BEHAVIORAL AND PSYCHOLOGICAL SYMPTOMS OF DEMENTIA (BPSD) MANAGEMENT

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กรรมการสมาคมผู้ดูแลผู้ป่วยสมองเสื่อม

BEHAVIORAL AND PSYCHOLOGICAL SYMPTOMS OF DEMENTIA (BPSD)

A heterogeneous group of affective, psychotic and behavioral symptoms that occur in the majority of patients with dementia, causing great suffering and increasing the caregivers' burden

Behavioral and psychological symptoms of dementia (BPSD)[1]

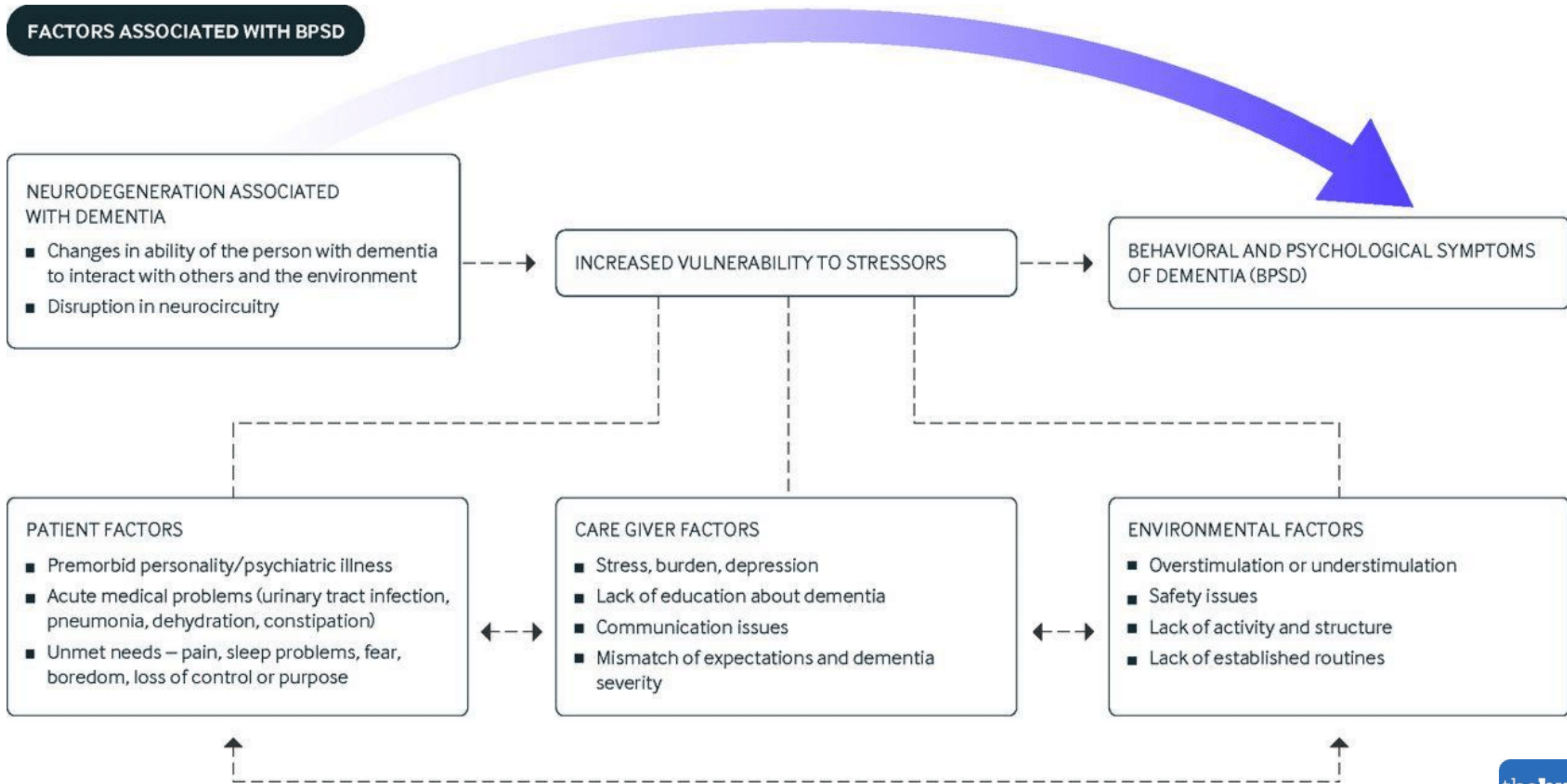
- The International Psychiatric Association (IPA) introduced the term BPSD in 1996
  - "Symptoms of disturbed perception, thought content, mood, and behavior frequently occurring in patients with dementia"
- = A non-disease–specific clinical syndrome and a sub-syndrome that consists of heterogenic psychiatric symptoms
- 2 subgroups of symptoms

  1. Psychological: delusion, hallucination, misidentification, depression, apathy, and anxiety

  2. Behavioral: irritability, agitation, aggression, wandering or aberrant motor activity, disinhibition, sleep-wake cycle disturbance, and eating disorders

1. Curr Psychiatry Rep (2019) 21: 66

Conceptual model describing how interactions between the person with dementia, caregiver, and environmental factors cause behavioural and psychological symptoms of dementia (BPSD)



Helen C Kales et al. BMJ 2015;350:bmj.h369

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Screening and Identifying Behavioral Symptoms in Patients With Dementia

Are behavioral symptoms occurring?

Screen for behavioral symptoms using standardized tool (e.g., NPI-Q)

Involve key informant

NO

1. Continue monitoring
2. Educate caregiver
3. Minimize risk factors for behavioral symptoms (e.g., caregiver distress, patient pain, unmet needs)

YES

What do behavioral symptoms look like?

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Screening and Identifying Behavioral Symptoms in Patients With Dementia

What do behavioral symptoms look like?

Are behavioral symptoms sudden or recent onset?

1. Rule out and treat underlying medical illness
2. Review medications
3. Evaluate for and manage pain, nutrition, constipation, hydration, sleep

Is there a safety concern?

1. Recommend safety strategies
2. Educate caregiver
3. If safety not improved, refer to specialist or admit

Is caregiver distressed?

1. Educate caregiver
2. Screen for depression
3. Recommend stress-reduction strategies
4. If distress not improved, refer to specialist

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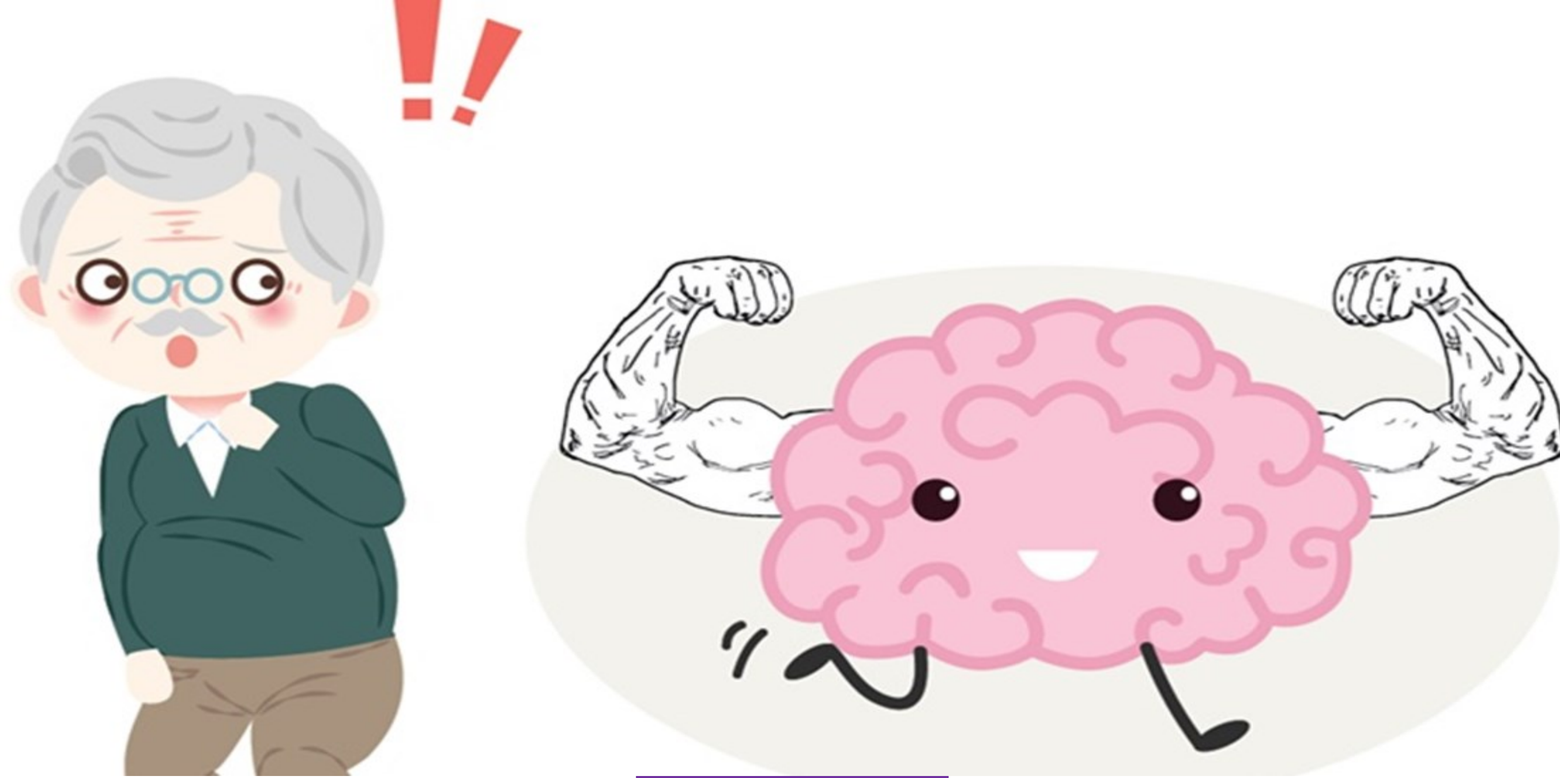


ASSESSING BPSD

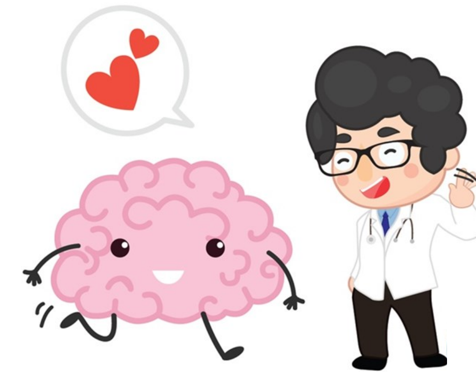
“The first step when encountering BPSD = A thorough assessment”

A stepwise thorough assessment when encountering BPSD

1. An accurate medical and psychiatric history including substance use, the underlying cause of dementia, and the patient's cognitive and functional baseline
2. Focus on specifying and characterizing the BPSD and the context surrounding the behavior, as well as assessing for other BPSD
   - Important details include a description of the behavior, timing, onset, severity, precipitants and consequences of the behavior, and history of the behavior
3. Psychological or environmental factors contributing to the BPSD may also be identified
4. Medication review (including over-the-counter medications), physical exam, and targeted medical evaluation to assess for delirium or other medical etiologies of the symptoms

The “DICE” model in BPSD Assessment

- The describe, investigate, create, and evaluate model (DICE)
- = A patient and caregiver centered evidence informed approach to BPSD developed by a multidisciplinary expert panel
- Steps in addressing BPSD :
  1. Describing the problematic behavior
  2. Investigating possible causes of the behavior
  3. Creating a treatment plan
  4. Evaluating the outcome of the plan



- DICE can be applicable in many treatment settings, and considers medical, non-pharmacological, and pharmacological treatments

Kales HC, Gitlin LN, Lyketsos CG. Management of neuropsychiatric symptoms of dementia in clinical settings: recommendations from a multidisciplinary expert panel. J Am Geriatr Soc. 2014;62(4):762–9.

MEDICAL CAUSES OF BPSD

Medical Causes of BPSD!!!!

- **Need to address any medical problems that may be contributing to BPSD**
  - **Note: A number of medical issues, particularly infections, that would not cause behavioral or psychological symptoms in healthier patients, might manifest as BPSD in patients with dementia**
- *****<u>Delirium is important to consider particularly in sudden acute onset of new BPSD</u> *****

Category	Medical Condition	Suggested evaluation if suspected
Metabolic	Electrolyte abnormalities in sodium, calcium, or magnesium	Check serum electrolytes in all patients with new or altered BPSD
	Hypo- or hyperglycemia	Check serum glucose or finger-stick glucose in all patients with new or altered BPSD
	Acute kidney injury	Check BUN and creatinine in all patients with new or altered BPSD *Creatinine may not be accurate in older adults, so GFR should be calculated
	Hypoxia, hypercarbia	Check pulse oximetry if hypoxia suspected. In rare cases, arterial blood gases may be necessary to rule out hypercarbia
	Hepatic encephalopathy	Check bilirubin, transaminases and perhaps ammonia if history of hepatic disease
	Thiamine deficiency (Wernicke's encephalopathy)	Check thiamine level, if suspected
	Hypo- or hyperthyroidism	If not done in the last year, check TSH in all new or altered BPSD

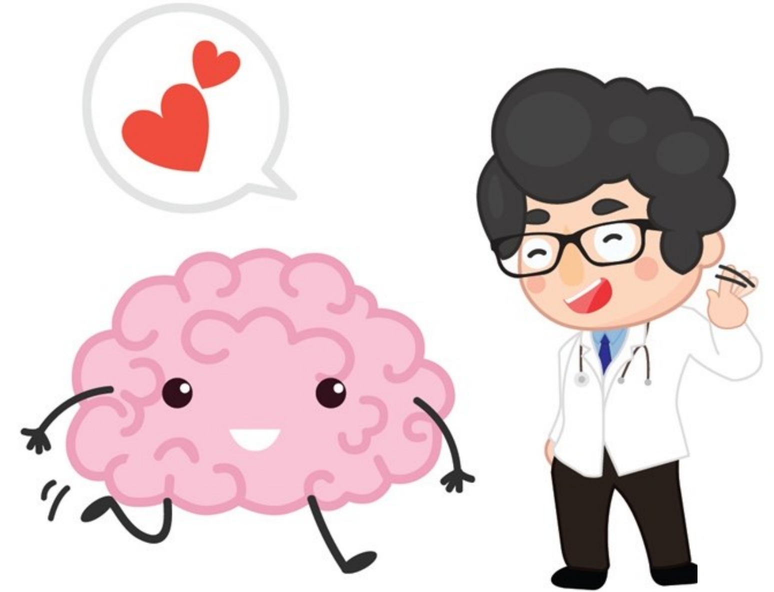
Category	Medical Condition	Suggested evaluation if suspected
Infectious	Urinary tract infection	Check urinalysis with microscopy in all patients with new or altered BPSD; if evidence of infection, check urine culture. *Do not treat empirically with antibiotics
	Meningitis or encephalitis	If suspected, hospitalization and appropriate evaluation are indicated
	Other infections	Evaluation depends on suspected site of infection (e.g., chest X-ray for suspected pneumonia). Checking a CBC is reasonable, but older adults with infection may not have leukocytosis.

Category	Medical Condition	Suggested evaluation if suspected
CNS insults	Cerebrovascular accident	Order head CT or brain MRI, if suspected
	Subdural hematoma	Order head CT, if suspected
	Epileptic seizure, or post-ictal state	Order Neurological consultation and consider EEG, if suspected
	Traumatic brain injury	No specific testing indicated—diagnosis will depend on history and caregiver report

Category	Medical Condition	Suggested evaluation if suspected
Other	Constipation, urinary retention, dehydration, malnutrition	No specific testing—diagnosis will depend on history and caregiver report
	Vision loss, hearing loss	Diagnosis will depend on history and caregiver repor
	Pain	Specifically assess for pain; consider use of rating scale.
	Obstructive sleep apnea (OSA) restless legs syndrome (RLS), REM behavior disorder (RBD)	RLS and RBD are clinical diagnoses; order polysomnography to diagnose OSA

Medications as causes of BPSD

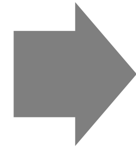
- Special attention should be given to medications with anticholinergic properties, sedative-hypnotic drugs, opioids, and alcohol
  - By reducing anticholinergic burden by at least 20% significantly reduced the severity and frequency of BPSD and decreased caregiver burden
  - The updated Beers Criteria may also be a helpful resource in identifying potential medication contributors to BPSD
- Clinicians must also consider drug-drug interactions when reviewing or making changes to medications
- If medications or other substances that could cause or contribute to the BPSD observed should be discontinued or reduced



เมื่อผู้ป่วยมีปัญหาพฤติกรรมและปัญหาจิตเวช: The ABCs approach

Antecedents:

มองหาสาเหตุที่อาจทำให้เกิดอาการจากสิ่งแวดล้อม บุคคลอื่น และ ตัวผู้ป่วย



Behavior:

อาการที่เกิดขึ้นเป็นอาการในกลุ่มใด

Consequences:

ใครเป็นผู้ที่ได้รับผลกระทบและผลกระทบที่เกิดขึ้นมีความรุนแรงมากน้อยเพียงใด

Antecedents:สาเหตุที่ทำให้เกิดปัญหาพฤติกรรมและปัญหาจิตเวช

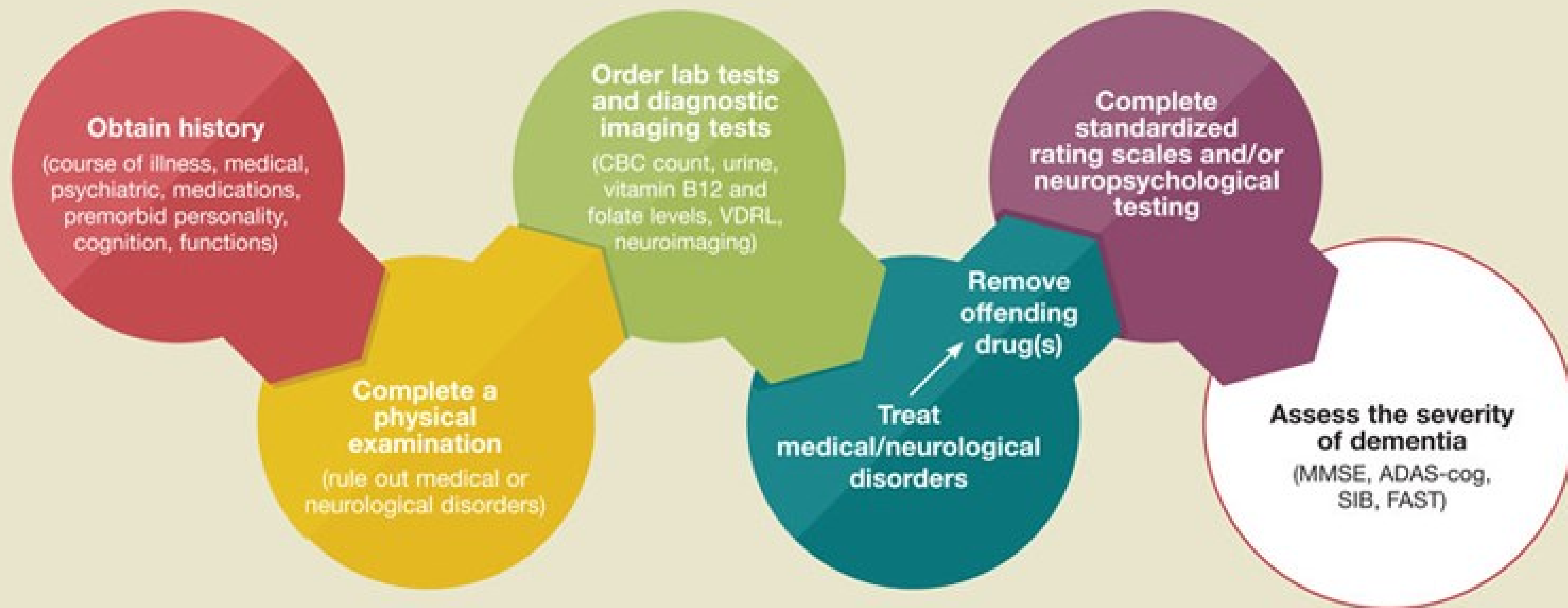
ผู้ป่วย

โรคทางกาย (เจ็บป่วย,ยา), โรคทางจิตเวช,
ความสามารถของสมอง

สิ่งแวดล้อม

เสียง,คน,อุณหภูมิ

ผู้ดูแล/บุคคลอื่น



Tampi,et.al. Psychiatric Times Vol.31, Issue 10, Oct 2014

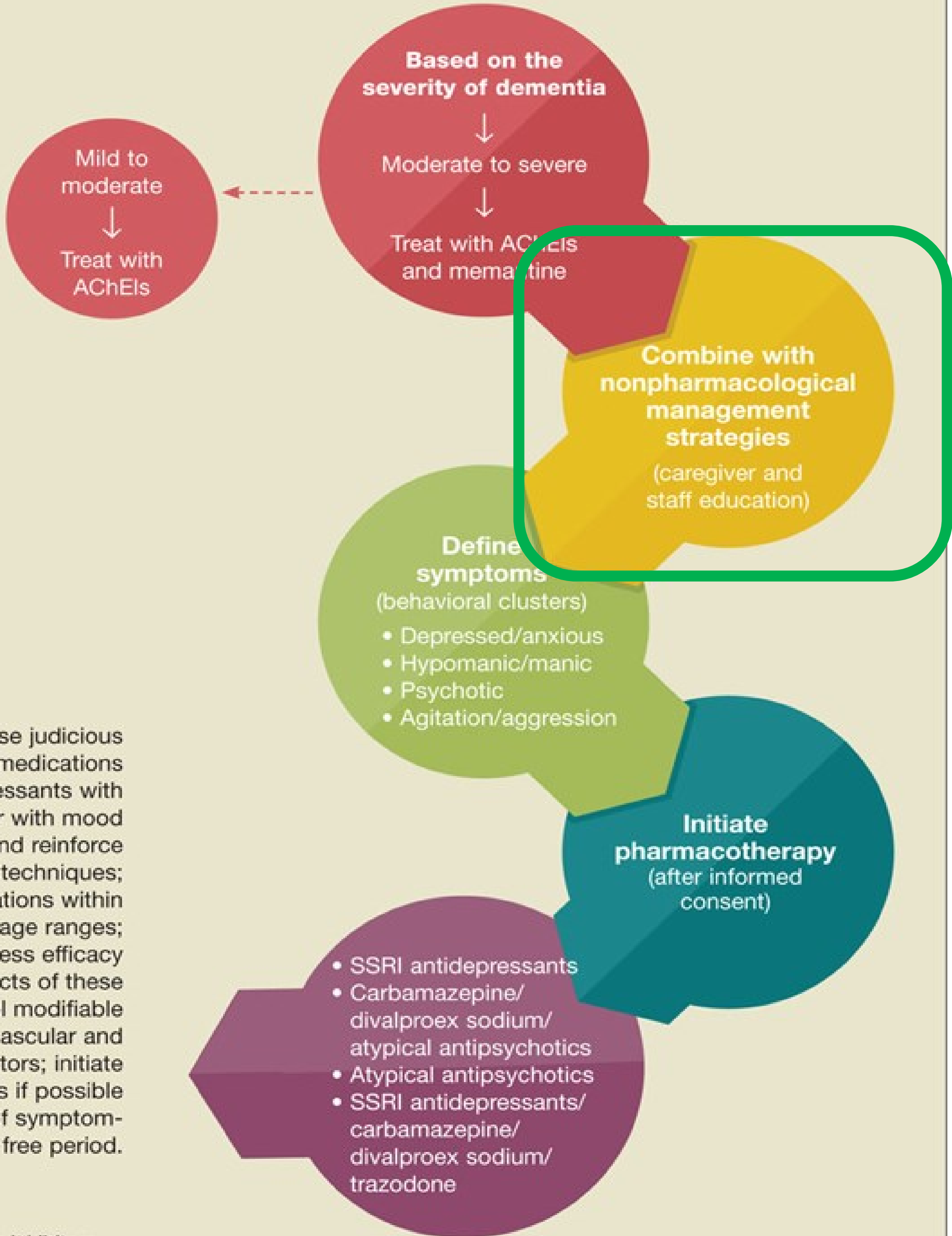
Behavior:อาการที่เกิดขึ้นเป็นอาการในกลุ่มใด

สมาคมจิตเวชผู้สูงอายุนานาชาติ ได้แบ่งเป็น 4 กลุ่มอาการคือ

1. กลุ่มอาการด้านอารมณ์ (ซึมเศร้า วิตกกังวล ขาดความกระตือรือร้น ไม่แสดงออกทางอารมณ์)
2. กลุ่มอาการโรคจิต (หลงผิด หูแว่ว เห็นภาพหลอน)
3. กลุ่มอาการvegetation (พลุ่งพล่าน กระวนกระวาย เดินไปเดินมาไร้จุดหมาย ปัญหาการนอน)
4. กลุ่มอาการอื่นๆ (อาการก้าวร้าว ขาดความยับยั้งชั่งใจ ควบคุมอารมณ์ทางเพศไม่ได้)

Consequences: ผลกระทบและความรุนแรง

- ประเมินว่า ปัญหาพฤติกรรมนั้นก่อให้เกิดอันตรายต่อตัวผู้ป่วย หรือ ผู้ดูแลหรือไม่



Algorithm for the management of behavioral and psychological symptoms of Dementia

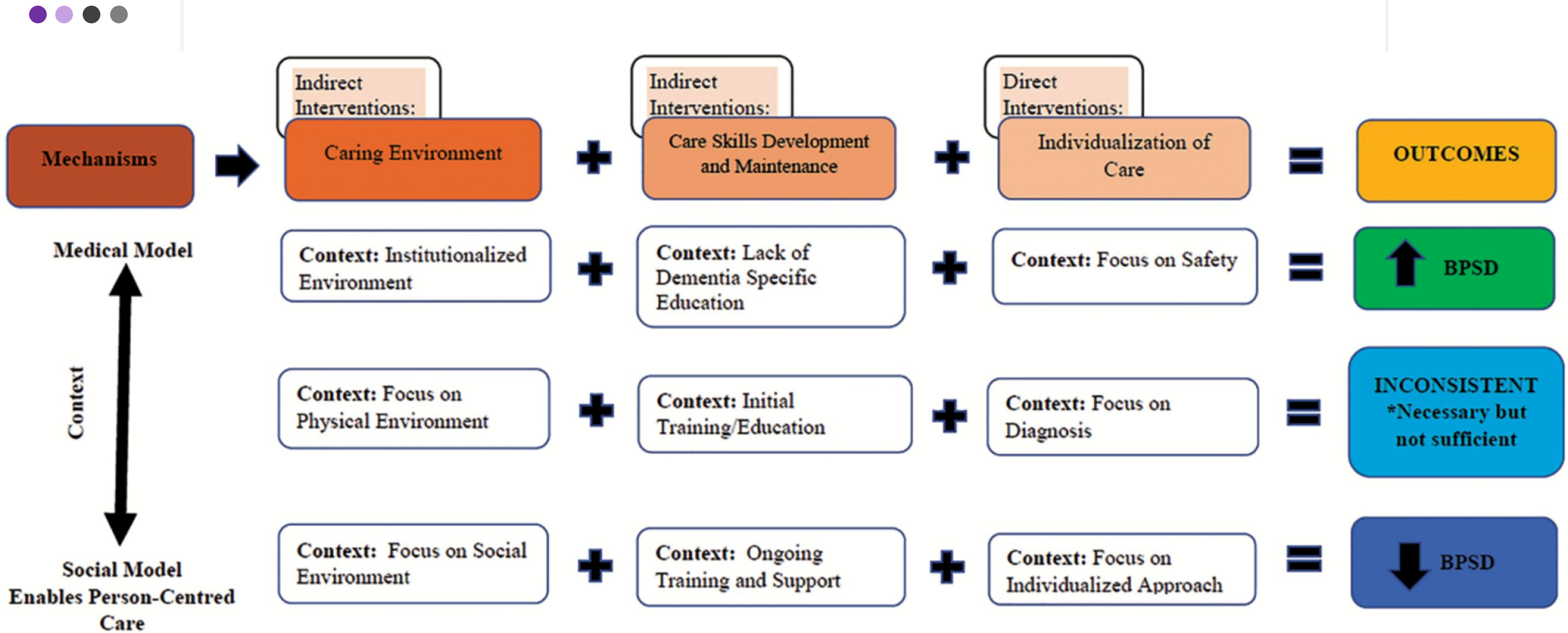
Tampi,et.al. Psychiatric Times Vol.31, Issue 10, Oct 2014

Nonpharmacological Management Of BPSD

2 Categories:

1. **Indirect interventions** aimed at decreasing BPSD through working **with caregivers or adapting the environment** (e.g., Caregiver training, multidisciplinary team approaches, individualized treatment plans, and modifying environmental factors)
2. **Direct interventions** targeted directly at **individuals with dementia** to decrease BPSD (e.g., individualized recreation therapy, sensory-based therapy, exercise, music therapy, massage)

Caspar, S., Davis, E. D., Douziech, A., & Scott, D. R. (2018). Nonpharmacological Management of Behavioral and Psychological Symptoms of Dementia: What Works, in What Circumstances, and Why?. *Innovation in aging*, *2*(1), igy001. doi:10.1093/geroni/igy001



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General Nonpharmacologic Strategies for Managing Behavioral Symptoms-1

Domain: Activities

Key Strategies:

1. Introduce activities that tap into preserved capabilities and previous interests
2. Introduce activities involving repetitive motion (washing windows, folding towels, putting coins in container)
3. Set up the activity and help patient initiate participation if necessary

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General Nonpharmacologic Strategies for Managing Behavioral Symptoms-2

Domain: Caregiver education and support

Key Strategies:

1. Understand that behaviors are not intentional
2. Relax the rules (e.g., no right or wrong in performing activities/tasks as long as patient and caregiver are safe)
3. Consider that with disease progression, patient may have difficulty initiating, sequencing, organizing, and completing tasks without guidance and cueing
4. Concur with patient’s view of what is true and avoid arguing or trying to reason or convince
5. Take care of self; find opportunities for respite; practice healthy behaviors and attend preventive physician visits
6. Identify and draw upon a support network

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General Nonpharmacologic Strategies for Managing Behavioral Symptoms -3

Domain: Communication

Key Strategies:

1. Allow patient sufficient time to respond to a question
2. Provide 1-to2-step simple verbal commands
3. Use a calm, reassuring tone
4. Offer simple choices(no more than 2 at a time)
5. Avoid negative words and tone
6. Lightly touch to reassure, calm, or redirect
7. Identify self and others if patient does not remember names
8. Help patient find words for self-expression

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General Nonpharmacologic Strategies for Managing Behavioral Symptoms-4

Domain: Simplify environment

Key Strategies:

1. Remove clutter or unnecessary objects
2. Use labeling or other visual cues
3. Eliminate noise and distractions when communicating or when patient is engaging in an activity
4. Use simple visual reminders(arrows pointing to bathroom)

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General Nonpharmacologic Strategies for Managing Behavioral Symptoms-5

Domain: Simplify tasks

Key Strategies:

1. Break each task into very simple steps
2. Use verbal or tactile prompt for each step
3. Provide structured daily routines that are predictable

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PHARMACOLOGICAL INTERVENTIONS FOR BPSD

Pharmacological Interventions

- Necessary when non-pharmacological measures have failed and if a patient's behavior poses a threat to themselves or others or if the patient experiences significant distress
- Consider the risks associated with the use of medications for BPSD including the risks of polypharmacy
- Clinical trials have generally shown only modest effectiveness of medications for BPSD
  - no medications have been approved in USA for BPSD
  - only risperidone is approved for BPSD in Canada and parts of Europe
- Note: Almost every psychotropic medication is on the Beers list
- Start each medication at a low dose, titrate slowly, and consider eventually discontinuing the medication

Medication For The Treatment Of BPSD

1. Acetylcholinesterase inhibitors (AChEI)
2. Memantine
3. Antipsychotic drugs
4. Antidepressants
5. Mood stabilizers
6. Benzodiazepines

Antidepressants

- Depression and anxiety are among the most common behavioral disorders in dementia
- Antidepressant can improve cognition, affective symptoms, agitation and aggression
- Antidepressants can:

1. Influence cognition by direct action on specific neurotransmitters
2. Improve the depressive symptoms

- Selective serotonin reuptake inhibitors (SSRIs), particularly sertraline, citalopram, and escitalopram, have mild efficacy and good tolerance
  - Higher doses of citalopram and escitalopram → ↑The risk of prolonging the QTc interval
  - Monitor the risk of development of hyponatremia, nausea, vomiting, diarrhea, tremor, gastrointestinal bleeding, and sleep deterioration
- Trazodone → More data are available for VaD and FTD
- Mirtazapine → Positive effect in a small open study

Anticonvulsants and mood stabilizers

- Not recommend anti-convulsants as first-line agent
- Only data concerning carbamazepine and valproate
- Limited clinical experience and evidence for the use of lamotrigine and gabapentin
- Carbamazepine was effective in the treatment of agitation, aggression, and hostility
    - Strong inducer of cytochrome oxidase system P450
    - ADRs: Hematotoxicity

Acetylcholinesterase inhibitors and Memantine

- **Mild effect on BPSD after several weeks of administration**
- **Significantly higher effect of memantine in combination with donepezil in the treatment of BPSD**
- **AChEI ADRs: Diarrhea, nausea, vomiting, bradycardia and syncope especially in patients with arrhythmias or patients using bradycardia-inducing medication**

Benzodiazepines

- **NOT recommend** benzodiazepines in the patients with dementia
- Administration is associated with deterioration of cognitive functions, sedation, paradoxical disinhibition, risk of falls, and fracture of the femoral neck
- “Z-hypnotics” (zopiclone, zolpidem, and zaleplon) can have similar adverse effects among elderly patients as benzodiazepines

Antipsychotics

- Warnings from FDA in 2005 and 2008: Significantly increased risk of mortality for second-generation antipsychotics and first-generation antipsychotics
- First-generation antipsychotics: Haloperidol → Suppressing aggression
- Second-generation antipsychotics(olanzapine, risperidone, quetiapine, aripiprazole): Lower occurrence of extrapyramidal symptoms (EPS)
- Adverse effects of antipsychotics
- First-generation antipsychotics: Parkinsonism, dystonia, and tardive dyskinesia. Prolongation of the QTc interval on ECG and arrhythmias
- Second-generation antipsychotics: Thromboembolic episodes, aspiration pneumonia, metabolic symptoms, falls, and deterioration of cognitive performance
- Both groups of antipsychotics carry a higher risk of stroke

Recommended daily doses of antipsychotics to treat BPSD and the available drug forms

Antipsychotic	Daily dosing
Risperidone (tbl., sol.)	0.25–1 mg
Olanzapine (tbl., inj.)	2.5–7.5 mg
Quetiapine (tbl.)	12.5–150 mg
Aripiprazole (tbl., inj.)	5–10 mg
Haloperidol (tbl., gtt., inj.)	0.5–5 mg

Recommendations on the use of antipsychotics to treat BPSD-1

Steps	Recommended procedures
Assessment of BPSD	1. Patients with dementia should be assessed for the type, frequency, severity, clinical pattern, and timing of the symptoms (1C)
	2. Assess for pain and other potentially modifiable factors and for subtypes of dementia that may influence the choice of treatment (1C)
	3. Use quantitative measures to assess agitation and psychosis, if present (1C)

Recommendations on the use of antipsychotics to treat BPSD-2

Steps	Recommended procedures
Development of comprehensive treatment plan	4. Individualized treatment plan includes appropriate nonpharmacological and pharmacological interventions (1C)

Recommendations on the use of antipsychotics to treat BPSD-3

Steps	Recommended procedures
Assessment of benefits and risks of antipsychotic treatment for the patient	5. Antipsychotic medication should be used for treatment of agitation or psychosis only when symptoms are severe or dangerous and/or cause significant distress to the patient (1B)
	6. Review response to nonpharmacological interventions prior to use of an antipsychotic medication (1C)
	7. If feasible, discuss risk/benefit with the patient and obtain his/her or the caregiver's consent (1C)

Recommendations on the use of antipsychotics to treat BPSD-4

Steps	Recommended procedures
AP treatment – dosage, duration, and monitoring	8. Initiate at a low dose to be titrated up to the minimum effective dose as tolerated (1B)
	9. If significant adverse effects occur, review the patient's status and taper or discontinue the antipsychotic medication (1C)
	10. If no significant response occurs after 4 weeks of an adequate dose, taper and withdraw the medication (1B)
	11. If positive response occurs, consider and discuss tapering the dose with the patient/surrogate regarding experience with tapering attempts (1C)
	12. If adequate response occurs, the dose of antipsychotic medication could be tapered or withdrawn, unless the patient experienced recurrence of symptoms with prior attempts at tapering (1C)
	13. If the dose of antipsychotic medication is being tapered, assess the symptoms at least monthly for a minimum of 4 months after discontinuation to identify recurrence of symptoms (1C)

Recommendations on the use of antipsychotics to treat BPSD-5

Steps	Recommended procedures
Use of specific antipsychotic medication, depending on clinical context	14. In the absence of delirium, haloperidol should not be used as a first-line agent (1B)
	15. Long-acting injectable antipsychotics should not be used, unless it is indicated for co-occurring psychotic disorder (1B)

ขอบคุณค่ะ