of disempowerment.

- **Support (S):** Because abusive behaviors can persist, a crucial element of successful treatment, similar to managing other compulsive disorders, is a **robust support and monitoring system**. This includes ongoing oversight from supportive family members, child protective services, and/or health professionals. Long-term monitoring of appropriate coping and parenting skills is essential for any move towards reunification (Ayoub, 2006; Parnell & Day, 1998).

Table 11 - psychotherapy treatment model ACCEPTS for MBPS [90]

1.9.2 The treatment for the victim

The victim's treatment plan for MBPS—is a dynamic, phased, and trauma-informed process. Recent literature emphasizes the multi-disciplinary team approach and the importance of addressing trauma, attachment disruption, and the internalized "sick role" identity.

The treatment for the victim is structured into three main phases: safety and medical stabilization, trauma-focused intervention, and long-term recovery support.

1. Phase I: Safety and Medical Stabilization (Acute Stage): The immediate, non-negotiable priority is the removal of the victim from the perpetrator and the establishment of an accurate medical baseline.

A. Immediate Protection and Forensic Investigation:

- Mandatory Separation: The victim must be removed from the direct care of the suspected perpetrator (usually via child protective services (CPS) and court order). This eliminates the risk of ongoing physical harm or induced illness, which has a significant fatality rate.
- Medical Detoxification & Re-Evaluation: The child is often admitted to a safe hospital unit. This period serves two critical purposes:
  - Treating Real Harm: Addressing any genuine, resulting medical issues
  - Establishing Baseline Health: Observing the child in a controlled environment, often with covert

video surveillance (CVS) when ethically and legally permissible, to document the cessation of symptoms when the perpetrator is absent. This confirms the diagnosis of abuse and guides the termination of unnecessary procedures or medications.

B. Diagnostic Clarity and Psychoeducation
    - Accurate Diagnosis: Ruling out organic disease, genetic conditions, and other mental health conditions is vital.

2. Phase II: Trauma-Focused Psychotherapy: The psychological treatment addresses the long-term impact of complex trauma, betrayal, and the disruption of the parent-child bond.

A. Trauma Processing and Stabilization: MBPS is a form of interpersonal trauma where the source of harm is also the source of presumed safety (the caregiver):
    - Trauma-Focused Cognitive Behavioral Therapy (TF-CBT): This remains the evidence-based core treatment for children and adolescents exposed to complex trauma. It focuses on developing coping skills, gradually exposing the victim to trauma memories (narratives), and correcting distorted self-blame cognitions.
    - Eye Movement Desensitization and Reprocessing (EMDR): May be used to help process and desensitize the distress linked to specific frightening medical events or procedures induced by the abuser.

B. Healing Attachment Injuries:
    - Attachment-Based Psychotherapy: Since the victim's primary attachment was corrupted by deceit and harm, therapy must rebuild trust and security, usually within the context of the new, safe placement (foster care or non-abusing

parent). This focuses on dyadic work to foster a secure, reliable bond with the new caregiver.

C. Decoupling Identity from Illness: A major psychological goal is to dismantle the “sick role” identity internalized by the victim.

- Normalization and Validation: The therapist helps the child understand that they were abused, not sick. This is critical to prevent the victim from developing Factitious Disorder Imposed on Self (FDIS) or severe Somatic Symptom Disorder in later life—a noted long-term risk. Interventions are designed to reinforce healthy, age-appropriate functioning, focus on developmental milestones, and empower the child with activities unrelated to medical care.

3. Phase III: Recovery is a family-wide, system-wide endeavor.

A. Support for the Non-Abusing Parent/Caregiver:

- Psychoeducation and Coaching: The non-abusing parent (or new foster/adoptive parents) requires intensive support to understand the dynamics of MBPS and to learn how to respond non-medically to the child's somatic complaints. This prevents the continuation of "medicalizing" normal life issues.

B. Sibling Intervention:

- Comprehensive Assessment: All siblings must be comprehensively evaluated for both direct abuse and severe emotional neglect (due to the overwhelming focus on the victim).
- Intervention: Siblings often benefit from group or individual therapy to process the family chaos, betrayal, and their unique form of trauma.

C. Educational Reintegration:

- School Support: Many victims have significant gaps in education due to prolonged, unnecessary hospitalizations. The care team must work with the school system to create

a plan for reintegration and academic catch-up, focusing on developmental progress rather than illness. [91 – 99]

1.10 The Prognosis of MBPS

1.10.1 For the perpetrator

The prognosis depends on various factors. Generally, the outcome is positive when:

- The perpetrator possesses high insight into their disorder, and the abusive behavior is limited to a single episode.
- The perpetrator demonstrates emotional improvement and develops empathy for the child and their suffering.
- There is adequate social support for the perpetrator and their family.
- There is an absence of comorbidities, along with a willingness to prevent recurrence of the abusive behavior.
- The victim is temporarily removed from the home environment and placed in a foster home for protection.
- The victim has access to another caregiver who is non-abusive and capable of providing care.

Conversely, the prognosis tends to be negative when:

- The perpetrator lacks awareness of their disorder and has low insight.
- The perpetrator has a history of childhood abuse.
- The perpetrator presents with severe personality disorders as a comorbidity of FDIOA.
- The perpetrator is an active inducer who directly causes harm to the child.
- The victim is of a younger age. [19]

1.10.2 For the victim

The prognosis for a victim of MBPS is highly variable and depends on the duration and severity of the abuse, the extent of physical damage incurred, and, most critically, the quality and timing of subsequent therapeutic intervention. MBPS is categorized as a severe form of complex trauma and betrayal trauma, as the source of harm is the primary attachment figure.

Positive outcomes for the victim are strongly correlated with the success of the initial treatment phases (Phase I: Safety and Stabilization). The most crucial factor is the prompt and permanent removal of the child from the perpetrator's care, ideally upon the first suspicion of abuse. This immediately stops physical harm and prevents further unnecessary medical procedures. If the abuse was primarily fabrication (falsification of symptoms) rather than active induction (causing real harm through poisoning or injury), the chance for full physical recovery is excellent. Placement with a non-abusing parent, relative, or highly supported foster/adoptive family is essential. This new environment allows for the development of a secure attachment and fosters a sense of safety, which is a prerequisite for trauma processing. Access to evidence-based interventions like Trauma-Focused Cognitive Behavioral Therapy (TF-CBT) or Eye Movement Desensitization and Reprocessing (EMDR) is vital for processing the traumatic memories associated with medical procedures, betrayal, and the loss of the abusive caregiver.

When the abuse is chronic, severe, or intervention is delayed, victims face substantial long-term risks across medical, psychological, and relational domains. Psychological and Psychiatric Outcomes are the most common and enduring sequelae, rooted in the complex trauma of having one's reality systematically distorted by the person meant to protect them. Given the chronic and interpersonal nature of the abuse, victims frequently develop Complex Post-Traumatic Stress Disorder CPTSD, characterized by severe emotional dysregulation, impaired self-perception (e.g., self-blame, worthlessness), and difficulties in relationships. The corruption of the primary caregiver relationship severely impairs the victim's ability to form healthy attachments later in life. This often manifests as pervasive

difficulty trusting authority figures, medical professionals, and intimate partners. Survivors have elevated rates of anxiety disorders, depression, and dissociative symptoms. The major long-term risk, directly addressed in the comprehensive treatment plan, is the internalization of the identity forced upon them by the perpetrator and develope FDIS somatic symptom disorder. The child may have learned that the only way to gain attention, connection, or care was through illness. As adults, a subset of victims is at risk for developing FDIS, where they perpetuate the "sick role" seeking personal gratification or somatic Symptom Disorder. Victims are prone to "medicalizing" normal emotional distress. Having been conditioned to express all needs and problems through physical symptoms, they may struggle to identify and regulate emotions, instead presenting with chronic physical complaints for which no organic cause can be found. A minority of victims suffer life-long physical consequences, including neurologic deficits (e.g., from induced suffocation/apnea), chronic pain, or organ damage caused by the perpetrator’s active induction of illness (e.g., poisoning) or by the unnecessary and invasive medical procedures (iatrogenic harm). Prolonged, unnecessary hospitalizations and the focus on illness often lead to significant gaps in education, socialization, and age-appropriate play, hindering developmental milestones and contributing to difficulties with academic and social integration (Phase III C). On the other way, others victims having been subjected to continuous medical intervention, harbor a profound distrust of and fear toward the healthcare system. This can lead to delaying or refusing necessary medical care later in life.[100 – 104]

Conclusion

Münchausen syndrome by proxy is a very dangerous pathology often underdiagnosed or misdiagnosed. The severe and often lethal consequences for the child are well-documented, yet intervention remains dangerously slow. In children, mortality is reported to be 6% or more. [105] As it can be seen by the study conducted by the university of

Palermo, the majority of doctors knows Münchausen Syndrome by proxy, however, when there is a strong suspicion of the syndrome, they mostly seek discussion with the parent or with another specialist instead of referring to the competent authorities. [106] This delay is catastrophic, allowing the abuse cycle to continue, risking the child life and well being. Our work directly addresses this critical failure point. Our aim is to provide clinicians with an updated, comprehensive, and action-oriented review that bridges the gap between theoretical knowledge and decisive clinical practice. We intend to merge the latest reports and emerging discoveries in the literature—particularly concerning diagnostic red flags, trauma-informed victim treatment, and perpetrator prognosis—with a synthesis of foundational past findings. This comprehensive approach will offer clinicians a single, deep, and complete reference work that reinforces the urgency, by consistently highlighting the immense damage potential and mortality rate of this condition; clarifies warning signs, providing an exhaustive list of suspicious physical and behavioral patterns to ensure early diagnosis and mandates Action, offering clear protocols for the immediate transition from suspicion to referral to competent authorities (e.g., Child Protective Services) to stop the abuse cycle immediately.

Given that family, friends, faith leaders, and healthcare professionals themselves are often adversely affected by the perpetrator's resource-draining behavior, our review serves to protect both the victim and the care community. All healthcare professionals must internalize the pathology’s true danger to ensure that suspicion leads rapidly to the implementation of measures that stop the perpetrator and facilitate comprehensive help for both the abuser and the child.

List of Abbreviation

MBPS: Münchhausen syndrome by proxy

DSM5 – TR: Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, Text Revision

FDIOA: Factitious disorder imposed on another

FDIS: Factitious disorder imposed on self
APSAC: American Professional Society on the Abuse of Children's
Tc-99m: Technetium-99m
TEF: tracheoesophageal fistula
FTT: failure to thrive
HP: Helicobacter pylori
BS: Blood Sugar
cSLE like syndrome: Cutaneous Lupus Erythematosus like syndrome
Ro/SSA: Anti-Sjögren Syndrome A
Anti-La/SSB: Anti-Sjögren Syndrome B
Anti-RNP: Anti-Ribonucleoprotein
Anti-Sm antibodies: Anti-Smith antibodies
CVS: Covert Video Surveillance

Declarations

Ethics approval and consent to participate

The study was approved by the Mother and Child Department of the University of Palermo (Palermo, Italy). All procedures performed in this review were in accordance with the ethical standards of the institutional and national research committee, and with the 1964 Helsinki declaration and its later amendments, or comparable ethical standards.

Consent for publication

Written informed consent for publication was obtained.

Availability of data and materials

The datasets used and analyzed during the current study are available from the corresponding author on reasonable request.

Competing interests

The authors declare that they have no competing interests.

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Authors' contributions

AG conceptualized the report, collected literature data and draft the first version of the manuscript. SG, AF and YC made the final revision of the manuscript. RN is the chief of the department and contributed in drafting the manuscript. All authors approved the final manuscript as submitted.

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Table legend

Table 1- Diagnostic criteria of FDIOA (DSM5 - TR)

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Table legend
Diagnostic criteria of FDIOA (Munchausen syndrome by proxy)

1. Falsification of physical or psychological signs or symptoms, or induction of injury or disease, in another, associated with identified deception. 2. The individual presents another individual (victims are generally children or elders or pets) to others as ill, impaired, or injured. 3. The deceptive behavior is evident even in the absence of obvious external rewards. 4. The behavior is not better explained by another mental disorder, such as delusional disorder or another psychotic disorder
The diagnosis is received by the perpetrator, not the victim of the abuse. It has to be specified if there is a single episode of abuse, or if there are recurrent episode (two or more events of falsification of illness and/or induction of injury) [4]

Table 1 – Diagnostic criteria of FDIOA (DSM5 - TR)

Procured Neurological symptoms	***Induction Mechanisms***	***Clinical Red Flags / Suspicious Features***
Seizures	- Asphyxia, - carotid sinus pressure, - incorrect medication dosing, - overdose or poisoning, - complete falsification of absent symptoms.	Prolonged, unexpected, or extraordinary seizures. Elaborate medical history provided by the same caregiver at each presentation. Signs and symptoms inappropriate and incongruous with typical seizure manifestations. Multiple medical evaluations that have been inconclusive or negative. Appropriate treatment that is ineffective or poorly tolerated. Family history of other siblings with similar chronic, relapsing seizures.
Ataxia (Gait Abnormalities)	- Toxicity from neurological medications	Positive serum medication levels when the medication is not prescribed.
Weakness or Paralysis	- Inappropriate administration of substances (e.g. ipecac)	Subjective complaints of weakness or paralysis with a normal neurological examination
Chronic Headaches	- Caregiver describing symptoms incongruous with the child's objective presentation and persistently demanding extensive evaluation or alternative / inappropriate medications.	Headaches may resolve by the time the child presents for medical care, or the child may not appear to be in pain as reported by the caregiver.
Visual Changes	- Inappropriate administration of many medications. Caregiver exaggerating the degree of visual impairment.	Nystagmus (toxic doses of many neurological medications or other drugs like diphenhydramine). Miosis (in organophosphate intoxication like

		Chlorpyrifos, along with urination, diarrhea, salivation, etc.).

Table 2 – Neurological symptoms in MBPS

Fabricated psychiatric symptoms	***Example description given by the caregiver***	***Risks of misdiagnosis***
Mood symptoms **Anxiety symptoms** **ADHD symptoms**	- Depressed mood, loss of interest, social isolation, emotional fragility, insicurity - apathy, - sleep disorders, - anxiety, - significant mood changes, - attention deficit, - hypochondriasis, - substance abuse	Major Depressive Disorder, Bipolar Disorder, ADHD, Generalized Anxiety Disorder.
Psychotic symptoms **Dissociative symptoms**	- Hallucinations (visual/auditory), - delusions, loss of lucidity, - confusional states. - Catatonia: Immobility/stupor, mutism, staring, rigidity, slurred speech.	Psychotic Disorder, Schizophrenia, Dissociative Identity Disorder, Primary Catatonia.
***Eating* disorders symptoms** ***Feeding Disorders* symptoms**	Symptoms mimicking: - Anorexia Nervosa (underfeeding/malnutrition), - Avoidant Restrictive Food Intake Disorder (ARFID), - specific deficiencies (Scurvy).	***Anorexia Nervosa,*** ***ARFID*** ***Failure to Thrive.***

Table 3 – Psychiatric symptoms in MPBS

Symptom/Manifestation	***Description and Method of Induction/Simulation***	***Clinical Significance in MBPS***
Vomiting	Frequent, unexplained, and often intractable (resistant to standard treatment).It can be: - **Feigned** (by exaggerating the report of episodes). - **Induced** (via concealed administration of **emetics** like **Ipecac syrup**, laxatives, or other drugs/substances)	One of the most common symptoms. Induction can lead to severe **electrolyte imbalances**, metabolic alkalosis, and even esophageal/dental damage
Diarrhea	Persistent, unexplained, often refractory to standard therapies. - **Induced** through the hidden administration of **laxatives, cathartics**, or **bowel medications**	Can be **simulated** by contaminating stool samples with foreign substances Can cause severe and potentially fatal **dehydration** and **fluid/electrolyte imbalances** (e.g., hypokalemia)
Gastrointestinal Bleeding	Presence of blood in vomit (**Hematemesis**) or stools	Bleeding is among the most frequent presentations,

	(**Hematochezia, Melena**), with no clear medical explanation. - **Induced** through direct mucosal injury (e.g., the retropharyngeal injuries in the case provided [54]), or administration of **anticoagulants** or irritants. **Simulated** by adding external blood (self or animal) to samples	potentially leading to **anemia** and **hemorrhagic shock**
Failure to Thrive (FTT) / Malnutrition.	Poor growth and low weight, sometimes associated with reported anorexia or food refusal. - **Induced** by **deliberate calorie restriction** or inadequate feeding	Often associated with induced GI symptoms (vomiting, diarrhea) that prevent nutritional absorption or increase losses
Swallowing Difficulties (Dysphagia)	Difficulty or pain upon swallowing. - Induced by physical trauma to the pharynx or esophagus	May lead to respiratory complications
Active Colitis/Intestinal Inflammation.	Possible consequence of introducing **irritant substances** or **infectious agents** to simulate an infection or Chronic Inflammatory Bowel Disease	Leads to invasive investigations (colonoscopies) and unnecessary treatments
Chronic Intestinal Pseudo-Obstruction (CIPO) or Dysmotility Symptoms suggestive of a bowel blockage **-**	Abdominal distension, pain, vomiting without a true mechanical obstruction. Can be simulated or induced by drugs that affect gut motility or by toxic substances	Patients may be subjected to Total Parenteral Nutrition (TPN), gastrostomies/jejunostomies, and multiple specialty consultations

Recurrent Infections/Sepsis	Unexplained fever, GI tract alterations, and recurrent sepsis (systemic infection) .- **Induced** by deliberately injecting **contaminated material** (fecal bacteria, urine, saliva) into Central Venous Lines (CVL) or the gastrointestinal tract	Recurrent infections are a severe cause of **morbidity** and **mortality** in MBPS patients

Table 4 - Gastroenterological symptoms in MSBP [54 – 59]

Symptom	***Condition Description and Method of Induction***	***Clinical Significance in MBPS***
Hypoglycemia (Low Blood Sugar).	Recurrent and unexplained episodes of low blood sugar, often severe, leading to seizures, coma,	This is a highly dangerous form of abuse, as severe hypoglycemia can result in irreversible

	or permanent neurological damage. - **Induced** by the concealed administration of high doses of **insulin** or **oral hypoglycemic agents** (e.g., sulfonylureas)	**brain injury** or **death**. The mother often insists on invasive testing or surgery (e.g., pancreatectomy)
"Diabetes Mellitus" Symptoms	Feigned symptoms of **Polyuria** (frequent urination), **Polydipsia** (excessive thirst), and **Weight Loss**, often with reported high Blood Sugar (BS) and high HbA1c (as in the case provided [61]). - **Simulated** by altering lab reports (e.g., changing BS and HbA1c values with a pen) - **Induced** by over-hydration to cause polyuria or by administering diuretics/laxatives to cause weight loss	Leads to the misdiagnosis and potential administration of unnecessary insulin or other diabetes treatment, causing iatrogenic harm. The alteration of lab results is a key sign of manipulation
Hypernatremia/Hyponatremia and Fluid Imbalances	Severe and recurring disturbances in sodium levels (too high or too low) and water balance. - **Induced** by administering excessive amounts of **salt** (hypernatremia) or **water/diuretics** (hyponatremia/dehydration)	These severe electrolyte imbalances are a major cause of morbidity and mortality, often mimicking primary renal or endocrine disorders
Hypercalcemia/Hypocalcemia.	Unexplained high or low calcium levels. - **Induced** through the administration of high doses of **Vitamin D**	Can lead to serious complications including renal failure (hypercalcemia) or tetany/seizures (hypocalcemia)

	analogs or **calcium supplements/chelators**	
Growth Hormone Deficiency (Feigned).	Child presents with poor growth velocity and short stature. - **Feigned** by providing false height/weight measurements or by tampering with growth hormone stimulation tests	Leads to unnecessary, costly, and sometimes painful diagnostic procedures, including growth hormone stimulation tests and expensive hormone treatment
Adrenal Insufficiency/Cushing's Syndrome.	Symptoms related to abnormal cortisol levels (e.g., unexplained weakness, fatigue, hyperpigmentation, or conversely, weight gain and moon facies). - **Induced** by concealed administration of high-dose **corticosteroids** (Cushingoid features) or, less commonly, by administering drugs that suppress the adrenal axis	The use of high-dose steroids to induce Cushingoid features is a documented form of MBPS, resulting in severe systemic side effects

Table 5 - Endocrinological symptoms in MBPS [60 – 64]

Type of Bleeding	*Description and Method of Induction/Simulation*	*Clinical Significance in MBPS*
Vaginal Bleeding (Menorrhagia).	Episodes of genital or vaginal bleeding, often reported as heavy or non-responsive to standard therapy, despite reassuring examinations. - **Feigned:** Exaggerated or false reporting of the bleeding amount. - **Induced:** Direct application of blood to the genital area (blood drawn from elsewhere) or inflicted trauma to the mucosa (rare)	Leads to invasive gynecological workups, coagulation studies, and unnecessary hormonal treatments. Genital bleeding in a pre-pubertal child is a strong **red flag** for abus
Anogenital/Rectal Bleeding.	Presence of blood around the anus or in the rectal/perianal area. - **Feigned:** Contamination of undergarments or diapers with exogenous blood. - **Induced:** Perianal or rectal trauma inflicted by the caregiver with sharp or irritating objects	Often prompts suspicion of Inflammatory Bowel Disease (IBD), anal fissures, or, in the context of MBPS, physical abuse

Hematemesis / Melena (Gastrointestinal)	Vomiting blood or black (melena) / bright red (hematochezia) stools. - **Induced:** Covert administration of **anticoagulants** (e.g., Warfarin) or irritant substances **- Feigned:** Adding blood (often concealed) to vomitus or stool samples before presentation	A very common GI symptom. Persistence despite normal coagulation parameters is a key sign of suspicion.
Hematuria (Blood in Urine)	Presence of blood (visible or microscopic) in the urine. - **Feigned:** Contamination of the urine sample with external blood (the most common method) - **Induced:** Administration of substances that damage the kidneys or urinary tract, or anticoagulants	Results in extensive nephrological and urological investigations, including cystoscopy, before sample manipulation is suspected
Epistaxis (Nosebleeds) or Excessive Bleeding from Minor Trauma	Repeated, unexplained nosebleeds or prolonged, excessive bleeding from trivial cuts or venipuncture sites. - **Feigned:** False reporting of severity or duration. - **Induced:** Deliberate physical trauma, or administration of **anticoagulants**	Often triggers expensive and comprehensive evaluations for inherited **coagulation disorders** (e.g., hemophilia, von Willebrand disease), which typically return normal results

Table 6 - Fabricated bleedings in MBPS [65 – 69]

Symptom Presentation	**Description and Method of Induction**	**Clinical Significance in MBPS**
Dermatitis / Skin Irritation	Erythema (redness), scaling, and irritation, often refractory to treatment. - **Induced:** Repeated application of **irritating topical medications** (e.g., Permethrin lotion, as in the case provided, caustic	Mimics contact dermatitis, eczema, or exaggerated treatment side effects. The removal of hair (shaved scalp, eyebrows, eyelashes) to "facilitate treatment" is a strong sign of intentional harm

	chemicals, or excessive friction/scrubbing	
Scalds and Burns	Blisters, erosions, and scars, often described as accidental, sometimes in unusual patterns or locations. - **Induced:** Direct application of **hot liquids or oils,** cigarettes, or hot objects to the skin	The lesions often show different stages of healing (chronic nature of abuse) and their appearance/location may be inconsistent with the reported mechanism of injury, prompting suspicion of non-accidental trauma
Chronic Non-Healing Wounds/Ulcers	Ulcerations that fail to heal or become persistently infected, despite appropriate care. - **Induced: Contamination** of the wound with foreign material (e.g., feces, dirt) or by reopening the wound deliberately	Leads to repeated hospitalizations, biopsies, and antibiotic use. Lack of healing when the child is separated from the caregiver is diagnostic
Rashes/Lesions of Undetermined Origin	Non-specific eruptions, petechiae, or peculiar skin markings. - **Induced:** Injection or application of **caustic agents** (e.g., cleaning products) or sharp objects (pinpricks)	Often triggers expensive workups for rare autoimmune, vasculitic, or infectious disorders before abuse is considered
Delusional Parasitosis by Proxy (Feigned Infestation)	The caregiver insists the child is infested with insects or parasites, despite repeated negative clinical and laboratory findings. - **Feigned/Induced:** The caregiver may present **foreign debris or lint** as "bugs" or cause self-inflicted injuries due to aggressive "treatment"	This is a variant where the motive is to obtain medication and express pathological concern. The treatment itself (e.g., repeated Permethrin) often causes the actual symptoms (irritant dermatitis)

Abnormal Pigmentation.	Changes in skin color, such as jaundice (yellowing). - **Induced:** Application of substances like **Betadine** (povidone-iodine) to simulate jaundice	Mimics hepatic dysfunction or bile duct obstruction, leading to unnecessary liver function tests and imaging studies

Table 7 – Dermatological symptoms in MBPS [70 – 75]

Symptom presentation	*Description and Method of Induction*	*Clinical Significance in MBPS*
Recurrent/Persistent Fever	High, unexplained fever that is often refractory to standard antipyretics and investigation. - Induced: Injection of contaminated substances (e.g., bacteria, feces, water) into the body (IV lines, subcutaneous, urinary tract) - Feigned: Manipulation of thermometers (heating the tip, dipping in warm liquid)	Fever is a key symptom of infection or systemic disease. Its recurrence leads to numerous diagnostic tests, broad-spectrum antibiotic use, and prolonged hospital stays, increasing iatrogenic risk
Systemic Lupus Erythematosus (SLE)-like Syndrome	Feigned or fabricated symptoms and signs mimicking Systemic Lupus Erythematosus (SLE) or **CNS Lupus** (cSLE). - **Feigned:** Reporting non-specific symptoms like malar rash, photosensitivity, alopecia, arthritis, and seizures (as in the case provided [72]). - **Simulated:** Manipulation of lab results (reporting positive ANA, anti-dsDNA, etc.)	The complexity of rheumatological disease makes it a perfect target. Negative antibody tests and the disappearance of symptoms upon separation are critical diagnostic clues
Recurrent/Atypical Infections (Sepsis)	Frequent, serious infections (e.g., urinary tract, sepsis, cellulitis), often involving **unusual pathogens** with low virulence (e.g., *Enterococcus faecium*, *Stenotrophomonas*	This is a highly dangerous form of MBPS that results in repeated use of broad-spectrum antibiotics, Central Venous Line (CVL) placement, and septic episodes, carrying a high risk of **morbidity and mortality**

	maltophilia) and absent or minimal pyuria - **Induced:** Introduction of environmental or fecal bacteria into indwelling lines (IV catheters, ports), urine collection tubes, or open wounds	
Drug Toxicity.	Symptoms mimicking immunological/neurological disease caused by the caregiver administering excessive doses of prescribed or non-prescribed medications. - **Induced:** Overdosing the child (e.g., **Phenytoin toxicity)** often masking the symptoms as an acute flare of the suspected disease (cSLE).	The resulting clinical picture (e.g., slurred speech, confusion, nystagmus from Phenytoin) appears like a severe disease complication. Drug levels above the therapeutic range confirm intentional poisoning
Allergic/Anaphylactic Reactions	Fabricated symptoms of severe allergic reactions (e.g., swelling, rash, respiratory distress). - **Feigned:** Exaggerated reporting of symptoms after exposure to normal food or medication. - **Induced:** Covert administration of **histamine or other substances** that cause visible reactions	Leads to unnecessary dietary restrictions, carrying an FTT risk, and potentially dangerous epinephrine administration

Table 8 – Immunological and infective symptoms in MBPS

Symptom	Condition Description and Method of Induction	Clinical Significance in MBPS
Anemia	Unexplained or profound low red blood cell count/hemoglobin, often recurrent and resistant to standard iron/nutritional therapy. - Induced: Phlebotomy (repeated, unauthorized blood drawing by the caregiver) or induced bleeding (e.g., GI bleeding from anticoagulants) - Feigned: Adding diluent (e.g., water) to blood samples before lab testing	Leads to extensive investigation for blood loss, nutritional deficiencies, and sometimes unnecessary transfusions, putting the child at risk
Coagulopathy (Bleeding Disorders)	Symptoms suggesting a severe clotting defect, such as easy bruising, petechiae,	This is a highly dangerous form of MBPS. A key diagnostic clue is the

	or excessive bleeding from minor trauma. - **Induced:** Covert administration of **anticoagulant drugs** (e.g., Warfarin, Aspirin, or rodenticides containing anticoagulants)	presence of an anticoagulant drug in the child's plasma despite a negative history, or an unusual pattern of abnormal clotting tests (e.g., prolonged Prothrombin Time (PT) while other factors are normal)
Thrombocytopenia (Low Platelets).	Unexplained or artificially low platelet count. - **Induced:** Rarely, through medication (like certain antibiotics) or direct contamination of blood samples to cause *in vitro* platelet clumping/destruction - **Feigned:** Reports of excessive bruising/petechiae to suggest Immune Thrombocytopenia (ITP)	Results in unnecessary bone marrow biopsies and immunosuppressive therapy (steroids, IVIg)
Leukocytosis / Leukopenia (White Blood Cell Abnormalities)	Abnormally high or low white blood cell counts. - **Induced (Leukocytosis):** Covert administration of **corticosteroids** (causes high WBCs) or injection of contaminated material (infection). - **Induced (Leukopenia):** Covert administration of **chemotherapeutic** or immunosuppressive agents	Misdiagnosis can lead to unnecessary treatment for rare cancers (leukemia) or severe immune deficiency
Polycythemia	Unexplained increase in red blood cell count/hemoglobin. -	Leads to investigations for primary bone marrow

	Induced: Rare; often by administering substances that affect red cell production or oxygen saturation levels	disorders or chronic respiratory diseases

Table 9 – Hematological symptoms in MBPS [84 – 87]

System Affected / Symptoms	*Established Frequency*	*Mechanisms of Falsification / Induction*	*Differential Diagnoses*

Gastrointestinal (Diarrhea, Vomiting, Abdominal Pain)	20% - 25%	- Poisoning (e.g., laxatives), - starvation, - contamination of food / samples.	- Severe Food Allergy / Intolerance, - Malabsorption Syndromes, - Inflammatory Bowel Disease (IBD) - Functional Neurological Symptom Disorder (FNSD)
Neurological (Seizures, Lethargy, Weakness)	15% - 30%	- Falsified history, - drug induction (sedatives and others), - hypoxia (smothering).	- Epilepsy/Seizure Disorder, - Mitochondrial or Complex Genetic Disorders
Hemorrhagic Hematological (Bleeding, Anemia, Bruising)	40% - 44%	- Inflicted injury, - anticoagulants, - contamination of labs (blood/urine).	- Bleeding Disorders, - Severe Iron-Deficiency - Anemia, - Vasculitis.
Respiratory (Apnea, Cyanosis, Persistent Cough)	15% - 27%	- Suffocation/Smothering, - manipulating monitoring equipment, - over-treating a minor cough.	- Sudden Infant Death Syndrome (SIDS), - Atypical Asthma, - Sleep Apnea.
Infectious (Recurrent Fevers, Sepsis, Skin Lesions)	8% - 10% for fevers; Dermatological symptoms are also common.	- Contaminating blood and wound sites (bacteria and feces), - manipulating the thermometer.	- Undiagnosed Immunodeficiency, - Fever of Unknown Origin (FUO), - Dermatitis Artefacta.
Endocrine / Metabolic (Hypoglycemia, Electrolyte Imbalances)	Low, but high-risk	- Administering Insulin or diabetic medications - diuretics (dehydration and imbalance).	- Metabolic Disorders, - Rare Endocrine Syndromes (as Pseudo-Bartter Syndrome).

Table 10 - summarizing table with the most frequent symptoms of MBPS [56, 88]

ACCEPTS treatment model acronym
Effective treatment for individuals who have harmed a child typically focuses on several key areas: ● Acknowledgement (AC): The primary goal is for the individual to **accept responsibility** for their past harmful behaviors, whether intentional or not. This means detailing their maladaptive actions and truly understanding how they endangered the child. This crucial step empowers both the abuser and their partner to realize they can control and change their actions. For those under criminal investigation, confidential therapy can be invaluable in facilitating this acknowledgment. ● **Coping (C):** A secondary aim is to help the individual **develop a broader range of healthy coping strategies** for managing their emotions, recognizing that abusive behavior is no longer an acceptable option neither for themselves, nor for their victims ● **Empathy (E)**: The third component involves fostering **empathy for the child victim(s)**. This requires the abuser and their partner to have an appropriate emotional response to the child's suffering (or potential suffering) caused by the abuser's actions. It also extends to empathy for harm resulting from a partner's failure to protect the child. ● **Parenting (P)**: Developing **appropriate parenting skills** is vital, with a strong emphasis on always putting the child's needs before their own. ● **Taking Charge (T**): Many abusers report feeling powerless, sometimes gaining indirect control by focusing on a child's illness or disability to get attention from health professionals. This therapeutic goal helps them **recognize and appropriately use their own power**. Partners may also experience similar feelings of disempowerment. ● **Support (S**): Because abusive behaviors can persist, a crucial element of successful treatment, similar to managing other compulsive disorders, is a **robust support and monitoring system**. This includes ongoing oversight from supportive family members, child protective services, and/or health professionals. Long-term monitoring of appropriate coping and parenting skills is essential for any move towards reunification (Ayoub, 2006; Parnell & Day, 1998).

Table 11 - psychotherapy treatment model ACCEPTS for MBPS [90]