



Clinical Guide to Medical and Psychiatric Management of Sleep Disorders in the Adult Patient with Mental Retardation and Developmental Disabilities (MR/DD)

1. Overview

The reported rates of sleep disorders in the population with MR/DD range from 13% to 86% (1). These patients may exhibit the full range of sleep disorders identified in other groups. The rates of sleep disorder may vary according to severity of intellectual disability, type of neurological disability, associated medical problems, and intensity of nocturnal stimulation. The rate of sleep problems may vary according to location of residence. Community-dwelling individuals in residential living demonstrate a range of sleep disorders, including problems with sleep induction (26.8%), nighttime awakening (55.6%), parasomnia (14%), and sleep-related breathing problems (15%) (2). Severe locomotor disability, blindness and active epilepsy will increase the likelihood of daytime sleepiness (3). The diagnosis of sleep disorder requires a comprehensive, medical, psychiatric, behavioral, and environmental evaluation to exclude potential causes for the sleep disorder (4). Sedative-hypnotics should only be prescribed as a last option, as these medications have numerous side effects in the person with MR/DD (5). Brain damage that produces MR may also disrupt circadian rhythms. Some moderate to severely retarded individuals may sleep 4 to 6 hours at night and this shortened cycle may be unavoidable.

2. Differential Diagnosis of Excessive Daytime Sleepiness

Excessive, daytime sleepiness can be produced by many clinical conditions (4). Staff should observe the number and duration of sleep episodes during daytime. The differential diagnosis depends upon whether the daytime drowsiness is chronic or acute. Acute, daytime sleepiness can be caused by many problems including excessive sedation, delirium, depression, boredom, or unrecognized medical problems such as endocrine dysfunction, seizures, or heart failure (6), (7). The acute onset of daytime sleepiness should warrant a complete physical and psychiatric evaluation.

Obese patients may be at risk for Pickwickian syndrome and certain neurological disorders may produce sleep attacks (4). Some patients will sleep during the daytime because they are bored or remain awake at night due to excessive environmental stimulation, such as a roommate who snores, screams or turns on the radio (1). These patients require structured daytime activities and a behavioral assessment to manage this behavioral complication. Nocturnal environmental disruptions should be corrected, such as loud noises, yelling, music, etc. Depression can cause isolated daytime sleepiness in the absence of other depressive symptoms.

Chronic, daytime sleepiness may require evaluation in a sleep study center by a sleep specialist to exclude other potential causes for sleep disturbance. Stimulants can be used to enhance alertness after a comprehensive evaluation to exclude other causes such as sleep apnea. These

medications should be a last option as these medications have numerous side effects including agitation, addiction, mania, and worsening of psychosis (8).

3. Differential Diagnosis of Insomnia (Table 1)

Insomnia is a common problem; especially for institutionalized persons. The differential diagnosis of insomnia includes medical, psychiatric, and behavioral problems. The clinician must determine whether the insomnia is acute, chronic, or situational. Abrupt onset insomnia implies some new medical, psychiatric, or behavioral problem. Medications can produce insomnia, especially bronchial-dilators, e.g., theophylline, Albuterol, antidepressants, and caffeinated beverages (7). Noisy, chaotic, sleeping environments, can produce insomnia in all patients, e.g., screaming roommate, noisy day areas, etc. Psychiatric problems produce insomnia, including depression, mania, anxiety, delirium, and psychosis. Post-traumatic stress disorder can produce a range of sleep problems. Specific types of medical problems can awaken a patient at night including pain, respiratory difficulties, and urinary urgency (6), (7).

Table 1. **Differential Diagnosis of Sleep Disorders**

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| <p>A. Excessive Daytime Sleepiness</p> <ul style="list-style-type: none"> • Environmental Disruption of Sleep • Delirium • Depression • Primary Sleep Disorder • Medical Problems • Sleep Apnea <p>B. Insomnia</p> <ul style="list-style-type: none"> • Poor Sleep Hygiene • Environmental Chaos • Medical Problems • Delirium • Unmet Needs • Restless Leg Syndrome |
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4. Assessment of Sleep Disorders

The assessment should include evaluation to exclude new health problems or medication changes. A sleep scan can be performed on patients with a possible diagnosis of sleep disturbance. A proper sleep survey is essential and staff should not inadvertently awaken patients while they check them for their sleep status. Epileptic patients may sometimes awaken following a nighttime seizure and seizure disorder is a risk factor for sleep disturbance (3). Some patients may awaken because of hunger, thirst, or discomfort in the bed, e.g., wet from incontinence of urine or feces. Some medical problems will awaken patients with MR/DD including asthma, pain, muscle spasm or congestive heart failure (3).

The patient with MR/DD is less likely to engage in physical exercise on a regular basis than the general population and over 3/4 will not achieve minimum activity (9). Low levels of physical exercise and high levels of sedentary behavior increase the likelihood of daytime napping and nighttime insomnia. Physical and mental stimulation during the daytime may lessen the likelihood of daytime napping and nighttime sleep disruption.

Many persons with intellectual disability are obese. Obesity and neurological disorders may increase the likelihood of sleep apnea. Staff can monitor patient's sleep at night to document excessive snoring or episodes with prolonged cessation of breathing. Over 1/4 of obese patients with MR/DD can reduce weight with behavioral interventions (10). A variety of medications can induce restless leg syndrome that produces nocturnal restlessness. Patients with symptoms of sleep apnea can be evaluated at a sleep study center and continuous positive airway pressure (CPAP) can be used if the patient is sufficiently compliant to keep equipment on the face (3).

Once there is reasonable certainty that there are no medical explanations for excessive daytime sleepiness, insomnia, or nocturnal restlessness, 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 a result of learning. Functional behavioral assessments need to be conducted for the latter when identified.

5. Therapy for Sleep Disorders (Table 2)

Therapy begins with correction of any medical, environmental or personal care problem that may disrupt sleep (1). The expert consensus panel discourages the use of medications to induce sleep in persons with MR/DD (7), (8). Pharmacological therapy for insomnia is usually the last treatment option. Specific sleep disorders, e.g., sleep apnea, require appropriate intervention, e.g., continuous positive airway pressure (CPAP) therapy. Acute insomnia produced by psychological traumas such as abuse or changes of living environment are appropriate indications for short-term use of sedative-hypnotics while behavioral or psychological interventions reduce stress and anxiety. Zolpidem 5mg qhs or Desyrel 25-50mg hs can be used to assist with sleep for one or two weeks. The consensus guidelines for treatment of insomnia encourage minimal use of benzodiazepines. Benzodiazepines and barbiturates should be avoided because these medications can produce confusion and rarely correct chronic insomnia (11), (12). Chloral hydrate and meprobamate are not recommended for use in persons with MR/DD. Long, half-life benzodiazepines such as Klonopin, Valium, Librium or Dalmane should not be used for sleep purposes. Over-the-counter preparations, such as diphenhydramine, hydroxyzine, and alcohol produce no significant hypnotic effect but rather sedate and confuse the person with MR/DD.

The therapeutic efficacy of nightly benzodiazepine therapy for insomnia is usually diminished after 4-6 weeks producing the need for escalating doses of medication to maintain sleep. Discontinuation of the benzodiazepine

Table 2
Efficacy of Sedative Hypnotics for Adu
with MR/DD

| | Acute, Short-term | Chronic Long-ter |
|--------------------|----------------------|---------------------|
| Temazepam | H | A |
| Zolpidem | H | C |
| Trazedone | H | C |
| Benadryl | A | A |
| Vistaril | A | A |
| Seconal | A | A |
| Klonopin | A | A |
| Meprobamate | A | A |
| Chloral Hydrate | A | A |

can produce rebound insomnia. In general, long-term benzodiazepine therapy for sleep produces more side effects than benefits, including increased risk for falls, GERD, and other accidents (5). The long-term management of sleep disorders focuses on behavioral interventions to assist with sleep and medical or psychiatric interventions to reduce disorders that worsen insomnia. Pharmacological interventions are best limited to Desyrel, zolpidem and eszopiclone (See Table 2 and 3). Physicians should avoid medications that produce daytime sleepiness and minimize medications that produce insomnia. Sedating medications, such as antipsychotics, should be prescribed at bedtime to facilitate sedation but these medications are not indicated for the treatment of sleep disorders (11), (12), (13).

Table 3
Commonly Used Dosing Ranges for Benzodiazepine Anxiolytic or Sedative/Hypnotic Medications for the Adult Population with MR/DD

| DRUG | HEALTHY/ADULT DAILY DOSE RANGE | FRAIL/ELDELY DAILY DOSE RANGE | COMMENTS See PDR for Complete Details | INDICATION FOR SLEEP |
|--|--------------------------------|-------------------------------|---------------------------------------|----------------------|
| Long Acting (t1/2>24hrs) | | | | |
| Diazepam (VALIUM) | ---- | ---- | Very Fast Onset of Action | A |
| Clonazepam (KLONOPIN) | ---- | ---- | No Active Metabolites | A |
| Chlordiazepoxide (LIBRIUM) | ---- | ---- | Useful Treating Alcohol Withdrawal | A |
| Intermediate Acting (t1/2 = 12-24hrs) | | | | |
| Alprazolam (XANAX) | ---- | ---- | Fast Onset of Action | A |
| Temazepam (RESTORIL) | 7.5 - 30mg | 7.5 - 15mg | No Active Metabolites | C |
| Lorazepam (ATIVAN) | 0.5 -1mg | 0.25 - 0.5mg | No Active Metabolites | C |
| Oxazepam (SERAX) | 7.5 - 30mg | 7.5 - 15mg | No Active Metabolites | C |
| Short Acting (t1/2<12hrs) | | | | |
| Zolpidem (AMBIEN) | 5 - 10mg | 5mg | Only Indicated for Acute Insomnia | R |
| Eszopiclone (LUNESTA) | 1 - 3mg | 1 - 2mg | Indication for Chronic Insomnia | R |
| <p>All benzodiazepine medications may be addictive and produce delirium, falls, or excessive sedation. These medications are not recommended for children.</p> <p>A – Avoid Use C-can be used with caution R-can be used for insomnia</p> | | | | |

Chronic sedative-hypnotic usage should be avoided for the person with MR/DD until a complete medical and psychiatric evaluation is completed and the behavioral analyst has excluded all potential behavioral explanations for insomnia. Antipsychotic medications are never indicated for sleep disturbance.

Nursing home residents with DD/MR cannot receive hypnotics for more than ten continuous days without an attempt at dose reduction. Nursing home survey guidelines discourage the use of benzodiazepines (Survey Tag F329); especially drugs with long half-lives.

Conclusion

Many physical, psychiatric and environmental problems can produce sleep disturbances in persons with MR/DD. Behavioral management is preferable to the use of sedative hypnotics.

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