BPSD management in severe neurocognitive disorders

Prof. Nahathai Wongpakaran, MD, FRCPsychT

Geriatric Psychiatry Unit, Department of Psychiatry, Faculty of Medicine, CMU

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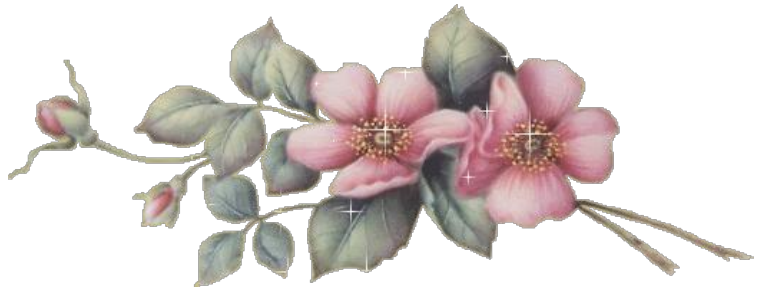
Outline

- Introduction
- Etiologies and associated factors
- Common symptoms and management



Introduction

Mrs. J (74 y/o)

- Known myelodysplastic syndrome for 10 years, being treated with stable conditions
- Known major neurocognitive disorder due to vascular disease for 4 $^{4}/_{12}$years
- Previous symptoms
  - Forgetfulness, irritability, verbal aggression, fighting and arguing with eldest daughter, paranoid delusion, delusion of stealing, depression without suicidal ideation, daytime wandering to market
  - being friendly and nice to strangers, repeating herself,
- Poor ADL: takes a shower once in 2-3 days, poor grooming & skips meals

DSM-5 Diagnosis of major NCD (APA, 2013)

- One cognitive decline
- Pt, informant or clinician
- No delirium or other psychiatric illness
- Impairment by testing
  - Substantial: Major
  - Modest: Mild
- ADL
  - Interfered: Major
  - Not interfered: Mild

- **Alzheimer's disease**
- Frontotemporal lobar degeneration
- **Lewy body disease**
- **Vascular disease**
- Traumatic brain injury
- Substance/medication use
- HIV infection
- Prion disease
- Parkinson's disease
- Huntington's disease
- Another medical condition
- Multiple etiologies
- Unspecified

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REVIEW

Causes of nursing home placement for older people with dementia: a systematic review and meta-analysis

Sandeep Toot,[1] Tom Swinson,[1] Mike Devine,[2] David Challis[3] and Martin Orrell[4]

- Cognitive impairment
- BPSD's
- Carer education
- Carer support

Dementia screening in a LTC home

PSYCHOGERIATRICS
The Official Journal of the Japanese Psychogeriatric Society

doi:10.1111/j.1479-8301.2011.00383.x PSYCHOGERIATRICS 2012; 12: 11–17

ORIGINAL ARTICLE

Prevalence of major depressive disorders and suicide in long-term care facilities: a report from northern Thailand

Nahathai WONGPAKARAN and Tinakon WONGPAKARAN

Department of Psychiatry, Faculty of Medicine, Chiang Mai University, Chiang Mai, Thailand

Correspondence: Dr Nahathai Wongpakaran, Department of Psychiatry, Faculty of Medicine, Chiang Mai University 110 Intawaroros Rd., Tambon Sriphum, Amphoe Muang, Chiang Mai 50200, Thailand. Email: nkuntawo@med.cmu.ac.th

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Abstract

Background: Depression is a common mental illness among elderly Thais, but little is known about the occurrence of major depressive disorders (MDD) in long-term care (LTC) facilities. This study investigated the prevalence of MDD and suicide risk among residents in an LTC facility in northern Thailand.

Methods: For this cross-sectional study, a care team conducted a screening program for MDD and suicide risk among LTC residents in 2011. The screening process used the Mini International Neuropsychiatric Interview, the Geriatric Depression Scale-15, the patient and caregiver versions of the Cornell Scale for Depression in Dementia, the Core Symptom Index and the Mini Mental State Examination.

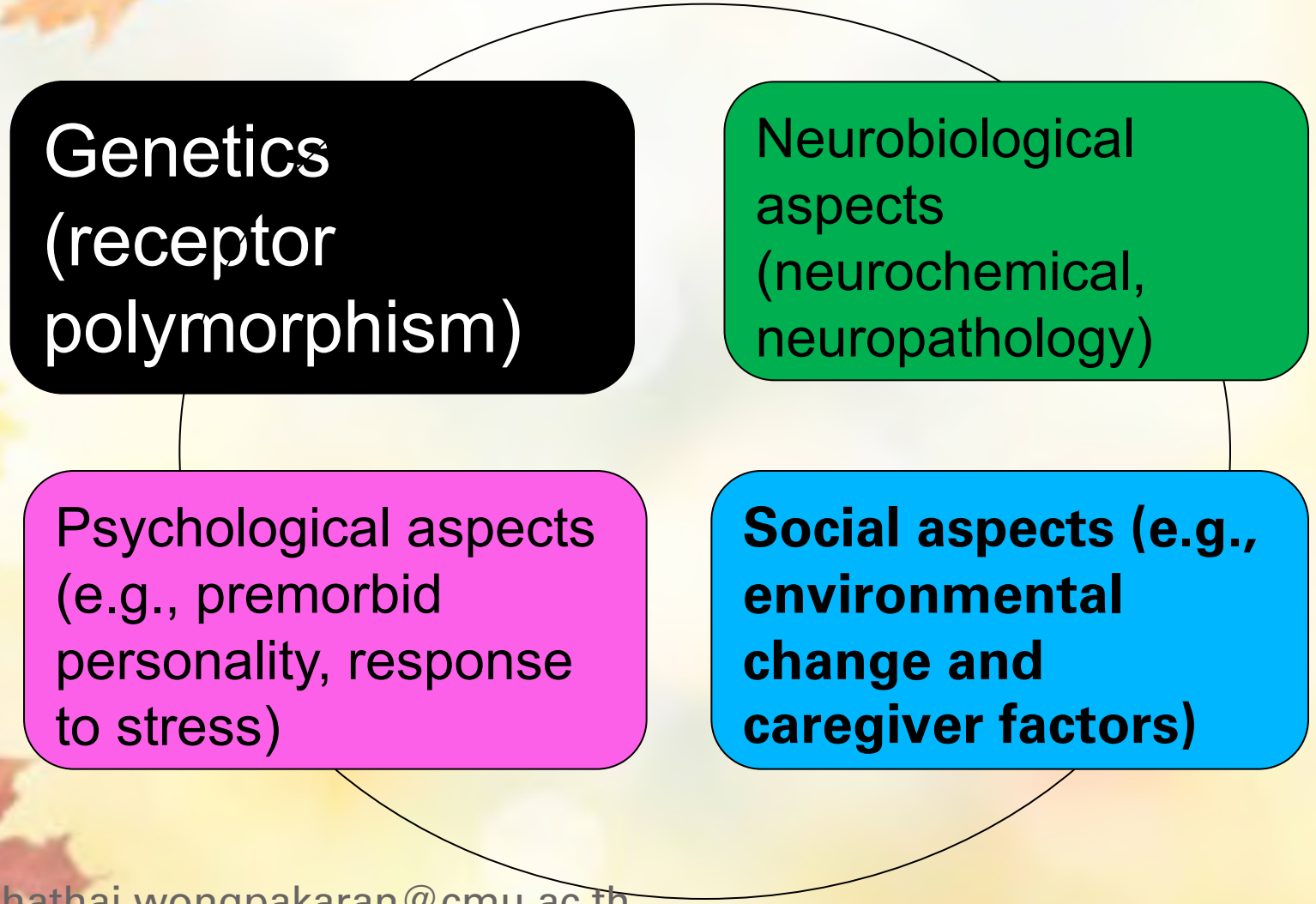
Results: In total, 81 (of 113) residents participated in the study. The mean age was 76.96 ± 7.17 years old (range, 63–94), and 55.6% of participants were women. With the Mini Mental State Examination, 40.7% were found to have cognitive impairment, and with the Mini International Neuropsychiatric Interview, 23.5% met the criteria for current major depressive episodes. Though the majority was in the low-risk group, 26 residents (32.1%) were reported as being at risk of suicide. The patient and caregiver versions of the Cornell Scale for Depression in Dementia, the Geriatric Depression Scale-15 and the Core Symptom Index proved useful for predicting major depressive episodes among the residents ($P < 0.001$, $P = 0.004$, $P = 0.001$ and $P < 0.001$, respectively), including those with cognitive impairment ($P = 0.006$, $P = 0.020$, $P = 0.049$ and $P = 0.012$, respectively).

Conclusions: Nearly one-quarter of LTC facility residents were found to suffer from MDD, and a suicide risk was reported for one-third, though most of the cases were in the low-risk category. Further studies with a larger sample size are recommended to make these findings more precise and universally applicable.

Key words: *long-term care, major depressive disorder, Thai.*

Etiologies & Associated factors

Multiple Etiologies Model



Premorbid personality and BPSD's

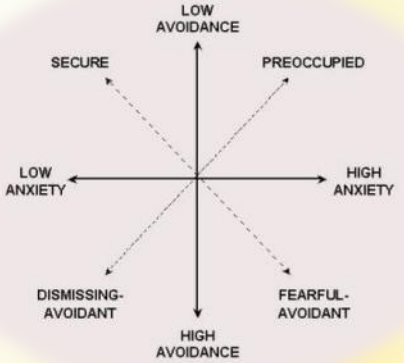
- Risk: N
- Protective: C, E, O & A

Young JJ, Neurodegener Dis Manag. 2019.

Attachment styles and BPSD's

- Spouse's attachment styles were significantly associated with BPSD's
- Attachment preoccupation: predicted psychological distress and burden
- A secure attachment: protective factor for caregiver's psychological distress

Perren S et al. Attach Hum Dev. 2007.



Patient Insecure

+

Caregiver Avoidance

Caregiver Anxiety

Caregiver Avoidance

→ BPSD's

→ Well-Being ↓

Common symptoms & Management

NAHATHAI.WONGPAKARAN@CMU.AC.TH

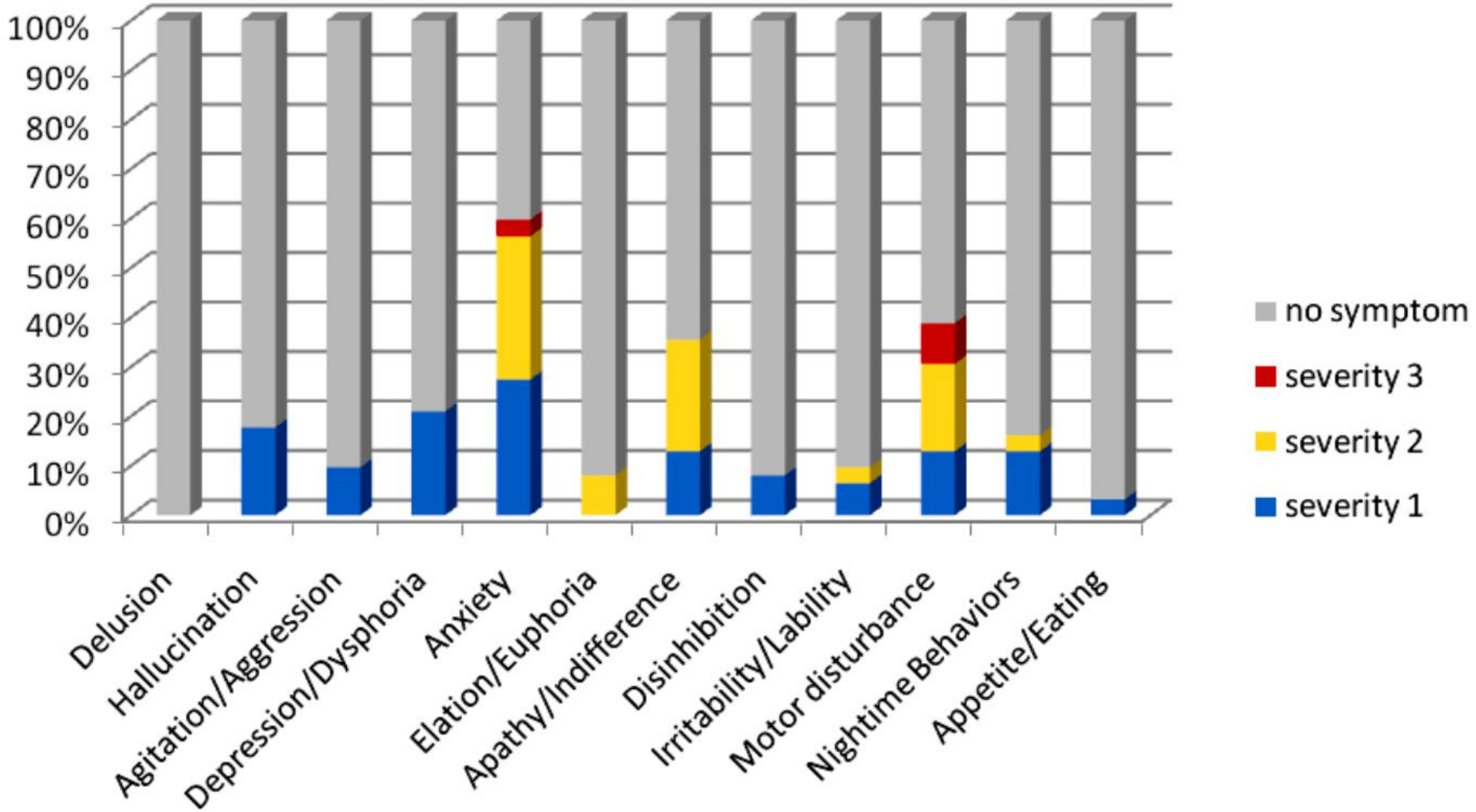


Chart 1 Severity of the symptoms in mild group

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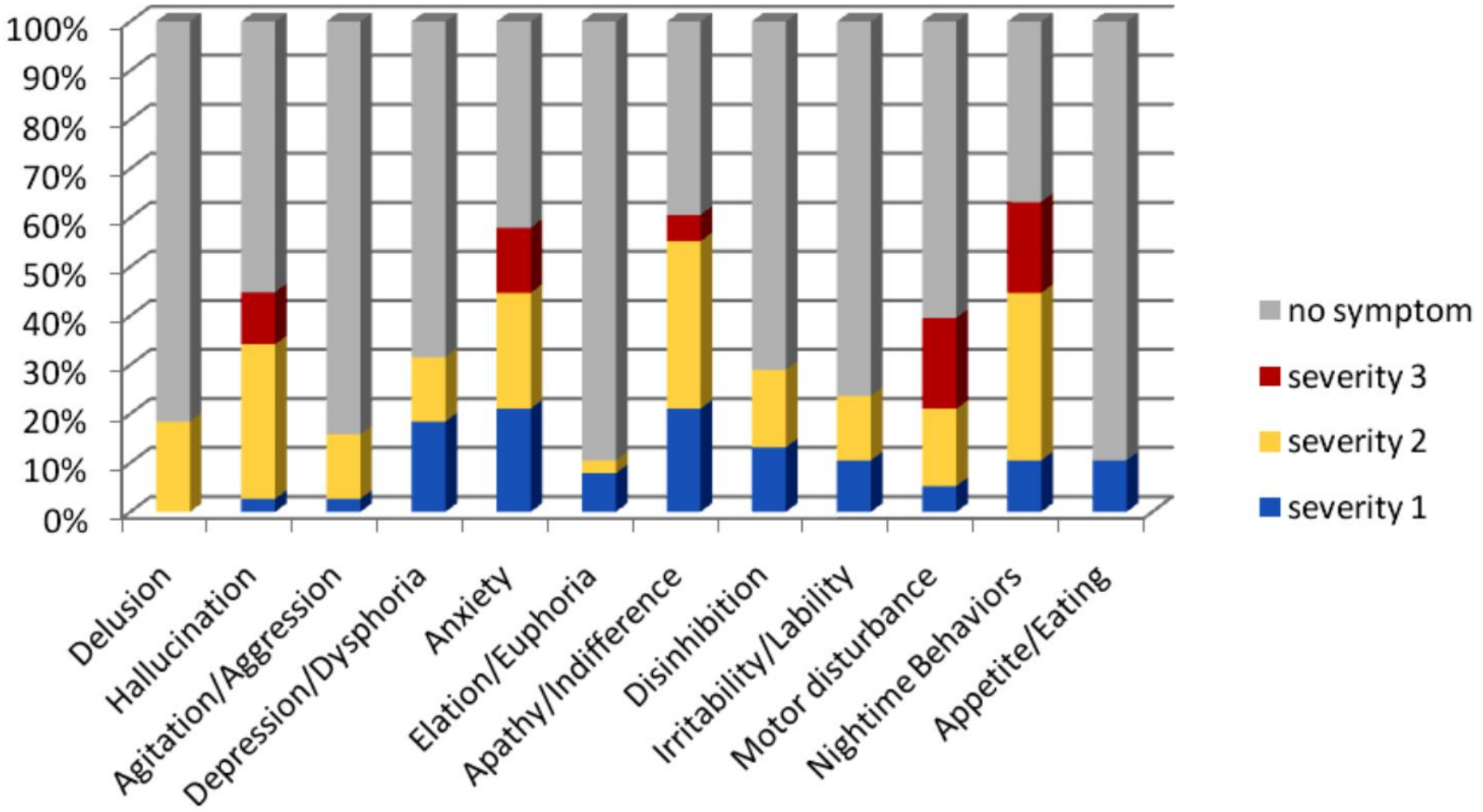


Chart 2 Severity of the symptoms in moderate group

5 Most common BPSD's among Thais

Studies/ Items	Senanarong V, et al. 2005	Charernboon T, et al. 2014.	Taemeeyapradit U, et al. 2014.
N	73	62	158
Types	AD	AD	Mixed
BPSD's	Irritability 47.9%	Apathy 71%	Irritability 60.8%
	Apathy 45.2%	Aberrant motor behavior 61.3%	Sleep problems 57%
	Anxiety & Aberrant motor behavior 42.5%	Sleep problems 56.5%	Depression 54.5%
	Nighttime beh 38.4%	Eating problems 51.6%	Anxiety 52%
	Agitation 35.6%	Agitation/aggression 45.2%	Agitation/aggression 44.9%

nahathai.wongpakaran@cmu.ac.th

ตารางที่ 1 Demography of Dementia and Prevalence of BPSD Symptoms

Variable	N (75)	Percentage
Age Year (mean ± SD)	74.34 ± 7.67	
60 – 69	20	26.7
70 – 79	35	46.7
≥ 80	18	24.0
Cannot identify (No ID card)	2	2.7
Gender (n, %)		
Male	39	52.0
Female	36	48.0
Dementia with BPSD		
0 BPSD	17	22.7
1 BPSD	12	16.0
2 BPSD	17	22.7
3 BPSD	6	8.0
4 BPSD	11	14.7
5 BPSD	6	8.0
6 BPSD	3	4.0
7 BPSD	1	1.3
8 BPSD	2	2.7
Delusion	17	22.7
Hallucination	11	29.3
Agitation/ Aggression	23	30.6
Depression/ Dysphoria	10	13.3
Anxiety	10	13.3
Elation/ Euphoria	7	9.3
Apathy/ Indifference	19	25.3
Disinhibition	21	28.0
Irritability/ Lability	26	34.7
Aberrant Motor Behavior	12	16.0
Sleep and Nighttime Behavior	12	16.0
Appetite/ Eating Changes	16	16.0
CDR		
0.5	17	22.7
1	14	18.7
2	28	37.3
3	16	21.3

BPSD's in LTC residents

Thai NPI-NH Development Research Group, 2017.

nahathai.wongpakaran@cmu.ac.th

Assessment methods

- Identify most trouble symptom(s) หนักใจกับอาการอะไรที่สุด
- Describe each symptom **in detail**; note what exactly the patient **does or says**
- Specify the **Antecedents** of **Behaviors** (the circumstances that spark them) and their **Consequences** (what makes them better or worse)
- แล้วถอดรหัสด่วน !!

The IPA Complete Guides to BPSD – Specialists Guide, 2015

Mapping symptoms

- Keeping a daily diary
- Graphing a symptom: absent, present, mild, moderate or severe degree, hour by hour (or shift by shift) basis
- Using a rating scale
  - The Cohen-Mansfield Agitation Inventory—CMAI (Cohen-Mansfield, 1991)
  - The Neuropsychiatric Inventory (NPI) (Cummings, 1997).

The IPA Complete Guides to BPSD – Specialists Guide, 2015

Treatment principles

- Address **one symptom at a time**
- Follow the **ABC approach**
- **Measure the symptom** before and after making an intervention to confirm that it is effective
- Start with a **small achievable goal and proceed** step-by-step
- Apply the intervention **consistently**. Do not expect immediate change, improvement takes time
- **Continually evaluate and modify** plans. Decide in advance what "success" means for the patient
- Think in advance of an **alternative strategy** if the first one fails

The IPA Complete Guides to BPSD – Specialists Guide, 2015

Psychosocial intervention

- Activity and recreation
- Staff/Carer education
- Exercise, movement, relaxation & massage
- Simulated family presence
- Music and sensory enrichment
- Reminiscence and validation therapy
- One-to-one care

The IPA Complete Guides to BPSD – Specialists Guide, 2015.;
O'Connor DW et al. Int psychogeriatr. 2009.;
Deudon A et al, Int J Geriatr Psychiatry. 2009.

Sleep disturbance

- Causes: go to washroom and get confused, wander, go outside, get dressed, cook, see or hear things, etc.
- Why: physiologic change in elderly, sleep dysfunction due to dementia, work out less, daytime dozing, dreams, etc.

nahathai.wongpakaran@cmu.ac.th

Sleep disturbance: management

- Prevent daytime napping with proper time management (consult OT)
  - Recreational activities/time management
  - Exercise
- Review and manage meds
- Comfortable bedroom to promote sound sleep
- Use washroom before going to sleep
- Prevent injury and avoid hazards

- Turn a light on in the bedroom and washroom, or in other places if necessary
- Calm reassurance if waking during the middle of the night
- Bedrails may be necessary

nahathai.wongpakaran@cmu.ac.th

- Sedatives & hypnotics are helpful if failed with previous management
- Try with lorazepam, atypical antipsychotics, trazodone
- Z-drug: used with caution in older-old or oldest-old elderly

nahathai.wongpakaran@cmu.ac.th

How to talk to dementia patients?

Vernooij–Dassen, M. Int Psychogeriatr. 2010.

Anger & irritability

- Lash out at or hit carers, slam things around, refused to be cared for, throw food, yell, and make accusations
- Not hurt oneself or others, and can be controlled
- Catastrophic reaction
- Often exaggerated and misdirected

nahathai.wongpakaran@cmu.ac.th

Anger & irritability: Management

Dos

- Respond calmly
- Remove the patient or upsetting stimulation
- Find out what precipitated the event to prevent recurrence
- Distract or deviate the patient to a more pleasant stimulation or event
- Prescribe meds if occurs frequently

Don'ts

- Restraint
- Response the same way as you manage with agitated/aggressive/psychotic persons in general

nahathai.wongpakaran@cmu.ac.th

Guidelines for prescribing antipsychotics in BPSD

- Use in conjunction with non-pharmacological interventions
- Moderate to severe BPSD, especially agitation, aggression, or psychosis
- Discuss risk of side-effects
- Use them for as short a time period and a lowest dosage as possible
- Discontinue when possible
- Check for a history of antipsychotic sensitivity, and consider the diagnosis of DLB before prescribing any antipsychotic

IPA's Guide: Meds for BPSD's

Drug category	Target symptom
Atypical antipsychotics	Psychosis, aggression, agitation, sleep-wake cycle disturbances
Typical antipsychotics	Psychosis, aggression, agitation, sleep-wake cycle disturbances
Antidepressants	
Trazodone	Sleep-wake cycle disturbances, agitation, aggression, anxiety, depressive syndromes
Selective Serotonin Reuptake Inhibitors (SSRIs)	Depressive syndromes, agitation, irritability, psychosis
Other antidepressants (i.e., mirtazapine, bupropion)	Depressive syndromes
Tricyclic antidepressants (TCAs)	Depressive syndromes
Cognitive Enhancers	
Cholinesterase inhibitors	Cognition, apathy, aberrant motor behaviour, anxiety, depressive syndromes, psychosis (delusions, hallucinations)
Memantine	Cognition, aggression, agitation, irritability, psychosis
Other Medications	
Anticonvulsants	Agitation, aggression, manic-like symptoms, sleep disturbance
Benzodiazepines	Anxiety, agitation, sleep disturbance

Antipsychotics Dosage

Drug	Starting Dose (mg)	Dose range (mg) Schedule
Risperidone	0.25	0.5–2 once daily
Olanzapine	2.50	5–10 once daily
Aripiprazole	2.00	5–10 daily
Quetiapine	25.00	25–150 daily divided doses
Haloperidol	0.50	0.5–2 once daily
Ziprasidone*	20.00	40–80 in divided doses, administered with meals (ECG monitoring of QTc required)
Clozapine*	6.25	12.5–100 once or twice daily

The IPA Complete Guides to BPSD – Specialists Guide, 2015

Discontinuation of antipsychotics

- Discontinuation is recommended within 3-6 months after well response
- Discontinuation may not recommended in patients with more severe symptoms at baseline and in those who are at risk of relapse

Declercq T, et al. Cochrane Database Syst Rev. 2013.

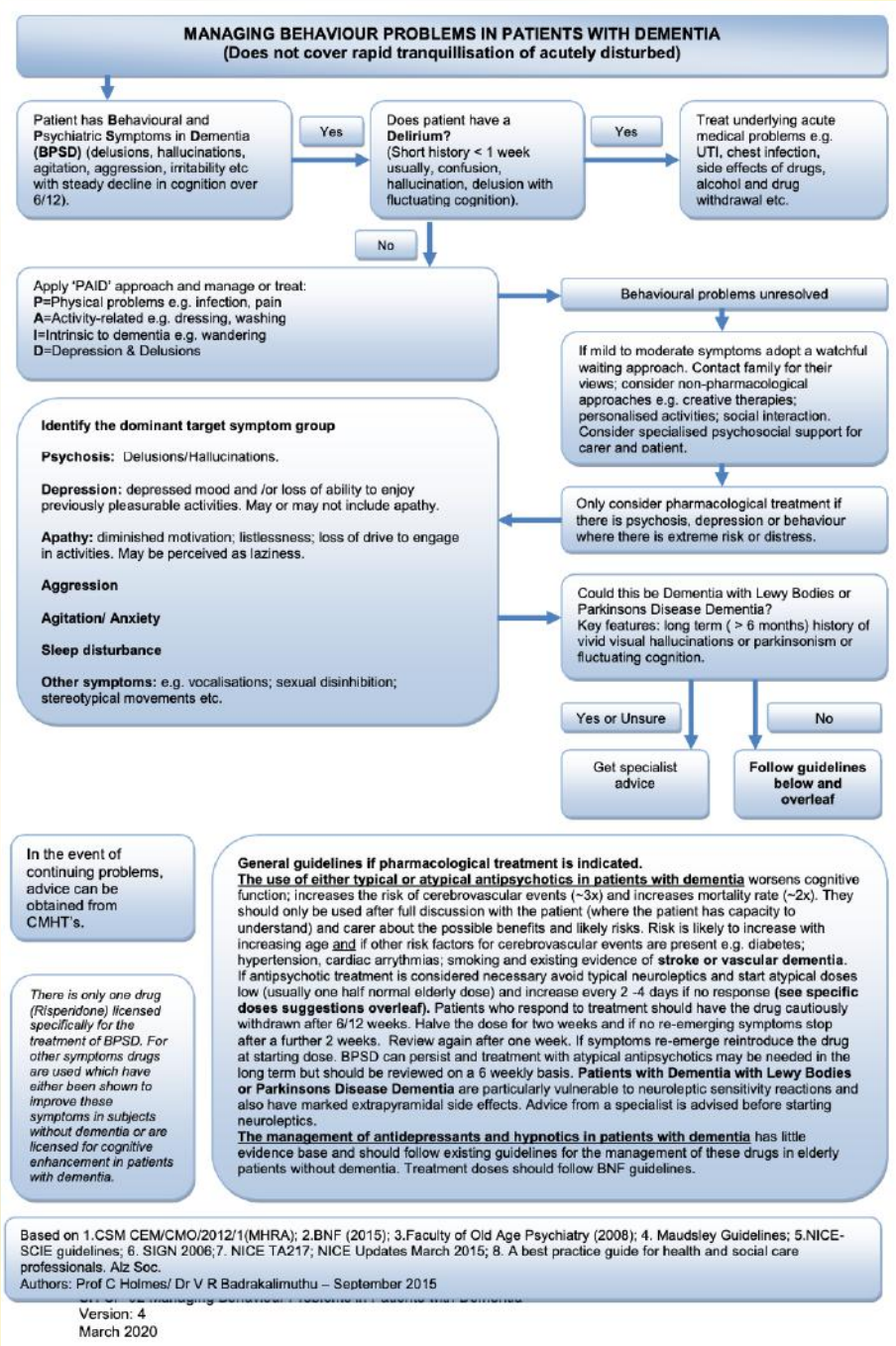
nahathai.wongpakaran@cmu.ac.th

Antidepressants dosage

Drug	Starting Dose (mg)	Dose range (mg) Schedule
Trazodone	25.0	50–300
Citalopram	10.0	10–40
Escitalopram	5.0	10–20
Sertraline	25.0	50–100
Venlafaxine	37.5	75–150
Mirtazapine	15.0	15–45
Duloxetine	20.0	20–60
Bupropion	100.0	150–300
Moclobemide	150.0	150–600
Nortriptyline	10.0	25–100

The IPA Complete Guides to BPSD – Specialists Guide, 2015

What's new after 2015



NHS
Southern Health
NHS Foundation Trust

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1. Guidance on non-pharmacological measures to reduce BPSD

1.1 Interventions that aim to communicate with people with dementia, helping staff to understand and fulfil wishes, reduce symptomatic and severe agitation during the intervention and for 3–6 months afterwards. This suggests that training caregivers in communication, person-centred care skills or dementia care mapping are clinically important interventions, as shown by a 30% decrease in agitation.

1.2 Sensory interventions significantly improved agitation of all severities while in place. Activities and music therapy by protocol reduce overall and symptomatic agitation in care homes while in place (Livingston et al, 2014).

1.3 Providing care giver with education and support, training in stress reduction or cognitive reframing techniques (or both), and specific skills in problem solving to manage behavioural symptoms, such as increasing activity of the person with dementia; enhancing communication with the person with dementia; reducing the complexity of the physical environment; and simplifying tasks for the person with dementia (Kales et al, 2015).

3.1 Alzheimer's Disease

Key symptom	First line	Evidence type	Second line	Evidence type
Depression	Citalopram	3		
Apathy	Citalopram	3	Donepezil [S]; Rivastigmine [S]; Galantamine [S]	2
Psychosis	Risperidone	1	Olanzapine; Memantine [S]	2 - 3
Aggression	Risperidone [L]	1	Olanzapine, Memantine [S]	2 - 3
Moderate Agitation/ Anxiety	Citalopram.	3	Trazodone; Mirtazapine; Memantine [S]	4
Severe Agitation/ Anxiety	Risperidone, Olanzapine	1	, Memantine [S].	2 - 4
Poor sleep	Temazepam; Zopiclone. (££)	3	Zolpidem	3

Table 2. Consensus on current treatments for overall BPSD and agitation

TREATMENT OF OVERALL BSPD WITHIN AND AGITATION*	% AGREEMENT ACROSS PANEL +/−1 RANK SCORE	RANK
Thorough assessment and management of underlying causes	100%	1
Caregiver problem –solving/information/education	91%	2
Environmental adaptation/approaches	70%	3
Person-centered care	70%	4
Tailored activity program	70%	5
Citalopram	81%	6
Treat pain – Paracetamol/Analgesia	81%	7
Risperidone	64%	8

*Rank order identical for BPSD overall and for agitation.

Table 3. Consensus on emerging and experimental non-pharmacological treatments for overall BPSD, agitation, and psychosis

FUTURE NON-PHARMACOLOGICAL TREATMENTS	% AGREEMENT ACROSS PANEL WITHIN +/−1 RANK SCORE	RANK
DICE	100%	1
Music therapy	100%	2

Table 4. Consensus on future pharmacological treatments for agitation

FUTURE PHARMACOLOGICAL TREATMENTS FOR AGITATION	% AGREEMENT ACROSS PANEL WITHIN +/−1 RANK SCORE	RANK
Dextromethorphan/quinidine	100%	1
Mirtazapine	60%	2
Prazosin	50%	3

Table 5. Consensus on the current treatment of psychosis

	% AGREEMENT ACROSS PANEL WITHIN +/−1 RANK SCORE	RANK
Thorough assessment and management of underlying causes	100%	1
Risperidone	100%	2

Table 6. Consensus on emerging and experimental pharmacological treatments for psychosis

FUTURE PHARMACOLOGICAL TREATMENT FOR PSYCHOSIS	% AGREEMENT ACROSS PANEL WITHIN +/−1 RANK SCORE	RANK
Pimavanserin	100%	1
Citalopram	100%	2

		population			(ClinicalTrial.gov) or reference
Pimavanserin	A selective 5-hydroxytryptamine (HT)2A receptor inverse agonist/antagonist	PD psychosis	Pimavanserin 34 mg vs. PLC	Significant improvement with pimavanserin vs. PLC (-5·79 decrease in SAPS-PD scores in pimavanserin group compared with -2·73 for PLC (difference -3·06, 95% CI -4·91 to -1·20; p=0·001; Cohen's d 0·50))	ACP-103-020; (Cummings et al., 2014)
		AD psychosis	Pimavanserin 34 mg vs. PLC	Significant improvement for pimavanserin Primary endpoint (week 6): Mean change in the Neuropsychiatric Inventory-Nursing Home version psychosis score Pimavanserin versus PLC: -3·76 points (SE 0·65) versus -1·93 points (0·63) (mean difference -1·84 [95% CI -3·64 to -0·04], Cohen's d=-0·32; p=0·045); No significant advantage for pimavanserin versus PLC at week 12 (treatment difference -0·51 [95% CI -2·23 to 1·21]; p=0·561);	ACP-103-019; (Ballard et al., 2018)
		AD psychosis	Pimavanserin 34 mg vs. PLC	Significant efficacy in patients with higher baseline severity of psychotic symptoms (delta=-4.43, Cohen's d=-0.73, p=0.011); Pimavanserin vs PLC: ≥30% improvement was 88.9% vs. 43.3% (p<0.001); ≥50% improvement was 77.8% vs. 43.3% (p=0.008);	ACP-103-019; (Ballard et al., 2019)
		Dementia-related psychosis	Pimavanserin (34 mg and 20 mg) vs. PLC	No Study Results Posted on ClinicalTrials.gov for this Study; Study has been completed, results have not been published;	NCT03325556; [ACP-103-045]; 2017-002227-13 (EudraCT Number)
		PD psychosis	A retrospective chart review	Clinical improvement in psychosis documented in 76% of patients (69/91)	(Sellers et al., 2019)
Scyllo-inositol (ELND005)	linhibition of amyloid beta peptide aggregation	Agitation and aggression in AD	A prospective, 12-week, Randomized, Double-Blind, Placebo-Controlled, Phase 2 Efficacy and Safety Study of Oral ELND005 for Treatment of Agitation and Aggression in Patients With Moderate to Severe AD	Study has been completed, results have not been published; Study Results have been posted on ClinicalTrials.gov;	NCT01735630; ELND005-AG201
		agitation and aggression in AD	36-week extension study of Study AG201	Study has been terminated, results have not been published; Study Results have been posted on ClinicalTrials.gov;	NCT01766336
Mibampator (LY-451395)	An amino-3-hydroxy-5-methyl-4-isoxazole propionic acid receptor potentiator	Agitation and aggression in AD	3 mg of mibampator orally twice daily for 12 weeks (may have been reduced to 1 mg if participant was unable to tolerate) vs PLC	No significant group differences; mibampator was significantly better (p = 0.007) than PLC only on the Frontal Systems Behavior Inventory	NCT00843518; (Trzepacz et al., 2013)

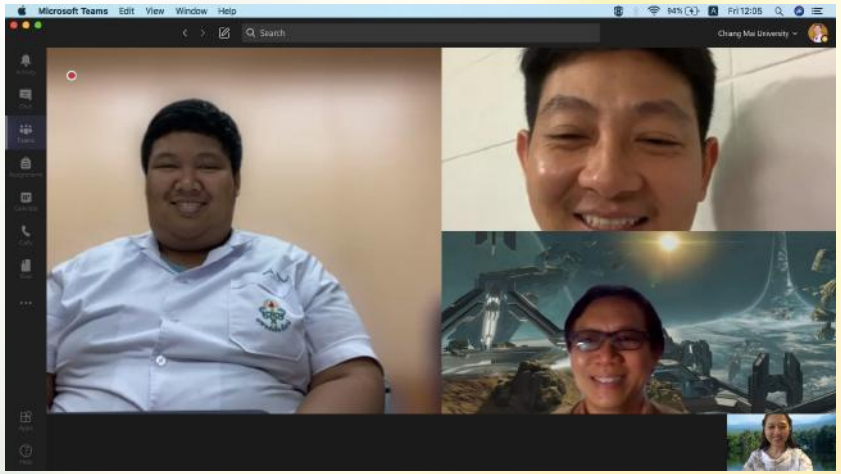
Disinhibition

- EBM seminar
- Help with communication
- TAU plus
  - Doll therapy
  - Music therapy
- 6 months

Tucker et al. 2010. Ragilo et al. 2015.

Apathy

- Multisensory stimulation
- A kit-based activity intervention
- Cognitive communication program
- Need-driven dementia compromised behavior model treatment (NDB)
- Live interactive music
- Art therapy
- Tailorded activity program (TAP)
- Individualized occupational therapy
- Cognitive stimulation therapy
- Biography-orientated mobilization groups
- Coordinated care intervention



- Physical exercise
- Individualized cognitive rehavilitation program
- Verbal-gesture program
- Virtual reality

Theleritis et al. J Geriatr Psychiatry Neurol. 2017.; Balzotti et al. Int J Geriatr Psychiatry. 2019.; Butterfield et al. J Geriatr Psychiatry Neurol. 2017.; Treusch et al. Eur Psychiatry. 2014.;

Saredakis et al. J Med Internet Res. 2020.

Psychosis

- Touch therapy
- Music therapy
- Simulated family presence
- Aromatherapy
- Physical activities
- Cognitive rehabilitation
- Light therapy

EBM seminar

de Oliveira et al. 2015.

Vocal disruptive behavior

- Unmet needs
- Social deprivation
- Social isolation
- Physical dependency
- Triggers
  - Pain
  - Psychosis, anxiety, affective disorder, psychological distress
  - Caregiver behavior

Management of BPSD

Rich resource

- Non-pharmacologic mx.
  - Multidisciplinary collaboration
  - Caregiver training
- Pharmacologic mx.
  - Cognitive enhancers
    - AChEI's
    - NMDA modulating agent
  - Psychotropic drugs
    - Guidelines

Lack resource

- Pharmacologic mx.
  - Cognitive enhancers
    - AChEI's
    - NMDA modulating agent
  - Psychotropic drugs
- Non-pharmacologic mx. (consultation)
  - Multidisciplinary collaboration
  - Caregiver training

Summary

- BPSD symptoms are treatable & controlled
- Caregiver psychoeducation and training on disease specific cargiving skills is crucial in BPSD management
- Bio-psycho-social model approach for associated factors and management are keys to succesful caregiving
- Non-pharmacologic management is encouraged as first-line, if failed, pharmacologic treatment is indicated
- AChEI's are recommended in mild-to-moderate BPSD's
- Atypical antipsychotics are recommended for psychotic symptoms or severe agitation/aggression
- SSRI's and trazodone are recommended for depression and agitation

Q & A