Adjustment Disorder: A Review of Diagnostic Pitfalls

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Abstract

Adjustment disorder is a common diagnosis in psychiatric settings and carries a significant rate of morbidity and mortality. However, both current and previous diagnostic criteria are vague and lead to many difficulties in terms of validity and reliability. This review is based on a thorough literature search and a systematic evaluation of the empiric and theoretic data. The various pitfalls inherent in the process of diagnosing this disorder are discussed in light of the diagnostic criteria for the disorder.

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Despite its relative frequency [Table 1] [1–4], adjustment disorder has been poorly covered in the literature. This discrepancy may be explained by the low average reliability of the diagnosis (K=0.41) [5], compared not only to the accepted cutoff point of "fair" reliability (K=0.7) but also to the average reliability for all DSM-IV diagnoses (K=0.64) [4].

The concept of adjustment disorder is clear: an individual on the one hand and a stressor on the other undergo an interaction and as a result certain symptoms appear. Nevertheless, its precise definition is complicated. The DSM criteria are poorly defined [Table 2] and the symptoms are non-specific [6]. The aim of the present study is to review current knowledge on the disorder in order to help clinicians answer the following questions:

- What is a stressor? How is it measured? What kinds of stressors cause AD?
- Can individuals at risk be characterized? Is there a predisposition for the disorder? Will all people exposed to a certain stressor acquire AD?
- What process underlies the interaction between the individual and the stressor? Which factors determine the result of this interaction?
- What are the typical emotional and behavioral symptoms? Why does the DSM-IV refrain from going into detail on this point? Is there significance to the subdivision by symptom cluster?
- What is the significance of the DSM-IV stipulation that AD can be diagnosed only after all other possible diagnoses are ruled out? What distinguishes AD in the differential diagnosis? What are the risks of co-morbidity?
- Is the disorder always time-limited? What factors affect the prognosis?

AD = adjustment disorder

Table 1. Prevalence of adjustment disorder*

	Adults	Children & adolescents
Outpatient clinics	10%	16%
Emergency room	13%	43%
Psychiatric admissions	7%	34%
General hospital inpatients		
Total	12–13%	
Stroke or s/p coronary artery bypass graft	50%	
Entire population	4–7%	

* Refs. 1–4, 23

Table 2. DSM-IV Diagnostic Criteria for Adjustment Disorders*

A. The development of emotional or behavioral symptoms in response to an identifiable stressor(s) occurring within 3 months of the onset of the stressor(s).
B. These symptoms or behaviors are clinically significant as evidenced by either of the following:
   - marked distress that is in excess of what would be expected from exposure to the stressor.
   - significant impairment in social or occupational (academic) functioning.
C. The stress-related disturbance does not meet the criteria for another specific Axis I disorder and it is not merely an exacerbation of a preexisting axis I or Axis II disorder.
D. The symptoms do not represent bereavement.
E. Once the stressor (or its consequences) has terminated, the symptoms do not persist for more than an additional 6 months.

* American Psychiatric Association: Diagnostic and Statistical Manual of Mental Disorders, 4th edition. Published by the American Psychiatric Association, Washington, 1994.

The stressor

A stressor is a stimulus that disturbs the normal physiologic or psychological equilibrium of the individual. The term is de-

rived from the fields of engineering and architecture, where it means pressure (external) or tension (internal) in a structure. The problem to the clinician is that a stressor by this definition can be identified only by its consequences, with reference to the individual involved in the interaction with it. Furthermore, the impact of a stressor depends on both its intensity and duration, both of which are difficult to measure. Research has shown that irreversible damage to the brain occurs only under extreme conditions [7]. The validity of commonly used scales of stressor intensity including Holmes and Rahe's "Readjustment scale" and the fourth axis of the DSM has proven less than satisfactory. All but one study [8] evaluating stressor intensity (according to severity and frequency) noted a higher level in patients with AD than patients with other psychiatric disorders and normal subjects [9–12]. All of these studies were retrospective because of the difficulty in prospectively following people exposed to stressors.

Current research differentiates acute stress from chronic stress. The former increases the memory of events that are potentially threatening to the organism and enhances the immune response. Chronic stress, on the other hand, causes adaptive plasticity in the brain, by means of hormones and neurotransmitters that interact to produce structural and functional changes (which can either be adaptive or maladaptive), and also suppresses the immune response [7]. One study reported that 40% of stressors that cause AD last more than a year [13]. Yet, most frequent stressors related to AD in adults are environmental and their "beginning" and "end" are subjective and often difficult to pinpoint.

Types of stressors have been generally studied with relation to post-traumatic stress disorder, but their influence on predicting the development of the disorder has not been major [14]. Specific research on the relationship between types of stressors and AD is lacking. The major stressors cited for adults are marital problems, separation, change of place of residence, and financial difficulties [4]. Adolescents tend to acquire AD following trivial stressors such as school problems [4]. The most prevalent stressors in hospitalized patients are cancer and diabetes, but in many cases the stressor leading to AD is not directly related to a medical illness. This problem affects the clinician's ability to apply the DSM criterion of disappearance of symptoms within 6 months of termination of the stressor.

The individual

The effect of the stressors also depends not only on their characteristics but also on characteristics of the individual. One such characteristic is the strength and size of the individual social support system that the stressor must disrupt before it can affect the person's inner state. It is not surprising, therefore, that AD is more common among the unmarried [13]. Also, medically ill children are more likely to acquire AD when their families are malfunctioning.

A person's "ego strength" determines his or her vulnerability to stressors. This factor is affected by constitutional elements and personal history. A positive parent-child relationship has a protective value, while previous mental or physical disorders increase the risk. Exposure to a stressor in the past has a protective value if the stressor was mastered, but an adverse effect if it was not [4].

Studies of children have revealed a consistent pattern of individual characteristics associated with successful adaptation. These include good intellectual functioning, effective self-regulation of emotions and attachment behaviors, a positive self-concept, optimism, altruism, and a capacity to convert traumatic helplessness into learned helpfulness. [15]

In adults, resilience to stress includes ability to bond with a group, altruism and teamwork [15]. The underlying neurophysiologic mechanisms include brain circuits that are in charge of reward and fear.

Genetic factors may also play a role. One study found a slightly greater prevalence of AD in monozygotic twins whose twin sibling has the disorder [16]. In this context it is notable that peripheral gene expression profiles following trauma identified a subgroup of patients in which PTSD later evolved [17].

Adjustment disorder is common in medical and psychiatric settings but is frequently misdiagnosed

Individual-stressor interaction

As mentioned above, patients with AD were exposed to high levels of stressors. Does this indicate a unique vulnerability of these subjects, or a resilience that prevented the development of a more severe disorder? Several researchers [9,12,18] have raised this question and a number of theories have been proposed to explain the pathogenesis of stress-related disorders.

The concept of allostatic load has been defined to represent the cumulative physiologic burden borne by the body from attempts to adapt to stressors and strains of life's demands. High allostatic load has been associated with poor health outcomes [15]. Integration of research on physiologic responses to stress indicates that there are specific mediators of the psychobiologic response to stress that can offer either vulnerability or resilience for the individual. Mediators include dehydroepiandosterone, cortisol, corticotropin-releasing hormone, norepinephrine, serotonin, and gonadal steroids, among others. It is beyond the scope of this paper to elaborate further, but the main principle is complex feedback between the various mediators.

Biologic research generally does not refer specifically to the pathogenesis of AD and deals with either PTSD or more general responses to stress. However, there are several psychological theories that do refer to the subject.

PTSD = post-traumatic stress disorder

- Dynamic theories emphasize the meaning of the stressor for the specific individual and the manner in which that meaning is interwoven in the basic matrix of his/her conflicts or needs. Therefore, events experienced as "desirable" – i.e., pleasure-producing – are less likely to cause AD than events experienced as "undesirable." The individual interpretation of the meaning of a stressor may be conscious or unconscious [12].
- Cognitive theories view stress as new information that is incongruous with former internal models and which demands gradual processing by the individual in order to form new models. This theory is used to explain the phenomenon of alternating denial and awareness of a stressor [12].
- Cognitive-relational theory emphasizes the continuous, reciprocal nature of the interaction between the person and the environment, which includes appraisals of both environmental demands and personal resources.
- According to systems theory, there is a sequence of stages in the development of AD, and the precise interaction of the stressor with the internal mechanisms of the individual determines the outcome [12].

The role of coping styles in confronting a stressor has been the subject of debate: while some researchers cite an active coping style as beneficial, others have shown the benefits of a repressive coping style [19,20]. Ability to differentiate controllable versus uncontrollable aspects of the stressor is also associated with resilience [21].

Another important but often neglected factor is the interval between the appearance of the stressor and the onset of the disorder. The DSM stipulates a maximum of 3 months, but there are no research data to support this figure. Studies have shown that of patients with mental disorders, 60% were exposed to a stressor during the 2 weeks preceding the appearance of the disorder, compared to only 20% of those who had no disorder [22]. However, many mental disorders appear only 6 months or more after the stressor [4].

The symptoms

The DSM-IV does not specify the symptoms of AD. Though ICD-10 does so, including depressed mood, sleep and appetite disturbances, anxiety, worry, feelings of incapacity, changes in behavior and regressive phenomena, the list is too inclusive. Attempts to subtype AD by symptoms proved to have no clinical value [4,6]. The only significant difference found was the tendency to depressive symptoms in adults versus behavioral symptoms in adolescents [3,4].

The DSM-IV requires that symptoms be "clinically significant," but this is very subjective and elusive. Its addition of the criteria "marked distress" and "significant impairment" [Table 2] does not solve the bias problem.

Co-morbidity

Although the DSM-IV states that AD cannot be diagnosed if symptoms can be explained by another diagnosis, 70% of patients with a diagnosis of AD have another Axis I disorder as well [4]. This paradox is resolved by the fact that the main co-morbidities of AD are substance abuse and dependence [9,23]. Furthermore, patients with AD are known to have a tendency towards impulsivity, dramatization and unstable personal relationships [9], and it is commonly diagnosed in co-morbidity with personality disorders [23]. These findings raise the question: Do behavioral disturbances produce more stressful situations and thereby raise the chances of the person acquiring AD, or are the behavioral symptoms an expression of an existing AD?

Differential diagnosis

This area is one of the two (the other is prognosis) in which extensive data for AD are available. Most of the studies attempted to determine whether AD is a distinct entity. During the late 1970s many psychiatrists claimed that AD was being used as a "wastebasket" to account for clusters of symptoms that did not fit the criteria of better known diagnoses.

Faberga and co-workers [9,10], Andreasen and Wasek [13] and others differentiated AD, depressed type from major depression and other psychiatric disorders, and also compared AD patients with normal subjects. They found that patients with a diagnosis of AD were in a middle position between those with specific mental disorders and those who were disease-free, with regard to both severity of symptoms and the degree of functional impairment. This is also supported by more recent studies by Strain et al. [23] and Jones et al. [24]. Therefore, Faberga and team [10] called AD a "transitional illness." It remains unclear if all these disorders represent a continuum or separate entities. Demographic comparisons failed to show any consistent differences, except for younger age for AD [9,11,13,23].

One interesting finding was that consulting psychiatrists in general hospitals are asked to examine major depression patients early in the course of hospitalization, but AD patients only after 2 weeks of hospitalization. One explanation is the natural course of illness, but other non-clinical factors may intervene [25]. Other findings that support the validity of AD as a separate diagnosis come from surveys with structured questionnaires and neuropsychologic testing [26] and from prognostic studies.

Family studies have yielded findings that undermine the validity of AD as a separate diagnosis. Noyes and colleagues [27] observed that relatives of patients with generalized anxiety disorder have a significantly greater probability of acquiring AD, anxious type, compared to a control group, and twin siblings of monozygotic twins with major depression or dysthymia have a greater probability of having AD, depressed type. No significant differences were found in hormonal function (thyroid and adrenal) between patients with AD and patients with other mental disorders preceded by stressors [28,29].

The DSM-IV has set a hierarchy of diagnoses (consistent with ICD-10); and states that a specific disorder (not AD) should be diagnosed when the criteria are fulfilled, even when a stressor preceded the disorder. Interestingly, the Chinese have no separate diagnosis of AD and disregard the presence of a precedent

stress in mental illness. Depressive or anxiety symptoms that do not fit the diagnostic criteria of a specific disorder should be diagnosed as a "disorder not otherwise specified" only in the absence of a preceding stressor. The presence of a stressor warrants the diagnosis of AD. The DSM-IV also emphasizes the distinction of normal grief from AD, whereas pathologic grief can be diagnosed as AD. It is not clear why the authors chose to emphasize this as an exclusion criterion when another criterion states that the distress should be "in excess of what would be expected."

A special consideration is the relationship between AD and post-traumatic stress disorder. ICD-10 grouped both these diagnoses together in the chapter devoted to "reactions to severe stress, and adjustment disorders," while DSM-IV separated them, with PTSD being considered an anxiety disorder and adjustment disorders as a separate category. This may signify the lack of consensus whether some cases of AD actually represent "partial-PTSD" – a person experiencing severe trauma but not fulfilling enough criteria required for the diagnosis of PTSD [30]. This unclear diagnostic border is also exemplified by cases in which all the symptoms of PTSD exist but the stressor does not qualify as a stressful enough "traumatic event." It is also interesting that following burn injuries, groups of PTSD and AD patients could not be differentiated on the basis of either type or severity of the injury [30]. This diagnostic relationship between PTSD and AD has become even more complicated with the addition of another stress-related category – acute stress disorder – as a diagnosis in DSM-IV. Acute stress disorder is closely related to PTSD both symptomatically and prognostically. At the same time it is similar to AD in two aspects. First, its symptoms are considered to be common in the aftermath of trauma, and second, it is self-limited in most cases [31].

Recent studies show that the majority of people are exposed to significant stressors during their lifetime [31]. Future research should address the question why some develop PTSD, some acute stress disorder, some AD, and some remain asymptomatic and normally functioning.

Role of non-clinical factors

Both cultural factors and the special structure of medical organizations influence the diagnostic process in general and that of AD in particular. Fabrega and Mezzich [18] explained that the significance of a certain stressor is culture-bound (e.g., a black cat or a voodoo ceremony), as is the self-concept of the person experiencing the stress (e.g., a suicide bomber). The symptoms of the disorder carry a significance related to the surrounding cultural and religious norms (e.g., "a demon"). In most societies low levels of AD are usually treated by the support system (i.e., within the family or by non-medical external agents) according to cultural rules. When the disorder is severe, however, it is conceptualized as a disease and medical professionals are approached (general practitioner, psychiatrist or shaman, according to the norms of the specific society).

In a study of the consultation-liaison service of a general hospital, Pollock [25] concluded that the ambivalent criteria of AD are often used by the staff to serve their own needs. This included the staff's concept of the "legitimate" feelings for specific patients ("it is okay for a cancer patient to be depressed") and their ability to contain deviant behavior, which is a function of the patient's personality and also of the workload on the ward. The ambivalence inherent in AD in that it can be related either to an external factor and/or a personal vulnerability, allowing the staff room for manipulations according to its needs. One of these needs is to preserve the position of the psychiatrist as a marginal element in the general hospital, while enabling the consulting-psychiatrist to feel part of the "medical world." This is why even when the consultant identifies a staff problem, the patient is still given a diagnosis because "the medical model demands a diagnosis."

Another related finding in one study [32] was that 50% of child psychiatrists admitted that the diagnosis of AD is frequently used to avoid stigmatization of patients.

Course and prognosis

Four aspects of the prognosis of AD have been studied: duration of symptoms, percentage of recovery, future psychiatric disorder, and suicidality. Though the DSM-IV states that the symptoms of AD should disappear within 6 months, one-third of patients do not remit after 6 months, and one-fourth still have the disorder after a year [3]. Nevertheless, AD has a shorter duration than other more specific mental disorders [11,13,16], and hospitalization time is shorter [13]. These findings lend some support to the claim that AD is a valid diagnosis (as discussed above).

Non-clinical factors influence the diagnosis and may cause clinicians to overlook the significant morbidity and mortality

Data from research showed that recovery from a specific episode of AD occurs in 96–100% of patients [8]. However, in a follow-up study 30% of the adults and 56% of the adolescents had another psychiatric disorder [33], mostly major depression, antisocial personality disorder and drug abuse in adults, and the same disorders in adolescents in addition to schizophrenia and bipolar mood disorder. The longer the episode of AD the greater the risk of future psychiatric disorder.

Thirty percent of AD patients have suicidal thoughts [11], 58% of suicide attempters have AD, and 9–19% of those completing suicide have this disorder [34]. Psychological autopsies of suicide victims diagnosed with AD revealed a rapidly evolving suicidal process without any prior indication of emotional or behavioral problems [35]. The high risk of suicide and high rate of future morbidity indicate that although AD is transient, it carries a significant risk.

Treatment

An extensive review of treatment of AD is not within the scope of a review focused on diagnostic issues. However, there are several aspects of treatment that are related to the diagnosis of AD.

Despite the risk of suicide and future morbidity, studies on the treatment of AD as a separate entity are sparse, and those that exist have methodologic flaws. Surveys on the attitude of psychiatrists to the disorder [22,36] showed that 65% of clinicians recommend a combined pharmacologic (mostly benzodiazepines, with only a small number prescribing antidepressants) and psychotherapeutic (usually dynamic) approach. The remaining 35% are equally divided among those recommending no treatment at all and those recommending psychotherapy alone. The recommended pharmacologic treatment period was shorter than 3 months. The factors influencing the therapeutic decision were severity of the stressor and the degree of functional impairment. Many more general drug efficacy studies in psychiatry include patients with AD, depressed type, as part of a non-specific group of subjects suffering from "depression." There is also no differentiation between AD, anxious type and generalized anxiety disorder. In these studies, the pharmacologic interventions are symptom-related [23]. The psychotherapeutic strategies involve mainly crisis intervention, including a combination of short-term dynamic therapy, supportive therapy and relaxation.

Results of the few studies that studied AD as a distinct diagnosis support the efficacy of tricyclic antidepressants and methylphenidate in medically ill patients [37,38]. Dynamic supportive therapy, cognitive-behavioral therapy, hypnosis and relaxation techniques were all shown to have beneficial effects [39,40]. As mentioned above, some view AD as "partial-PTSD," and the current practice of treating PTSD with selective serotonin reuptake inhibitors may promote research on their value in AD.

Conclusion

This review of the literature on AD was prompted by the frequency of this diagnosis in our everyday practice. The epidemiologic studies support the high prevalence of this disorder, and the prognostic studies emphasize its significant morbidity and mortality. These findings stand in clear contrast to the many questions regarding the validity and reliability of the diagnosis. The diagnostic difficulties are a product of the lack of clearly defined operational criteria based on symptoms, difficulties in quantification, and the inherent relationship of the diagnosis to an etiology. Their resolution requires a two-stage approach. First, the reliability of the diagnosis needs to be improved. We are currently conducting a retrospective study aimed at determining the diagnostic process used for the identification of AD. The second stage, which depends on the success of the first one, is to perform well-controlled studies of the treatment of AD.

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