



Approach to the Assessment and Non-Pharmacological Management of Neuropsychiatric Symptoms in Dementia

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Objectives

- By the end of this session participants should be able to:
 - 1) Review the common neuropsychiatric symptoms (NPS) encountered in various types of dementia;
 - 2) Develop an approach to the assessment of NPS; and
 - 3) Understand evidence-based non-pharmacological treatments for NPS.



Neuropsychiatric Symptoms

- Non-cognitive symptoms associated with dementia
- Also known as Behavioral and Psychological Symptoms of Dementia (BPSD)
 - International Psychogeriatrics Association 1996
“Signs and symptoms of disturbed perception, thought content, mood, or behavior that frequently occur in patients with dementia”¹



What are Neuropsychiatric Symptoms?

- ▶ Delusions¹
 - ▶ Hallucinations
 - ▶ Anxiety
 - ▶ Elevated mood
 - ▶ Apathy
 - ▶ Depression
 - ▶ Irritability
 - ▶ Sleep Changes
- Agitation²:
 - Restlessness
 - Requests for help or repetitive questioning
 - Screaming or vocalizations
 - Hitting, pushing, kicking
 - Sexually disinhibited behavior

1. Cummings, *Neurology*, 1994

2. Cohen-Mansfield, *J Gerontol*, 1989



Clusters of Neuropsychiatric Symptoms

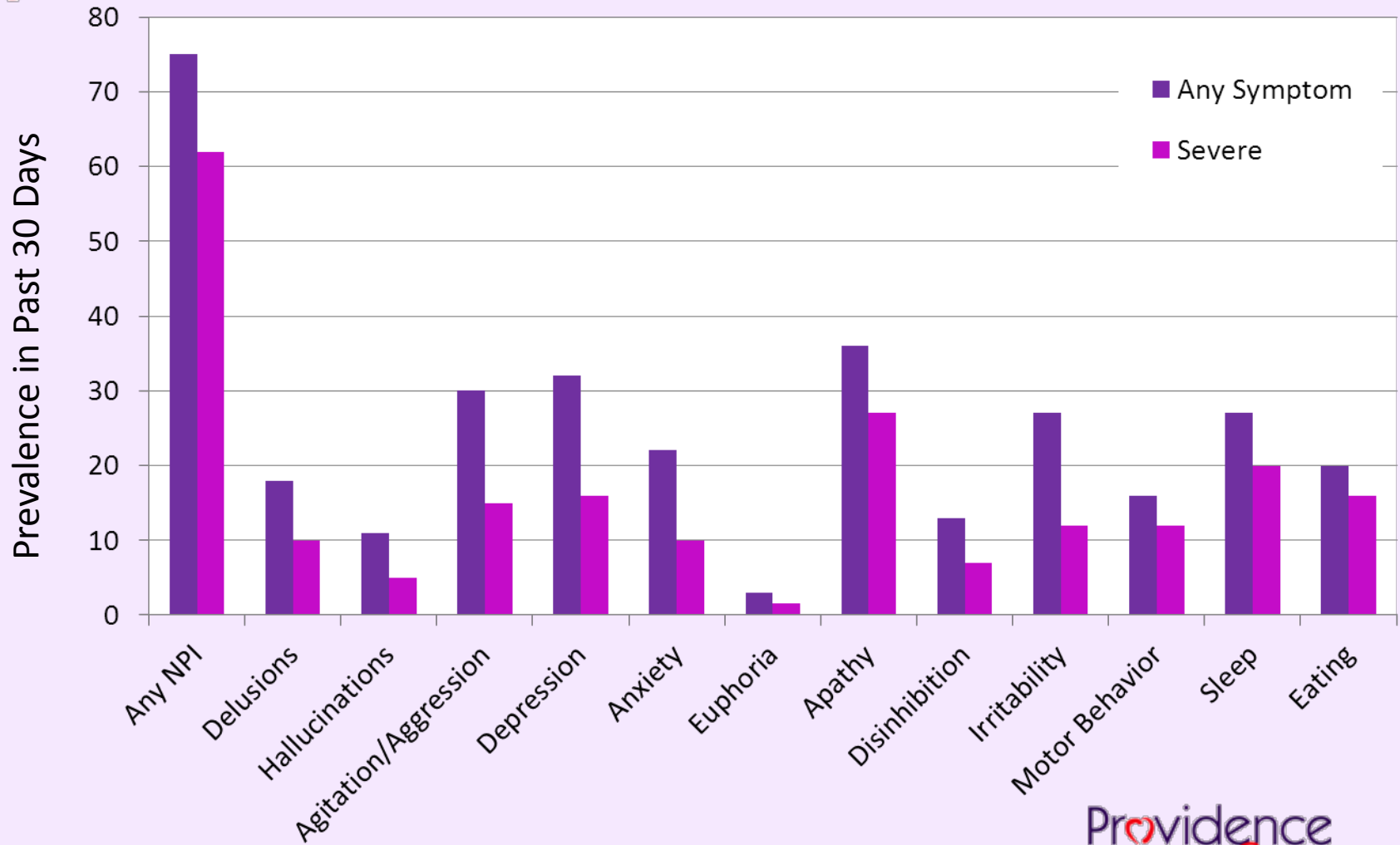
- **Cohen-Mansfield Agitation Inventory (CMAI)¹:**
 - **Verbal agitation** (yelling, repetitive vocalizations)
 - **Non-aggressive physical agitation** (restlessness, pacing)
 - **Aggressive physical agitation**

- **Neuropsychiatric Inventory (NPI)²:**
 - **Psychotic symptoms** (delusions/hallucinations)
 - **Mood/Apathy** (depression/apathy/eating/sleep)
 - **Hyperactivity**
(agitation/irritability/euphoria/disinhibition)

1. Cohen-Mansfield, J Gerontol, 1989

2. Aalten, Dement Geriatr Cogn Disord, 2003

Prevalence of NPS





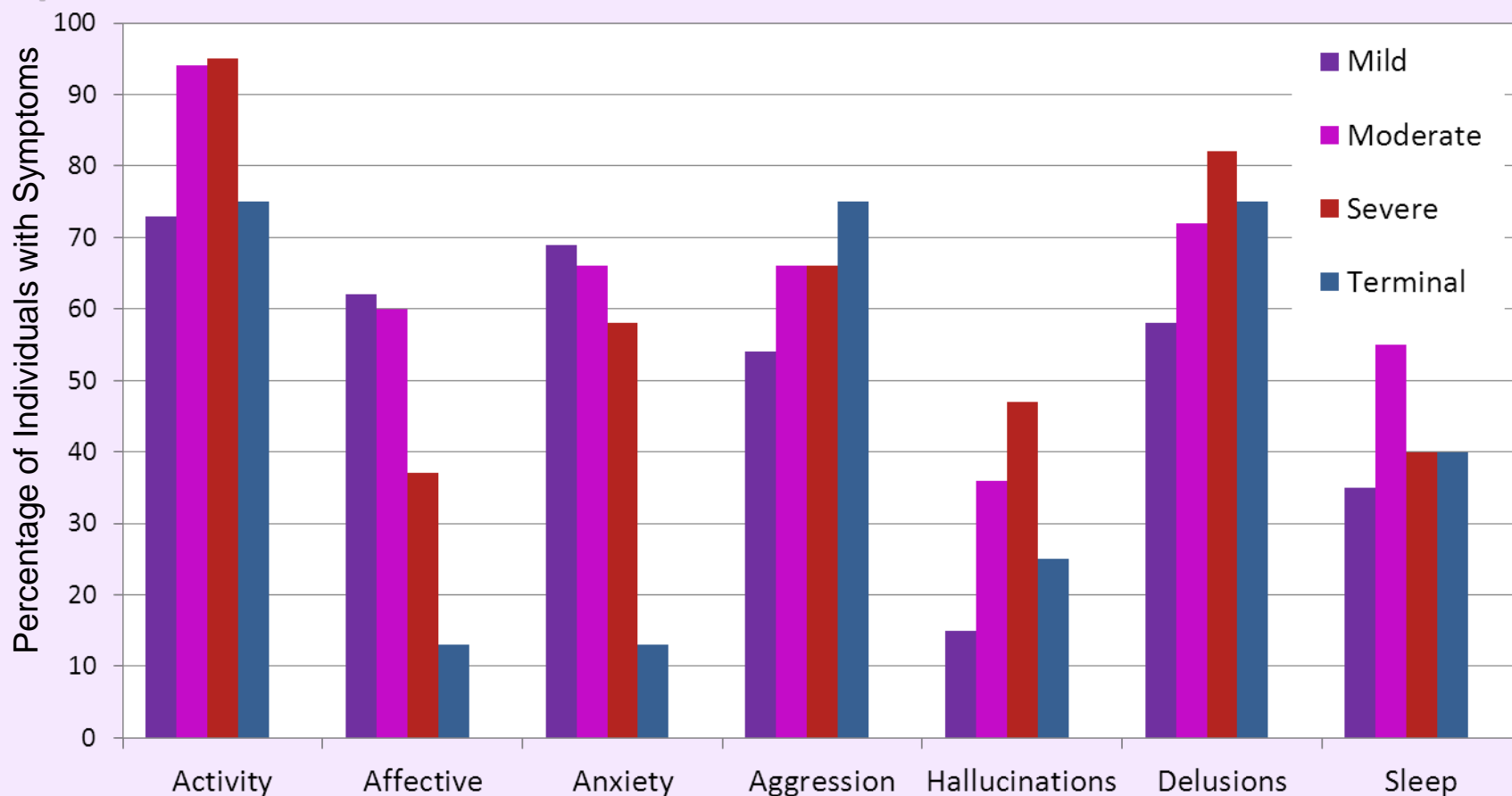
Prevalence of NPS in Long-Term Care

- 60% of individuals LTC settings have dementia¹
- Overall prevalence of NPS:
 - Median prevalence of any NPS: 78%
- Prevalence of NPS²:
 - Psychosis 15 – 30%
 - Depression: 30 – 50%
 - Physical agitation: 30%
 - Aggression: 10 – 20%

1. Seitz, *Int Psychogeriatr*, 2010

2. Zuidema, *J Geriatr Psych Neurol*, 2007

Associations with Stage of Illness





Psychological Theories of NPS

- Lowered Stress Threshold¹
- Learning Theory²
- Unmet needs → Tailored interventions³
 - Verbal agitation – depression, loneliness
 - Physically non-aggressive agitation - stimulation
 - Physically aggressive agitation – avoiding discomfort

1. Hall, Arch Psych Nurs, 1987
2. Cohen-Mansfield, Am J Geriatr Psych, 2001
3. Cohen-Mansfield, Am Care Quarterly, 2000



Understanding Neuropsychiatric Symptoms

- Kitwood's Framework for Personhood in Dementia¹
- $SD = P + B + H + NI + SP$
 - **SD** = manifestation of dementia
 - **P**ersonality – previous coping strategies
 - **B**iography – other challenges presented in life
 - **H**ealth – sensory impairment
 - **N**europathological impairment – location, type, severity
 - **S**ocial **p**sychology – environmental effects on sense of safety, value and personal being

Management of Neuropsychiatric Symptoms



- Differential Diagnosis:
 - Delirium (medication-induced, other causes)
 - Depression
 - Pain or discomfort
 - Other medical causes
 - Environment causes



Diagnosing Delirium

- Confusion Assessment Method (CAM)¹

Abrupt Onset and Fluctuating Course

+

Inattention

+

Altered Level of
Consciousness

OR

Disorganized Thinking

1. Inouye, Ann Intern Med, 1990



Delirium Management

- Identify underlying causes
 - Medication review
 - Recent changes in medical status
 - Investigations
- Reverse precipitants, provide supportive environment, medications for distressing symptoms or safety (eg. low-dose atypical antipsychotics or haloperidol)
- Refer to Canadian Coalition for Seniors Mental Health Guidelines, pocket card and family guide on delirium
 - www.ccsmh.ca



Depression in Dementia

- Depression is risk factor for development of Alzheimer's¹
- Approximately 25% of older adults with dementia have co-morbid depression²
 - Vascular dementia and DLB > Alzheimer's

1. Byers, Nature Rev Neurology, 2011

2. Starkstein, Am J Psychiatry, 2005



Diagnosing Depression in Dementia

- Similar to diagnosing depression in individuals without dementia
- Two week period of **three or more symptoms** of (one of first two required):
 - **Depressed mood**
 - **Decreased positive affect or pleasure in response to social contacts and usual activities**
 - Disruption of sleep
 - Disruption of appetite
 - Psychomotor changes
 - Irritability
 - Fatigue or loss of energy
 - Feelings of worthlessness, hopelessness, or excessive guilt
 - Recurrent thoughts of death, suicidal ideation or plan
- Criteria also met for dementia of the Alzheimer Type
- Symptoms cause distress and not caused by other conditions or substances



Measuring Depression in Dementia

- Cornell Scale for Depression in Dementia
- Based on informant interview and patient observation over the preceding week
- Items scored from 0=absent, 1=mild, 2=severe
- 19 items
- Items include mood-related items, behavioral changes, physical changes, activity cycle, and negative ideation

Pain in Dementia



- Pain is common and undertreated in older adults
 - 50 – 80% of individuals in LTC have pain¹
- Assessment of pain in individuals with advanced dementia particularly challenging
 - Pain can present as agitation
 - Language and communication difficulties
 - Recall of pain and changes over time



Assessment of Pain in Dementia

- Pain Assessment in Advanced Dementia (PAINAD Scale)

Pain Assessment in Advanced Dementia (PAINAD)

	0	1	2	Score
Breathing Independent of vocalization	Normal	Occasional labored breathing. Short period of hyperventilation	Noisy labored breathing. Long period of hyperventilation. Cheyne-Stokes respirations.	
Negative vocalization	None	Occasional moan or groan. Low-level speech with a negative or disapproving quality.	Repeated troubled calling out. Loud moaning or groaning. Crying.	
Facial expression	Smiling, or inexpressive	Sad. Frightened. Frown	Facial grimacing	
Body language	Relaxed	Tense. Distressed pacing. Fidgeting.	Rigid. Fists clenched. Knees pulled up. Pulling or pushing away. Striking out.	
Consolability	No need to console	Distracted or reassured by voice or touch.	Unable to console, distract or reassure.	
				TOTAL



Assessment of NPS

- Assessment of behaviors
 - What are the risks associated with the behavior?
 - To patient, caregivers/staff, other individuals
 - What is the behavior?
 - E.g. using instrument such as CMAI or NPI
 - What type of dementia does the individual have?
 - What is the stage of dementia?
 - What are the goals of care?



Assessing Neuropsychiatric Symptoms

- Cohen Mansfield Agitation Inventory:
 - 29 item scale
 - Informant ratings of the frequency of agitated behaviors in past 2 weeks
 - 1 = never
 - 3 = 1 – 2 times/week
 - 7 = several times per hour
 - Score ranges from 29 - 203
 - Can use total score, subscales, or ratings on individual items

Assessing Neuropsychiatric Symptoms

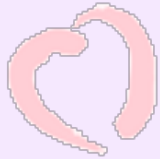
- Cohen-Mansfield Agitation Inventory, subscales
 - Verbal agitation
 - Physically non-aggressive agitation
 - Physically aggressive agitation

THE COHEN-MANSFIELD AGITATION INVENTORY - Long Form

Please read each of the 29 agitated behaviors, and circle how often (from 1-7) each was manifested by the resident during the last 2 weeks:

	Never 1	Less than once a week 2	Once or twice a week 3	Several times a week 4	Once or twice a day 5	Several times a day 6	Several times an hour 7
1. Pace, aimless wandering	1	2	3	4	5	6	7
2. Inappropriate dress or disrobing	1	2	3	4	5	6	7
3. Spitting (include at meals)	1	2	3	4	5	6	7
4. Cursing or verbal aggression	1	2	3	4	5	6	7
5. Constant unwarranted request for attention or help	1	2	3	4	5	6	7
6. Repetitive sentences or questions	1	2	3	4	5	6	7
7. Hitting (including self)	1	2	3	4	5	6	7
8. Kicking	1	2	3	4	5	6	7
9. Grabbing onto people	1	2	3	4	5	6	7
10. Pushing	1	2	3	4	5	6	7
11. Throwing things	1	2	3	4	5	6	7

Assessment of Neuropsychiatric Symptoms



- Neuropsychiatric Inventory (NPI)
- 12 item scale
- Assesses broad range of neuropsychiatric symptoms commonly observed in dementia
- Each item rated on frequency and severity
- Versions for use with caregivers, LTC staff or caregiver interview reported questionnaire



Assessing Neuropsychiatric Symptoms

- NPI Items
 - Delusions
 - Hallucinations
 - Agitation/Aggression
 - Depression
 - Anxiety
 - Apathy/Indifference
 - Elation/Euphoria
 - Disinhibition
 - Irritability
 - Aberrant motor behavior
 - Sleep and nighttime behavior
 - Appetite and eating disturbances



Assessing Neuropsychiatric Symptoms

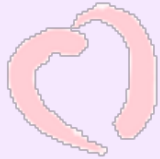
- Using the NPI:
 - Frequency of behaviors
 - 1 = Occasionally
 - 2 = Often (1/week)
 - 3 = Frequently (< than daily)
 - 4 = Very frequently (daily)
 - Severity
 - 1 = Mild (little distress)
 - 2 = Moderate (redirectable)
 - 3 = Severe
 - Distress associated with symptoms
- Can be used to assess the type and severity of symptoms
- Identify behaviors that are most important to target and monitor

Assessment of Neuropsychiatric Symptoms

- ABC Approach

- **A**ntecedents to the behavior (i.e. during care)
 - Behavioral charting using Dementia Observation System DOS
- **B**ehaviors (what was the behavior?)
- **C**onsequences (what was the response to the behavior)

Dementia Observation System



- Charting of behaviors over several days
- Help to identify patterns and precipitants of NPS
- Frequency of behaviors over days
- Informs timing of interventions
 - Activities or medications

Dementia Observation System		August 2008			
<small>Use corresponding numbers to record in 15 intervals.</small>					
<small>1. Sleeping in bed 5. Restless/ pacing</small>					
<small>2. Sleeping in Chair 6. Exit Seeking</small>					
<small>3. Anxious/ Calm 7. Aggressive- verbal</small>					
<small>4. None 8. Aggressive- physical</small>					
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Schindal Martin, L. (1998). The dementia observational system: A useful tool for discovering the person behind the illness. Long Term Care, 30(4), 19-22.

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Interventions for Alzheimer's Disease and Related Dementias



- Non-pharmacological interventions
- Pharmacological interventions



General Principles To Managing NPS

- Non-pharmacological treatments should be used first whenever available
- Even when NPS are caused by specific etiologies (pain, depression, psychosis) non-pharmacological interventions should be utilized with medications
- All non-pharmacological interventions work best when tailored to individual needs and background
- Family and caregivers are key collaborators and need to be involved in treatment planning

STI and STA OP! Intervention



BEHAVIOURAL CHANGE IDENTIFICATION!

If behaviour continues, REPEAT STA OP!

STEP 0: BASIC CARE NEEDS ASSESSMENT

TARGET and if behaviour continues, proceed to: STEP 1

STEP 5: TRIAL PSYCHOTROPIC DRUGS OR CONSULTATION

STEP 1: PAIN AND PHYSICAL NEEDS ASSESSMENT

TARGET and if behaviour continues, proceed to: STEP 2

STEP 4: TRIAL ANALGESICS

STEP 2: AFFECTIVE NEEDS ASSESSMENT

TARGET and if behaviour continues, proceed to: STEP 3

STEP 3: TRIAL NON-PHARMACOLOGICAL COMFORT INTERVENTIONS

* If behaviour continues, proceed to the next step



Non-Pharmacological Interventions

- Training caregivers or staff in behavioral management strategies and communication
- Mental health consultations
- Participation in pleasant events
- Exercise
- Music
- Sensory stimulation (e.g. touch, Snoezelen, aromatherapy)

Cohen-Mansfield, Am J Geriatr Psychiatry, 2001

Livingston, Am J Psychiatry, 2005

Seitz, International Psychogeriatrics Long-Term Care Symposium, 2011



Training Caregivers and Staff

- Some staff and caregiver training approaches are effective in reducing NPS¹⁻³
- Also referred to as patient-centred care
- Most training programs involve psychoeducation about dementia symptoms
- Communication strategies to avoid confrontation
- Strategies for redirection and distraction
- Often incorporate *personalized* pleasant events into interactions

1. McCallion, *Gerontologist*, 1999
2. Chenoweth, *Lancet Neurology*, 2009
3. Testad, *J Clin Psychiatry*, 2010



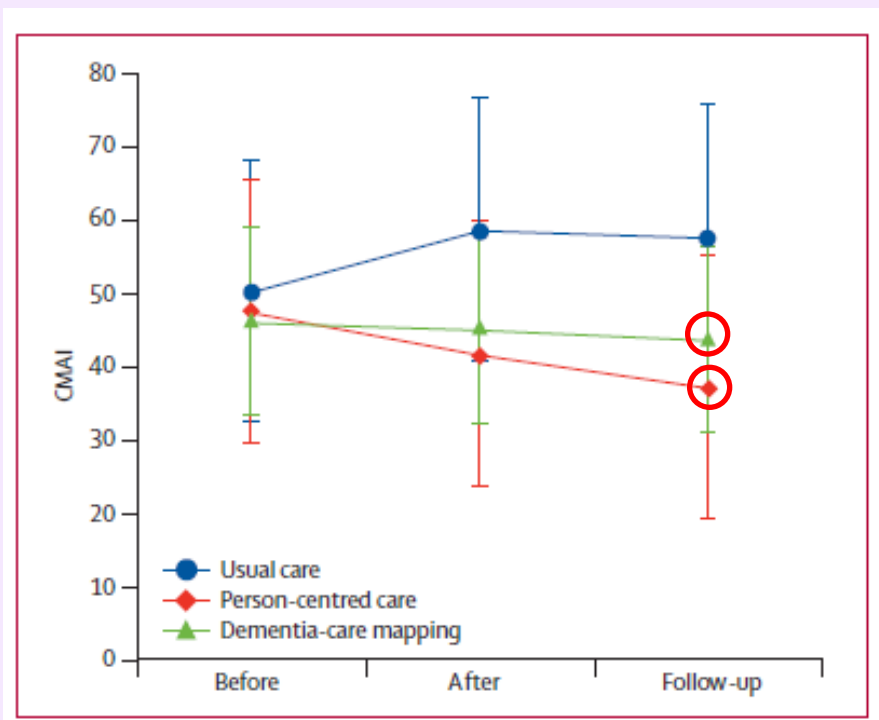
Staff Training to Reduce NPS

- Caring for Aged Dementia Care Resident Study (CADRES)¹
- RCT of two models of person-centred care (PCC), PCC and Dementia Care Mapping compared to usual care
- 15 LTC facilities in Australia, N=298
- Evaluated outcomes at 4, 8 months



CADRES Results

CMAI Total Score



- NPI
 - PCC showed reduction in NPI score
- Quality of life was not significantly impacted by either PCC or DCM



Self-Directed Training for Staff

- Murray Alzheimer Research and Education Program
 - <http://marep.uwaterloo.ca>
- Dementia Care Education Series
- Managing and Accommodating Responsive Behaviors in Dementia care
 - DVDs with accompanying workbooks

Caregiver Training compared to Medications



- Community-dwelling persons with dementia treated with either haloperidol, trazodone, behavioral management therapy (BMT) or placebo for 16 weeks (N=148)¹
- BMT consisted of eight sessions involving psychoeducation, strategies for reducing agitation
- No difference overall in improvement
 - 34% improved overall, 20% had no change
 - BMT less likely to drop out due to adverse events
 - Medications associated ↓ ADL and MMSE

Caregiver Training and Psychoeducation

- Referral to local Alzheimer's Society
 - Psychoeducation
 - Behavioral and communication strategies
 - Peer support
- Have been shown to reduce caregiver distress¹



<http://www.alzheimer.ca/>

1. Thompson, *BMC Geriatr*, 2007



Mental Health Consultation

- Referral to geriatric mental health providers for NPS are effective in reducing NPS^{1,2}
- Evaluations focus on:
 - Assessing for treatable causes of behavioral changes including pain and delirium
 - Patient-centred non-pharmacological interventions for NPS
 - Working with staff and physicians to optimize care and environment

1. Rovner, J Am Geriatr Soc, 1996

2. Cohen-Mansfield, J Gerontol, 2007



Participation in Pleasant Events

- 1-to-1 interaction with personalized pleasant events has been demonstrated to reduce NPS¹
 - Given 3X/week – 20 – 30 minutes/session
- Participation in group “validation therapy” may also be beneficial²

1. Lichtenberg, *Gerontologist*, 2005
2. Toseland, *J Appl Gerontol*, 1997

Exercise



- Exercise programs have been demonstrated to reduce NPS in LTC residents¹⁻³
- Training caregivers in behavioral management and exercise program improved physical functioning of person with dementia and depressive symptoms⁴
 - 30 minutes/day was recommended
 - Exercise program included strength, flexibility, aerobic activity, balance
- Canadian Physical Activity Guidelines
 - <http://www.csep.ca/CMFiles/Guidelines/CSEP-InfoSheets-older%20adults-ENG.pdf>

1. Alessi, J Am Geriatr Soc, 1999
2. Landi, Arch Gerontol Geriatr, 2004
3. Williams, Am J Alzheimer Dis Other Dementi, 2007
4. Teri, JAMA, 2003

Music



- Group music with movement or individualized music therapy are effective in reducing NPS^{1,2}
- 30 minutes 2 – 3 times/ week
 - May use prior to times of increased agitation
- *Personalized* music more effective than generic music



1. Sung, *Complement Ther Med*, 2006
2. Raglio, *Alzheimer Dis Assoc Disord*, 2008

Sensory Stimulation



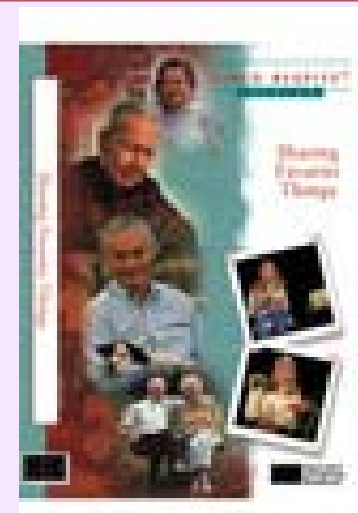
- Therapeutic touch or gentle massage may relieve symptoms of agitation^{1,2}
- Snoezelen (multisensory stimulation) providing tactile, light, olfactory, or auditory stimulation³
- Aromatherapy with massage
 - 1 positive⁴ and 1 negative⁵ RCT

1. Hawranik, *West J Nurs Pract*, 2008
2. Woods, *Alter Ther Health Med*, 2005
3. Van Weert, *J Am Geriatr Soc*, 2005
4. Ballard, *J Clin Psychiatry*, 2002
5. Burns, *Dementia Geriatr Cogn Disord*, 2011



Participation in Pleasant Events

- Alzheimer's activities

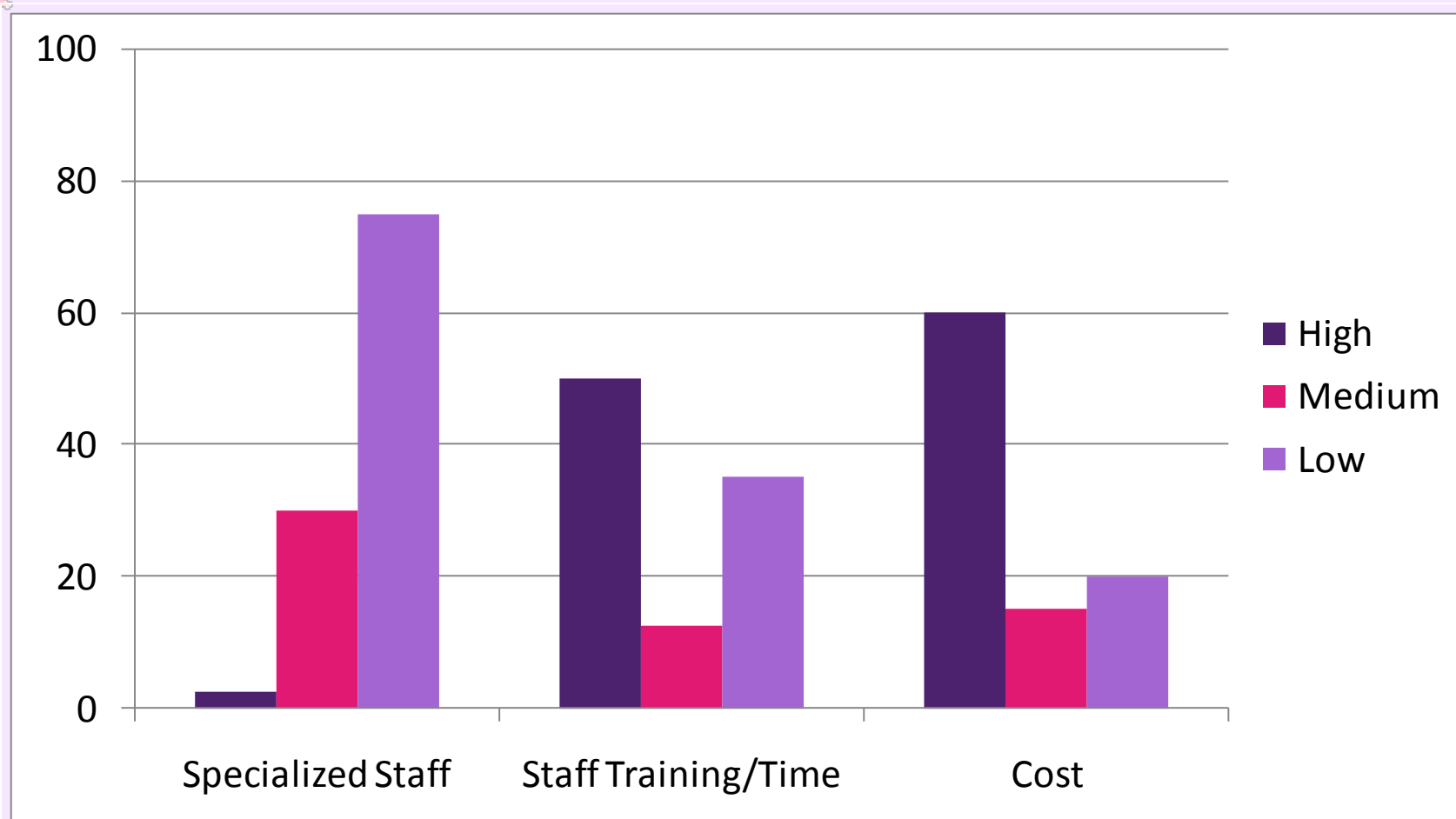
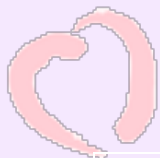




Limitations of Psychosocial Treatments

- Modest effects of treatments
 - $D = 0.2 - 0.5$ for many interventions
- Effectiveness for aggression and psychosis may be limited
 - Agitation, depressive symptoms may be more likely to respond
- May require prolonged and sustained implementation for effects to be realized

Feasibility of Non-Pharmacological Interventions



Safety of Non-Pharmacological Interventions



- Review of non-pharmacological interventions for NPS in LTC populations¹
- Risk of trial withdrawal and mortality associated with non-pharmacological interventions
- Trial withdrawals reporting 17/40 (43%) studies and mortality reported in 11/40 (25%) studies
- Trial withdrawal: OR = 0.99 (95% CI: 0.8 – 1.2, p=0.9)
- Mortality: OR = 0.88 (95% CI: 0.6 – 1.2, p=0.4)

Conclusions



- Neuropsychiatric symptoms are common in dementia and have an important impact on patients and caregivers
- A comprehensive assessment of NPS is important and informs treatment strategies
- Both non-pharmacological and pharmacological interventions have important roles in the management of NPS

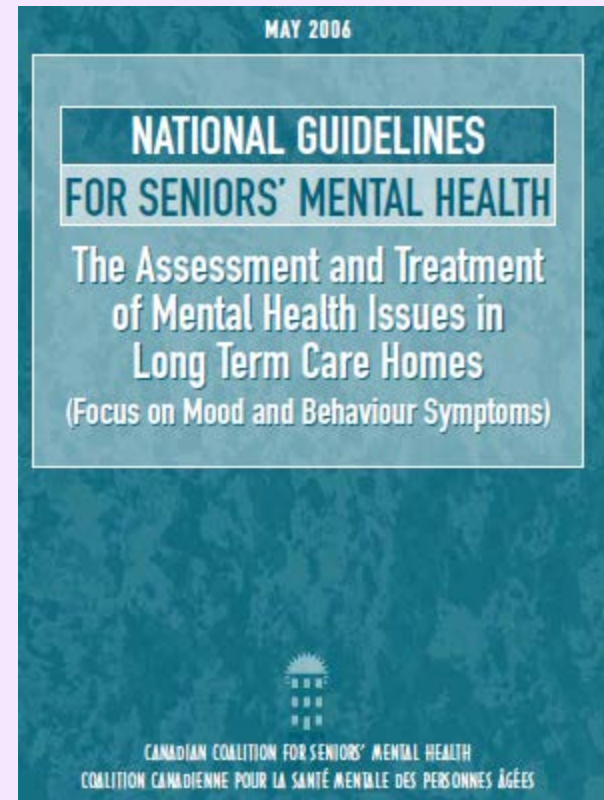


MAREP

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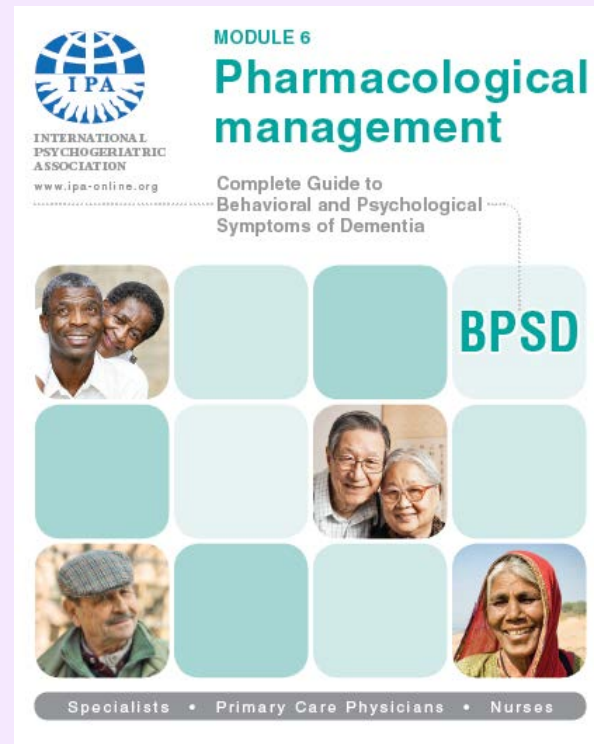
Resources

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 - www.marep.uwaterloo.ca
- Alzheimer's Society
 - www.alzheimer.ca



Resources

- International Psychogeriatric Association BPSD Guides www.ipa-online.org



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Thank you



- Questions?
- Cases to discuss
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