
Hysteria around the World

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Abstract

In the 20th century the term hysteria declined and the interest in the hysteria-related diseases decreased in comparison to the florid period of studies that was inspired by Charcot's legacy in the second half of the 19th century. Scientific interest has once again increased in the 21st century, and dissociative and somatoform disorders (previously indicated as hysteria or hysterical neurosis) have come to be regarded as conditions that are known to be much more prevalent than formerly estimated. Available current epidemiological data from several countries on different continents (adopting DSM criteria for diagnosis) suggest not only that the prevalence is probably similar, but also that there is a consistency in their clinical manifestation around the world and across different cultures, social classes, and institutional settings. In line with this uniformity, and also with Charcot's concept of hysteria as a functional disorder, neuroimaging studies suggest that for some of these disorders, there might be some changes of neural connectivity in specific pathways at the origin of the behavioral aspects. Only large-scale multidisciplinary transcultural studies can improve the research and the development of therapeutic interventions for these disorders.

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Historical Notes

In the 19th century, the science of hysteria had its center of reference in Charcot's school in the Pitié-Salpêtrière clinic in Paris, which is no wonder as Jean-Martin Charcot (1825–1893) was the first to consider hysteria as a 'dynamic' state of mind more than a structural disease of the brain. Fifty percent of the women in the Victorian era were believed to have suffered from hysteria, and a majority of them carried a bottle of smelling salts in their handbag (in case they were overwhelmed by emotions). However, the diagnosis of hysteria was almost entirely discredited or forgotten in the early 20th century.

There were several reasons for the negative development of the scientific popularity of the hysterical disorders. The 'Nancy quarrel' (see Piechowski and Bogousslavsky [this vol., pp. 56–64]) gave discredit to Charcot's model of hysteria. In addition, malingering (also, at least partly, induced by medical suggestion) and the description of hysterical symptoms under the label 'Briquet's syndrome' or 'neurasthenia' became an alternative diagnosis. Furthermore, the interest in hyste-

ria seemed to succumb to the assumption of the absence of organic lesions and thus to the impossibility to accommodate its symptoms in known physiological and anatomical systems.

At the end of the 19th century, the young Jewish-German neurologist Hermann Oppenheim (1858–1919), after corresponding with Charcot and observing patients in the Charité Hospital in Berlin for many years, introduced new concepts that greatly challenged Charcot's point of view on hysteria. Oppenheim suggested that a psychic trauma was the direct cause of undetectable and untreatable brain lesions that would explain the neurologic-somatic symptoms of Charcot's patients (paralysis, sleep, and language disorders). Thus, despite some overlapping of symptoms, Oppenheim traced a clear-cut distinction between traumatic neurosis (a brain disease caused by trauma) and the vague concept of hysteria, as it could include simulation and other subjective mental states.

Charcot's assumptions were also challenged by some outstanding figures of 20th century British neurology, like John Hughlings Jackson (1835–1911) and Gordon Holmes (1876–1965), who both viewed hysteria as a consequence of dissolution of the highest level of function of the brain [1]. Some contemporary neurologists suggested that the 'Queen Square position' on some psychiatric diseases derived from the austerity of a Victorian moral stance hedged by tradition [2].

The discovery of neurosyphilis (also called 'the disease of the century' or 'dementia paralytica') as an 'arachnitis' or 'chronic meningitis' seemed to suggest an organic cause for all psychiatric diseases. This context probably deprived hysteria of the status of being a 'true mental disorder'. Furthermore, in the scientific world, the diagnosis of schizophrenia became trendier and more influential than that of hysteria due to the growing popularity of the Swiss psychiatrist Eugen Bleuler (1857–1939).

In England by the mid- to late 19th century, the concept of 'female' hysteria was still mainly

relegated to the millenary concept of sexual dysfunction. A typical treatment, particularly, for high social class English women was the massage of the patient's genitalia by the physician and, later, by vibrators to cause orgasms (defined at that time 'hysterical paroxysms'). At the beginning of the 19th century, especially in Britain, women's social emancipation pressures and socialist tendencies contributed to give a pejorative connotation to the term hysteria, and also because this condition might be interpreted as a stigma of national decline.

During the First and Second World Wars, the occurrence of hysterical symptoms or shell shock in soldiers in the setting of dramatic combat (see Tatu and Bogousslavsky [this vol., pp. 157–168]) was a great amplifier for the role of anxiety, fear, and trauma (as in Janet's model) in generating hysterical symptoms. It is noteworthy that dissociative or pseudoneurological symptoms (blindness and hemiparesis) appeared in male soldiers (the so-called phenomenon of the 'virile or male hysteria') without any history of psychiatric disease and with similar clinical characteristics across different cultures and countries. However, in Germany, around the time of the World War I, coincidentally with the 1916 'Jew count', Dr. Oppenheim's theory of trauma-related neurosis was associated with anti-German values, as German psychiatry attributed hysterical symptoms to treatable weak constitutional habits rather than to external traumas. In this wake, new therapeutic and violent procedures (chamber isolation, 'torpillage', electroshock, etc.) were used to treat hysterical soldiers. In the same spirit, Holmes [3] emphasized the way in which changes in mental state can provide clues to the existence of organic cerebral disease by suggestibility. By relating to shell-shock symptoms, he wrote: 'even normal persons are suggestible; any one can walk along a plank lying on firm ground, but may be unable to do so when it spans an abyss.' He imputed suggestion to be particularly important in clinical neurology: first, because it may be the origin of symptoms,

and second since it is the most effective agent in their removal [3].

However, as with hysterical symptoms, some differences were noted between the two wars because the diagnosis of hysteria decreased in parallel with the increase of anxiety and depression neurosis. The same tendency was documented in the general population in several studies in North America and Australia in the second half of the 20th century.

The theories of Pierre Janet (1859–1947) on the role of trauma and consciousness disintegration (i.e. ‘the doubling of the mind’ or the ‘splitting of consciousness’) were pivotal in bringing the hysterical disorders of the early 19th century to the modern perspective of dissociative disorders in the 21st century. The early theorizations of Josef Breuer (1842–1925), Sigmund Freud (1856–1939), and Carl-Gustav Jung (1875–1961) on hysteria were also strongly influenced by Janet who himself coined the terms ‘dissociation’ and ‘subconscious’.

Still in line with Janet’s theories on hysteria, the term of hysteria has been omitted from DSM-III (1980) in order to emphasize the role of trauma and dissociation.

Evolution around the World

Hysteria and hysterical neurosis correspond to the actual categories of *dissociative* and *somatoform* disorders. According to DSM-5 criteria, a significant burden or impairment is necessary for diagnosis. Dissociative disorders entail dissociation or interruption within the domains of consciousness, memory, identity, and perception. Somatoform disorders present with physical symptoms that do not have an organic cause, but mimic physical diseases or injuries. Dissociative and conversion disorders usually develop as a means to cope with childhood or adult trauma. Unexplained medical symptoms can also occur in patients who have an already established diagno-

sis of neurological diseases (such as multiple sclerosis or headache) [4]. For example, the association of nonepileptic psychogenic attacks with organic seizures is straightforward [5].

Tracing a map of these disorders around the world is a difficult task as their diagnosis is only clinical, uneasy, and often tardive. It is also difficult because they occur in both pediatric and adult populations in different settings and in association with other psychiatric, medical, and neurological disorders. Furthermore, the hysteric or histrionic trait (a personality type disorder) is a predisposing condition.

From the psychodynamic perspective, theories of personality disintegration due to trauma displaced the millenarian uterine theory stating that dissociative and somatoform disorders are a feminine trait related to sexual dysfunction. According to sociological or anthropological perspectives, cultural issues might change the way people with dissociative and somatoform disorders cope with trauma. Thus, these disorders might follow maps of social burden, disasters, and wars around the world. Within the neurological sciences, functional neuroimaging studies have provided evidence that changes in brain activity are systematically identifiable in both dissociative and conversion disorders [6, 7]. Hence, if structural, biochemical, neural, or connectivity changes are preponderantly at the origin of these diseases and manifest with stereotyped patterns of behavioral responses, the prevalence and the clinical consistency of dissociative and somatoform disorders might be similar around the world despite cultural and geographical differences.

Dissociative Disorders

Actually, in most European countries (e.g. UK, Finland, Sweden, Norway, Germany, Denmark, Switzerland, and Austria), the USA, Australia, and South Africa, there are several psychiatric centers that specialize on therapeutic interventions, training, and research in the domain of dissociative disorders. The International Society for

the Study of Trauma and Dissociation (ISSTD) organizes worldwide seminars and releases two certificates of competencies. The official journal of the ISSTD offers peer-reviewed scientific studies and articles covering research and therapeutic interventions. Despite criticism, DSM-5 supplies operative diagnostic definitions of dissociative disorders that allow uniformity of diagnosis around the world. However, the integration of the last DSM with the International Classification of Diseases (ICD) is lacking.

Structured diagnostic questionnaires are now available and strongly recommended for screening dissociative disorders. They include the Dissociative Experiences Scale [8], the Dissociative Disorders Interview Schedule [9], the Structured Clinical Interview for Dissociative Disorders [10], the Multidimensional Inventory of Dissociation [11], and the Diagnostic Drawing Series [12]. All of the epidemiological studies adopting these instruments have provided evidence that dissociative symptoms are much more frequent than formerly assumed, for example even far higher than schizophrenia. There is a comparable prevalence among different countries (England, Switzerland, Finland, Turkey, the Netherlands, Germany, Italy, USA, and China) [13–15], which corresponds to 1–4% in the general population and 10% or more within psychiatric settings. However, epidemiological studies employ different methodologies. It would also be important to know whether there is a difference in prevalence between single episodes versus persistent dissociative experiences and whether the risk is higher for specific professional or social categories and for both childhood and adulthood.

Dissociative patients report the highest frequencies of traumatic events (sexual, emotional, and physical abuse) and neglect during childhood [14]. The magnitude of the distress due to these disorders might vary according to culturally shaped views of dissociative experiences, selfhood, and past. For example, dissociative disorders might be more frequent in people who have a

background of immigration [16]. However, up to now, there has neither been sufficient data to indicate which ethnic or social categories are specifically at risk nor to identify which patients in the context of significant trauma are more prone to develop dissociative or somatic symptoms. Finally, the prevalence of these disorders and the clinical manifestations appear to be similar around the world. For example, they were present in 14% of the 25,018 respondents with posttraumatic stress disorder in 16 countries of the WHO World Mental Health Surveys without significant differences between high- and low-income countries [17]. The findings of a recent Swiss study [15] showed that dissociative disorders contribute to functional impairment above and beyond the impact of co-existing nondissociative psychiatric conditions.

Dissociative Fugue and Dissociative Amnesia

Dissociative fugue (formerly called psychogenic fugue) is characterized by sudden unplanned travel or wandering away from the usual surroundings. Generally, the condition may last for hours or days, but in some cases it can even be protracted for months or years. Sometimes the fugue state, generally precipitated by a stressful event, is accompanied by the establishment of a new identity. After recovery from fugue, previous memories usually return intact, but there is amnesia concerning all the events that occurred during the fugue episode. Differently from patients with amnesia due to neurological or other psychiatric disorders, patients with dissociative fugue have almost normal cognitive functioning and do not show a psychotic behavior.

Several psychiatry textbooks report a prevalence of 0.2%, although there have been no systematic surveys. Newspapers, novels, and TV episodes all around the world have documented hundreds of exceptional histories of people who vanished and then were found by chance in places far away from their point of origin, having adopted new identities and forgetting their previous life. One of the most famous and representative of

these histories is probably the case of the British novelist Agatha Christie.

On December 3, 1926, the writer disappeared from her house in Berkshire, leaving some contradictory notes. She abandoned her car near the Silent Pool Lake where one of her fictional characters had died. Fearing her suicide, the police dredged the lake and organized 15,000 volunteers and airplanes to explore the surroundings. A series of indices (left by Agatha Christie herself) led to her in a health spa in Harrogate, Yorkshire. She was there with a false identity and did not remember the previous 10 days. Before her disappearance, Agatha Christie suffered a psychological trauma, as she was confronted with her husband's infidelity and request for divorce. She never related back on this episode and she excluded it from her biography.

All of the cases of patients with dissociative fugue (either for short or for prolonged periods) are naturally unique. However, all those cases, around the world and across cultures, appear similar according to the psychodynamic mechanisms (trauma, fugue, amnesia) and remain just as mysterious as Agatha Christie's case. Actually, some cases might be factitious. In this context, it is noteworthy that during the wars of the last century, military doctors tried to use the category of the dissociative fugue to protect deserters from punishment.

Dissociative amnesia is a profound inability (temporary or persistent) to recall personal information (usually related to traumatic events) even for the simple identity. Dissociative amnesia affects both genders equally and typically occurs in the third and fourth decade of life [18]. Dissociative amnesia has a high occurrence in people involved in wars, natural accidents and disasters, kidnapping, torture, and concentration camps, as well as in people with a history of child or sexual abuse. In World War II, 35% of British soldiers returning from combat were amnesic [19].

The disorder is also common in cases of murder or attempted suicide [20]. Interestingly, the

indigenous Shona people of Zimbabwe adopt structured ceremonies (as marriages or social parades) with the aim to treat individuals with dissociative amnesia (specifically people who committed murder or other violence and who were amnesic of their acts) [21]. Case series of dissociative amnesia with similar clinical features have been reported in Italy [22], UK [23], USA [24], and Germany [25].

The vicinity of dissociative fugue and dissociative amnesia is exemplified by a concise case history given by Markowitsch et al. [26]. They reported the case of a 30-year-old male patient who was referred to the hospital due to his complaints of having lost his personal memory for his entire life span. The patient reported that he had left his home to phone, but instead collected a large amount of money from his bank account. However, he could not remember this detail. Instead, he remembered waking up next to a road without money and documents a few days later, and feeling disoriented and without memories of his personal past. He realized that he was abroad and in fact it could be verified that he had travelled from Germany to Czechoslovakia. From there he returned to Germany where he was brought to a hospital.

Similar single case reports of dissociative fugue and dissociative amnesia around the world suggest a common dysfunction, which probably, as indicated by findings of neuroimaging studies, consists of some inhibitive inputs in brain memory systems during retrieval of autobiographic information [27].

Dissociative Identity Disorder

Dissociative identity disorder (DID), formerly 'multiple personality disorder', describes the presence of two or more distinct identities or personalities that recurrently take control of the patient's behavior (one is generally dominant), inducing some memory loss during identity transfers.

DID probably has its onset in childhood, but has relevant clinical manifestations in the fourth

decade [13]. It affects preponderantly women and runs a chronic, waxing, and waning course. Apart from marked impairments in the sense of identity and self, an inability to recall personal information together with other dissociative symptoms are common. Childhood sexual abuse and trauma is nearly always the most important risk factor for DID [13, 28].

DID has been the object of popular books and movies (*The Three Faces of Eve*, *Sybil*, *Fight Club*, *Psycho*, *Dr. Jekyll and Mr. Hyde*, *The Number 23*), and even album songs (i.e. *The Lamb Lies Down on Broadway* by Genesis).

Although many cases have been published in most European countries before the 1980s (for review see [29]), DID was initially considered a North American ‘disorder’. In the 1990s, an enormous increase in the number of cases was reported in the USA [30] and it was the object of diffusion by media. At that time, in Europe (especially Britain) the skepticism about DID came to the point to suggest an iatrogenic etiology (i.e. induced by hypnosis or suggestion) or even a medical invention. Actually, some cultural factors might explain differences in prevalence rates. DID appears to be less frequent in India, Germany, Japan, and China than in USA, Canada, the Netherlands, Norway, and Turkey. In Switzerland, DID prevalence in psychiatric settings is particularly low and corresponds to 0.05–0.1% [31]. However, in the last decades, DID prevalence has increased. In psychiatric settings in North America, Europe, and Asia (overview in [32]), the median prevalence is 8% for outpatients and 10% for inpatients. This increase in DID prevalence is probably explained by the widespread use of dissociative questionnaires and more accurate questioning in interviews.

The dramatic and extreme experiences of the DID cases reported in the media and psychiatric literature probably represent less than 5–6% of patients with DID [33] as most patients with DID might have a covert and subtle presentation. The typical clinical presentation could be one of a re-

fractory psychiatric disorder, usually a mood disorder with multiple somatic symptoms. Patients have often received several psychiatric diagnoses over many years of treatment, such as bipolar disorder or depression, posttraumatic stress disorder, personality disorders, or anxiety disorders. Cases studies of murderers with DID have been published in the USA [34]. Suicidal behaviors were frequent for patients with DID in a Canadian study (72% attempted and 2% succeeded) [35]. A large and worldwide longitudinal study including 292 therapists supports the benefits of psychological therapy for DID [36].

‘Dissociative trance disorder’ or ‘possession trance’ might be a variant along a continuum of DID. These involve temporary episodes of perceived replacement of the usual identity by a new identity (as in case of exorcism or possession experiences), generally related to a supernatural entity (deity, spirit, power). Cultural phenomena of possession trance are ‘Latah’ (mature women, in Southeast Asia), ‘Bebainan’ in Bali, ‘Amok’ (adult men in Malaysia, India, Philippines, Polynesia, Land of Fire, the Caribbean, the Arctic, or Siberia), ‘Piblokto’ (women of the Arctic Inughuit societies), Zar (North Africa and Middle East), Tamazai (Tuareg), and Dybbuk (Jewish tradition). There are no precise data on the clinical aspects and the outcome of the exorcisms practiced in Catholic or other religious contexts.

Depersonalization Disorder

Depersonalization disorder is a condition of persistent or recurrent depersonalization that is the experience of detachment from oneself or from surroundings (the person may feel as though they are dreaming or acting as a robot) or of unreality (derealization). This circumstance does not allow the patient to stay focused in social or professional activities. An estimated 1–4% of the general population might meet the diagnostic criteria for this disorder [37]. It can be a recurrent or persistent condition. Although DSM does not suggest any primary symptom, the most frequent could

be some sensory misperception. A population-based German study found that symptoms of depersonalization were an independent predictor of vertigo and dizziness together with healthcare use [38]. Depersonalization symptoms can also manifest due to sleep deprivation. Lower scores in depersonalization scales were found in a sample of Columbian psychiatric patients compared to the UK and Spain, a finding suggestive of the protective role of collectivist versus individual cultures [39].

Ganser Syndrome

This syndrome, named after the German Psychiatrist Sigbert Ganser (1853–1931), consists of providing systematically false and improbable responses (giving only approximate answers, touching ‘nearby the point’) to questions (e.g. $1 + 1 = 3$; the horse has three hooves, etc.) and exhibiting other illogical behaviors (pseudodementia), often in association with conversion symptoms, clouding of consciousness, and pseudo-hallucinations [40]. The diagnostic criteria are vague, but the key clinical features are, apart from the approximate responses, the exhibition of dissociative symptoms and the exclusion of neurological diseases. The scientific literature consists of about 100 cases without evidence of a specific distribution of the disease around the world. However, as the original description of Ganser suggested, it is found to be more frequent in men in detention or judicial/forensic settings, but has also been described in juveniles and children [41]. Although some metabolic studies have been conducted on these patients [42], the link between the illogical flagrant conducts and neural changes is widely unknown.

Somatoform Disorders

The prevalence rates for symptoms, without medical explanations, is about 10% in the general population [43] and between 15 and 60% in primary care patients [44–46]. It is extremely difficult to trace a map of these disorders around the world

and across ethnicities, as few community-based studies are available. However, differences among countries and economic status do not seem to be substantial [47]. The prevalence of somatoform disorders varies from 1 to 6% in community-based studies (for a review see [48]). These disorders are more common than earlier assumed and represent a major burden in terms of expense for the general healthcare system. In Europe, in 2010, the estimated costs of caring for somatoform disorders were EUR 21.2 billion [49]. Hence, somatoform disorders can cause significant impairment, especially when they appear as a comorbidity with other psychiatric conditions [45]. In a recent German study, a high rate of suicidality was reported [50].

Psychogenic Nonepileptic Seizures or Nonepileptic Attacks Disorder

At the end of the 19th century, the Charcot school in France introduced the term ‘hystero-epilepsy’ to suggest a link between the two disorders, with hypersensitivity in the regions of the fallopian tubes being the most important triggering factor for hysterical attacks.

The psychogenic nonepileptic seizures (PNES) or nonepileptic attacks disorder current definition is the presence of discernible changes in behavior or consciousness that resemble epileptic seizures but do not produce electroencephalographic alterations. There are catatonic, major motor, minor motor, and subjective variants of PNES [51]. Minor motor activity is probably most frequent in children [52].

Video-EEG (with or without provocation procedures), demonstrating the absences of epileptiform discharges during the crisis, is the gold standard for PNES diagnosis. However, access to continuous EEG video monitoring is generally restricted to specialized epilepsy centers, for which the availability varies among different countries. Recently, an international consensus group of clinical researchers reported an exclusive clinical approach to diagnosis [53].

The link between PNES and drug-resistant epilepsies is straightforward. In epilepsy centers, PNES is diagnosed in 20–40% of patients referred for refractory seizures [5, 54]. At least 1 out of 5 patients with PNES has been admitted at least once in intensive care with the wrong diagnosis of epileptic status and submitted to tracheal intubation or heavy antiepileptic drug regimens.

Not surprisingly, in line with Charcot's definition of hystero-epilepsy, PNES and drug-resistant epilepsy often coexist in the same patient. Usually, PNES diagnosis is only evident at an average of 5–10 years after the first clinical manifestations [55].

Although PNES is a worldwide phenomenon, most of our knowledge derives from studies performed in the USA, Europe, and Australia. However, prevalence, age, sexual distribution (female/male = 7/3), association with depression and stress factors share similar features in Brazil [56], Southwest China [57], Lebanon [58], and India [59].

The estimated prevalence is about 2–33 cases per 100,000 population worldwide [5]. Thus, PNES is a disorder as prevalent as multiple sclerosis and trigeminal neuralgia. As for dissociative disorders, antecedent sexual trauma or abuses are determinant factors.

The 'ataques de nervio' in Puerto Ricans, 'kyole goeu' ('wind overload') in Cambodians, 'falling out' syndrome of Bahamians and Southern African-Americans are cultural variants of PNES, generally presenting after stressful life events. However, there are no sufficient epidemiological data to suggest that populations subjected to wars, terrorism, poverty, or migration have higher rates of conversion disorders. Nevertheless, in veterans, posttraumatic stress disorder appears to be the most important psychiatric comorbidity differentiating patients with PNES from patients with genuine epilepsy [60].

MRI and functional neuroimaging studies suggest that altered brain connectivity in neural networks involved both in premotor control and

emotional regulations could be the common dysfunctional final pathway of adult cases of PNES manifesting with motor features [61].

Functional (Pseudoneurological) Medically Unexplained Symptoms (Conversion Disorder)
Several studies have indicated that 'functional' weakness or psychogenic paralysis (one of the most common symptoms) is not so rare in clinical settings. The annual incidence is about 3–5/100,000 in the general population [62, 63]. The degree of functional impairment is surprisingly similar to organic paralysis [63]. The female proportion appears predominant only in the most recent studies and is not dependent on socioeconomic status [63]. Other pseudoneurological symptoms are hemisensory loss, blindness, tunnel vision, tremor of a limb or the whole body, functional dystonia, difficult coordination and gait, stuttering, anomia, loss of hearing or smell, and psychogenic dementia. With regard to cultural factors, relatively few variations are apparent around the world across ethnicities and social categories (for a review see [48]).

Patients with conversion disorders generally seem to lack concern about their impairments ('la belle indifférence') and they do not accept stress, anxiety, or depression as potential explanations for their symptoms [64]. Indeed, the best term to employ for patients to communicate diagnosis is probably functional disorders [64]. However, it is unknown whether the 'belle indifférence' and communicative aspects of diagnosis should substantially differ across different cultures. In a systematic study that has reviewed studies published since 1965, reporting rates of la 'belle indifférence' in patients with conversion symptoms and/or patients with organic disease, the available evidence did not support the use of these signs to discriminate between conversion symptoms and symptoms of organic disease. Due to the poor quality of the published studies (most of them lacked clear operational definitions and ratings), it has been suggested that the term 'la

belle indifférence' be abandoned as a clinical sign until both its definition and its utility have been clarified [65].

Trauma or an extreme degree of anxiety are always the psychic basis of these disorders. For the pseudoneurological paresis, several functional neuroimaging studies point to the role of the premotor, associative sensorimotor, and limbic areas in preventing (involuntarily) voluntary movements [66–68].

Somatization Disorder

Somatization disorders consist of chronic and recurrent somatic complaints, which cannot be explained by physical causes, or at least exceed what would be expected from a known physical problem. These complaints usually have a negative repercussion on social or occupational roles, and result in seeking medical attention repeatedly.

The spectrum of these physical symptoms often exceeds neurological borders. Complaints are subjective and heterogeneous (dizziness, tinnitus, sore throat and dry mouth, pharyngeal globus, 'pseudo' eustachian tube dysfunction, being 'unable to hear', 'acouphènes', catarrh and postnasal drip, atypical facial pain, burning mouth, chronic cough, fatigue, weakness, sleep difficulties, headache, muscle ache and joint pain, problems with memory, attention and concentration, irritability, nausea and other gastro-intestinal symptoms, palpitations, shortness of breath, noncardiac chest pain, fibromyalgia and other chronic pain syndromes, tension-type headache, chronic whiplash, failed back syndrome, sick building syndrome, multiple chemical hypersensitivity, and irritable bowel syndrome), and often difficult to localize and/or accommodate to specific and known neurological syndromes. Somatization disorders usually begin in adolescence or young adulthood. A study identified the family environment of these patients to be emotionally cold, distant, unsupportive, and with notions of abuse [69]. There is also evidence of a high rate of comorbidity of somatization disorders with both

anxiety and depression. The prevalence is very high: 0.2–2% in women and less than 0.2% in men in the general population.

Some cultural syndromes are noteworthy. In young Asian Indian males, the 'dhat' represents the fear of loss of seminal fluid during nocturnal emissions, or through urination, a situation experienced as harmful because it depletes the body of physical and mental energy. Feelings of being infested by ants or worms are common in Nigeria, which has adopted a specific questionnaire (the Enugu somatization scale) which has been specifically constructed to include somatic symptoms that could be disregarded by standard questionnaires designed for North American and European populations [70].

Body Dysmorphic Disorder (or Dysmorphophobia)

Body dysmorphic disorder (BDD) is a condition of important concern about imaginary or small physical anomalies, often with delusional symptoms. Patients present compulsive behaviors centered on the physical anomaly (mirror checking or avoiding, hiding the defect, comparisons with other people, seeking surgery, or other medical treatments). Common complaints of BDD patients concern hair, skin, lips, stomach, nose, eyes, chin, teeth, head shape, body build, entire face, breasts, and sexual organs.

According to a US telephone survey, the prevalence of BDD does not differ by gender (2.4% for men and 2.2% for women), exceeds the prevalence of schizophrenia and bipolar disorder type I, and equals that of generalized anxiety disorder [71]. The prevalence rate is 2–10% in patients requesting plastic surgery [72]. However, a clear epidemiology is not discernable since many patients may hide their body concerns; therefore, BDD is probably underdiagnosed. BDD is often associated with obsessive compulsive disorder, social phobia, major and atypical depression, generalized anxiety disorder, avoidant personality disorder, alexithymia, bulimia nervosa, sub-

stance abuse or dependence. There are significant suicidal tendencies in patients with BDD [73].

Conclusions

Dissociative and somatoform diseases (formerly included under the umbrella term of 'hysteria') probably represent the two faces of the same coin, displaying psychic and behavioral phenomena that have a high worldwide prevalence. The clinical presentation of these disorders might be particularly flagrant or, conversely, covert and subtle, and thus might be underdiagnosed. All of them manifest with some degree of dissociation among identity, memory, sensation, movement, and the physical body. Hence, some authors propose to include the somatoform diseases in the category of dissociative disorders. All dissociative and somatoform disorders are undoubtedly related to trauma, abuse, neglect, or to any kind of severe stressful events.

Though transcultural epidemiological studies are lacking, available data, with some minor exceptions, suggest similar rates of prevalence and a common semiology around the world.

There is now a growing body of functional neuroimaging studies suggesting that conversion disorders might be the consequence of the dynamic reorganization of neural circuits involved in processing volition, memory, movement, and perception. Therefore, these networks are thought to enhance self-recognition, autobiographical and retrograde memory, and the affective correlates of selfhood. Psychotraumatic experiences may lead to their disruption or defective integration, leading to dissociative behaviors as one of the extreme adaptive survival strategies for the human being. This may occur, for example, at the stage of preconscious motor planning or modality-specific attention. Unfortunately, most of these neuroimaging studies involved only small numbers of patients with different comorbidities and durations of symptoms. Hence, there is the need to perform larger transcultural studies with homogeneous groups of patients according to specific diagnosis and controlling for comorbidities such as anxiety or depression. A combination of new experimental paradigms and novel imaging techniques might increase our understanding of the neurobiological mechanisms of hysteria-associated disorders.

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