Best Practice in Medication & Behavior Management

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October 17, 2014

Objectives

At the conclusion of this session, the learner will be able to:

- explain the mode of action of major psychopharmacologic drug classes and the neurochemical basis for psychotropic drug side effects
- list at least one useful diagnostic instrument for the diagnosis of cognitive impairment, depression and delirium
- express familiarity with multiple non pharmacologic interventions for behavior problems

Behavior in the Facilities

Pathologies:

~Dementias 70%

~Depression~30%

~All pathologies > 90% of NF residents

Behavior in the Facilities

- Zimmer, Watson, Trent found~60% NF residents with problems
- About ½ had “serious” problems(30%)
- Attending MD’s documented only 10% of these
- Attending consulted psychiatrist in only 15%

- Wandering
- Self-care deficits
- Agitation
- Assaultiveness
- Incontinence

≃ Cognitive Decline

Behavior in Nursing Facility

BANG ! BANG ! BANG !

HELP ME ! HELP ME !

Screaming repetitious vocalization, banging in 11-30%

Effect on staff, visitors!!

Behavior

- Disease oriented conceptual model
- Social systems conceptual model


Cognition
Coping skills
Extrinsic adaptive resources
Physical status
Chance?
Pre morbid personality
Culture
Milieu
Environment
Opportunity
?variability in neurochem/anatomy defects
Psychiatric co morbidities
Determinants of behavior

Behavior

Other explanations for behavior in the demented/non-communicative resident:

- Appropriate agenda / inadequate cognition
- Fatigue
- Fear
- Discomfort / pain / cold / physical need

Behavior

Simple delusions don't justify medication

Caregiver expectations of patients

- Gratitude
- Acceptance
- Patience

Caregiver responses to aggression:

Anger

Retaliation

Defensiveness

Understanding

Restraints

- Old news
- Could make a comeback if we aren't careful (reduced chemical restraint without effective alternatives)

Positive Consequences of Restraint

- Visible indication that something is being done
- Immediate effect
- Fairly inexpensive
- Reusable
- Has been the normative standard of care
- Administrative sanction

Negative Consequences of Restraint

Psych-Social:

- Increased agitation
- Anger, aggression,verbal abusiveness
- Screaming
- Resignation and withdrawal
- Depression
- Decreased interaction with others
- Appearance of infirmity or lack of capacity

Negative Consequences of Restraint

Physiologic:

Immobility- loss of strength
- contractures
- decubiti
- loss of balance
- cardiovascular decompensation, decreased blood volume
- postural hypotension
- dependent edema
- incontinence of bowel and/or bladder
- decreased appetitie and malnutrition
- decreased immune response to challenge
- decreased fluid intake
- decreased basal metabolic rate

Abrasions and skin tears

EEG changes

Increased falls with injury

Strangulation

Pain Perception

1. Cortex

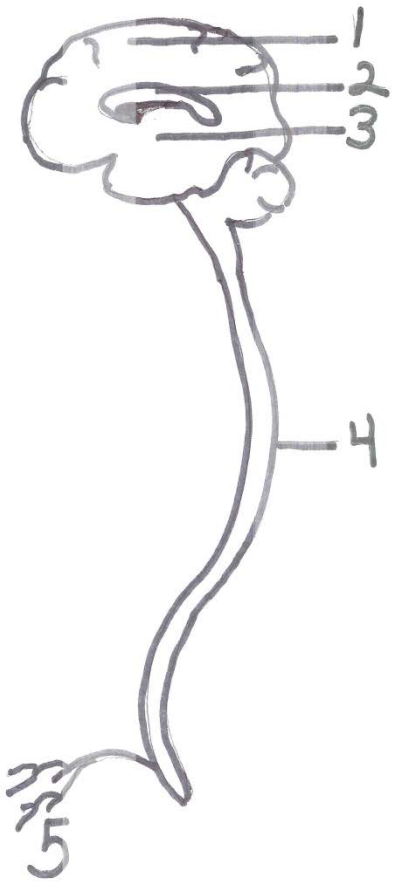
2. Limbic system

   agitation, emotions

3. Thalamus

4. Spinal cord

5. Peripheral nerve & receptor



Analgesic Trial ala George Grossberg

- Objectively measure target behavior before Rx
- Empirically give scheduled analgesic
- Measure effect before and after on target behavior
- If reduced, presume pain in non-communicational resident as cause

Behavioral Interventions: Alternatives to Drugs in the Nursing Home Resident

- **Milieu and attitude therapy**
- **Distraction**
- **Validation**
- **Reminiscence and mile- stoning**
- **Reframing the problem**
- **Desensitization**
- **Relaxation training**
- **Hypnosis**
- **Group Therapy**

- Family therapy
- Brief directive psychotherapy
- Behavior contracting
- Behavior modification and token systems
- Paradoxical therapy
- Time out
- Restrictive and aversion therapy

- Reprinted with permission of *Geriatrics* from and article by the author published in Vol. 45(2),1990,p.55.

Milieu Therapy

Overall environment, formal and casual interactions with staff and other patients.

Use: All pathologies

Milieu

- Consistent staffing
- Person centered care
- Specialized units/mini milieus

Preventative Mental Health in Long Term care

- Staff attitudes/staff development
- Patient rights (privacy, personal belongings)
- Visitation by family and friends (inclusion in family events)
- Outings and activities
- Work therapy/Community Service Projects
- Worship
- Funerals
- Cocktail hour
- Music
- Pets
- Intergenerational activities
- Touching, one-on-one, TLC
- Architecture, decoration, odor control, colors, sound
- Including patient and family in developing Rx plan
- Minimizing drugs with potential CNS side effects

Activities: Primary and Secondary Mental Illness Prevention

- Socialization to decrease loneliness, increase self-esteem and will-being.
- Integrating with family,community, intergenerational.
- Resident-to-resident centered, not always resident-to-staff.
- When resident-to-staff – break down dichotomy.
- Exercise to increase strength and vigor, therefore, increase opportunities for more interaction.
- Exercise to decrease depression, increase self-esteem and well-being

Activities: Primary and Secondary Mental Illness Prevention

- Exercise to fatigue elders, to decrease wandering, agitation, pestering, re-synchronize with nursing facility schedule.
- Variety of choices – resident-centered.
- Fun or worthy or fostering reminiscence, or fostering relationships.

Can change nursing facility from a place to die into a place to live!!!

Distraction

Beginning with an interpretation of the patient's behavior, motives, feelings and then gradually shifting the conversation until the patient's thoughts are distracted away from their problematic train of thought.

Use: Any pathology, but especially valuable for emotionally labile, "organic", patients.

Validation

To agree with the feelings expressed verbally or non-verbally by the patient.

Use: Depressed patients

Reminiscence

Encouraging memories that improve self-esteem, feelings of happiness or tranquility.

Use: Depressed patients, mild to moderately demented patients.

Behavior Modification, Token Systems

Systems of positive and negative reinforcement or punishment contingent on patient behavior.

Use: An pathology. Patients with or without insight. Best for clearly definable behaviors that are under some volitional control of the patient.

Behavior Contracting

Writing a formal contract for a desired behavior or against a problem behavior and providing rewards and/or negative consequences as appropriate..

Use: Competent patients who do have some control of their behavior.

Reframing

Interpreting a patient's emotions or the life circumstances responsible for their emotions in a different context.

Use: Patients with some insight, especially depressed patients.

Prescribing Behaviors, Double Bind or Paradoxical Therapy

Extinguishing a behavior or emotion by requiring a patient to voluntarily perform the behavior or experience the emotion in a new context.

Use: Non-demented patients with little insight. Patients whose problems have been unresponsive to other approaches.

Brief Directive Psychotherapy

A form of psychotherapy wherein the therapist is more directive and active; steering the conversation to elucidate the problems, giving guidance, information, and reassurance.

Use: Transient situational disturbance, neuroses, depression, grief in elders.

Desensitization

Gradual exposure to a noxious stimulus until its negative consequence is reduced.

Use: Phobia

Relaxation Training

Various modalities to promote relaxation / tranquility.

Use: Anxiety disorders, anxiety associated with depression.

Family Therapy

Collective and separate meetings with patient and family for therapeutic crisis intervention, restructuring pathological family dynamics or other strategies.

Use: Any pathology where the recruitment of family resources, transfer of information, or changing of family dynamics will assist in recovery.

Group Therapy

Collected groups of patients with similar or dissimilar problems for therapeutic conversation.

Use: Any pathology especially those improved when patient gains a sense of not being unique or alone in their problem. Withdrawn patients. Situations where one to one therapy is too time intensive.

Hypnosis

Inducing a hypnotic trance to obtain "locked in" information, or to place a post-hypnotic suggestion.

Use: Depression from repressed guilt, differentiation of physiologic and psycho logic mutism or other conversion reaction, breaking habits.

Highly Restrictive Procedures & Aversive Therapy

Behavior modification using physical restraint or punishment. Usually not appropriate or necessary. Usually not very effective. Sometimes needed if consequences of behaviors are extremely dangerous to self or others.

BEWARE – PATIENT RIGHTS

Implementing Behavioral Approaches:

Consistency – most important

Efficacy of Non Pharmacologic Approaches for BPSD

- Veterans Administration Study of the evidence basis for non pharm Rx of BPSD showed very modest efficacy for:
  - pet therapy
  - behavior management techniques
  - exercise
  - massage and touch
  - music
- No evidence for:
  - acupuncture
  - aromatherapy
  - light
  - reminiscence
  - TENS
  - validation therapy

Efficacy of Non Pharmacologic Approaches for BPSD

- Some evidence of worsened BPSD with RO, music, massage and paucity of evidence for safety of other Rx

- Smith's analysis: throwing non pharm Rx at BPSD sufferers indiscriminately won't work. Choice(s) must be hand crafted to the nuances of the Resident's circumstances.
- One size doesn't fit all.

Reference: O'Neil M, Freeman M, Christensen V .et al. Non-Pharmacological Interventions for Behavioral Symptoms of Dementia: A Systematic Review of the Evidence. VA-ESP Project #05-225;2011.

GOVERNMENT REGULATION

- OBRA '87
- BEERS CRITERIA

- WHAT NEXT????

4/1/2000

What Indeed!

- Texas Law re: Informed Consent
  - Drug proposed, - Duration,
  - ADR's, - Alternatives,
  - How it should benefit, -What happens w/o Rx,

- DSM4 R morphs to DSM5
- HIT changes
- More non traditional LTC admits (IDD, CMI, substance abuse, corrections)
- Managed Care Medicaid
- MDS 3.0 (cognitive and depression screens)
- ICD 9 morphs to ICD10
- Regulatory focus on AP/AAPs (AE & Partnership in Dementia Care)

An Abbreviated History of Antipsychotic Reduction in LTC

- OBRA '87
  - 30% to 50% reduction
  - Hands off approach to antidepressants
- Since 1999, gradual increase in AP use in LTC
  - 15% to 27% of NH Residents on AP/APP
- "Collapsing" of AP Guidelines into F329-Unnecessary Drugs
  - application of GDR expectations to antidepressants
- FDA Boxed Warnings for AAP's re: CV events/deaths
  - cause & effect not established by meta- analysis
  - no apparent reduction in use
- AE program and Partnership in Dementia Care by CMS coupled with surveyor training to heighten scrutiny

If you can't afford a doctor, go to an airport - you'll get a free x-ray and a breast exam, and; if you mention Al Qaeda, you'll get a free colonoscopy.

Why are they trying to regulate psychotropics?

COST

Relationship of Hip Fractures To Four Classes of Psychotropics

- Hypnotics / anxiolytics
  - ~ long half – life
  - ~ short half-life
- TCA's
- Antipsychotics

Ray WA et al.: N Engl J Med 1987: 316:363

Side Effects-Antipsychotic Drugs

The potential risks of antipsychotic drugs are :

- movement disorders
- delirium and worsened dementia
- hypotension; especially postural hypotension
- sedation
- weight gain;
- blurred vision
- decreased stomach acidity
- dry mouth
- constipation or ileus
- urinary retention
- tachycardia
- psychosocial dysfunction “zombie syndrome”
- increased risk of falling
- numerous drug/drug interactions
- possible cardiovascular disease

OBRA/HCFA Guidelines

WARNINGS: INCREASED MORTALITY IN ELDERLY PATIENTS WITH DEMENTIA-RELATED PSYCHOSIS

Elderly patients with dementia-related psychosis treated with antipsychotic drugs are at an increased risk of death. Analysis of seventeen placebo-controlled trials ….between 1.6 to 1.7 times the risk of death in placebo-treated patients. Although the causes of death were varied, most of the deaths appeared to be either cardiovascular… or infectious…Observational studies suggest that, similar to atypical antipsychotic drugs, treatment with conventional antipsychotic drugs may increase mortality. The extent to which the findings of increased mortality… may be attributed to antipsychotic drug as opposed to some characteristic(s) of the patients is not clear.

Side Effects of Benzodiazepine Drugs

The potential side effects and risks of benzodiazepine drugs include:

- drug dependence
- amnesia & rebound sleep disturbance
- worsened cognitive function
- sedation
- psychosocial dysfunction & disinhibition
- delirium
- falls

Side effects of SSRIs

$5HT_2$Agonism
Anxiety/Agitation, Panic
Akathisia
Insomnia
Sexual Dysfunction
GI distress
Nausea
Headache
Anticholinergic (minor with paroxetine)
Sedation/delirium
Dry mouth
Constipation
Urinary retention
Other

Drugs are usually inappropriate for BPSD.

Miscellaneous Issues: Psychotropic Drugs

- Almost all patients show behavior disturbances at some point in course of AD.
- Behavior disturbances cause caregiver stress, burden, injury and abuse.
- Behavior disturbances worsen patient function.
- Behavior disturbances tend to be episodic, waning spontaneously in weeks to months.
- Behavioral disturbances recur in 85-90% after first occurrence.
- Antipsychotic drugs barely more effective than placebo
- Discontinuing antipsychotic drug often leads to no change or improved behavior.

So, why haven't prescribers stopped prescribing them? And, why haven't LTC nurses stopped asking for them?

BPSD treatment

Pharmacologic Rx BPSD

- costly to Medicaid/Medicare
- minimal teaming required
- minimal staffing time
- little need for consistent staffing
- minimal collaboration of family
- Tile or RUGs level validates minimal resource utilization
- telephone/fax contact to prescriber
- "efficacy" thru chemical restraint
- appearance of protecting others
- minimal regulatory risk & liability

Non-Pharmacologic Rx BPSD

- costly to NF
- maximal teaming required
- maximal staffing time required & need for consistent staffing
- maximal collaboration of family
- Tile or RUGs level inadequate for NF to profit from care
- maximal involvement of provider in IDT
- partial or incomplete improvement, not cure is typical
- maximal regulatory risk & liability

What do we need to know to do it right?

Aging changes affecting pharmocokinetics

Absorption

↓GI blood flow

↓GI absorptive capacity

↓GI motility

↓total absorption

↑↓total absorption

Aging changes affecting pharmocokinetics

Metabolism

↓splanchnic and hepatic blood flow

↑bioavailability of some

↓ hepatic mass

↓CP 450 capacity

↓CP 450 inducibility

↑ elimination half life

↑glucuronide conjugation in adiposity

↓elimination half life

Aging changes affecting pharmocokinetics

Distribution

↑fat/lean body ratio	↑'Vd for H2O soluble drugs ↑ elimination half life
↓Percentage body water	↓ 'Vd for H2O soluble drugs ↑ elimination half life
↓albumin binding	↑free drug fraction ↑ elimination half life
↑α-1 acid glycoprotein binding	↑free drug fraction ↑ elimination half life

Aging changes affecting pharmocokinetics

Elimination

↓renal blood flow ↑ elimination half life

↓renal mass

↓concentrating capacity

↓GFR largely due to glomerular deterioration

Age related conditions resulting in increased risks for psychotropic drug side-effects

- arrhythmias
- constipation
- dementia
- diabetes mellitus
- gait disorders
- glaucoma
- hypertension
- hypothermia
- malnutrition
- prostatic hypertrophy
- seizure disorders

Psychopharmacology of Cognitive and Psychiatric Disorders in the Elderly.
Edited by David Wheatley and David Smith, Chapman and Hall, 1998 London

Factors Which Might Explain Increased Orthostatic Hypotension in Elders

- ↓ baroreceptor sensitivity
- ↑ peripheral resistance
- ↓ cardiac wall compliance
- ↓ vascular volume
- ↓ vasopressin response to upright posture
- ↓ renin, angiotensin and aldosterone
- ↓ supine cardiac volume and diastolic filling rate

So, what do we use for what?

A Simple Grid for Psychotropic Choice to Treat Geriatric Psychopathology

Condition	Treatment
• Dementia	• Cholinesterase Inhibitors and NMDA antagonist
• Depression	• Antidepressants,psychostimulants
• Depression , treatment resistant and/or w psychosis	• Antidepressant with augmentation or AAP
• Anxiety disorders	• SSRI, buspirone
• Acute situational anxiety	• Benzodiazepine
• Bipolar disorder	• Mood stabilizer (anticonvulsants, lithium), AAP
• Psychosis and Delirium	• Conventional AP, AAP

What kind of trouble can we get into even when we prescribe correctly!?

Neurotransmitters, Side Effects & Susceptibilities

Anti cholinergic	→	↓ Secretions	→	COPD
		↑ Intra ocular pressure	→	Glaucoma
		Urinary Retention Tachycardia	→ →	BPH, neurogenic bladder CV disease
		↓ GI Motility	→	Constipation
		↓ Sweating ↑ Body Temperature	→	Heat injury
		↓ Cognition/delirium, ↑ Sedation ↓ Vision/accommodation	→	Falls, worsened dementia
		↓ Gastric Acid	→	achlorhydria
		Impotence Retrograde ejaculation		Sexual dysfunction

Neurotransmitters, Side Effects & susceptibilities

Anti seritonergic			
	hyperpigmentation		

Neurotransmitters, Side Effects & Susceptibilities

Anti dopaminergic		
	Swallowing disorder/TD	Dysphagia/aspiration
	Hyperprolactinemia with Galactorrehea, Ammenorrhea, Gynecomastia	Osteoporosis Atherosclerosis
	TD EPS	Social dysfunction, physical dysfunction, dysphagia
	Akathisia	Falls

Neurotransmitters, Side Effects & Susceptibilities

Anti-alpha 1 adrenergic		
	Glucose intolerance	Diabetes
	Arrhythmia Tachycardia Angina	CV Disease
	Tremor	Physical dysfunction
	Insomnia	

Antidepressants:

Class, Trade Name, Dose, Side Effects , Comments

- Refer to your handout-Table 3

Side Effects of Conventional and Atypical Antipsychotics

Refer to your handout- Table 18

New Regs

Indications for Antipsychotics: Center for Clinical Standards and Quality / Survey & Certification Group

Indications for Use:

An antipsychotic medication should *generally* be used for the following conditions/diagnoses as documented in the record and as meets the definition(s) in the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Training Revision (DSM-IV TR or subsequent editions

(Ref: S&C:13-35-NH May 24, 2013)

Conditions Other than Dementia

- schizophrenia
- schizo-affective disorder
- delusional disorder
- mood disorders
  - bipolar ds., severe depression refractory to other therapies and/or with psychotic features
- **psychosis in the absence of dementia**
- medical illness with psychotic symptoms
  - neoplastic ds., delirium, Rx related psychosis or mania
- Tourette's Disorder
- Huntington's disease
- hiccups (not induced by other meds)
- nausea & vomiting associated with cancer or chemotherapy

Indications for Antipsychotics: Center for Clinical Standards and Quality / Survey & Certification Group

(Ref: S&C:13-35-NH;May 24, 2013)

Antipsychotic medications

First generation
(conventional) agents, e.g.

- chlorpromazine
- fluphenazine
- haloperidol
- loxapine
- mesoridazine
- molindone
- perphenazine
- promazine
- thioridazine
- thioxthixene
- trifluoperazine
- triflupromazine

Second generation
(atypical) agents, e.g.

- asenapine
- aripiprazole
- clozapine
- iloperidone
- lurasidone
- olanzapine
- paliperidone
- quetiapine
- risperidone
- ziprasidone

Daily Dose Thresholds for Antipsychotic Medications Used to Treat Residents with BPSD

Indications for Antipsychotics: Center for Clinical Standards and Quality / Survey & Certification Group
(Ref: &C:13-35-NH;May 24, 2013)

Generic name:

Typical/First Generation – max total dosage /day

- chlorpromazine-75mg
- fluphenazine-4 mg
- haloperidol- 2 mg
- loxapine- 10 mg
- molindone-10 mg
- perphenazine- 8 mg
- thioridazine- 75 mg*
- trifluoperazine- 8 mg

*Black box warning of QTC prolongation, should be avoided

Atypical/Second Generation- max total dosage/day

aripiprazole- 10 mg
clozapine- 50 mg
olanzapine- 5 mg
quetiapine- 150 mg
risperidone- 2 mg
ziprasidone**
paliperidone**
asenapine**
iloperidone**
lurasidone**

** no studies conducted or results available for drug safety or efficacy in older adults with dementia

Psychotic Mental Disorders in the Elderly Not on the "List"

- Dementia with psychotic features
- Brief reactive psychosis

American Psychiatric Association: Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition. Washington, DC; American Psychiatric Association, 1994

Duration of antidepressant therapy

- First episode- for 6 to 9 months
- First episode elderly- for 12 months
- Second episode- for 12 months
- Second episode, complicated*- for life
- Third episode- for life

*With psychotic features, suicidal ideation and probably all elderly patients

Depression Guideline Panel. Depression in Primary Care, Vol. II, Treatment of Major Depression. Clinical Practice Guideline. Rockville MD. Agency for Health Care Policy and Research, April 1993, US Dept of Health and Human Services 93-0551

Ardern M, Bergmann K, et al. How long should the elderly take antidepressants: a double blind placebo-controlled study of continuation/prophylaxis therapy with doxepin. Br J Psychiatry, 1993; 162:175-182.

Smith's Rules for Prescribing Psychotropic Medications

- Psychotropic drugs treat psychiatric disorders, not behaviors
- No behavior is the *sin qua non* of any specific disorder
- Evaluate the cause of the behavior- Who was this person before dementia?
- Evaluate the cause of behavior
  - A: Antecedents (triggers, enablers)
  - B: Detailed description of the behavior(motive, enablers)
  - C: Consequences (outcomes, rewards)
  - D: Disaster

Smith's Rules con't

- Prescribe a drug only to treat an hypothesized psychiatric disorder, consider Rx as a test of your hypothesis
- Set a therapeutic goal before treating
- Set a duration of therapy before treating
- Set a time interval for titrations before treating
- Monitor progress toward goal objectively
- Know the Res' susceptibilities to ADR's of chosen Rx and proactively monitor
- Check for drug/drug interactions before Rx
- Avoid treating the ADR of one drug with another
- **Start low, go slow… but go!**

Behavioral Problem Solving by Interdisciplinary Team Process

- What explains the resident's behavior?
- Is this intrinsic to the resident? Extrinsic to problem with environment/system? A combination?
  - When does it occur? Under what circumstances?
  - What precedes the behavior? (Triggers?)
  - What exactly is the behavior?
  - What happens after the behavior? (Rewards?)
    - Consequences? Worst Case Scenario?

Behavior Problem Solving by the Interdisciplinary Team Process

- Diagnosis review?

  Mental disease explains the behavior.

  Physical disease explains the behavior.

  Physical disease causes mental symptoms.

Drug review?

Drug-induced mental symptoms.

Inadequate or incorrect drug treatment of mental illness.

Behavioral Problem Solving by Interdisciplinary Team Process

- Requires collaborations between family, attending physician, facility nursing staff, CNAs, activities staff, social worker, therapy staff by formal process
- Time intensive, logistically difficult
- No clear pathway for reimbursement
- Not part of current long term care culture or practice
- Absolutely required to craft a person centered Rx plan with individualized non pharmacologic approaches to BPSD

Thank You!

Your Questions & My Answers*

*opinions, speculations, double talk, dodges

or admissions of ignorance