

PRACTICAL TIPS FOR RECOGNITION AND MANAGEMENT OF BEHAVIOURAL AND PSYCHOLOGICAL SYMPTOMS OF DEMENTIA

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In 2010, there were 505,351 Canadians affected by Alzheimer's disease and related dementias. This number is projected to grow to 581,252 in 2015 and a staggering 1,042,113 in 2035.¹ This translates to a new case every 5 minutes in 2008, and one every 2 minutes in 2038! The economic burden of dementia is estimated to double in every decade, increasing from \$15 billion in 2008 to a startling \$153 billion in 2038.¹ Patients suffering with dementia typically experience alterations in cognition, function, and behaviour. While all three are affected, it is the behavioural domain that has proved to be the major challenge in dementia care and is experienced by over 90% of patients.¹ These behavioural and psychological symptoms of dementia (BPSD) can cause a great deal of emotional turmoil and pose a physical risk to the patient, family, and other caregivers. BPSD are known to be the most common cause of institutionalization and prolong in-hospital lengths of stay. Many retirement homes and long-term care facilities find patients with BPSD very difficult to care for as these institutions are ill equipped to care for aggressive and disruptive behaviours as their staff are inadequately trained and insufficient in numbers. Safety of other frail and vulnerable residents becomes a major issue, often leading to injuries and even death. The picture is complicated by many patients with BPSD who are incapable of making informed choices regarding the complex decisions related to their own care. This places an additional burden on scarce clinicians' time as they are required to communicate and obtain informed consent from substitute decision makers (SDMs). Since extremely complex clinical issues are at play, SDMs find giving consent a very difficult process, especially when there are multiple family members with divergent opinions involved.

Caregiver Attitude and Education

All persons treating or caring for patients with dementia must be aware of their own attitudes and biases toward the illness and the individual patients. The quality of interaction and personal

“approach” of the caregiver toward each patient varies tremendously, and can significantly affect how a patient responds clinically; this can reduce the need for psychotropic drug use. An appropriate level of understanding of dementia and education related to best care practices are critical for successful outcomes.

Systematic Approach to BPSD

A systematic approach is critical for successful outcomes in dealing with any BPSD. A “SMART” approach is suggested below as an aide for caregivers²:

- Safety – remove patient to safe environment
- Medical – perform an organic workup to treat reversible causes; reduce medication load
- Assess competency – decisions regarding personal care, finances, driving; protect assets
- Rest, nutrition, hydration ensured; address problems with pain, ambulation, vision, hearing, constipation
- Trial of medication – cholinesterase inhibitor/antipsychotic/antidepressant/mood stabilizer

Non-pharmacological Interventions and the Prevention of BPSD

Non-pharmacological approaches and proactive recognition of the behaviour trigger(s) may often avert behavioural crises altogether. Developing simple approaches to address these early signals are the key to preventing BPSD. All patients must have non-pharmacological interventions tailored to their individual care needs for routine implementation. Look for signs of increased levels of distress, irritability, mood disturbance, and suspiciousness. Be alert for a decreased level of social activity, increased time spent in bed, a poor appetite, decreased weight, and a reversal of the sleep-wake cycle. Many BPSD are rooted in frustrations resulting from unmet needs based on social and environmental factors such as social isolation, the need for touch or intimacy, the need

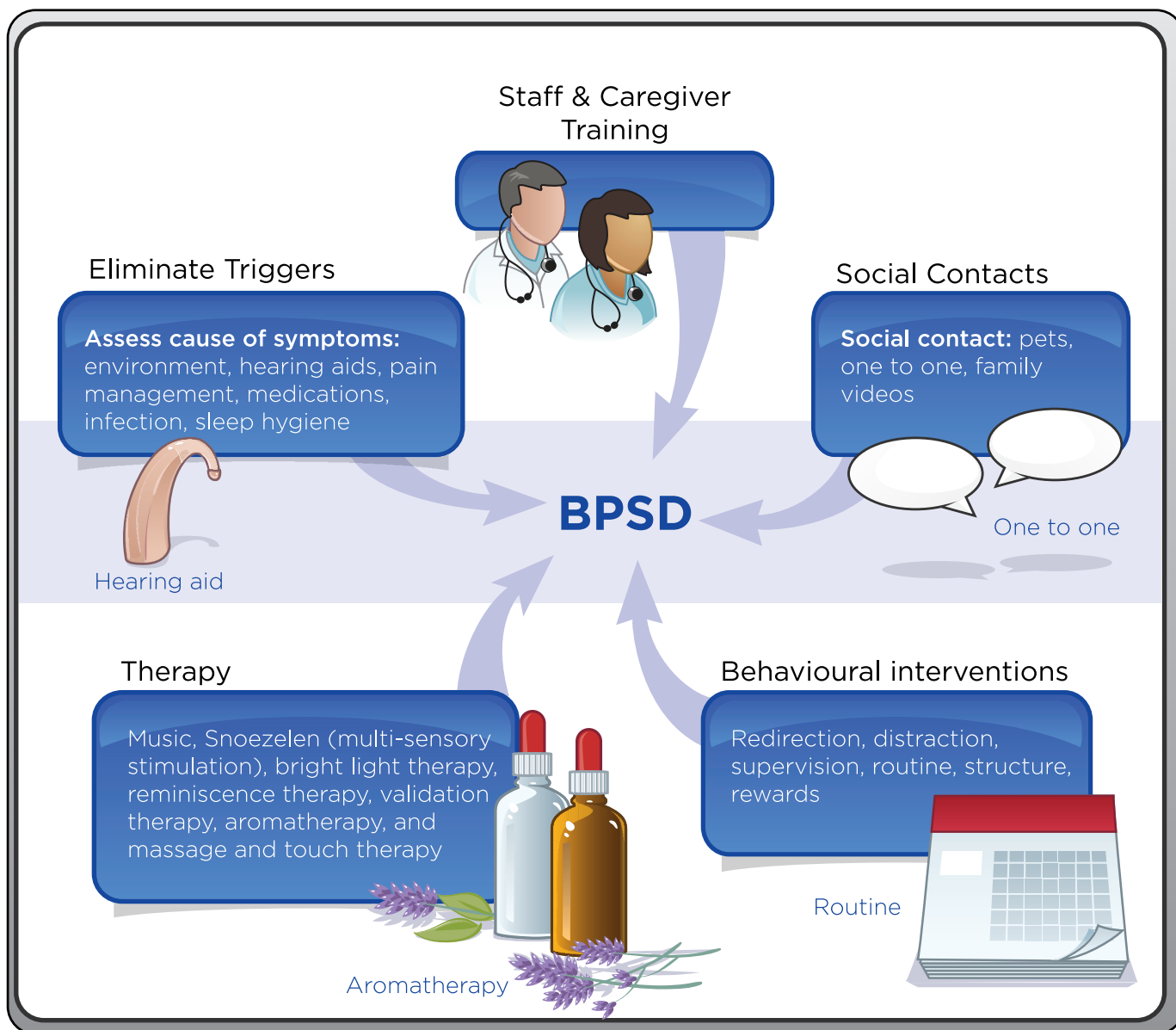


Figure 1. Non-pharmacological options for the treatment of behavioural and psychological symptoms of dementia (BPSD).

for privacy during personal care, environmental noise, and temperature. Other triggers to consider include physical or verbal limitations such as the inability to verbally communicate needs or wants or to express physical or emotional distress, and the inability to move the body or a limb at will. Biological triggers to consider include difficulty with vision, hearing, the mouth or dentition, and swallowing; dehydration and malnourishment; skin problems (dryness, itching, pressure sores); bowel problems (constipation); urinary problems (infection, retention, incontinence); and feet

problems (painful lesions). These factors should be routinely checked in all patients who are unable to express their own needs verbally as many serious problems can be easily prevented.

Non-pharmacological interventions for BPSD are summarized below:

- **Approach** – A kind, unrushed, non-confrontational, face-to-face approach may work best.
- **Schedules** – Employ patient-centred care schedules.
- **Demands** – Reduce demands on the patient.



Figure 2. Phases and goals of treatment of behavioural and psychological symptoms of dementia (BPSD).



Figure 3. Behavioural symptoms and clusters.

Source: Adapted from McShane.⁴



Figure 4. Algorithm for the management of behavioural and psychological symptoms of dementia (BPSD).

BVS = behavioural vital signs. Source: Adapted from Mintzer and Brawman-Mintzer.⁵

- **Communication** – Communicate more effectively.
- **Personal care** – Meticulous attention to good personal care is essential.
- **Activity and environment** – Ensure that daytime activities and the environment are appropriate.

Non-pharmacological options for the treatment of BPSD are presented in Figure 1.

Three-Phase Approach to BPSD

In the event of an acute behavioural crisis, safety is the first priority. This includes safety of the patient, other residents and family members, and staff involved in caring for the patient. Caregivers and front-line staff should routinely receive training for age-appropriate and dementia-specific behavioural crisis interventions. Caregivers facing an acute behavioural crisis should notify emergency services or hospital staff for prompt back-up. Temporary application of the least restrictive physical or chemical intervention may be necessary as a safety measure and to allow careful assessment of the patient. Treatment of BPSD is divided into three phases: acute, medium, and long-term (Figure 2).

Behavioural Vital Signs

In any acute behavioural crisis, it is important to document the patient’s vital signs, including behavioural vital signs (BVS). When done accurately, BVS monitoring may give clues to the etiology of the behaviour disturbance, suggest targeted pharmacotherapy for behavioural symptoms or clusters (Figure 3), and help monitor the effectiveness of interventions over time. Please refer to the Behavioural Vital Signs Tool³ available at the Canadian Academy of Geriatric Psychiatry website.

Process of Targeting Drug Therapy for BPSD

An algorithm for the management of BPSD is presented in Figure 4. A step-by-step approach should be taken:

Acute Phase

1. Consider the target symptoms/clusters for drug therapy (see the BVS Tool).
2. Consider the overall behavioural frequency, severity, and impact (see BVS Tool).
3. Decide on an appropriate drug therapy for use in an acute behavioural crisis.

Medium Term

4. Decide on an appropriate pharmacotherapy for medium-term use (4–6 weeks).
5. Perform a mandatory review and consider tapering the medication, if appropriate, after 4–6 weeks.

Long Term

6. Carefully review whether long-term drug therapy is required (for >6 weeks).
7. Carefully document the impact of drug therapy for all phases (see the BVS Tool).

Table 1. Suggested Treatment with Atypical Antipsychotics in Acute/Urgent Situations for BPSD

Atypical Medication	Usual Dosage and Formulation	Usual Frequency	Maximum Dose in 24 Hours
Risperidone	0.25–1 mg PO tablets, liquid, or M-tabs*	q2–4h as needed and tolerated	2 mg for many dementia patients Not DLB/PDD May be higher in other conditions, e.g., schizophrenia, bipolar disorder, etc.
Olanzapine	2.5–5 mg PO tablets (Zydis) Note: IM formulation is available, but there is little experience with its use in Canada with the elderly dementia population. Dosage 2.5–5 mg IM, max. 10 mg/24 h. Not given IV.	q2–4h as needed and tolerated	10 mg for dementia patients May be higher in other conditions, e.g., schizophrenia, bipolar disorder, etc.
Quetiapine	12.5–25 mg bid		75.0 mg bid (150.0 mg tablet split = 2 × 75.0 mg)

BPSD = behavioural and psychological symptoms of dementia; DLB = dementia of Lewy body type; PDD = Parkinson’s disease dementia. *M-tabs are rapid-dissolving tablets.

Therapy for Severe Symptoms during Acute Phase

The goals to accomplish during the acute phase are (1) to ensure the safety of all, (2) to allow for physical and laboratory examinations to rule out medical causes for the acute change in behaviour and (3) to provide the time and opportunity for communication between the physician, family, and other caregivers to develop a treatment plan. Considerations are as follows:

- **Target symptoms:** Limited to physical or verbal aggression, aggressive resistance, aggressive psychosis, and aggressive agitation
- **Frequency of behaviour:** Usually constant, several times a day, at least once a day but severe in each case
- **Severity of behaviour:** How difficult is it to distract or redirect the patient? Usually impossible in acute phase
- **Impact of behaviour:** Usually with significant potential for serious harm to self or others
- **Suggested medications:** Consider an antipsychotic ± benzodiazepine for a few doses only, usually one or two doses. This can be administered by mouth if the patient is compliant; give intramuscularly if non-compliant. Used to regain necessary safety for all. *Recommended for acute management only and must not constitute medium or long-term therapy*

The choice of recommended agent(s) includes the following:

- Atypical antipsychotics: See Table 1. Patients known to have dementia of Lewy body type (DLB) or Parkinson’s disease dementia (PDD) should receive quetiapine if at all possible. If other antipsychotics are used, consider lowering the dose to minimize adverse effects.
- Typical antipsychotics:
 - Haloperidol: 0.25–0.5 mg PO tablets, liquid, or IM q2–4h as needed and tolerated. Maximum dose: 2 mg for many dementia patients; lower for patients with DLB/PDD.
 - Loxapine: 2.5–5 mg PO, liquid, or IM q2–4h as needed and tolerated. Maximum dose 10–25 mg; lower for patients with DLB/PDD.

- Benzodiazepines: Lorazepam 0.5–1 mg PO, liquid, sublingual, or IM q2–4 hours as needed and tolerated. Can be combined with haloperidol or loxapine for greater efficacy and to reduce the dose for each medication individually.

Medium-Term Therapy

The goal in the medium phase is to provide transitional drug therapy support for 4–6 weeks following an acute episode of BPSD. Once an acute delirium has been adequately treated medically or ruled out as a cause of BPSD, a decision must be made as to whether to continue or stop the psychotropic medication. Atypical antipsychotics do confer modest benefits in treating aggression and psychosis over 6–12 weeks (Table 2), with a number needed to treat that ranges from 5 to 14. However, they are associated with a number of major adverse outcomes and side effects, including sedation, parkinsonism, gait disturbance, dehydration, falls, chest infections, accelerated cognitive decline, stroke, and death. Therefore, they should only be continued for persistent and severe symptoms that have a major impact on safety, as described above. It is important to review the need for ongoing antipsychotic therapy after 4–6 weeks of treatment as many people with BPSD experience a significant improvement or resolution of symptoms over that period.

Long-Term Management of Severe Symptoms: Beyond 6–12 Weeks

The goal of long-term management is to continue treatment in order to maintain a patient’s function and quality of life. This is to be done with the least effective dosage and for the shortest possible duration, while maintaining safety as well as optimal physical and mental health. Of the atypical antipsychotics, only risperidone has Health Canada approval for short-term use for aggression ± psychosis. Risperidone and olanzapine have stronger evidence base than quetiapine, but quetiapine is often chosen preferentially in patients with DLB or PDD due to an increased risk of extrapyramidal side effects in these patients. The benefit of long-term use beyond 12 weeks is not known. Longer-term trials (up to 12 months) have not shown consistent benefit. Symptoms often fluctuate and are unstable over time, particularly in the case of Alzheimer’s dementia, where hallucinations tend to resolve

Table 2. Guidelines for Maintenance Therapy of BPSD with Atypical Antipsychotics

Atypical Antipsychotic	Starting Dosage	Usual Daily Dosage	Maximum Dosage
Risperidone	0.25 mg/d in very old, frail, or patients with DLB or PDD Usual starting dosage is 0.5 mg/d May be increased q3–5d by 0.25–0.5 mg/d, as tolerated	1 mg/d for most dementias; not for patients with DLB or PDD May be given as single dose or divided dose, as tolerated	2.0 mg/d for most dementias – not for patients with DLB or PDD Dosages may be higher (e.g., in schizophrenia) or lower (e.g., in DLB or PDD) Official indication for BPSD in Canada
Olanzapine	1.25–2.5 mg/d in very old, frail, or patients with DLB or PDD Usual starting dosage is 2.5–5 mg/d May be increased q3–5d by 1.25–2.5 mg/d, as tolerated	5–10 mg/d for most dementias; not for patients with DLB or PDD May be given as single dose or divided dose, as tolerated	10 mg/d for most dementias – not for patients with DLB or PDD Dosages may be higher (e.g., in schizophrenia) or lower (e.g., in DLB or PDD)
Quetiapine	6.25–12.5 mg/d in very old, frail, or patients with DLB or PDD Usual starting dosage is 12.5–25 mg/d May be increased q3–5d by 25–50 mg/d, as tolerated	100 mg/d for most dementias; may be lower for patients with DLB or PDD Wide range of dosing May be given as single dose or divided dose, as tolerated	150 mg/d – some dementia patients need higher dosages Wide range of dosing Consider first for patients with DLB or PDD Dosages may be higher (e.g., in schizophrenia) or lower (e.g., in DLB or PDD)

BPSD = behavioural and psychological symptoms of dementia; DLB = dementia of Lewy body type; PDD = Parkinson's disease dementia.

over a period of a few months, but delusions, aggression, and agitation may be more persistent. Therefore, long-term antipsychotic therapy beyond 6 months should only be undertaken with meticulous behavioural charting and documentation of the need for antipsychotic therapy. Careful consideration and documentation of the benefits and risks of long-term therapy are critical. Several national and international guidelines now recommend periodic attempts to taper the antipsychotic medication and monitoring for breakthrough symptoms.

The choice of recommended agent(s) includes the following:

- For non-severe symptoms, such as agitation. These are verbal or motor activities that are repetitive and purposeless. They are often moderate in frequency, severity, and impact, with little or no risk of harm to self or others. The recommended drug class is antidepressants (see below for details).
- For depression and/or anxiety symptoms, antidepressants are recommended (see below for details):
 - Risks: all associated with higher risk of falls, fractures, hyponatremia, gastrointestinal bleeding
 - Citalopram 10–40 mg PO daily
 - Sertraline 25–200 mg PO daily
 - Venlafaxine XR 150–300 mg PO daily
 - Special point: sedating – mirtazapine 7.5–30 mg PO hs (sedating: promotes sleep, appetite, weight gain)
 - Trazodone 12.5–200 mg PO daily. Special point: sedating – useful in divided doses for agitation and to promote sleep

Other Classes of Medications and Target Symptoms for BPSD

Cholinesterase Inhibitors

Cholinesterase inhibitors may attenuate mood, anxiety, apathy, agitation, and psychotic symptoms if used in patients with very mild

symptoms of BPSD. They are not replacements for antidepressants or antipsychotics. Recommended agents are galantamine 8–24 mg/d, donepezil 5–10 mg/d, and rivastigmine 3–9 mg/d.

NMDA Glutamate Receptor Antagonist

N-methyl-D-aspartate (NMDA) glutamate receptor agonists may be useful in stabilizing agitation and may have an antipsychotic sparing effect; however, they may also exacerbate the symptoms in some patients. They are usually recommended for moderate to severe Alzheimer's dementia. They are not replacements for antidepressants or antipsychotics. The recommended agent is memantine 10–20 mg/d.

Short-Acting Benzodiazepines

Short-acting benzodiazepines must not be used for BPSD on a long-term basis. They are useful for the acute phase treatment of severe

Key Points

Behavioural and psychological symptoms of dementia (BPSD) are very common and have a major negative impact on patients' and caregivers' quality of life.

A systematic approach is critical when managing BPSD ("SMART"): safety; medical; assessment of competency; rest, nutrition, hydration ensured; address problems with pain, ambulation, vision, hearing, constipation; and trial of medication.

A comprehensive set of behavioural vital signs (see BVS Tool) must be monitored to systematically help recognize behavioural target symptoms and clusters of BPSD, and to monitor the effectiveness of various interventions.

Non-pharmacological therapies must be an integral part of managing every patient with BPSD.

Pharmacological therapy must target specific behavioural symptoms or clusters of BPSD. The therapy must be carefully monitored for efficacy and adverse effects, and be time limited.

anxiety in patients with BPSD (see above). They may also be used for sedation prior to a specific procedure (e.g., a computed tomography scan, a catheterization, or on bath days). They are not replacements for antidepressants or antipsychotics. The recommended agent is lorazepam 0.25–2mg PO as needed, used sparingly.

Miscellaneous Medications

Valproic acid, carbamazepine, lithium, lamotrigine, gabapentin, opioids, β -blockers, and hormone therapy have insufficient evidence for use as first-line agents for treatment of BPSD.

Author's Guide for Stopping Drug Use in BPSD

To stop the use of antidepressants in BPSD, slowly wean or taper the drugs over 2–3 months after symptoms have been stable for 9–12 months. For cholinesterase inhibitors and memantine in BPSD, slowly wean or taper over 2–3 months when the patient has reached a stage of dementia with little or no independent function.

Summary

In summary, treating patients who have BPSD with sensitivity, respect, and patient-centred care may help to prevent the onset of symptoms. Once symptoms develop, many improve within 4–6 weeks of watchful waiting without the need for drugs. The physician and other caregivers must tailor a treatment plan specifically to the person's needs, with valuable input from the family. Antipsychotic drugs work for just over half of those with BPSD. They can cause side effects that can become serious if used for longer than 12 weeks. The physician must review the use of antipsychotic drugs after 6 weeks and stop the drug after 12 weeks, if possible. Patient and family input is critical at all stages of treatment decision making, where possible and appropriate. Careful observations and documentation of behavioural symptoms will clarify and simplify treatment decisions.

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