



The Assessment and Management of Depression in the Adult Person with Mental Retardation and Developmental Disabilities (MR/DD)

1. Overview:

Depression is a common disorder that can produce significant behavioral and functional disability for the patient with MR/DD (**See Table 1**). The clinical manifestation for depression depends upon the level of intellectual disability of the patient as well as other variables such as age, health conditions, location of residence, etc.

Failure to identify and treat depression in the patient with MR/DD can produce significant functional and medical morbidity for the patient. The nomenclature for mood disorders in the population with MR/DD is identical to the regular DSM criteria and the treatments for these diseases are similar to that for persons with normal intellect (1), (2), (3).

	Young (%)	Old (%)
Depression	4.1	6.0
Mania	0	0.7
Past history of Mood Disorder	6.9	15.7
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2. Understanding Terminology

Mood, affect, and emotions may be confusing terms. **Mood** is the pervasive emotional tone reported by the patient. **Affect** is the emotional state observed by the clinician, and **emotions** are fleeting events. Self-description of mood requires communication skills. A person's affect can be determined by watching the emotional behavior (**See Table 2**). Mood cannot be determined during a brief cross-sectional assessment and usually requires long-term observations provided by family or other caregivers. The current affect may not represent the patient's mood. For example, a patient with sad mood may smile or laugh for brief periods of time (3).

Table 2

Term	Typical Duration	Examples
Mood	Weeks to months	Depression, Mania
Affect	Hours to days	Tearful, sad, elated
Emotions	Minutes to hours	Laugh, sigh

Mood disorders have a complex diagnostic system that involves multiple sub-classifications of depression and mania, e.g., dysthymia, bipolar Type 2, etc. (3). These classifications have not been validated in persons with mild MR and this system probably has very limited application to the individual with severe or profound MR. In general, the clinician should determine whether a mood is normal, i.e., euthymic, depressed or elated. Dysthymia can be diagnosed in the patient with mild MR/DD and these patients often manifest significant anxiety (4).

Emotional modulation is an intellectual function that is altered in many forms of MR/DD. Specific syndromes, e.g., autism, include emotional dysfunction as part of the cognitive syndrome. Depression should be a pervasive, persistent lowering of mood from the patient's

baseline level function. Neurovegetative symptoms reflect physiological alterations and these manifestations include change of appetite, sleep, or physical energy (3). Transient mood alterations or emotional lability do not qualify as depression and this diagnosis should include neurovegetative symptoms as well as emotional dysregulation. Catastrophic reactions are massive emotional outbursts, often related to stress. Catastrophic reactions best respond to behavioral interventions.

Depression may be caused by dysfunction of discrete brain regions including orbito-frontal cortical systems, basal ganglia to frontal lobe circuits, and dysregulation of catecholamines (3). Specific medical conditions and genetic syndromes increase the risk of depression (See Table 3).

3. Epidemiology of Depression

Psychiatric disorders are common in the MR/DD population with numbers between 10-37% (5). The frequency of depression is affected by the age of the patient, severity of intellectual disability, as well as the etiology for the neurodevelopmental disorder. Mood disorders occur in 4-9% of these adults. The frequency is greater in the geriatric population with one study demonstrating 4% in young persons and 6% in the elderly with MR/DD(6). Past history of mood disorders are common with 6.9% in younger patients and 15.7% in older individuals (See Table 1). The frequency of depression in institutional settings may be greater than that in the home setting. Individuals with seizure disorders have a greater risk for developing depression than other individuals. No specific cause of MR/DD is more likely to produce depression although several genetic causes of mental retardation have higher rates of depression (See Table 3), (7). The composite picture of the person at greatest risk for depression is the institutional-dwelling, mentally-retarded older individual with multiple medical and neurological problems. Although studies show that many patients with MR/DD suffer from significant psychiatric problems, approximately three-fourths of these patients never receive subspecialty care for this disorder (2), (8), (9), (10).

Table 3. Genetic Syndromes Associated with Depression Based on Limited Available Data (7)

- Down's Syndrome
- Prader-Willi Syndrome
- Williams Syndrome
- Velocardiofacial Syndrome
- Turner Syndrome

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4. Clinical Features and Assessment of Depression

Depression in the patient with MR/DD can produce five types of clinical symptoms: 1) psychiatric, 2) behavioral, 3) cognitive, 4) functional, and 5) medical (See Table 4). Most patients demonstrate some mixture of symptoms from each cluster. The assessment of depression in the patient with MR/DD requires that the examiner consider the level of intellectual function and patient's verbal fluency in order to determine whether the patient can describe their internal state for features such as mood and thought (11), (12), (13). The clinician should solicit observations provided by caregivers who are knowledgeable about the patient. The patient with MR/DD may respond to the stress of the physician visit by withdrawal or abnormal behavior and the patient may need to become familiar with the physician to demonstrate genuine emotions. The behavioral specialist can provide direct observational data

for non-verbal persons who are unable to describe mood and affect. The clinical manifestations of depression depend upon the severity of intellectual disability. The three psychiatric symptom clusters necessary for evaluation include psychological, behavioral and neurovegetative (14), (15). Patients with severe MR/DD are more likely to manifest depressed affect, insomnia, and appetite disturbance than those with mild to moderate MR/DD. The severe to profoundly retarded person is also more likely to manifest significant behavioral problems such as self-injurious behavior (SIB), aggression, and psychomotor agitation. Behavioral symptoms such as screaming, stereotypical behavior, and weight loss are common in the patient with severe or profound mental retardation while both groups appear to manifest symptoms of anxiety (See Tables 5 and 6). The mild to moderately retarded person may demonstrate more symptoms in the psychological and neurovegetative domain, while severe to profoundly retarded persons may manifest by behavioral abnormalities. Medical manifestations of depression in both groups include weight loss, diminished activity, and an increased sense of pain. Cognitive manifestations of depression in both groups include diminished communication, decreased functional ability, and diminished academic performance in the learning setting. Functional regression may include refusal to ambulate or new-onset incontinence.

Table 4

Symptom Clusters Associated with Depression in the person with MR/DD

Cluster	Possible Symptom
Psychiatric	↓ Mood, psychosis, anxiety
Behavioral	SIB, resistiveness
Cognitive	↓ Intellectual Function
Functional	↓ ADL
Medical	↓ Ambulation ↓ PO intake ↓ Bowel movement

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Dysthymia does occur in person with mild to moderate retardation (4); however, this clinical condition is extremely difficult to diagnose in severe to profoundly retarded persons. The diagnosis of dysthymia should be limited to those individuals with mild mental retardation and sufficient intellectual ability to explain sophisticated internal events. Anxiety is a predominant symptom seen in dysthymia (See Table 4), (5).

Table 5

Psychiatric Symptom Clusters of Depression for the Person with MR/DD

1. **Psychological:** e.g., ↓ interest, ↑ morbid thoughts
↑ anxiety
2. **Behavioral:** e.g., ↑ aggression, SIB
3. **Neurovegetative:** e.g., ↓ sleep, ↓ appetite

(14), (15)

Table 6

Symptoms of Depression Based on Severity of MR

MMR- ↑ psychological, ↑ neuro-vegetative, ↓ behavior

SMR - ↑ behavioral, ↓ psychological, ↑ neuro-vegetative

MMR –Mild MR SMR – Severe MR

(14), (15)

Once there is reasonable certainty that there are no medical explanations for the depressive symptoms, an assessment of psychiatric symptoms should be conducted. Individuals with intellectual disabilities are more likely to have behavioral manifestations of psychiatric symptoms when they occur and are less likely to be able to verbalize in a sophisticated way about what they are experiencing. Some assessment tools designed for aiding the identification

of psychiatric symptoms in individuals with intellectual disabilities include the DASH-II (Diagnostic Assessment for the Severely Handicapped – II), the ADD (Assessment of Dual Diagnosis), and the REISS Screen. These instruments have taken symptoms for the various diagnostic categories in the DSM and translated them into descriptions of behaviors that have been associated with particular diagnostic categories. This kind of assessment can also help sort out which behaviors are manifestations of a psychiatric disorder and which behaviors are results of learning. Functional behavioral assessments need to be conducted for the latter when identified. Standard depression scales, such as the Hamilton, are not valid in the patient with mental retardation.

5. Differential Diagnosis of Depression in the Patient with MR/DD

The biomedical, psychosocial approach to depression in this population outlines a comprehensive assessment for the differential diagnosis. Depression is a biological disorder and any type of structural brain lesion (stroke, multiple sclerosis, tumor, etc.) increases the likelihood of depression (3). Delirium, endocrinological abnormalities such as hypothyroidism or diabetes, and other health problems can mimic depression (16). Medical complications are common in the patient with MR/DD and many medication side effects can mimic depression including steroids, anticonvulsants, sedatives, and certain hypertensives such as Aldomet. Unrecognized medical problems such as infections or neoplasia can also produce depressive-like symptoms. Studies have demonstrated health problems as the source of psychiatric symptoms including arthritic pain (6.5%), medical depression (8.2%), seizures (3.8%), and delirium (16), (17). Many anticonvulsants can produce apathy and withdrawal when blood levels exceed therapeutic range, e.g., dilantin, phenobarbital. Many psychological stressors can produce depressive-like symptoms in the patient with MR/DD, including bereavement and post-traumatic stress disorder. The death of a caregiver can produce serious psychiatric symptoms. Bereavement that lasts over six months and produces significant functional deterioration or precipitates suicidal ideas may require antidepressant therapy. The new onset of unexplained anxiety symptoms should trigger a search for depression. Anxiety, somatic complaints, and pain symptoms are common symptoms of depression. Social stressors can precipitate depressive symptoms including social isolation and abusive situations. Substance abuse can mimic depression, especially in persons with mild mental retardation. A serum or urine toxicology screen may be indicated for younger individuals with mild retardation who demonstrate depressive symptoms.

Suicidal behavior is a concern in all patient groups, especially those with mild to moderate mental retardation and those with a history of substance abuse. Patients with suicidal ideas, expressed intent or past suicide attempts require increased monitoring. When in doubt, the clinician should refer the depressed suicidal patient to a psychiatrist for acute hospitalization.

The assessment of depression in a person with seizure disorder requires an evaluation to determine whether the patient is having more seizures with prolonged post-ictal confusion as well as assessment of antiepileptic blood levels to be exclude delirium produced by toxic levels (17).

6. Therapy for Depression

Treatment for depression requires a biomedical, psychosocial approach (3). The correction of contributory medical problems such as pain, infection, thyroid disease or other disorders is essential to appropriate management of depression. In general, medical problems should be corrected prior to deciding on the use of antidepressant medication (17). Treatment guidelines call for psychological and behavioral interventions for persons with adequate intellect to benefit from these methods as a form of psychological intervention. Social interventions require a supportive, calm environment that minimizes isolation. Medications are the mainstay for the biological component to the disease (See Table 8). Three broad categories of antidepressants are used in the treatment of depression including the first, second, or third generation of medications (See DDMED 55). Electroconvulsive therapy is a separate type of therapy which is highly effective in selected patients. Other treatments such as light therapy, magnetic stimulation, etc., have not been studied in the patient with MR/DD (18).

Clinicians often commence therapy with the selective serotonin reuptake inhibitors (SSRIs) (19). Specific therapeutic target symptoms should be defined and monitored (See Table 7). The initial and maximum target dose should be adjusted based on frailty, age, and neurological problems of the patient. Pregnancy should be excluded in all women of child-bearing age prior to initiation of therapy. The published, clinical literature does not identify a specific SSRI as most effective in persons with mental retardation. Consensus guidelines call for the initial use of an SSRI in the treatment of depression (20), (21). The clinician should avoid adjunctive therapy with anti-anxiety medications, like benzodiazepines, unless absolutely necessary. The benzodiazepines can sometimes produce confusion and additional depressive symptoms that obscure the clinical outcomes (22). The clinician should also avoid the use of antipsychotic medications unless the patient is having significant psychotic symptoms or potentially dangerous behavioral problems that require this aggressive intervention.

Table 7
Treatment of Depression in the Person with MR/DD

1. Determine target symptoms.
2. Assess medical and neurological risk factors.
3. Prescribe medication.
4. Prescribe adequate doses for sufficient length of time.
5. Determine outcome

The second line of treatment, based on consensus guidelines, includes medications such as bupropion, venlafaxine, and tricyclic antidepressants. The treatment strategy should include the minimum of six weeks trial of a single SSRI at optimal dose followed by a cross-titration with trial of a second SSRI. Failure of the second SSRI at six weeks should precipitate a re-evaluation of the patient and confirmation of medication compliance. The clinician may switch from an SSRI to a tricyclic antidepressant, i.e., nortriptyline, with titration of blood levels to the 50-100 level for six weeks (See Table 8).

Table 8
Common Dose Ranges for the Prescription of Antidepressant Medications for the Adult Population with MR/DD (20), (21), (23), (24)

Medication Class	Healthy/Adult Daily Dose Range	Frail/Elderly Daily Dose Range	Comments (See PDR for full description)
1st Generation (TCA's)			
Nortriptyline	25-150mg	10-100mg	Therapeutic Level (50-150ng/ml)
2nd Generation (SSRI's)			
Fluoxetine	10-80mg	5-40mg	Generic Available. May be Activating
Paroxetine	10-60mg	5-30mg	Generic Available. Anticholinergic
Sertraline	50-200mg	25-200mg	GI Side Effects. Take With Food
Citalopram	20-60mg	10-20mg	Few Significant Drug Interactions
Escitalopram	10-30mg	5-20mg	Few Significant Drug Interactions
3rd Generation (SNRI's, Others)			
Bupropion	75-450mg	75-300mg	Use Caution With Seizure Disorders
Mirtazapine	15-45mg	7.5-45mg	Weight Gain/Sedate at Lower Doses (<30)
Trazodone	50-300mg	25-150mg	Monitor Priapism and Orthostasis
Venlafaxine	75-375mg	25-225	Monitor for Hypertension
Duloxetine	40-60mg	20-40mg	Dual Re-uptake Inhibitor, All Doses

This table contains common dose ranges of antidepressant medications that are commonly prescribed for persons with MR/DD. Each patient requires an individualized prescription based on medical and psychiatric features. This information is not a prescriptive guidance. Consult a child psychiatrist for pharmacotherapy in children and adolescents.

Following treatment with three separate medications, the non-responsive patient should be referred to a specialist for additional assessment and management. More aggressive therapies for these individuals include combinations of lithium with tricyclics, other antidepressant medications and eventually, electroconvulsive therapy. Therapeutic failure can be produced by many factors and the clinician should reassess the patient prior to switching medications (See **Table 9**).

Each medication has specific side effects that can be difficult to identify in patients with MR/DD. Nausea, GI distress, akathisia, drowsiness, and sleep disturbance are common problems; especially with the SSRI's. In males with mild to moderate mental retardation who

are interested in sexual function, these medications can produce erectile dysfunction. For the mildly retarded person with an active sexual life, bupropion may represent an adequate compromise to reduce the likelihood of erectile dysfunction as long as the patient does not have seizures (See Table 8).

The patient with MR/DD and bipolar disorder can develop mania as a consequence of antidepressant therapy. The clinician should carefully document periods of elation in the past prior to initiation of antidepressant therapy.

Patients with bipolar disorder and depression may respond to bupropion, as this medication may be less likely to precipitate mania than some other medications. Depressed patients with a past history of antidepressant-induced mania may require the prescription of a mood stabilizer and the antidepressant.

Table 9
Differential Diagnosis of Therapy-Resistant Depression in the Patient with MR/DD

1. Wrong Diagnosis
2. Wrong Medications
3. Inadequate Dose
4. Inadequate Duration
5. Non-Compliance

The choice of antidepressants is individualized on a patient-by-patient basis. Many individuals may have had previous episodes of depression and the clinician should ask which medication worked in the past. Medication changes should occur when the patient has persistent depression with documented compliance on a specific medication. The addition of a second drug while the patient is still on a full dose of first medication is discouraged and the clinician can commence a taper of one medicine with a cross-titration to the second medicine, e.g., taper Prozac and begin low dose nortriptyline. Precipitous discontinuation of an antidepressant medication, especially SSRI's -- can produce a rebound withdrawal and worsening of some behavioral symptoms. The use of antidepressant polypharmacy remains controversial and a treatment option of last resort.

The decision for therapeutic cessation in a patient who has improved with medication depends upon the individual and clinician. In general, patients with a reactive depression, such as produced in reaction to the death of a loved one, can be considered for dose reduction at six months; however, many patients require a minimum of one-year therapy. Patients with a past history of recurrent major depression that is disabling or disrupting, should remain on the medication for several years. Antidepressant medications are not addictive and have minimal long-term side effects. When the clinician and the patient determine that the dose can be safely discontinued, a slow tapering process should occur with continued outpatient monitoring for up to one year to exclude the possibility of depressive relapses. The family caregiver should be educated on the recurrent nature of depression. Both patient and caregiver should be advised about increased risk for suicidality during antidepressant therapy.

7. Assessing Therapeutic Outcomes

The therapeutic end point is reduction of symptoms as described by the patient and caregiver or as measured by behavioral monitoring. Mildly retarded patients can describe improvement of depressive, psychological symptoms. The clinician must depend on behavioral symptoms to determine efficacy in severely retarded persons or those with severe communication problems.

Minimal behavioral monitoring requires consistent measurements over several days of observation (See Table 10).

Table 10
Methods of Assessing Therapeutic Benefit of Antidepressant Medications

Severity of Mental Retardation	Self-Reporting by Patient	Caregiver Reporting	Behavioral Monitoring
Mild	R	R	H
Moderate	H	R	R
Severe/Profound	U	R	R

R=Required **H**=Helpful, but not always required **U**=Unreliable

The accepted outcome for treatment of depression is substantial remission of symptoms, reduction of behavioral problems, and resumption of previous functions. Slow, progressive improvement is an acceptable measure for continued therapy with the current treatment regimen. Complete remission usually requires 3 to 12 months; depending on the severity of symptoms.

The natural history of depression in the patient with MR/DD is unknown. Most treated individuals will recover. Normal individuals often develop mood disorders in adolescence or early adulthood. Persons with normal intellect often have relapse of depression or develop bipolar disorder after a period of 5 to 10 years into the illness (3). These facts are unknown for the person with MR/DD; however, the clinician can infer that these patients may follow a similar pattern of natural history.

8. Behavioral Management/Psychotherapy

Patients with mild mental retardation may benefit from individual or group psychotherapy for depression. Patients with moderate or severe retardation are poor candidates but may respond to behavioral interventions that maintain activity and daily schedules. Behavioral symptoms produced by depression are best treated with behavioral interventions. Behavioral monitoring is an important measure of symptom relief provided by medications.

Behavior analytic procedures can be included with other treatment modalities for a person who has both a psychiatric diagnosis and intellectual disabilities. Behavioral specialists can determine appropriate training strategies to assist a person with intellectual disabilities to gain better coping skills for dealing with their psychiatric symptoms. Triggers for the symptoms can be identified and strategies taught to staff, family members, and the individual to prevent escalation of the behavioral symptom. Counseling can be provided, keeping in mind that discussions need to be geared toward the level of understanding of the individual. Most counseling should take the form of skill-building and include the chance for positive reinforcement during the learning process. For example, if an individual becomes angry easily due to an impulse control problem, anger management training may be successful when presented in simplistic terms, modeled by the clinician, and practiced repeatedly by the individual in more than one or two sessions. As the person learns the management techniques, positive reinforcement should be delivered to assist with the acquisition and maintenance of the skills.

9. Family Education

Family caregiver or staff should recognize depression as a biological brain disorder that requires patience and therapy. Family should remain supportive and encouraging.

10. Conclusion

Depression is a common disorder of the patient with MR/DD and depressive symptoms may be masked by the patient's intellectual disability. The clinician must use a biomedical, psychosocial approach to the evaluation and the treatment of these individuals **(9)**, **(11)**. Depression can be as disabling in the patient with MR/DD as in other individuals and this disorder should be aggressively treated. Although the long-term outcome from depression in the population with MR/DD is undetermined, the clinician should hope for similar success to that of the normal population, i.e., 90%, improvement or recovery.

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