

Adjustment disorder in the pediatric population

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Abstract: Given the constantly changing array of stressors faced by children and adolescents throughout the course of development, adjustment disorder (AD) can serve as a valuable category to identify and understand these phenomena in the clinical setting. At the same time, the uptake and application of this diagnosis has been variable, at times underutilized due to concerns about clinical validity, as well as a dearth of diagnosis specific treatment options. This chapter will provide an up to date review of AD, including the epidemiology, etiology, and the diagnostic criteria updates in the Diagnostic Statistical Manual (DSM) used in the United States and the International Classification of Disease (ICD). Psychotherapeutic and psychopharmacology treatment options will be reviewed as well. Particular focus will be paid to the identification and treatment of AD in the Pediatric Primary Care Setting, as well as in the context of the COVID-19 pandemic.

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Overview

Characterized as a maladaptive response to a stressor, the diagnosis of adjustment disorder (AD) can be attributed to a range of life events and applied to a variety of clinical presentations, ranging from depressed mood, to anxiety, to disturbances in conduct, that do not meet criteria for another disorder, but still negatively impact functioning. Given the constantly changing array of stressors faced by children and adolescents throughout the course of development, including challenges with school, peers, family and most recently, the COVID-19 pandemic, AD can serve as a valuable category to flag these phenomena, and track their clinic course, particularly when symptoms do not reach the threshold for more common diagnoses such as depression or anxiety. The association between AD and suicidal behaviors further underscores the importance of recognizing and appropriately intervening in this population (1). At the same time, the uptake and application of the diagnosis has been variable and at times underutilized due to concerns about clinical validity, as well the potential to “medicalize problems of living” (2). In response to these debates, the diagnostic criteria for the disorder have recently been

updated in the International Classification of Disease (ICD)-11, while remaining relatively unchanged in the Diagnostic Statistical Manual (DSM)-V. This chapter will provide an up to date review of the epidemiology, etiology, diagnostic criteria and treatment considerations for AD in the pediatric population, with a focus on primary care.

Epidemiology

While it is widely accepted that AD is common in childhood and adolescence, epidemiologic data, along with other types of research on the diagnosis, are fairly limited (3-5). This is due, at least in part, to the variability surrounding diagnostic criteria and symptom measurement, as well as the absence of any AD specific screening tool. Prevalence rates have been found to range from as low as 0.9% in a German study of adolescents and young adults (6), to 3.4% in Finnish study of children (7), to 4.2% in a sample of children in Puerto Rico (8). Among a sample of 3,815 primary care patients, 2.94% were found to meet criteria for the disorder (9). Higher incidence rates have been reported in pediatric behavioral health clinical samples. In a study conducted at an urban pediatric emergency setting in the US, 14%

Table 1 Some common stressors in adjustment disorder

Bullying
Relationship breakup
Starting a new school
Parents' separation or divorce
Financial stress
Moving to a new home
Displacement or homelessness
Illness of parent or caregiver
Death of parent or caregiver
Sexual identity concerns ("coming out" or being "outed")
Immigration
Natural disaster
War

of pediatric psychiatry consultations were diagnosed with AD (10), while a similar study in Canada yielded a prevalence of 29% (11). Another study of a suburban emergency department reported 34.4% of adolescents to have an AD diagnosis, the most common subtype being with depressed mood (12). High incidence rates of adjustment have also been reported in children with chronic medical disorders, such as diabetes, with estimates between 36% and 60% (13).

Etiology

Given the requisite of a stressor to make the diagnosis, the potential causes of AD in children and adolescents are broad, ranging from problems at home (e.g., divorce) to difficulties at school, to problems with peers, to acute and chronic medical illness. A stress reaction may also accompany a common life event, such as starting a new school, moving to a new home, or becoming a parent. The single common pathway for all of these events is that they overwhelm the individual's ability for healthy coping and resilience, resulting in emotional, behavioral, and/or functional disturbance. Several common stressors are listed in *Table 1*. Despite this wide range of stressors, it is important to note that none of them are uniformly overwhelming, so as to always result in an AD. Many children and adolescents may encounter highly stressful events without experiencing marked adjustment difficulties,

pointing to the role of individual and environmental factors that that can mediate the effect of stress on the individual. Such stressors have been designated as "tolerable," in the sense that, while challenging, they can be overcome, particularly with the help of a caring and supportive adult relationship (14).

The concept of adaptation to stress has been extensively studied in children with medical illness, pointing to several factors that can affect their stress response. These include individual factors of temperament, cognitive development, and problem-solving skills, as well as "social ecological" factors of family environment, social supports and availability of resources (3,15). Along these same lines, the concept of resilience serves to describe an individual who can achieve good adjustment despite high levels of stress or adverse events. In a study of the relationships of adverse events to resilience, Tiet and colleagues found that "resilient youth received more guidance and supervision by their parents and lived in higher functioning families" (16). Additionally, IQ seemed to positively affect resilience for youth experiencing high levels of adverse life events.

In contrast to tolerable stress referenced above, toxic stressors, given their nature and timing in development, have been shown to be almost uniformly deleterious to healthy development. Examples would include physical abuse or neglect, sexual abuse, exposure to domestic violence, and other situations in which the primary caregiver is either directly causing the distress or otherwise failing to adequately mediate its effects. In practice, new onset, seemingly tolerable stressors can be often superimposed on pre-existing toxic stressors, necessitating careful assessment in differentiating AD from a more pervasive problem resulting from trauma. The diagnostic implications of these stressors will be explored further in the discussion of differential diagnosis.

Clinical diagnosis and differential

AD is classified in the DSM-V, along with acute stress disorder and post traumatic stress disorder, among the trauma and stressor related disorders, reflecting a common etiology in "exposure to catastrophic or aversive events" (17). Of the diagnostic criteria specified in *Table 2*, key features include (I) the development of emotional or behavioral symptoms within 3 months of exposure to an identifiable stressor; (II) marked distress out of proportion to the severity of the stressor and/or significant impairment in social, occupational or other areas of function. In addition,

Table 2 DSM-V criteria for adjustment disorder

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- 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 one or both of the following:
1. Marked distress that is out of proportion to the severity or intensity of the stressor, taking into account the external context and the cultural factors that might influence symptom severity and presentation
 2. Significant impairment in social, occupational, or other important areas of functioning
- C. The stress related disturbance does not meet the criteria for another mental disorder and is not merely an exacerbation of a preexisting mental disorder
- D. The symptoms do not represent normal bereavement
- E. Once the stressor or its consequences have terminated the symptoms do not persist for more than an additional 6 months
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DSM, Diagnostic Statistical Manual.

the presentation must fail to meet criteria for another mental disorder. AD can be diagnosed immediately following the occurrence of a stressor; however, symptoms cannot persist for more than six months following its termination. In light of the broad diagnostic criteria, clinical presentations of AD can be quite variable, as reflected in the six AD subtypes. These include:

- ❖ With depressed mood;
- ❖ With anxiety;
- ❖ With mixed anxiety and depressed mood;
- ❖ With disturbance of conduct;
- ❖ With mixed disturbance of emotions and conduct;
- ❖ Unspecified.

Given the absence of more concrete criteria, diagnosis necessarily entails some subjective assessment on the part of the practitioner in regards to what constitutes a stressful event and a maladaptive response (3) when utilizing the DSM criteria. Whereas the ICD-10 criteria largely mirrored those of the DSM-V, the ICD-11 marks a significant departure in the definition of AD, moving it away from subthreshold status and establishing it more clearly as a disorder “in its own right” (2). These new criteria bring a greater specificity to the symptom requirements, indicating a preoccupation with the stressor, characterized by excessive worry, recurrent distressing thoughts or rumination about the implications of the stressor (18). Further, these symptoms must arise within 1 month of the identified stressor, compared to the three months indicated in the DSM-V. Exclusionary criteria include the presence of separation anxiety, single episode or recurrent depressive disorder, prolonged grief, uncomplicated bereavement, and acute stress. The requirement for functional impairment

has remained unchanged, however, both symptoms and impairment must both be present in order to meet criteria for the disorder (2). In light of the increased specificity of the criteria, the subtypes of AD have also been eliminated.

In developing the differential diagnosis, careful review is needed to determine if the child or teen meets criteria for another disorder inclusive of, but not limited to major depressive disorder, dysthymia, a generalized anxiety disorder, acute stress/post-traumatic stress, somatization disorder, oppositional defiant disorder, conduct disorder, or substance abuse. Importantly, unlike the stressor in AD, in post-traumatic stress disorder the stressor is extreme and involves actual or threatened death or serious injury accompanied by a specific constellation of symptoms. Trauma always needs to be considered in the differential diagnosis. Conversely, a child may be suffering from the effects of early toxic stress (described earlier), and such a history should alert the physician to the possibility of complex developmental trauma and its attendant psychological and behavioral sequelae.

Treatment

Psychosocial approaches

In planning treatment for a patient with AD, the goals are to reduce emotional and behavioral distress and improve functioning. At the individual level, identifying personal strengths and weaknesses and fostering resilience can be a good place to start. The treatment of choice for AD is psychotherapy. While no empirically validated treatment exists specifically for the treatment of AD in children, there are many different forms of psychotherapeutic treatments

Table 3 Select core components of cognitive behavioral therapy (CBT)

Component	Description
Psychoeducation	Provide information about symptom treatment and management
Behavioral activation	Scheduling pleasant activities, such as exercise, time with friends
Cognitive restructuring	Identifying unrealistic thoughts and beliefs, examining evidence for and against
Problem solving	Identifying problems; breaking down into component parts, developing solutions, evaluating effects
Motivational interviewing	Assessing readiness for change; facilitating movement to next stage of change behavior. Addressing ambivalence

for full-blown syndromes such as depression, generalized anxiety, disruptive behavior disorders and trauma. Elements of these treatments can, in theory, be applied to the prominent symptoms of ADs. Examples listed in *Table 3* include psychoeducation, behavioral activation, cognitive restructuring and problem solving- all elements of cognitive behavioral therapy (CBT) for depression or anxiety, that could potentially be used to address AD with depressive or anxious features. Treatments are delivered in a variety of individual and group formats, however, at present, little is known about the optimal structure, frequency or intensity of these treatments needed for AD. To date, the strength of evidence for psychological interventions specifically addressing AD has been found to be low to very low (19). Mindfulness/relation based interventions have demonstrated some initial positive effects in adults, though further research on these approaches is required (19).

Parents can be important partners in the therapeutic process, particularly for younger patients, by encouraging healthy means of coping. To this end, providing psychoeducation to both child and parents about the effects of stress and the role of coping can serve an important role in promoting recovery and wellness (5,20). Identifying other supports, such as teachers, counselors or coaches can provide additional source of support in coping with stressors. While not typically associated with AD, suicidal ideation, self-injury and attempts can occur in the context of AD and need to be addressed (1). Developing a safety plan in case symptoms worsen or dangerousness (suicidal or homicidal ideation) arises should also be discussed with the patient and his or her family.

Another important avenue for intervention lies in the patient's environment, given the etiological role of stressors in the development of adjustment problems (5,20). This can include difficulties with family, school, peers, or the larger community, all of which can play a role in predisposing precipitating, or perpetuating the

presenting problem. For example, if bullying is leading to problems of maladjustment, contacting the school and discussing intervention strategies with staff can be instrumental in improving the situation and alleviating individual symptoms. In this same vein, the impact of social determinants of health such as food insecurity, housing and income, have been identified as a focus for intervention through the work of community-based organizations. That said, many other types of stressors do not lend themselves to similar types of direct intervention. The recent widespread disruptions caused by COVID-19 probably provide the clearest example, with widespread stress caused by sudden changes to school routines, social routines and home life. These could often be exacerbated by increased caregiver stress due to physical illness or economic hardship. In this example, given the prolonged duration of the stressors in the external environment, a focus on bolstering the coping and resilience of the parent or primary caregiver (i.e., the internal environment) is crucial, especially to help promote healthy coping and resilience in the child. In this way, treatment of AD calls for a broad, systemic view of the patient's problems, and necessarily entails communication and collaborations with systems of care outside of the traditional office setting (21).

Medication

Medication does not have a well-established evidence base in the treatment of AD (19). There is no clear indication for the use of selective serotonin reuptake inhibitors (SSRIs) for children and adolescents in the context of an AD. Benzodiazepines have not shown efficacy in controlled trials in childhood anxiety, although they have been used with SSRIs as adjunctive short-term treatment to treat anxiety disorders and facilitate exposure to CBT (22). Their role in AD has not been studied and they are contraindicated with substance use and have a side effect profile that includes

sedation, disinhibition, cognitive impairment and difficulty with discontinuation. Given the prominent psychosocial contributions to AD, nonpharmacologic interventions outlined above are the treatments of choice.

Treatment settings

Given longitudinal relationship between primary care pediatricians and their patients, the primary care setting is in many ways an ideal location for the identification and treatment of ADs. In particular, the pediatrician has pre-existing knowledge of a child's and family's developmental history, medical and behavioral health history, and profile of strengths and challenges when it comes to effective coping. As such, there is a very useful frame of reference for making the diagnosis, and being readily available to intervene, particularly given common systemic barriers around stigma and access to mental health care. In addition, collaborative care models utilizing a care manager and consulting psychiatrist can help to further leverage the knowledge of the pediatrician, providing the options for short term therapeutic interventions described above, delivered in the primary care setting. While more extensively studied in adults, a meta-analysis of collaborative care interventions in pediatrics has also been found to be effective in improving mental health outcomes (23), though AD has not specifically been studied to date.

Traditional outpatient mental health services are another good option to consider, though as already mentioned, access can often be a challenge. Direct psychiatric input is typically not necessary, except for patients experiencing suicidal ideation or other safety concerns. In those instances, prompt evaluation by a child and adolescent psychiatrist is essential, however, access can often be a challenge, many times leading to a visit to the emergency room when other options do not exist (24). Service delivery through telehealth has emerged as an effective means of delivering both psychotherapy and psychiatric services, particularly in remote regions with significant provider shortages. Reflecting the prioritization of in-person services in mental health, the initial uptake of telehealth was inconsistent across different sectors of the mental health delivery system. This has been drastically altered by the global pandemic, as is discussed in the following section.

Future directions

In the current setting of COVID-19, children and families

throughout the world are struggling to adapt in the face of severe disruptions to their lives (25,26). A longitudinal study in China measuring moderate-severe stress, anxiety and depression in the general population age 12 and older yielded rates of 8.1%, 28.8% and 16.5% respectively (27). While experiencing somewhat lower rates of illness compared to adults and those with chronic medical conditions, children and adolescents have nonetheless experienced significant and prolonged stressors through the direct effects of illness and death of loved ones, as well as the secondary effects of economic, educational, and social disruption (26). In this context, the stress related framework provided by the AD diagnosis seems to have particular utility, as do efforts to bolster the capacity for coping and resilience in the child and the caregiver. It is also important to note some of the limitations of the prevailing definition, particularly around the timing of the stressor, either within 1 month (ICD-11) or 3 months (DSM). Given the prolonged nature of the current crisis, it is possible that an adjustment response may arise or recur at various points in the timeline, and may be linked to secondary effects at home, school, or in the larger community, and points to the overarching need for regular mental health check ups. While a degree of distress is to be expected across all children and families, the pediatrician, family practitioner, nurse practitioner and other primary care professionals continue to play essential roles in the identification of serious changes in mood, behavior and functioning, and to provide a lifeline for intervention. Along these same lines, collaborative care interventions remain a useful source of access not only for pediatric patients, but potentially other family members as well. In regions where it is available, telepsychiatry has proven a valuable extender of the services already in place, and enhanced service delivery models are likely to expand and persist beyond the period of the pandemic (28,29). The collaborative care model has been shown to be particularly well suited to this type of remote practice, simultaneously expanding the potential reach as well as the efficiency of these interventions (30).

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Footnote

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