Behavioral and Psychological Symptoms of Dementia BPSD

International Psychogeriatric Association

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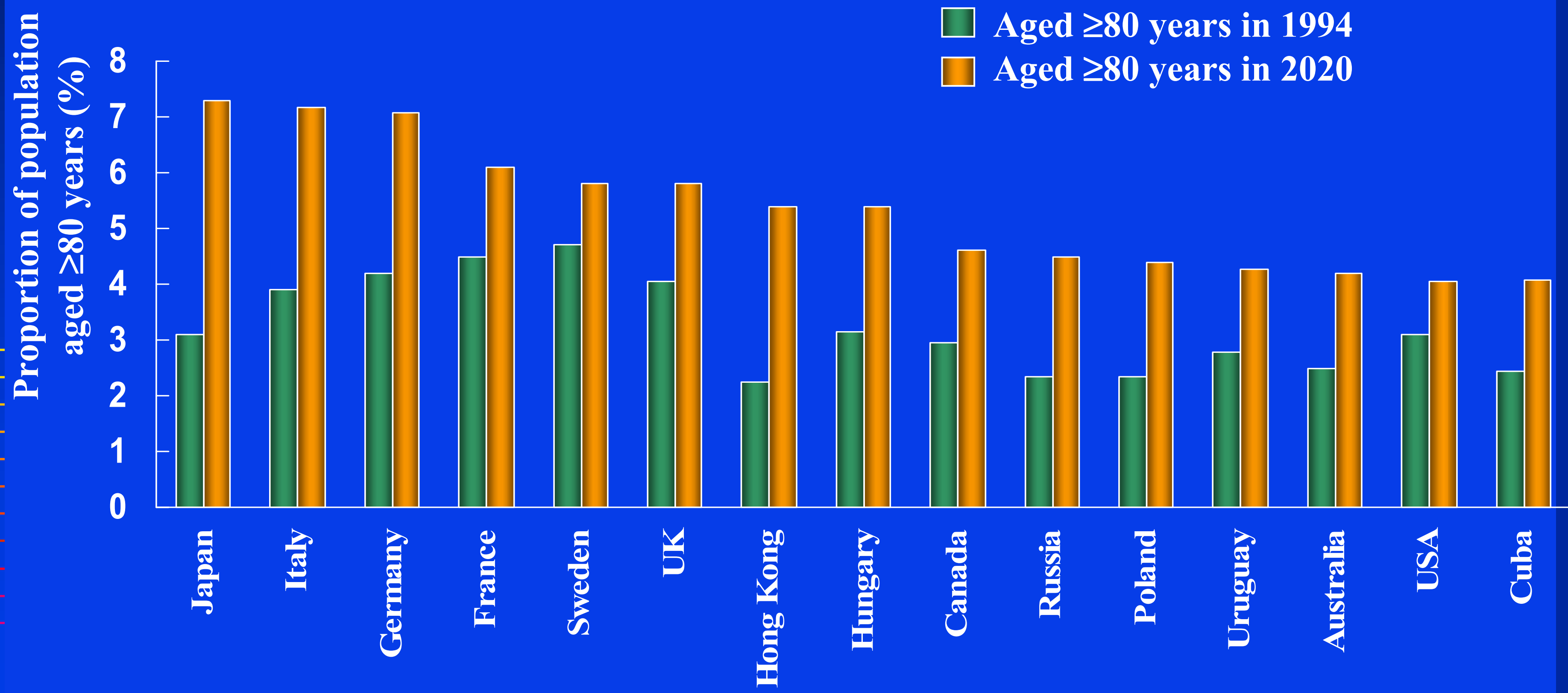
Estimates of Increasing Size of the Elderly Population



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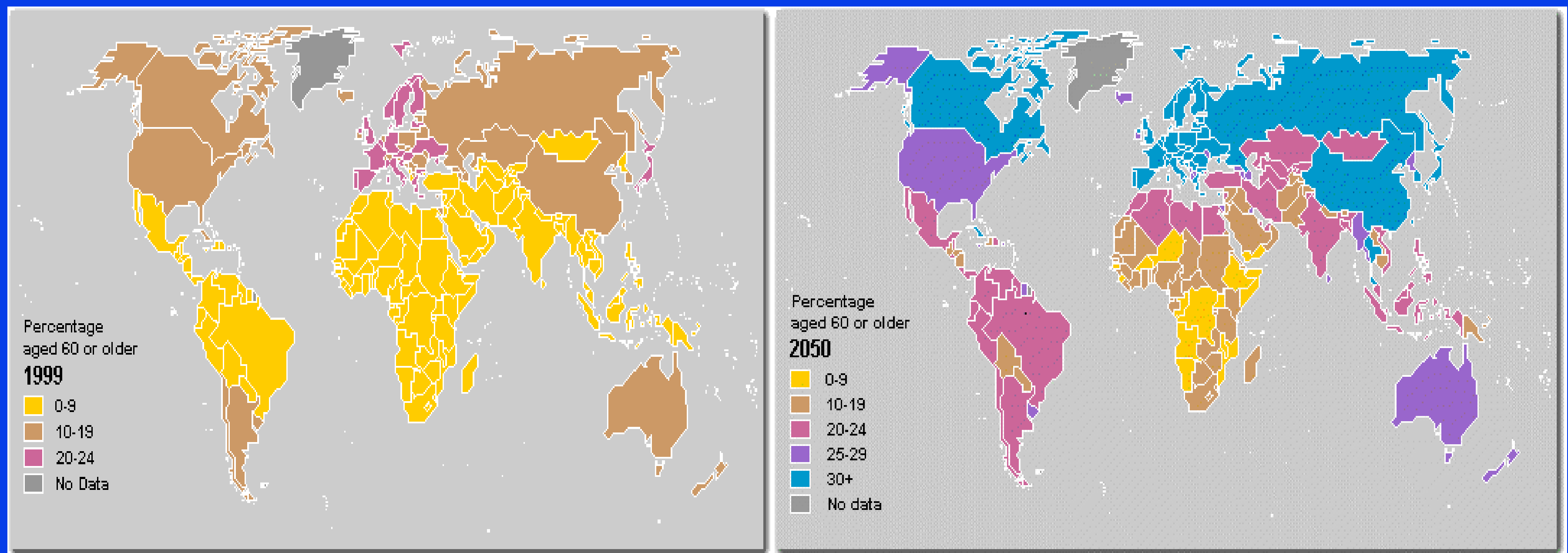


Dementia

Definition

- Memory impairment, *plus*
  - Impairment in at least one other domain
- Representing decline
- Interfering with function
- Not better accounted for by a number of other conditions

DSM-IV-TR; APA 2000

Dementia

Activities of daily living

BPSD

Cognitive deficits

Behavioural and Psychological Symptoms of Dementia:

A heterogeneous range of psychological reactions, psychiatric symptoms and behaviours resulting from the presence of dementia

Why Are BPSD Important?

They result in:

- excess disability
- increased hospitalization
- premature institutionalization
- suffering for patient and caregiver
- substantial increase in financial costs

Finkel 1996

Diagnosis and Assessment of BPSD

- Phenomenology is the basis of diagnosis
  - Direct interview
  - Direct observation
  - Proxy report
  - Measurements and scales
- Need for accurate descriptions
- Think of physical illness
- Think of sensory impairment

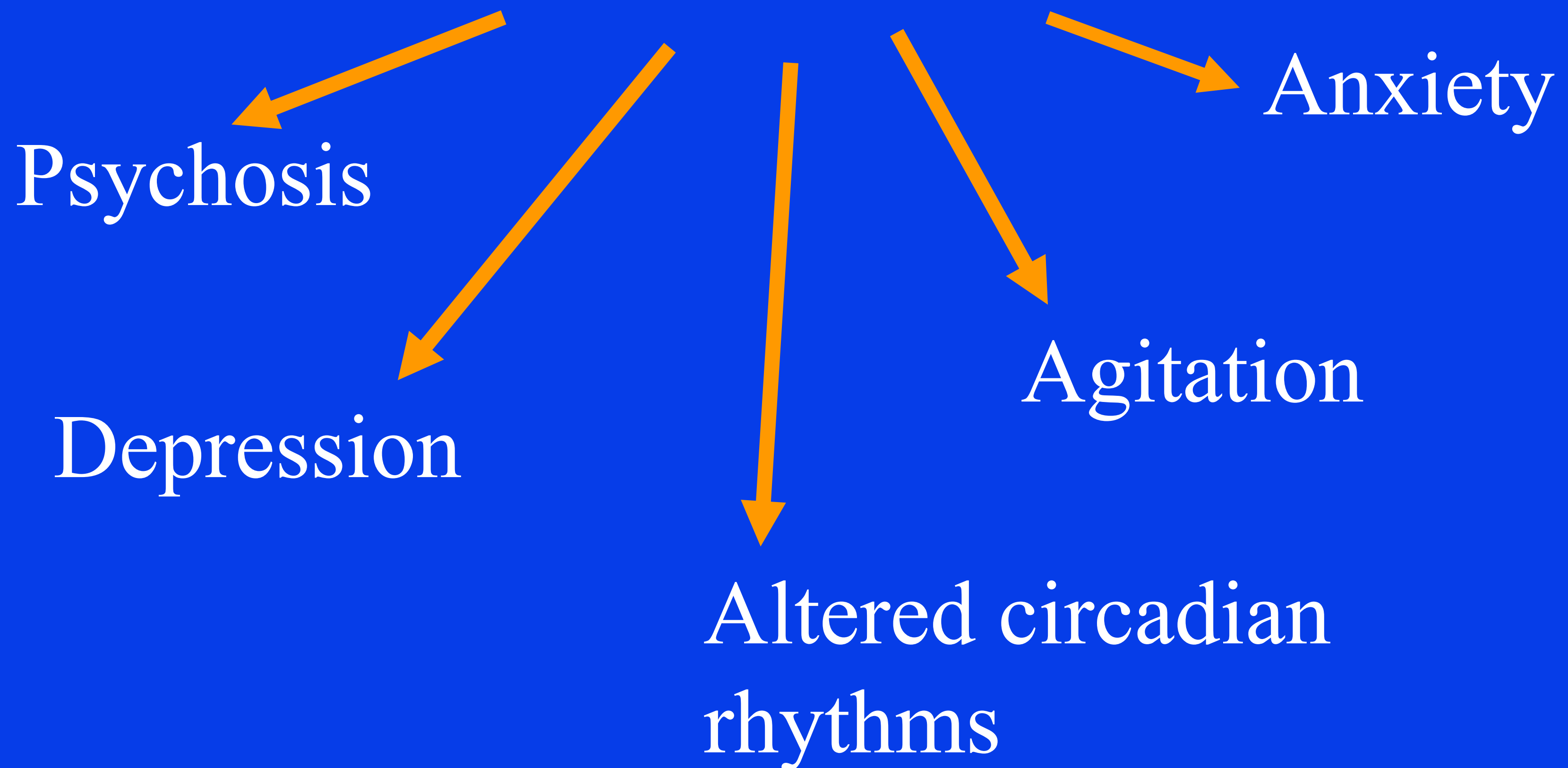
Variation With Type of Dementia

- Visual hallucinations are more common in Diffuse Lewy Body Dementia
- Disinhibition symptoms occur early in the some of the Frontotemporal Dementias
- Earlier onset of behavioral symptoms has been described in Huntington's chorea, Creutzfeldt-Jacob disease and Pick's disease

BPSD Symptom Complexes

- Factor analysis of BPSD suggests that symptom complexes exist within individual patients
- Many published studies of pharmacotherapy, for example, limited enrollment in the clinical trials to individuals with a particular subset of symptoms, such as delusions or depression.
- Among the symptom complexes, “Psychosis in BPSD” has had diagnostic criteria defined by an expert consensus process, and it will be used to illustrate the potential such an approach has for ultimately improving our treatment of BPSD

Symptom Complexes of BPSD



Psychosis in BPSD

Diagnostic Criteria for Psychosis of AD

Characteristic symptoms

Presence of one or more of the following symptoms:

visual or auditory hallucinations

delusions

Primary diagnosis

All the criteria for dementia of the Alzheimer type are met.*

*For other dementias, such as vascular dementia, Criterion B will need to be modified appropriately.

Jeste, Finkel 2000

Diagnostic Criteria for Psychosis of AD

Chronology of the onset of symptoms
of psychosis *Vs* onset of symptoms of dementia

There is evidence from the history that the
psychotic symptoms have not been
present continuously since prior to the onset
of dementia.

Diagnostic Criteria for Psychosis of AD

Duration and severity

The psychotic symptom(s) have been present, at least intermittently, for 1 month or longer. Symptoms are severe enough to cause some disruption in patients' and/or others' functioning.

Diagnostic Criteria for Psychosis of AD

Exclusion of schizophrenia and related psychotic disorders

Criteria for schizophrenia, schizoaffective disorder, delusional disorder or mood disorder with psychotic features, have never been met.

Relationship to delirium

The disturbance does not occur exclusively during the course of a delirium.

Exclusion of other causes of psychotic symptoms

The disturbance is not better accounted for by another general medical condition or direct physiological effects of a substance (e.g. drug abuse, a medication).

Jeste, Finkel 2000

Diagnostic Criteria for Psychosis of AD

Associated features

With agitation:

when there is evidence, from history or examination, of prominent agitation with or without physical aggression.

With negative symptoms:

when prominent negative symptoms, such as apathy, affective flattening, avolition or motor retardation are present.

With depression:

when prominent depressive symptoms, such as depressed mood, insomnia or hypersomnia, feelings of worthlessness or excessive inappropriate guilt, or recurrent thoughts of death are present.

Jeste, Finkel 2000

Differential Diagnosis of Psychosis of AD Vs Psychosis of Schizophrenia in the Elderly

	Psychosis of AD	Schizophrenia
Bizarre or complex delusions	Rare	Frequent
Misidentifications of caregivers	Frequent	Rare
Common form of hallucinations	Visual	Auditory
Schneiderian first-rank symptoms	Rare	Frequent
Active suicidal ideation	Rare	Frequent
Past history of psychosis	Rare	Frequent

Jeste, Finkel 2000

Depression in BPSD

Prevalence of Depression in Dementia

- Depression has long been recognized as a major co-morbidity of dementia syndromes.
- Prevalence of depression in DAT 0%-20%, but lacking diagnostic criteria specific for depression in dementia, most studies report prevalence of depressive symptoms
- Prevalence rates in Vascular Dementia 19% - 43%

Depression as the First Sign of Dementia

- Patients initially diagnosed with depressive pseudodementia or "reversible dementia" may not achieve complete cognitive recovery following remission of depression.
- An average of 11-23% of patients with initially reversible dementia become irreversibly demented every year
- Irreversible dementia begins to be diagnosed about two years after the initial recovery from depression

Clinical Characteristics of Depression in BPSD

- Depressive symptoms in dementia patients often fluctuate
- Depressed patients with DAT exhibited more self-pity, rejection sensitivity, anhedonia and psychomotor disturbance than depressed older patients without dementia.
- Major depression in DAT is associated with an increased mortality rate, but no acceleration of cognitive decline.

Etiology of Depression in Dementia

Major depression in AD has been associated with:

- increased degeneration of brainstem aminergic nuclei, particularly the locus coeruleus
- Relative preservation of the cholinergic nucleus basalis of Meynert
- No increase in the numbers of senile plaques or neurofibrillary tangles in the neocortex or allocortex
- Modest decreases in the levels of serotonin and 5-HIAA
- Environmental and psychosocial factors

Treatment Response of Depression in Dementia

- Can be effectively treated with antidepressants and behavioral techniques
- Best to avoid tricyclic antidepressants as anticholinergic side effects may significantly impair cognition
- Major depression in dementia patients often recurs

Circadian Rhythm Disturbances

Circadian Rhythm Disturbances

- Disturbances of sleep and day-night reversals are common
- Sleep disturbances may be more common in certain dementias, such as vascular dementia, dementia with Lewy Bodies and supranuclear palsy, compared to those found in Alzheimer's disease

Aldrich, Foster, et al. 1989
Aharon-Peretz, Masiah, et al. 1991
Boeve et al., 2001

Circadian Rhythm Disturbances

- Functional and anatomic changes occur in the suprachiasmatic nucleus in dementias
- Alterations of the daily rhythm of serum melatonin have been correlated to some cases of sleep disturbances in Alzheimer's disease

Stopa, Volicer, et al. 1999
Uchida, Okamoto, et al. 1996

Circadian Rhythm Disturbances

- **Nonpharmacologic therapies include:**
  - keeping patients awake during the day with various external stimuli
  - sometimes structuring short nap after lunch to avoid sundowning
  - early evening activities
  - stimulus control at night
  - "white noise"
  - bright light exposure

Jean-Louis, Zizi, et al. 1998

Circadian Rhythm Disturbances

- Pharmacologic interventions include melatonin, nonbenzodiazepine hypnotics e.g. zolpidem, benzodiazepines, trazodone
- Caregiver interventions include: educational programs, respite, and assistance with their own sleep needs

Jean-louis, Zizi, et al. 1998
Lyketos, Veiel et al. 1999
Ohashi, Okamoto, et al. 1999
Shelton and Hocking 1997
Van Someren, Kessler, et al. 1997

Agitation in BPSD

Agitation

- Some patients have symptoms that do not neatly fit into the better defined symptom complexes of BPSD (e.g. psychosis, depression or anxiety).
- These symptoms are consigned to the “grab-bag” category of agitation

Koss, Weiner, et al. 1997

- Agitation can be defined as inappropriate verbal, vocal or motor activity that is not judged by an outside observer to result directly from the needs or confusion of the person

Cohen-Mansfield and Billig, 1986

Agitation Symptoms - I

Physically Non-Aggressive

- General Restlessness
- Repetitive Mannerisms
- Pacing
- Hiding Objects
- Inappropriate Handling
- Shadowing
- Escaping protected environment
- Inappropriate Dressing/Undressing

Cohen-Mansfield, 1989

Agitation Symptoms - II

Physically Aggressive

- Hitting
- Pushing
- Scratching
- Grabbing
- Kicking
- Biting
- Spitting

Cohen-Mansfield, 1989

Agitation Symptoms - III

Verbally Non-Aggressive

- Negativism
- Chanting
- Repetitive Sentences
- Constant Interruptions
- Constant Requests for Attention

Cohen-Mansfield, 1989

Agitation Symptoms - IV

Verbally Aggressive

- Screaming
- Cursing
- Temper Outbursts
- Socially Inappropriate Commentary

Cohen-Mansfield, 1989

Disinhibition Syndrome

- Impulsive and inappropriate behaviors
- Emotionally unstable
- Poor insight and judgement

Disinhibition Syndrome

(continued)

- Symptoms include crying, euphoria, verbal aggression, physical aggression, self-destructive behavior, sexual disinhibition, intrusiveness, wandering, shoplifting, impulse buying and other unrestrained behaviors

Aggression

- 12% of patients showed aggressive episodes (5% with verbal aggression, 7% with physical aggression) during the preceding 4 weeks
- Physical aggression is significantly associated with more frequent delusions and more severe irritability

Chemerinski E et.al. , 1998

Aggression

- Symptom complexes include:
  - Aggression associated with delirium
  - Aggression associated with depression
  - Aggression associated with psychosis
  - Spontaneous disinhibited aggression
  - Reactive aggression associated with personal care, discomfort

Catastrophic Reactions

- Sudden, excessive emotional response or physical behavior
- Occur in approximately 40% of mild-moderately impaired dementia patients
- During neuropsychological evaluation, 16% of dementia patients demonstrated catastrophic reactions
- Can be precipitated by other BPSD such as misperception, hallucinations or delusions

Anxiety Symptoms in BPSD

Clinical Characteristics of Anxiety Symptoms in BPSD

- No specific definition of anxiety in BPSD is available
- The most common clinical forms are:
  - Generalized Anxiety Disorder type symptoms
  - Godot syndrome – repeatedly asking questions on a forthcoming event
  - Fear of being left alone
  - Pacing
  - Wringing of hands, fidgeting
  - Chanting

Possible Biological Correlates of Anxiety Symptoms in Dementia

- Decrease concentration of 5-HT and 5-HIAA in cortex, basal ganglia and brainstem
- Neuronal loss in raphe nucleus
- Decrease in GABA activity

Nazarali et al,1992
Reinikainen et al, 1988

Ham-A Items that Differentiate Between AD-GAD and AD-Controls

- Anxious Mood
- Tension
- Fears
- Insomnia
- Muscular Symptoms
- Somatic Symptoms
- Cardiovascular Symptoms
- Respiratory Symptoms
- Gastrointestinal Symptoms
- Autonomic Symptoms

Chemerinsky E, Petraca G, Manes F et al, 1998

Treatment of BPSD

Treatment of BPSD

- Patients with BPSD should be evaluated for delirium.
  - Consider changes in environment, medication, fecal impaction, pneumonia, urinary infection, etc.
- Evaluate for needs that the dementia patient is unable to communicate normally e.g. pain
- Behavioral management or situational manipulation are the initial strategies of choice for mild to moderate BPSD.
- Pharmacological interventions are useful if symptoms are severe or do not respond to nonpharmacologic strategies alone

BPSD: Nonpharmacologic Therapy

- Environmental modifications such as music, white noise, plants, animals
- Speak slowly, keep commands simple and positive, use gestures, gentle touch
- Behavioral management techniques
- Structured activities and use of schedules
- Massage, exercise

Rowe, Alfred 1999
Gerdner, Swanson 1993

If Pharmacological Therapy Is Needed:

- Look for symptom complexes such as depression, psychosis or anxiety to guide initial choice of agent
- If enlightened empiric therapy is needed, chose agents that minimize side-effect potential and maximize chance of efficacy
- In most situations, medications should be given in lower doses than are typically recommended for an adult population. However, it is noteworthy that the elderly are heterogeneous and the range of medication dosage is substantial
- Ideally, use agents with demonstrable efficacy as first line agents

Pharmacological Treatment of BPSD: Placebo-Controlled Studies

Drug	Co./Gov.	Publication	Venue	Result
Thiothixene	NIMH	Finkel *et al.* 1995	NH	Significant
Buspirone	BMS	None	NH	?
Olanzapine	Lilly	Satterlee *et al.* 1998	Community	n.s.
Fluoxetine, thioridazine haloperidol	NIMH	None	Community	Fluoxetine

Finkel 2001

Pharmacological Treatment of BPSD: Placebo-Controlled Studies

continued

Drug	Co./Gov.	Publication	Venue	Result
Carbamazepine	NIMH	Tariot *et al.* 1998		Significant
Risperidone	Janssen	Katz *et al.* 1999	NH	Significant
Risperidone	Janssen	De Deyn *et al.* 1999	NH	Significant
Olanzapine	Lilly	Street *et al.* 2000	NH	Significant

Finkel 2001

Pharmacological Treatment of BPSD: Placebo-Controlled Studies

continued

Drug	Co./Gov.	Publication	Venue	Result
Quetiapine	Zeneca	Study completing	NH	
Donepezil, sertraline	Eisai/Pfizer	Study complete	Community	
Valproate	Abbott	Study not complete	NH	
Haloperidol	NIMH	Devanand, *et al.* 1998	Community	Significant

Finkel 2001

Pharmacological Treatment of BPSD: Placebo-Controlled Studies

continued

Drug	Co./Gov.	Publication	Venue	Result
Haloperidol, trazodone, BMT	NIA	Teri, *et al.* 2000	Community	n.s.
Donepezil	Esai	Tariot, *et al.* 2001	Nursing Home	n.s.
Citalopram, perphenazine	NIMH	Pollock, *et al.* 2002	Hospital	Significant

BMT = behavior management techniques

Based on Finkel 2001

- www.ipa-online.org

Summary

- Behavioral and psychological symptoms of dementia are common
- BPSD have a major negative impact on the patients, their families and caregivers
- The behavioral and psychological symptoms respond to therapy, and by improving our expertise we can help our patients

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