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REVIEW ARTICLE

Dissociative Identity Disorder Frequently Misdiagnosed

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SUMMARY

Introduction: Dissociative identity disorder (DID), also called multiple personality disorder, is described in ICD-10 as rare. Studies suggesting a prevalence of 0.5% in the general population and 5% in the psychiatric population, suggest that it must be considered as part of service provision. Since specific psychotherapeutic approaches now exist, early diagnosis is increasingly important. This article on state-of-the-art treatment aims to raise awareness of this condition.

Methods: Systematic literature review of relevant databases (Medline, Psycinfo, Psycindex) and the author's own research results. **Results:** DID is considered as a manifestation of childhood trauma resulting from severe abuse. Neurobiological findings support this posttraumatic model. The symptomatology is often hidden, masked by comorbidity and must be actively enquired after. Individual psychotherapy aims at integrating the various personality states. **Discussion:** Professional recognition of this syndrome is a prerequisite for more targeted and effective treatment.

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Key words: dissociative identity disorder (DID), multiple personality disorder (MPD), severe child abuse, neurobiological findings, long term psychotherapy

Posttraumatic disorders have attracted increasing interest in psychiatry and psychotherapy in recent years. Various clinical syndromes, such as borderline personality disorder, somatization disorder and dissociative identity disorder (DID), have been re-interpreted in the light of new findings in psychotraumatology. "Complex posttraumatic stress disorder" is now being postulated as a generalized diagnosis in order to appropriately categorize the consequences of severe childhood stress in the form of serious neglect and emotional, physical and sexual trauma (1). Although still at the research stage, the diagnosis is gaining acceptance in daily clinical practice, especially since it has valuable clinical implications. Patients thus diagnosed generally benefit well from trauma adapted therapy programs of the kind offered in a suitably modified form both by depth psychology and behavioural therapy practitioners (2).

Whereas borderline personality disorder and somatization disorder may now be regarded as well accepted diagnoses, this is not yet sufficiently the case for DID (3, e1). In the ICD-10, DID is described as a rare condition (4), although it occurs with a similar incidence to borderline personality disorder. Studies suggest a DID prevalence of 0.5% to 1% in the general population and 5% in hospitalized psychiatric populations (e2–e14; for a review and discussion of the study results see [5]). Women are much more commonly affected than men with a ratio of 9:1 (4). Although the condition is by no means rare, it is either missed or frequently misdiagnosed (6; e15–e19). Consequently, these patients do not receive appropriate psychotherapy or do not benefit from it as expected because the underlying DID is overlooked. Early diagnosis, however, can allow disorder-specific psychotherapy to be instituted and thereby favourably influence the course of the disease (6).

The purpose of this article is to review the current state of knowledge regarding DID and to raise awareness of this diagnosis both among general practitioners as well as psychiatrists and psychotherapists. The review is based both on the authors' clinical experience and the results of a systematic literature search in the most important medical and psychological literature databases (Medline, Psycinfo, Psycindex). The main standard works, review

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BOX 1

Dissociative identity disorder: diagnostic criteria (DSM-IV)

- a) The presence of two or more distinct identities or personality states (each with its own relatively enduring pattern of perceiving, relating to, and thinking about the environment and self).
- b) At least two of these identities or personality states recurrently take control of the person's behaviour.
- c) Inability to recall important personal information that is too extensive to be explained by ordinary forgetfulness.
- d) The disturbance is not due to the direct physiological effects of a substance (e.g., blackouts or chaotic behaviour during alcohol intoxication) or a general medical condition (e.g., complex partial seizures).

Note: In children, the symptoms are not attributable to imaginary playmates or other fantasy play.

BOX 2

Unspecific evidence of dissociative identity disorder

- Traumatic childhood experiences
- Failure of previous treatments
- Three or more previous diagnoses, especially as "atypical" disorders (depression, personality disorders, anxiety disorders, schizophrenia, adaptive disorders, substance abuse, somatization or eating disorders)
- Self-injurious behaviour
- Simultaneous presence of psychiatric and psychosomatic symptoms
- Marked variations and fluctuations in symptoms and functional level

articles and empirical studies have been selected under clinical aspects from the extensive literature.

Historical review

The problem of "split" or "multiple personality" was a topic much discussed by psychiatrists and philosophers in the years between 1840 to 1880. The French psychiatrist Pierre Janet (1859 to 1947) coined the term dissociation to denote disintegration and fragmentation of consciousness and described a diathesis-stress model that still remains valid today (7, 8). It was first included in the psychiatric manuals in 1980, in DSM III (9), and in 1991 also in the ICD-10 (4). The original term "multiple personality" has undergone several changes of name; most recently the term dissociative identity disorder (DID) has become established (10, e20).

Spectrum of dissociative symptoms and disorders

Dissociative disorders is the term applied to mental illnesses in which the normally integrative functions of consciousness are lastingly impaired. These integrative functions include

- memory
- perception of self and the environment and
- experience of identity.

All three functions of consciousness help to integrate lived experiences into an overall personal context. Examples of dissociative disorders are dissociative amnesias characterized

BOX 3

Diagnostic criteria for dissociative identity disorder (according to Dell 2001b, 2002)

Consistent pattern of dissociative functioning with the following symptoms:

A Dissociative symptoms of memory and perception (at least 4 out of 6)

- Memory problems, noticeable gaps in memory
- Depersonalization
- Derealization
- Flashback experiences (flashbacks of traumatic experiences)
- Somatoform dissociation (somatoform or pseudoneurological symptoms, dissociative movement or sensory disorders)
- States of trance

B Signs of the manifestation of partially split-off self-states (at least 6 out of 11)

- Hearing of childrens' voices (localised in the head)
- Internal dialogue or disputes
- Disparaging or threatening inner voices
- Partially dissociated speech (sometimes experienced as not belonging to oneself)
- Partially dissociated thoughts: implanted, intrusive thoughts, also thought withdrawal
- Partially dissociated emotions: feelings are experienced as imposed or implanted
- Partially dissociated behaviour: actions are experienced as not under one's own control
- Skills or abilities at times experienced as not one's own: sudden change in functional level: "forgetting", how to drive, use a computer etc.
- Distracting experiences of changed identity: feeling or behaving like a completely different person
- Uncertainty regarding one's own identity (due to repeated ego-dystonic thoughts, attitudes, behaviours, emotions, skills etc.)
- Presence of partially dissociated self-states: direct occurrence in the examination situation of the partially dissociated self-state which maintains that it is not the primary person being examined, with no subsequent amnesia of the primary person

C For objective and subjective manifestations of completely split-off self-states: (at least 2)

- Repeated amnesias for own behaviour:
 - Incomplete experience of time (loss of time, "coming to oneself", fugue episodes)
- Not recollectable behaviour:
 - Reports from others about one's own behaviour which one cannot remember
 - Finding things in one's possession which one cannot remember acquiring
 - Finding notes or records made by oneself that one cannot remember making
 - Evidence of recently performed actions one cannot remember
 - Discovering self-injuries or suicide attempts of which one has no recollection
- Presence of fully dissociated self-states: direct occurrence in the examination situation of the fully dissociated self-state which maintains that it is not the primary person being examined, with subsequent amnesia of the primary person

by functional memory impairment or depersonalization disorder in which the perception of self is disrupted (10). Dissociative symptoms, especially depersonalization in the sense of "standing outside one self, not feeling in contact with oneself" occur in many mental illnesses (e.g. in acute stress reactions, posttraumatic stress disorders, borderline personality disorders, anxiety disorders, depression). However, they may also have the severity of an independent disorder and possibly, especially in therapy refractory cases, suggest the presence of DID.

DID is considered the severest illness within the spectrum of dissociative disorders. It is characterized by consistently dissociative functioning in all three areas of consciousness, with impairment not only of memory and perception but also of identity experience. It leads to the clinical manifestation of different personality- or self-states which alternately assume control over the individual's experience and behaviour. The switch from one state to another is associated with amnesia (*box 1*).

Clinical Presentation

Dissociative functioning in the areas of memory, perception and self-experience manifest in the form of the following clinical abnormalities: extensive areas of the patient's own perception, memory and action are either not experienced at all in normal everyday consciousness or only partially and then "as if by a different person" (10, 11). People with DID behave and/or experience themselves as if there were several different persons inside them. Suffering arises from the sometimes considerable everyday amnesias resulting from the lack of control over one's own thinking, feeling, experience and action and the resulting impairment of social interactions. In the first clinical contact, however, it is frequently secondary or consecutive problems such as depression, anxiety, psychosomatic symptoms, self harm, eating disorders, addictive diseases or relationship disorders which present as "more tangible" impairments (11). Often the dissociative symptoms that are more remote from consciousness and are often shame-evoking are only revealed during the course of establishing a therapeutic relationship, thereby disclosing the presence of other personality states.

Characteristically, the following psychic configuration of personality states is seen: besides socially adapted "apparently normal personality states" (ANPs) which function in everyday situations and avoid traumatic memories, other, emotional personality states (EPs) exist which frequently carry within them traumatic affects and memories which can influence more or less continuously the acting, thinking and feeling of the ANPs or can assume control of the individual for minutes to hours, and sometimes even for longer (12). In most cases there is partial or complete amnesia for the presence or the actions of the other personality states. The degree of awareness of "the others" may, however, vary between individuals and can also change during the course of the illness. Especially at the start of treatment and particularly in the ANP state, almost complete amnesia, but also a shadowy or dreamlike perception or possibly a co-consciousness of the other states may be present.

Usually, eight to ten different personality states are present within one individual, although much more complex fragmentations with about 20 or more "persons" are also found in about 20% of the cases described (11). Symptoms often already occur in childhood, although in many cases DID only manifests in adulthood when the patient's lifestyle is established. Many of those affected are also capable of compensating the symptoms for a long time thereafter and finally fall ill as a result of external crises or due to exhaustion of their compensatory resources.

Diagnosis

Because of the often mild phenomenology and the usually high shame threshold, symptoms have to be actively enquired after, especially since most patients do not report them spontaneously (13). The features listed in *box 2* are regarded as unspecific diagnostic criteria. If the condition is suspected, a targeted diagnostic evaluation should be performed, if possible by a psychotherapist or psychiatrist familiar with the clinical syndrome.

Further diagnostic guidance is offered by Dell's catalogue of criteria (*box 3*) (14), which is currently under discussion for inclusion in DSM-V. Functional disorders in the areas of memory and perception manifest as the symptoms listed under criterion A. The manifestation of partially split-off self-states (criterion B) with the accompanying dissociation of

self-experience is expressed as permanent disruption of daily functions: patients experience, among other things, thinking, speaking, feeling, acting and hearing voices perceived as not belonging to themselves. These dissociated, ego-dystonic perceptions including hearing of voices are – in distinction to schizophrenia – of a pseudohallucinatory nature, in other words the patients are usually fully aware of their illusory perceptions. In the presence of completely split-off self-states (criterion C), recurrent evident signs are found of past behaviour which cannot be recollected. Those affected report experiencing sometimes very drastic gaps in memory, e. g., a recently sat examination, an entire vacation or the birth of one's own child is no longer remembered. They report hearing from their acquaintances descriptions of behaviours of which they personally have no recollection. Amnesias for impulsive behaviour such as eating binges, self-harm or suicide attempts may also point to the presence of dissociated self-states (box 3). If a pre-defined minimum number of A, B and C criteria are fulfilled, the full picture of DID is present. If fewer than two C criteria are present, the subform "Unspecified Dissociative Disorder" (UDD) would be diagnosed.

The catalogue of criteria presented by Dell (14) specifies the criteria so far abstractly described in DSM-IV and ICD-10 and provides the diagnostician with decision aids for

BOX 4

Test quality criteria of the diagnostic questionnaire for the recording of dissociative disorders

(Structured Clinical Interview for Dissociative Disorders; SCID-D or SCID-D-R; Steinberg; [17]) and the Multidimensional Inventory of Dissociation (MID; Dell; [18])

Both diagnostic instruments yield very good results:

Sensitivity_{SCID-D} = .99

Specificity_{SCID-D} = .99

Interrater reliability of the SCID-D: $K\chi = .96$

Sensitivity_{MID} = .90

Specificity_{MID} = .89

Internal consistency:

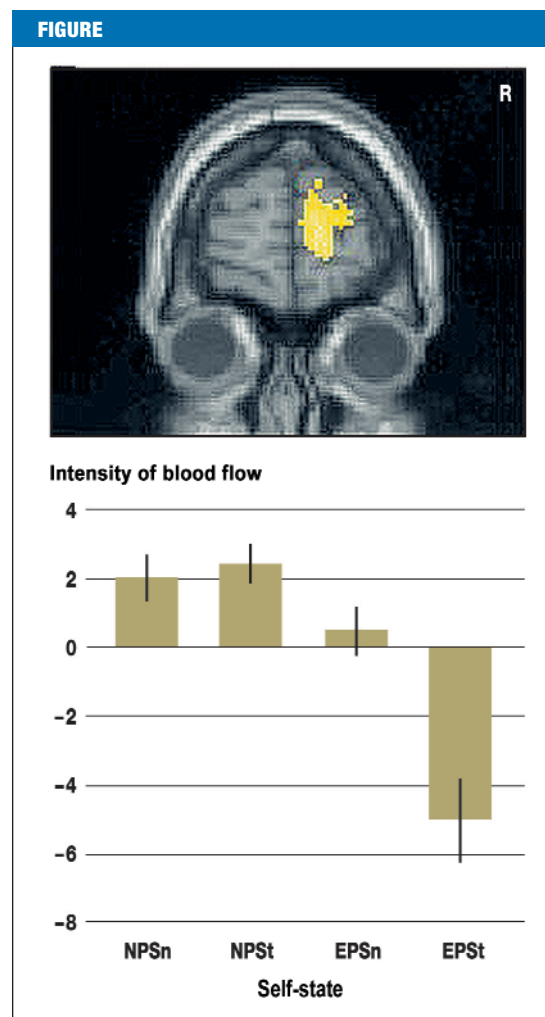
$\alpha_{\text{MID total}} = .99$

$\alpha_{\text{subscales}} = .74 - .96$

• see Final Report of German Research Association EM 18 / 16 – 2 and (19)

identifying split-off self-states. The previous lack of such criteria sparked a polarized debate in the USA in which the clinical syndrome DID was called into question as a diagnostic entity and was regarded as a phenomenon hypnotically induced by therapists. Certainly, iatrogenic identity fragmentations can be induced by the incorrect use of hypnosis or suggestive techniques (3). They are of a transient nature, however, and do not comply with the above catalogue of criteria (15).

Diagnosis can be further optimized by the use of standardized questionnaires. In Germany, the Dissociative Symptoms Questionnaire (Fragebogen für dissoziative Symptome, FDS; 16) is available as a screening instrument for the diagnosis of dissociative disorders. Instruments for the (differential) diagnosis of dissociative disorders were tested in a controlled study sponsored by the German Research Foundation (Deutsche Forschungsgemeinschaft, DFG) and conducted at Hannover University Medical School. These are the Structured Clinical Interview for Dissociative Disorders (SCID-D or SCID-D-R; Steinberg; [17]) and the Multidimensional Inventory of Dissociation (MID; Dell; [18]) (box 4). The study results confirm the catalogue of criteria listed in box 3. Shortened versions of these diagnostic instruments are now being prepared for use in clinical practice.



A PET study in eleven women with DID shows differing responses of two self-states of the brain, measured from the blood flow in the mediofrontal cortex. Consequently, a significant response of the right mediofrontal cortex to a tape recording of the traumatic memory (script, traumatic; St) can only be demonstrated in the self-state that remembers the trauma ("emotional person", EP), while in the self-state which does not remember the trauma ("normal person", NP) the memory does not evoke any responses different to neutral memories (script, neutral; Sn). Reproduced from (22) with the kind permission of Elsevier Publishers.

Due to the overlapping of Dell's B criteria (*box 3*) with Schneider's symptoms, schizophrenia must be ruled out by differential diagnosis. The deciding factor is the pseudohallucinatory nature of the dissociated perceptions (especially hearing voices) and the generally well-preserved reality control. In DID, therefore, most of the formal thought disorders and disorders of thought content such as delusional perceptions and paranoid symptoms are absent, while in schizophrenia Dell's C criteria (14) in the form of severe and characteristic memory impairments are, in turn, not present (13, e21.)

Also to be ruled out are borderline personality disorder, affective disorders and anxiety disorders which, however, may also be present as comorbidities of DID (11). Differentiation in relation to borderline personality disorders may be rendered difficult by the fact that marked dissociative symptoms may also be present in these cases. The impairment of identity experience is not so profound, however, that the person's own action, perception and memory is ascribed to a "different person", and accordingly Dell's C criteria are absent here (14, 20). A possible differential diagnostic alternative to be considered is the hitherto rare artificial or simulated DID, in which the symptoms of a personality change are presented as rather striking (21), as well as the iatrogenic identity splitting mentioned above. Addictive diseases and temporal lobe epilepsies also have to be ruled out (11).

DID as a complex posttraumatic syndrome

The relationship between trauma and dissociation is well-documented by retrospective and prospective studies (see review article 22, in which 25 retrospective, 3 prospective studies and a metaanalysis of 38 studies are described). In retrospective studies in DID patients, traumatic childhood experiences in the form of severe neglect and mental, physical or sexual abuse are reported in more than 90% of cases (3, 15, 18).

Based on these findings, a diathesis-stress model was developed, according to which the illness is understood as a psychobiological response to the traumatizations suffered in a specific time window in early childhood (15). An important step in childhood development, the emergence of a central integrative consciousness, is impeded or prevented by the chronic traumatizations (11). Nijenhuis et al. (12) postulate in the model of structural dissociation the lacking integration of two inborn functional systems – a normal everyday system and a survival system for extreme threatening situations – which can be activated alternately and were not sufficiently intermeshed with each other during the course of childhood development.

It is further presumed that the lacking integrative capacity promotes the psychodynamic coping mechanism of radical denial and splitting and allows a traumatised child to imagine that the trauma suffered happened not to him or her, but to "someone else". The individual child's fantasy capabilities and power of imagination, especially the creation of projection figures, finally, give the different personality states their individual character. The process described is intensified even further in children with intrafamily traumatizations, especially in cases of incestuous sexual abuse, since the extremely inconsistent and contradictory behaviour of attachment figures and their denial of the traumatizations suffered by the child additionally foster the dissociative coping strategy (11).

Dissociation and neurobiology

Neurobiological studies on dissociation are available in the form of neuroanatomical and psychophysiological measurements. In the neuroanatomical findings in DID patients, the amygdala-hippocampus complex is the focus of interest, since dissociative symptoms of the memory are considered to be associated with a dysfunctionality of these structures. As in borderline patients with a positive trauma history (e22, e23), 21 patients with complex dissociative disorders (DID/UDS) were found to have specific atrophies, especially in the bilateral hippocampus, parahippocampal gyrus and the amygdala. Patients with cured DID (n = 13) had a larger hippocampal volume than patients who were not yet cured (e24).

Depending on the activated personality state, functional brain studies find different been made psychobiological response patterns. Reinders et al. (23) studied female patients who in the controlled test situation were able to switch from the state of an "apparently normal part of the personality" (NP) to that of an "emotional part of the personality (EP) (*figure*). These authors observed not only state-dependent heart rates, blood pressure levels and heart rate variabilities, but also changing cerebral activity in PET on confrontation with traumatic memories. In the NP state, intense activity was observed in the inhibitory cerebral areas of the right mediofrontal cortex. In the EP state, especially when confronted with traumatic memories (see EPSt), this inhibition was not present and a significantly lower blood flow was seen in this cortical region. The authors interpret the findings to signify that in the NP state, which is predominantly active in everyday life, emotional responses to threatening situations and stimuli are greatly inhibited, which helps the affected person to cope with everyday tasks relatively normally and well.

Waldvogel et al. (e25) describe the impressive process of cure of a female DID patient who, during the course of psychotherapy, gradually began to see again after 15 years of blindness diagnosed as "cortical". Initially, this was observed only for some self-states, while others continued to be blind. This was confirmed by electrophysiological examinations in which the still blind self-states showed absent, but the sighted self-states completely normal, regular evoked potentials. As the neuronal basis of the psychogenic blindness, the authors assume a "top-down" modulation of the activity of the primary visual pathway at the level of the thalamus or the primary visual cortex.

These initial neurobiological studies in DID patients show that significant psychophysiological correlates can be found for the subjective experience and the clinical observation of dissociative phenomena.

Psychotherapy of DID

With the creation of a therapeutic relationship based on trust, the establishment of basic primary assumptions of security, meaningfulness and esteem, the promotion of affect differentiation and tolerance as well as the development of self responsibility, self effectiveness and self control, fundamental therapeutic objectives are pursued that are

consistent with method-integrated, individual, long-term psychotherapy in traumatized patients. Studies with indirect effectiveness measurement based on a comparison of the treatment costs generated (e26–e28) and an initial therapeutic study in which a marked reduction in symptoms was demonstrated using standardized measurement instruments (6) confirm the recommendations of the International Society for the Study of Dissociation (Huber M: ISSD Guidelines for the Treatment of Dissociative Identity Disorder [Multiple Personality Disorder] in Adults – new edition 1997 – German version <http://www.dissoc.de>) so far still at EBM level III. An eclectic therapeutic approach is recommended, including psychodynamic, cognitive-behavioural, hypnotherapeutic and trauma-adapted elements (24). As in all post-traumatic disorders, a phase-oriented procedure has proved successful, in which it is first attempted to stabilize the patient before specifically addressing the traumatic material. Also employed are disorder-specific techniques aimed at actively including the dissociated self-states in the therapy in order to institute and support an integration process to develop a coherent self (24, 25). The therapy of choice is long-term individual outpatient psychotherapy of two hours per week over several years, but combined approaches with ambulatory and inpatient interval therapy have proved successful as well. Initial experience is also available with structured group therapy for targeted stabilization in combination with individual one-on-one therapy sessions, which in future may possibly be more efficient and more economic alternatives to long-term psychotherapy alone.

Conclusions

The findings described here are in contrast to the so far limited professional acceptance of the clinical entity. The fact that the diagnosis DID has met with little acceptance in Germany so far and has correspondingly rarely been made has important implications for clinical practice and research:

1. A thorough scientific discussion, including continuing education of all professional groups working in the psychosocial fields in the etiology, diagnosis and treatment of DID in Germany is necessary.
2. Diagnostic and treatment programs for the affected patients should be implemented in regular psychiatric and psychotherapeutic service provision and scientifically evaluated.
3. General practitioners, psychiatrists and psychotherapists should consider the possibility of DID if suspicious signs are present, and initiate further diagnostic evaluation and treatment.

Conflict of Interest Statement

The authors declare that no conflict of interest exists according to the Guidelines of the International Committee of Medical Journal Editors.

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