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

¹. Finkel, Int Psychogeriatr, 1996; 8(suppl 3):497-500
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

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1. Cummings, Neurology, 1994
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)

2. Aalten, Dement Geriatr Cogn Disord, 2003
Prevalence of NPS in Long-Term Care

- 60% of individuals in LTC settings have dementia
- Overall prevalence of NPS:
  - Median prevalence of any NPS: 78%

Prevalence of NPS:
- Psychosis 15 – 30%
- Depression: 30 – 50%
- Physical agitation: 30%
- Aggression: 10 – 20%

Associations with Stage of Illness

Chen, Am J Geriatr Psychiatry, 2000

Percentage of Individuals with Symptoms

- Activity
- Affective
- Anxiety
- Aggression
- Hallucinations
- Delusions
- Sleep

Mild
Moderate
Severe
Terminal
Psychological Theories of NPS

• Lowered Stress Threshold

• Learning Theory

• Unmet needs → Tailored interventions
  – Verbal agitation – depression, loneliness
  – Physically non-aggressive agitation - stimulation
  – Physically aggressive agitation – avoiding discomfort

1. Hall, Arch Psych Nurs, 1987
Understanding Neuropsychiatric Symptoms

• Kitwood’s Framework for Personhood in Dementia\(^1\)

• SD = P + B + H + NI + SP
  – SD = manifestation of dementia
  – Personality – previous coping strategies
  – Biography – other challenges presented in life
  – Health – sensory impairment
  – Neuropathological impairment – location, type, severity
  – Social psychology – 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

1. Sink, JAMA, 2005
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.cccsmh.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

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

Teng, Am J Geriatr Psychiatry, 2008
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

Alexopolous, Biol Psychiatry, 1988
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

¹ Fox, CMAJ, 1999
Assessment of Pain in Dementia

- Pain Assessment in Advanced Dementia (PAINAD Scale)

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

1. Warden, J Am Med Dir Assoc, 2003
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
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
  – Antecedents to the behavior (i.e. during care)
    • Behavioral charting using Dementia Observation System DOS
  – Behaviors (what was the behavior?)
  – Consequences (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
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 involved in treatment planning
STI and STA OP! Intervention

**BEHAVIOURAL CHANGE IDENTIFICATION!**

* If behaviour continues, REPEAT STA OP!

**STEP 0: BASIC CARE NEEDS ASSESSMENT**

**STEP 1: PAIN AND PHYSICAL NEEDS ASSESSMENT**

+ if behaviour continues, proceed to: **STEP 1**

- Proceed to **STEP 2**

**STEP 2: AFFECTIVE NEEDS ASSESSMENT**

+ if behaviour continues, proceed to: **STEP 2**

- Proceed to **STEP 3**

**STEP 3: TRIAL NON-PHARMACOLOGICAL COMFORT INTERVENTIONS**

+ Target and if behaviour continues, proceed to: **STEP 3**

- Proceed to **STEP 3**

**STEP 4: TRIAL ANALGESICS**

+ Target and if behaviour continues, proceed to: **STEP 2**

- Proceed to **STEP 2**

**STEP 5: TRIAL PSYCHOTROPIC DRUGS OR CONSULTATION**

+ Target and if behaviour continues, proceed to: **STEP 1**

- Proceed to **STEP 1**

* 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)

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 NPS\textsuperscript{1-3}
• 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 \textit{personalized} pleasant events into interactions

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

¹ Chenoweth, Lancet Neurol, 2009
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](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

1. Teri, Neurology, 2000
Caregiver Training and Psychoeducation

• Referral to local Alzheimer’s Society
  – Psychoeducation
  – Behavioral and communication strategies
  – Peer support
• Have been shown to reduce caregiver distress\(^1\)

Mental Health Consultation

- Referral to geriatric mental health providers for NPS are effective in reducing NPS\textsuperscript{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

Participation in Pleasant Events

- 1-to-1 interaction with personalized pleasant events has been demonstrated to reduce NPS\(^1\)
  - Given 3X/week – 20 – 30 minutes/session
- Participation in group “validation therapy” may also be beneficial\(^2\)

1. Lichtenberg, *Gerontologist*, 2005
Exercise

• Exercise programs have been demonstrated to reduce NPS in LTC residents\textsuperscript{1-3}

• Training caregivers in behavioral management and exercise program improved physical functioning of person with dementia and depressive symptoms\textsuperscript{4}
  
  – 30 minutes/day was recommended
  
  – Exercise program included strength, flexibility, aerobic activity, balance

• Canadian Physical Activity Guidelines
  

2. Landi, Arch Gerontol Geriatr, 2004
4. Teri, JAMA, 2003
Music

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

2. Raglio, \textit{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 stimulation\(^3\)

• Aromatherapy with massage
  – 1 positive\(^4\) and 1 negative\(^5\) RCT

5. Burns, *Dementia Geriatr Cogn Disord*, 2011
Participation in Pleasant Events

- Alzheimer’s activities

www.seniors.spectrum-nasco.ca
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 required prolonged and sustained implementation for effects to be realized
Feasibility of Non-Pharmacological Interventions

Seitz, *International Psychogeriatrics Long-Term Care Symposium*, 2011
Safety of Non-Pharmacological Interventions

- Review of non-pharmacological interventions for NPS in LTC populations\(^1\)
- 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, \(p=0.4\))

1. Seitz, CCD, 2011
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

• Canadian Coalition for Seniors Mental Health
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  – www.marep.uwaterloo.ca

• Alzheimer’s Society
  – www.alzheimer.ca
Resources

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

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• A comprehensive assessment of NPS is important and informs treatment strategies

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Thank you

• Questions?
• Cases to discuss
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