

DIAGNOSIS OF BIPOLAR DISORDER IN PERSONS WITH DEVELOPMENTAL DISABILITIES

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Bipolar disorder is a serious psychiatric condition that causes great suffering in affected persons, in addition to the suffering of their families and friends. It is a chronic, life-long condition that must be identified early and treated fully. In this review, we will present the essential features of this condition, and current diagnostic views of its presentation in persons with developmental disabilities (DD).

Mood disorders are psychiatric disturbances that are dominated by pathological mood states sustained over weeks or months that are a significant departure from the person's usual functioning, tend to reoccur, and may be cyclical in nature. In DSM-IV,² there are four major categories of mood disorders. Two categories are based on etiology: mood disorder due to a general medical condition (e.g., hypothyroidism) and substance-induced mood disorder (e.g., steroids). The other two categories are depressive disorders (unipolar depression) and bipolar disorders. The concept of "**polarity**" is central in distinguishing between depressive disorders and bipolar disorders: does the person's mood shift only from normal to depressed, or also from normal to euphoric? If depression is the **only** mood disturbance, then that is considered to be in only one direction, or unipolar. If a person has ever had a shift to a euphoric mood, he or she is considered bipolar because the vast majority of such individuals will have depressive episodes in the course of a lifetime. If the predominant mood is irritable, the person may have either unipolar or bipolar disorder, and the associated symptoms are critical in making an accurate diagnosis. Ongoing, consistent treatment of bipolar disorder is considered essential because of the recurrent episodes and serious risks to the patient experiencing such episodes. It is believed that management by pharmacotherapy and supportive psychotherapeutic interventions can substantially reduce the risk of repeated, serious episodes.^{1,7,8,9}

Hypomanic or even manic episodes can be missed in persons with developmental disabilities (DD), as clinicians and habilitative programs alike prize the increased functioning and elevated mood, mistaking it for signs of habilitative success until irritability, sleep disturbance or delusions supervene.

This paper will focus on a review of diagnostic criteria for bipolar disorder in persons with DD, differential diagnosis of cyclic behavioral problems, and subcategories of bipolar disorder. Lastly, three hypotheses attempting to explain the association of self-injurious behavior (SIB) and aggression with bipolar disorder will be discussed.

DIAGNOSING BIPOLAR DISORDER IN PERSONS WITH DEVELOPMENTAL DISABILITIES

Interest in the diagnosis of bipolar disorder in persons with DD has exploded in the past sixteen years since the publication of the Sovner and Hurley²⁸ paper, which essentially ended the debate as to whether persons with mental retardation (MR) could suffer from affective disorders. Since then, several papers have reviewed the diagnosis of bipolar disorder in this population;^{16,17,18,19,30} Lowry¹⁸ also reviews the prevalence data. Unfortunately, individuals with MR were excluded from the epidemiological catchment area studies of the 1980's.²⁴ It is probably best to conclude at this stage that the prevalence of bipolar disorder in persons with DD is simply unknown, though experienced clinicians "guesstimate" perhaps 5%.¹⁸

The psychiatric diagnosis of persons with DD presents challenges to the clinician because psychiatrists, and the psychiatric literature, base practice and diagnostic criteria on knowledge of these conditions as they occur among persons of normal intellectual abilities. Thus, the psychiatric diagnostic interview relies heavily on a conversational exchange between the doctor and patient; it is assumed that the patient is a good historian for all symptoms and medical conditions, can understand the questions contextually, and can communicate appropriate information. For persons with DD, these assumptions may only apply to persons with mild

or high moderate MR and definitely do not apply to persons with lower moderate, severe or profound mental retardation. The clinician must interpret whatever data is available to the best of his/her ability, make use of support staff/caregiver information, and extrapolate information presented to fit "equivalent" symptoms required for categories of psychiatric disorders. Once a diagnostic formulation is made, treatments can be proposed and evaluated. (See Tables 1, 2, 3)

1. MOOD CHANGES

The **manic state** can take two forms: hypomanic, so called because the symptoms are mild, and a full manic episode. The person in a classic manic state has a persistently elevated, expansive mood sometimes described as "contagious." Such patients are excited, sure of themselves, seeking projects, believing they are extremely important or successful. The mood is often manifested by hyperactive motor states, talkativeness, and an excess of energy. There is little need for sleep; the person is driven. In an extreme form, a person may take on extra projects, be up all night working on them, calling others, sleepless for days. The quality of the work is frenetic; little is actually accomplished as the person cannot truly concentrate. There is also often extensive pleasure-seeking activity, e.g., having many sexual partners, gambling, spending credit cards to the limit, and taking frivolous airplane trips. This "psychomotor acceleration" is a hallmark of mania. Mood may be labile, shifting rapidly from elation to tears or anger and back. This level of behavior is usually short-lived; manic behavior is observed in episodes that may last days or weeks. The results are usually disastrous for the person's personal and professional life.

In persons with an IQ above 45-50, delusions can accompany the mood changes. The delusions are usually grandiose, but can be paranoid. Grandiose delusions are characterized by belief in one's own importance, invincibility, or inevitable success, despite manifest failure or deficiency in planning, or by identification of oneself as an important historical figure. Paranoid delusions, sometimes with accompanying hallucinations, can occur in the course of a manic episode, making possible a misdiagnosis of schizophrenia. Identifying delusions in someone with an IQ below 45 can be problematic.²⁶

The **hypomanic** episode is less easily recognized. The symptoms are less severe. In

some ways, the energy, "manic contagion," and drive may help a person be a leader in a field or successful in business. Yet, symptoms are still frequently disruptive to personal relationships (e.g., marital infidelity), and business (over-optimism leading to business ruin). Clinicians may misjudge such patients to have personality disorders because of perceived qualities of narcissism or sociopathy. In congregate living settings, such as group homes, people with hypomania can irritate roommates or housemates because of the incessant teasing and excess energy.

Although the elated and expansive mood is the hallmark for classic mania, patients often are instead irritable or irritating. If the patient is thwarted from his or her goals, even if elated, the mood can rapidly shift to hostility and anger. Patients with mania often present in mixed states. That is, the patient presents with a mood that has depressive qualities as well. (See Table 2)

In the most extreme form, the patient has delirious mania, which is a life-threatening state. In this case, the manic activity is so extreme (lack of sleep, eating, and continuous overactivity over days or weeks) that the patient's life is threatened.

2. LABILITY OF MOOD

For some persons with MR, the general mood state may be easy to recognize. Other individuals, however, can go through several affects in the course of a day. It is important for staff or caregivers to assess whether the mood changes are normal or whether the intensity and frequency of the shifts are greater than would be expected. The mood may shift very rapidly, within moments, from elation to tearfulness to rage, all of equal and convincing intensity.

3. INFLATED SELF-ESTEEM AND GRANDIOSITY

A person in a manic episode has inflated self-esteem and grandiosity with lack of insight into his or her behaviors and their consequences. The manic patient may easily go from grandiosity to delusions of wealth or greatness. It is very common for frank psychosis to occur, accompanied by hallucinations and delusions.

For the person with DD, cognitive distortions are difficult to address. The distortion should be a change from previous cognition, and be consistent with the expansive, elevated or irritable mood. Grandiosity may be relative; persons with moderate MR may be grandiose if they believe

**TABLE 1. DSM-IV CRITERIA FOR MANIC EPISODE WITH
PROPOSED MR/DD EQUIVALENTS AND PDD EQUIVALENTS^{5,18,27,28,29}**

DSM-IV CRITERIA	SUGGESTED MR/DD EQUIVALENTS	SUGGESTED PDD EQUIVALENTS
<i>A. A distinct period of abnormally and persistently elevated, expansive, or irritable mood, lasting at least one week (or any duration if hospitalization is necessary).</i>		
Mood Disturbance	mood is inflated, elated, and expansive; may be irritable or angry; person appears either happy or irritable throughout the day regardless of the day's circumstances	mood is inflated, elated, expansive; may be irritable or angry; person appears either happy or irritable throughout the day regardless of the day's circumstances
<i>B. During the period of mood disturbance, three (or more) of the following symptoms have persisted (four if the mood is only irritable) and been present to a significant degree:</i>		
1. Inflated self-esteem or grandiosity	in relationship to his/her developmental level, person believes and acts as if he/she can do more (e.g., person believes he/she is a teacher, staff member; can drive a car; can repair a broken TV; is better than peers)	in relationship to his/her developmental level, person believes and acts as if he/she can do more; (e.g., able to engage in social relations successfully, over-estimates likely success or comfort in social world)
2. Decreased need for sleep (e.g., feels rested after only three hours of sleep)	person is up at night; is active and about the room, house; awakens early or does not get to sleep until quite late; appears energetic next day	person is up at night; is active perhaps with rituals; awakens early or does not get to sleep until quite late; if sleeps, usually irregular or completely sleepless
3. More talkative than usual or pressure to keep talking	person talks constantly, often seeking attention; cannot listen to others easily, not really conversing but espousing own thoughts	increased frequency and/or intensity of perseverative questioning, manneristic speech
4. Flight of ideas or subjective experience that thoughts are racing	ideas flow because of energy; topics are short, and next topic often unrelated to last; cannot respond easily to topics generated by others	ideas flow because of energy; topics are short, and next topic often unrelated to last; rapid repetitive speech; increased vocal stereotypy
5. Distractibility (i.e., attention too easily drawn to unimportant or irrelevant external stimuli)	compared to usual abilities to concentrate on tasks, is distracted by environment, but mainly by own internal energy; ADL tasks and work tasks completed quickly and improperly, skipping from activity to activity	pronounced inability to concentrate on tasks; distracted by environment; skipping from activity to activity; rituals may become rapid or disorganized
6. Increase in goal-directed activity (either socially, at work, school or sexually) or psychomotor agitation	may work at ADLs or work with great speed, but little attention to detail or work quality; cannot respond to cues to slow or repeat work if sloppy; may create new tasks, take on projects, talk about new jobs and work that is not realistic; may be overactive and/or appear to be in constant motion	overactivity; increased frequency and/or intensity of ritualistic or compulsive activities

**TABLE 1. DSM-IV CRITERIA FOR MANIC EPISODE WITH
PROPOSED MR/DD EQUIVALENTS AND PDD EQUIVALENTS^{5,18,27,28,29} (CONT.)**

DSM-IV CRITERIA	SUGGESTED MR/DD EQUIVALENTS	SUGGESTED PDD EQUIVALENTS
7. Excessive involvement in pleasurable activities that have a high potential for painful consequence (e.g., engaging in unrestrained buying sprees, sexual indiscretions, or foolish business investments)	increase in obvious sexual interests; more preoccupied with hobbies or general recreational activities; intrusiveness; disinhibition; inability to follow previously-understood rules and limits	increase in obvious sexual interests; more preoccupied with obsessions and fascinations; intrusiveness; disinhibition; inability to follow previously-understood rules and limits
<i>C. The symptoms do not meet criteria for a Mixed Episode.</i>		
<i>D. The mood disturbance is sufficiently severe to cause marked impairment in occupational functioning or in usual social activities or relationships with others, or to necessitate hospitalization to prevent harm to self or others, or there are psychotic features.</i>		
<i>E. The symptoms are not due to the direct physiological effects of a substance (e.g., abuse of a drug, medication, or other treatment) or a general medical condition (e.g., hyperthyroidism).</i>		
<i>Mixed Episode</i>		
<i>The criteria are met both for a Manic Episode and for a Major Depressive Episode (except for duration) nearly every day during at least a one-week period.</i>		

they can drive a car, whereas persons with normal intelligence might believe themselves to be prophets. For example, one manic person with MR decided to get married. He tried to reserve a wedding day at his church despite not having a girlfriend at the time. Grandiosity in some persons may take the form of persistent overestimation of abilities or skills, or overestimation of comfort with independence, coupled with demands to leave necessary residential vocational or habilitative programs. Sometimes delusional ideas are downplayed by staff as they do not make sense. One individual with moderate MR said he was a Nazi and carved swastikas on his buttons. When staff asked him what that meant, he said he gave people shots and fed them. The diagnostic issue was not that the person did not capture the horror of Nazism in his delusion (psychosocial masking).²⁶ Rather, when he was manic he had the persistent belief of being a Nazi which he no longer mentioned or even endorsed in a euthymic (normal mood) state. Nor, in a euthymic state, did he carve swastikas into his buttons.

4. SLEEP DISTURBANCE

The manic patient has reduced need for sleep. He/she may sleep a few hours, or not at all, yet feels "great." If the patient does not sleep for several days, he or she will actually be physically exhausted, yet continue the manic psychomotor acceleration of activity to the point of medical emergency. Persons with mania do not complain about their sleeplessness. They feel energized, "on top of the world." Unless debilitated from days of sleeplessness, they do not generally have the appearance of being tired or haggard.

For persons with DD, severe lack of sleep should be easy to recognize. If the person lives with others or support persons, sleep disturbance can be reported. The person will be up at night engaging in activity. Lack of sleep should be distinguished in individuals who merely go to bed earlier. For example, if a person goes to bed after supper at 6:30 p.m., and immediately falls asleep, then he or she would get up at 1:30 a.m. and still get seven hours of sleep.

**TABLE 2. DSM-IV CRITERIA FOR MAJOR DEPRESSIVE EPISODE WITH
PROPOSED MR/DD EQUIVALENTS AND PDD EQUIVALENTS**^{5,17,18,27,28,29}

DSM-IV CRITERIA	MR/DD EQUIVALENTS	PDD EQUIVALENTS
<i>A. Five (or more) of the following symptoms have been present during the same two-week period and represent a change from previous functioning.</i>		
1. Depressed mood or irritable mood	apathetic, sad or angry facial expression; lack of emotional reactivity; upset; crying; tantrums; verbal and physical aggression carefully judged for context	irritability; crying; tantrums; verbal and physical aggression carefully judged for context
2. Markedly diminished interest or pleasure in most activities	withdrawal; lack of reinforcers; refusal to participate in leisure activities or work; change in ability to watch TV or listen to music	withdrawal; diminished or suddenly exclusive pursuit of fascinations and obsessions, rituals and compulsions
3. Significant weight loss; decrease or increase in appetite	tantrums at meals; stealing food; refusing activities; hoarding food in room	food refusal; restriction of intake to a few ritualized items; indiscriminate hyperphagia
4. Insomnia or hypersomnia	may or may not be able to self-report sleep problems; if living with others, may report being up at night; others may note going to bed quite late; if living in staffed situation, staff may note being up at night; any change in sleeping habits; tantrums or activity during sleeping hours; noted sleeping or napping during the day	may or may not be able to self-report sleep problems; if living with others, may report being up at night; others may note going to bed quite late; if living in staffed situation, staff may note being up at night; any change in sleeping habits; tantrums or activity during sleeping hours; noted sleeping or napping during the day
5. Psychomotor agitation or retardation	pacing, hyperactivity; decreased energy, passivity; development of obsessional slowness in activities of daily living; muteness; whispering; monosyllables; increase in SIB or aggression carefully judged for context	decreased energy, passivity; development of obsessional slowness in activities of daily living; muteness; whispering; monosyllables; increase in self-injurious behavior or aggression, rituals and compulsions
6. Fatigue or loss of energy	appears tired; refuses leisure activities or work; withdraws to room; loss of daily living skills; refusal to do personal care; incontinence due to lack of energy/motivation to go to bathroom; work production decreases; does not want to join activities; just watches TV, sitting for long periods of time	appears tired; withdraws to room; loss of daily living skills; refusal to do personal care; incontinence due to lack of energy/motivation to go to bathroom
7. Feelings of worthlessness	statements such as "I'm stupid" or "I'm bad" or "I'm not normal"	statements such as "I'm stupid" or "I'm bad" or "I'm not normal"
8. Diminished ability to think or concentrate	poor performance at work; change in leisure habits and hobbies; appears distracted	poor performance at work; change in leisure habits; appears distracted

TABLE 2. DSM-IV CRITERIA FOR MAJOR DEPRESSIVE EPISODE WITH PROPOSED MR/DD EQUIVALENTS AND PDD EQUIVALENTS^{5,17,18,27,28,29} (CONT.)

DSM-IV CRITERIA	MR/DD EQUIVALENTS	PDD EQUIVALENTS
9. Recurrent thoughts of death, suicidal behavior or statements	perseveration on the deaths of family members and friends; preoccupation with funerals	perseveration on the deaths of family members and friends; preoccupation with funerals
<i>B. The mood disturbance is sufficiently severe to cause marked impairment in occupational functioning or in usual social activities or relationships with others, or to necessitate hospitalization to prevent harm to self or others, or there are psychotic features.</i>		
<i>C. The symptoms are not due to the direct physiological effects of a substance (e.g., abuse of a drug, medication, or other treatment) or a general medical condition (e.g., hyperthyroidism).</i>		
<p><i>Hypomanic Episode</i></p> <p>a. A distinct period of persistently elevated, expansive, or irritable mood, lasting throughout at least four days, that is clearly different from the usual non-depressed mood.</p> <p>b. During the mood disturbance, three (or more) of the symptoms of a manic state have persisted (four if the mood is only irritable) and have been present to a significant degree.</p> <p>c. The episode is associated with an unequivocal change in functioning that is uncharacteristic of the person when not symptomatic.</p> <p>d. The disturbance in mood and the change in functioning are observable by others.</p> <p>e. The episode is not severe enough to cause marked impairment in social or occupational functioning, or to necessitate hospitalization, and there are no psychotic features.</p> <p>f. The symptoms are not due to the direct physiological effects of a substance (e.g., abuse of a drug, medication, or other treatment) or a general medical condition (e.g., hyperthyroidism).</p>		

It is important to note that, in contrast to unipolar depression, disturbances in appetite are not a hallmark of this disorder. If the patient is not eating, it is usually secondary to just being "too busy."

5. *MORE TALKATIVE THAN USUAL OR PRESSURE OF SPEECH*

The flow of thought is so accelerated ("thought racing") that speech becomes rapid and insistent, sometimes with irritation if the patient is interrupted or not permitted to come to a conclusion. When this is so rapid as to become a positive rain of words, it is referred to graphically as "logorrhea," an incontinence of language. In some persons with DD, this may take the form of a usually mute person becoming unexpectedly talkative. In persons with more severe MR, pressured speech may take the form of talking much more loudly, or of frequent non-contextual vocalizations.

6. *FLIGHT OF IDEAS*

Patients are so accelerated, their concentration so poor, that ideas flow with little connection. A man may talk of projects at work, mixing them up, and adding more, then switching to talk of vacation, all the time very certain of his thoughts and excited about his ideas. This must be carefully discerned from poor conversational skills and limited cognition in persons with DD. In this case, it is most easily identified because it is a change in the person. Rapid shift of conversational topic due to DD would be characterized by a life-long difficulty in that area, rather than a change in conversational style during an obviously disturbed mood state.

In persons with DD and limited cognition and communication, it can be difficult to distinguish flight of ideas from the loosening of associations that characterizes schizophrenia. In a flight of ideas, the train of the patient's thought can be

TABLE 3. DIAGNOSTIC SUBTYPES OF BIPOLAR DISORDER

TYPE	CHARACTERISTICS
Bipolar I	person has a history of at least one manic episode and may have had one or more depressive episodes
Bipolar II	person has recurrent depressive episodes and hypomanic episodes
Cyclothymic disorder	hypomania alternating with episodes of dysthymia (or mild depression) and may also include periods of normal mood (euthymia); although less intense, the effect on personal life is still dramatic, with poor occupational and personal outcome because of the mood lability and instability
Mood disorder due to (organic condition), bipolar type: syndromes that meet criteria for bipolar disorder caused by or associated with other medical conditions (e.g., seizure disorders, endocrine disorders, especially thyroid disorders)	as is usual where there is such an association, the presentation may be atypical; control of the mood disorder ultimately depends upon successful treatment of the underlying or associated medical condition
Pattern: Bipolar disorder may have a course that has or does not have inter-episode recovery; there may be a seasonal pattern; the course may be so frequently recurrent that it is termed "rapid cycling" (more than four episodes a year). Ultradian mania can cause many shifts from mania to depression for long periods within a single day. Chronic mania occurs in about 5% of cases; the course is chronic and exclusively manic, without episodes of euthymia or depression.	

followed easily; when there is loosening of associations, the connections between one topic or sentence and the next may be lost. An example of manic flight of ideas, taken from an interview with a person with mild MR and hypomania, sounds like this:

("Do you have a sister?")

"Sure I have a sister. I have two sisters. She (indicating a caregiver) looks like my sister. She is my sister. She's so pretty. So is my sister. So are all my sisters..."

In contrast, a sample of loosening of associations, from an interview with a person with mild MR the midst of an acute schizophrenic episode, follows:

("Did you go to high school?")

"I graduated from high school. ASDFGHJKL."

("Did you type in high school?")

"ABC, I like to sing."

In persons with more severe cognitive or verbal limitation these two phenomena may be more difficult to distinguish from each other.

7. *DISTRACTIBILITY*

In keeping with the rapid flow of ideas, intrusive thoughts and perceptions may distract the manic individual and contribute to the disorganization of conversation and activity. Persons who already suffer from distractibility, such as those with a pervasive developmental disorder may show this trait to an even greater degree than usual. One way to assess distractibility is to determine if work production has suffered. This can be difficult if paid work is variable. In persons who have steady paid work, however, a significant decline in pay may signal increasing distractibility.

8. *INCREASED GOAL-DIRECTED ACTIVITY/ PSYCHOMOTOR OVERACTIVITY*

Persons in a hypomanic or manic state sustain levels of activity that would exhaust a person in a normal mood or "euthymic" state. Where there is equivocal sleep disturbance and irritable instead of euphoric mood, overactivity can usually distinguish mania from depression (except in agitated depression); the depressed person typically withdraws and is underactive. In

persons with severe cognitive limitation, the purpose of an activity may not be readily apparent, and differentiation of purposeful overactivity from purposeless hyperactivity can be difficult. Increase in activity level from baseline is the key. Nevertheless, the purposeless activity of psychomotor agitation is sufficient to meet this criterion.

9. *INCREASED PLEASURE SEEKING*

This may take the form of hypersociability ("life of the party"), intrusiveness (seeking interaction clearly not desired by another party, unredirectable "butting in"), or hypersexuality (unwanted or inappropriate sexual approaches, frequent masturbation, unusual sexual behavior not observed in euthymic state). Persons with access to such activities may suddenly gamble or seek intoxicants. Spending sprees may occur (in persons with limited funds this may be subtle). For instance, a moderately retarded man with \$10 in his personal needs account who spends \$10 on candy for peers and staff has just spent his total savings.

DIAGNOSIS OF BIPOLAR DISORDER IN PERSONS WITH SEVERE AND PROFOUND MENTAL RETARDATION

Because of limited behavioral repertoire, limited communication ability and regimentation of their lives, persons with severe and profound mental retardation (SMR/PMR) may be unable to communicate elevated mood or self-esteem, demonstrate pressured speech, rapid flow of ideas or logorrhea, or act out pleasure-seeking or independent goal-directed behavior. Diagnosis of bipolar disorders in persons with SMR/PMR therefore rests on observations of sleeplessness, overactivity and irritability occurring together during discrete periods over time.¹³ Intrusiveness and lability of mood may also be observed. Overactivity and intrusiveness distinguish such episodes from depressive episodes that will be characterized by withdrawal and underactivity. Another clue to bipolar disorder is a cyclic pattern of target behaviors such as aggression or SIB. The staff may be so focused on these behaviors that associated features such as sleep disturbance and irritability may be overshadowed.

DIAGNOSIS OF BIPOLAR DISORDER IN PERSONS WITH PERVASIVE DEVELOPMENTAL DISORDERS

Bipolar disorder is probably common in persons with pervasive developmental disorders,¹⁴ but exact prevalence is unknown due to controversy over diagnostic criteria for both pervasive developmental disorder (PDD) and bipolar disorder in persons with SMR/PMR. Bipolar disorder often presents in persons with PDD as sleeplessness, irritability and dramatically increased frequency of already bizarre or compulsive/ritualistic behavior. If such a patient is encountered after years of chronic mania, this state may be mistaken for his or her baseline functioning, and the diagnosis can be missed.

DIFFERENTIAL DIAGNOSIS/THE MISDIAGNOSIS OF BIPOLAR DISORDER

In recent years, successful treatment of bipolar disorders in persons with mental retardation has often resulted in a dramatic improvement in their functioning. Consequently, many staff are vigilant to find evidence of cyclic behavioral patterns that may be indicative of bipolar disorder. While this vigilance has definitely detected some previously undiagnosed individuals, there have also been some "false positives," incorrect diagnosis of bipolar disorder in persons whose behaviors have another explanation. Furthermore, it is relatively easy for support staff to "stack the deck" and present data so as to maximize the "cyclic nature" of the target behaviors. If the person has some sleep disturbance and irritability, it may be possible to persuade the psychiatric consultant that the individual needs a mood stabilizer. While this scenario probably does not happen often, it may occasionally occur in someone with a history of serious maladaptive behavior such as physical assaultiveness who staff believe is "undermedicated."

Even when staff are not embellishing the cyclic pattern, other conditions can account for cycles of maladaptive behavior. These conditions can be grouped as environmental, psychosocial, medical or psychiatric.

1. ENVIRONMENTAL

Examples of environmental causes for cyclic behavior include potential differences in recording an individual's target behaviors when relief staff (evenings, weekends, vacations, maternity leaves, etc.) work or when there is a frequent turnover in staff. Another potential cause for a pseudobipolar picture is adoption of a new data recording system. Aggression is a particularly problematic target behavior, especially if staff had been doing frequency counts and then switch to measure severity. Another potential cause for variability in data collection is frequent turnover of psychiatric consultants, each of whom want slightly different data. This is especially critical in sleep data. Does the psychiatrist want a) total nighttime sleep, b) total nighttime sleep plus daytime naps, c) nights with less than five hours of sleep, d) nights with awakening before 4:30 a.m. or e) 24-hour sleep/wake activity?

One commonly overlooked explanation for annual escalation of target behaviors is survey times. It is not unusual for surveys to be frenetic times for staff and thus for individuals. Schedules may be disrupted; strangers may be intruding. There may be attempts to increase participation in activities only to be met with strong resistance by the individual. The result can be a dramatic escalation of targeted behaviors. If the survey comes at the same time each year and the individual reacts in the same way each year, it would be tempting for a consultant to look at five years of data and conclude that the person is bipolar.

2. PSYCHOSOCIAL

Although parents typically do not maintain data on their sons or daughters living at home, even at home, the real reason for cyclic behavior problems may be obscured. One individual with severe MR in his 30's lived with his mother who had progressively worsening diabetes mellitus. Whenever his mother required hospitalization, he would end up in crisis and sometimes hospitalized. As long as he lived at home, his old team understood the pattern and focused on crisis management. When his mother died and he required placement with a different agency, the new treatment team only saw the documentation of hospitalizations and made some inaccurate conclusions about the individual's "bipolar" history. Furthermore, his mother died on Halloween, leading to an anniversary reaction and increased SIB every fall when the workshop and

living area were decorated with witches, ghouls and goblins.

Living with other individuals with true bipolar disorder can occasionally make someone show a cyclic behavior pattern. Imagine if Ms. X.'s roommate needed only two hours of sleep a night, made unwanted sexual advances, picked fights, and constantly yelled; what effect would that have on Ms. X.? One would predict that Ms. X. might display more targeted behaviors. Moreover, what if the roommate showed a pattern of such behavior over several years? Although one would assume that the roommate would get the needed treatment and stabilize, it still could have quite a disruptive effect on Ms. X. If the roommate's problems were not explicitly presented, Ms X.'s behavior pattern could be misinterpreted as bipolar.

3. MEDICAL

Medical problems can be recurrent or cyclic. The following section on potential medical disorders is not meant to be an exhaustive review. Instead, it is hoped that the section highlights a few conditions to consider when observing someone with cyclic behavior.

An obvious example of cyclic medical condition is seasonal rhinitis (e.g., hay fever). If the sneezing and watery nose are absent, and the presentation is only seasonal conjunctivitis ("red eye") or seasonal chronic cough, the allergic component could be missed. One can imagine an individual with seasonal conjunctivitis rubbing his or her eyes and staff attributing the redness only to the rubbing. Winter molds may be a less obvious seasonal allergic condition.

Some infections can be cyclical. Influenza obviously is seasonal. Other infections are less obvious. Certain parasitic infections (e.g., giardia) are seasonal. Giardiasis can also have a subacute or chronic phase characterized by intermittent bouts of soft stools, heartburn and gas.²³ Inflammatory bowel disease (e.g., ulcerative colitis) can show seasonal onset and relapse.²² Ulcerative colitis may manifest as abdominal cramping and bloody diarrhea. Unless the physical symptoms are observed, these conditions may only be recognized by the resulting behavioral disturbance and can go undetected for a long while.

Cluster headache is a vascular headache that typically occurs in men. These headaches occur most often in spring and fall.²¹ They are characterized by sharp, unilateral pain in one eye

accompanied by nasal stuffiness, eye redness, and tearing. In persons with severe or profound MR, cluster headaches can be missed, especially if the person hits his face because of the pain. Then the eye redness or tearing could be misattributed to the SIB. Migraine is another vascular headache that affects 18% of women and 6% of men.¹⁵ Often, in women, migraine is associated with the menstrual cycle and tends to occur in the premenstrual period. In classic migraine, besides the throbbing headache, there can be neurologic signs such as numbness and tingling of a limb.²⁰ If Lipton and Stewart's¹⁵ estimate of the prevalence of migraine is accurate for a DD population, migraine is more common than bipolar disorder. Surprisingly, a Medline search using "mental retardation" and "migraine" as the key words yielded no articles between 1980-1998. The last article found was by Hockaday¹² on basilar migraine in childhood. It appears that the field has neglected the area of migraine in persons with DD.

The menstrual cycle can cause exacerbations of epilepsy, asthma, rheumatoid arthritis, irritable bowel syndrome and diabetes mellitus.⁴ Worsening of asthma during phases of the menstrual cycle should be fairly obvious as should diabetes if blood/urinary glucose is routinely monitored. Less obvious may be menstrual worsening of rheumatoid arthritis or irritable bowel, especially if the diagnosis of these conditions has not been made.

4. PSYCHIATRIC

Recurrent mood shifts can be a prominent part of premenstrual dysphoric disorder. Hendrick and Altshuler¹¹ discussed a woman who was misdiagnosed with rapid cycling bipolar II disorder. She did not respond to lithium or valproic acid. Instead, she improved after receiving the antidepressant, sertraline. This case is instructive because many clinicians avoid using antidepressants in persons with rapid cycling for fear of precipitating mania or even more rapid cycling.

It is important not to mistake seasonal affective disorder for bipolar disorder because the treatment is different (light therapy vs. mood stabilizers). As with antidepressants, some clinicians are reluctant to use light therapy because of the risk of precipitating a manic episode.²

Although it is useful to consider premenstrual dysphoric disorder or seasonal affective disorder,

in the general population the three more common psychiatric disorders that cause potential diagnostic confusion are 1) schizophrenia, 2) agitated depression, and 3) attention deficit hyperactivity disorder (ADHD). In the general population, there has been greater care given to differentiate schizophrenia from bipolar disorder than there was before lithium was available. Mood stabilizers have revolutionized treatment of serious mental illnesses. As Sovner²⁶ and others have pointed out, it is quite difficult to diagnose schizophrenia in a person with an IQ below 45.

A more relevant differential is between agitated depression and bipolar disorder. Agitated depression is not a DSM-IV diagnosis per se, but it is a clinical condition that psychiatrists treating geriatric patients often see. The typical individual is a woman in her 60's who looks quite distressed. She is constantly wringing her hands and her thoughts keep revolving around what a terrible person she is. She has great difficulty sleeping at night. If the patient is verbal, the thought content of "gloom and doom" leads one to the correct diagnosis. Moreover, the person often complains about the lack of sleep. Schatzberg²⁵ notes that in agitated depression, although the rate of thinking is increased, the content is almost always negative. Furthermore, although there may be increased motor activity (e.g., pacing), it is without purpose and not goal-related. However, as noted above, the motor activity in bipolar disorder may also be purposeless. Ultimately in lower functioning individuals, the distinction between agitated depression and bipolar disorder may be on the basis of whether there is a reduced need for sleep.

In the general population, it is often difficult to determine if the individual has ADHD, bipolar disorder or both. There is some value in making an accurate diagnosis because stimulants could exacerbate bipolar symptoms, especially if the person concurrently is not on mood stabilizers.²⁵ To date, there does not seem to be a parallel surge in the DD population as there is in the general population, to diagnose ADHD in adults. Overall, the use of stimulants in persons with MR, especially with severe and profound levels, has been disappointing.

ASSOCIATION OF SIB AND AGGRESSION WITH BIPOLAR DISORDER

Charlot, et al⁶ found that over 40% of individuals with MR and bipolar disorder also showed SIB. Lowry¹⁶ proposed that the

coexistence of bipolar disorder and SIB is more than coincidence. In a later paper, Lowry¹⁸ provided two hypotheses for the association of SIB and aggression in bipolar disorder. The first is the Bio-Psycho-Social Model and the second is the Irritability Model. The Bio-Psycho-Social Model postulates that internal mood states closely interact with everyday events governed by basic learning rules. This model attempts to explain how routine staff requests can precipitate SIB or aggression. For example, Mr. B. has lately been moving quite rapidly and talking very loudly. Staff repeatedly ask him to slow down and speak more quietly. Mr. B. "learns" that whenever he hits himself, staff don't bother him about slowing down and talking softer. Thus, over time, Mr. B. learns to control unwanted caregiver requests through SIB or aggression. The Irritability Model notes that mania and depression are often associated with being angry and irritable. During these pathological mood states, an individual is much more likely to demonstrate excessive anger. In turn, this anger will likely be manifested by SIB and/or aggression.

Carroll³ developed a tripartite model of brain mechanisms in bipolar disorder, growing out of the observation that the most common psychiatric illness among relatives of persons with manic depression is not bipolar disorder, but recurrent unipolar depression.¹⁰ Goodwin and Jamison¹⁰ use Virginia Woolfe's family to illustrate. Of the ten members with a psychiatric illness, only two had bipolar disorder. The rest had unipolar depression, cyclothymia, or unspecified psychosis. Nevertheless, it is thought that 25% of patients with unipolar depression eventually switch and have a hypomanic or manic episode. Carroll³ incorporates these genetic findings into a theory that individuals with bipolar disorder may begin with a risk for recurrent depressions as well as having an additional genetic risk for bipolar disorder. This has led him to believe that people with manic depression have dysregulation in three areas of the brain: the reinforcement-reward, central pain, and psychomotor activity areas. The dysregulation of the reinforcement-reward area would account for individuals not enjoying previously pleasurable activities (anhedonia) while depressed and pursuing too many projects while manic. Abnormalities in basal ganglia could lead to psychomotor abnormalities. Carroll's hypothesis has potential appeal for explaining the association of SIB with bipolar disorder. If there is dysfunction in the central pain pathways,

including the perception of pain, then SIB becomes much more understandable in an individual suffering through a manic or depressive exacerbation.

CONCLUDING COMMENTS

Present thinking about bipolar disorder has changed and is changing continuously. The category of "mood disorders" is becoming increasingly heterogeneous. Many cases of unipolar depression may in reality be subtle bipolar disorder; it is well known that antidepressant medication, stimulants, or sleep deprivation can cause a switch in many patients. Further, research clearly shows that this condition is a life-long, chronic condition, with many episodes of severe disturbance for patients. Thus, it is critical that persons suffering from this disorder be identified as early as possible and that comprehensive treatment be offered.

For persons with MR/DD, the diagnosis of this disorder will remain difficult for all but those who function at the highest levels of mild MR or borderline/normal intelligence who can also adequately verbalize their symptoms. Clinicians and other support-service providers must remain very aware of this condition while not succumbing to over-diagnosis of the disorder on the basis of spurious "cyclical" behavioral disturbance. It is our hope that solid research on this condition in persons with disabilities will advance clinical thinking of its presentation and treatment in this special population.

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