

Liquid formulations: A practical alternative

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Mr. C, a 78-year-old nursing home resident, wants to discontinue psychotropics because he has difficulty swallowing pills. He receives cholinesterase inhibitors for dementia and an antipsychotic for occasional agitation.

A 45-year-old patient diagnosed with bipolar disorder says that she felt coerced and her personal space violated when she was administered an intramuscular antipsychotic while agitated a few days earlier.

A nurse expresses frustration to the staff psychiatrist about continued disruptive behavior of a patient who has a minimal blood level of a mood stabilizer after 5 days of pharmacotherapy. The nurse suspects the patient is hiding pills in his mouth and later discarding them.

A child psychiatrist worries about her 8-year-old patient's lack of response to an atypical antipsychotic. The mother reveals that the child often does not take his medication because he does not like taking large pills and is afraid of choking.

Clinical scenarios such as these highlight the importance of liquid drug formulations in enhancing compliance and respecting patient autonomy. Liquid formulations of psychotropics are useful for patients who have difficulty swallowing tablets or capsules, such as children or older adults.

continued

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Disclosure: The authors report no financial relationship with any company whose products are mentioned in this article or with manufacturers of competing products. Dr. Balon played no role in the peer review of this article.

Table

Psychotropic medications available in liquid formulation

Generic name (brand name)	Liquid formulation
Alprazolam (Xanax)	1 mg/mL
Aripiprazole (Abilify)	1 mg/mL
Carbamazepine (Tegretol)	100 mg/5 mL
Chlorpromazine (Thorazine)	10 mg/5 mL
Diazepam (Valium)	5 mg/5 mL, 5 mg/mL
Doxepin (Sinequan)	10 mg/mL
Escitalopram (Lexapro)	5 mg/5 mL
Fluoxetine (Prozac)	20 mg/5 mL
Fluphenazine (Prolixin)	2.5 mg/5 mL
Gabapentin (Neurontin)	250 mg/5 mL
Galantamine (Razadyne)	4 mg/mL
Haloperidol (Haldol)	2 mg/mL
Imipramine (Tofranil)	10 mg/5 mL
Levetiracetam (Keppra)	100 mg/mL
Lithium (Eskalith, Lithobid)	8 meq/5 mL
Lorazepam (Ativan)	0.5 mg/mL, 2 mg/mL
Loxapine (Loxitane)	25 mg/mL
Memantine (Namenda)	2 mg/mL
Mesoridazine (Serentil)	25 mg/mL
Midazolam (Versed)	2 mg/mL
Molindone (Moban)	20 mg/mL
Naltrexone (ReVia)	12 mg/0.6 mL
Nortriptyline (Aventyl, Pamelor)	10 mg/5 mL
Oxcarbazepine (Trileptal)	300 mg/5 mL
Paroxetine (Paxil)	10 mg/5 mL
Risperidone (Risperdal)	1 mg/mL
Rivastigmine (Exelon)	2 mg/mL
Sertraline (Zoloft)	20 mg/mL
Thioridazine (Mellaril)	30 mg/mL, 100 mg/mL
Trifluoperazine (Stelazine)	10 mg/mL
Valproate (Depakene)	250 mg/5 mL

Source: References 2,3

Liquid formulations of psychotropics are especially helpful for uncooperative or agitated patients in acute care settings

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Pearls

These formulations also are helpful in acute care settings, especially for uncooperative patients. Monitoring medication ingestion to ensure compliance is another benefit of liquid formulations. Many clinicians administer intramuscular antipsychotics to relieve acute agitation¹; however, patients may consider this approach coercive, and it carries a risk of injury, especially when patients are agitated and uncooperative. Agitated patients may be amenable to ingesting liquid medication instead of oral tablets. Some liquid medications can be mixed with juice, which might help improve medication compliance in children.

The *Table (page 87)*^{2,3} lists some psychotropics that are available in a liquid formulation and their dosage strengths. Be aware of the exact strength of liquid formulations. Educate patients about how to use calibrated dosing spoons to enhance compliance and ensure patients ingest an appropriate dosage.⁴ We hope that using liquid formulations when indicated will enhance patient satisfaction and compliance, leading to improved prognosis.

References

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