

REVISED

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Polypharmacy and Adherence: Challenges for senior and mental health populations

Why is Adherence Important?

- Optimal Adherence is Related to:
 - Better outcomes in chronic disease
 - Quality of life
 - Longevity
 - Productivity
 - Lower health costs in the long term
 - Fewer un-expected healthcare episodes
 - Hospitalizations, physician and emergency episodes
 - Reduced intensity of out-patient treatment

Defining Adherence

- Extent to which or process by which a patient follows instructions they are given for prescribed treatments
- Characterized as being somewhat collaborative
 - Active choice on the part of the patient to adhere to treatment
 - Distinct from the term “compliance” as patient is considered an active participant rather than passive regarding care

Measuring Adherence

- Pill counting
 - Within and over the number of medications prescribed
- Patient self-report
- Repeat prescriptions filled

Adherence in seniors

Single Medication Adherence

- Main Factors
 - Simple short regimens
 - Consumer satisfaction with medication
 - Severe disease
 - Many symptoms
- Other Factors
 - Females less adherent
 - Belief that therapy will be helpful/disagreement with doctor
 - Adverse effects (nausea, drowsiness, headache, etc.)
 - Poor instructions
 - Cost
 - Poor relationship with health provider
 - Low literacy
 - Poor social support
 - Depression
 - No visible effect of treatment (hypertension, osteoporosis, etc.)

Adherence and Multiple Treatments

- Much less research has been conducted with multiple medication users regarding adherence
 - Complexities
 - Difficulties in measurement
 - Patient recall
 - Measurement of multiple medication use
 - Treatment profiles
 - Patient conditions
 - Treatments used in management

Financial Factors

- Costs associated with multiple medications
 - Alberta (seniors - 30% co-pay to \$25 for each drug)
 - Drug costs can outpace incomes
 - Use of generic drugs helps
 - Dark side
 - Internet purchases
 - Traveling abroad to purchase drugs
 - Attempting to find free samples

Health Factors

- Poor health may interact with low income
 - Functional limitations
 - Inability to seek treatment or obtain medication
 - Basic needs are cut back
 - Provides funds for medication
 - May inhibit medication effects
 - Poor housing
 - Poor nutrition
 - Poor social interaction
- Benefit of treatment is noticeable

Social Factors

- Lack of insurance coverage
- Low literacy/educational attainment
 - Knowledge of condition and treatments
- Increased age
- Perception of lower quality care
- Low social support
- Use of multiple pharmacies

Psychological Factors

- Belief in therapy
 - Helps endure side effects
- Psychiatric disorders
- Low self-efficacy
- Substance abuse
- Forgetfulness/dementia

Medication Characteristics

- Difficulty with packaging
- Difficulty with swallowing
- Poor taste
- Too many pills/complex administration schedule
- Side effects
- Frequency of dose

Interventions

- Most effective interventions
 - Pharmacist interaction, follow-up and counselling
- Other interventions
 - Provision of written information
 - Provision of information that is useful

Strategies to Improve Adherence

- Free medication
- Low cost or generic alternatives
- Lower frequency of dose
- Assistance for those functionally limited in obtaining treatment
- Reduction of literacy barriers
- Supervised drug administration (participation of family)
- Compartmentalized medication administration
- Facilitate physician/patient alliance
 - Improve understanding of condition(s) and treatment(s)
 - Involve patient in decision making
 - Respect patient's perspective
- Pro-active pharmacist involvement

Medication Safety in Seniors

- The vast majority of research in this area pertains to institutional settings
- This part of the presentation will be restricted to information relevant to community living seniors
- Adverse drug effect (ADE)
 - Preventable
 - Non-preventable

Ordering

- Errors in transcription
 - May be reduced by the use of technology
 - Typing in prescriptions
 - Menus – drop down lists etc.
- Errors in clinically important information or drug interactions
 - May be reduced by computerized systems that give alerts as prescriptions are entered at the pharmacy

Dispensing

- Errors in Calculations
 - Pharmacists should take care in calculations
 - Second person could check calculations for accuracy
 - Adequate lighting
 - Non-distractive work environment

Consumption

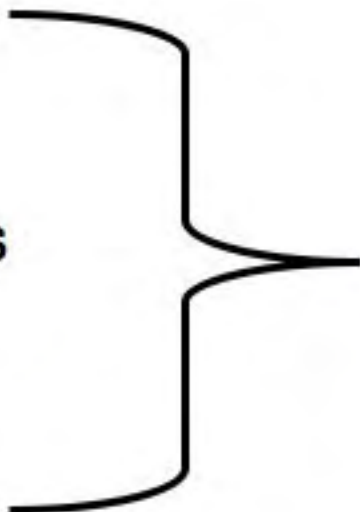
- Error through wrong frequency or quantity
 - Improved by:
 - good instructions provided by pharmacist
 - strong patient alliance with healthcare provider
 - ongoing communication
 - Aids such as compartmentalized medication dispensers

Drug Confusion

- New drugs are added each day
- Many drugs have similar names but are used for completely different conditions
- Errors reduced by:
 - Putting intended drug use on the order
 - Naming both trade and generic names on order
 - Separate drugs with similar names on pharmacy shelves
 - Advise patients to carefully check drug names before use

System Wide Approaches

- Codes of conduct
 - Physicians
 - Pharmacists
 - Accreditation bodies
 - Regulatory bodies
 - Hospitals



All share accountability

Adherence in mental health populations

Scale of problem

- ↓ adherence: bad outcomes
- Adherence in mental health clients are lower
- Short course = good adherence
- Chronic condition = worse adherence
- Challenges but little written about vs. seniors

Strategies to improve adherence

- What factors are related to adherence or non-adherence?
- Are these factors amenable to change?
 - Mental health: schizophrenia, bipolar disorder, depressive disorders
 - Homeless persons
- Targeted interventions

Factors – bipolar disorders

- Demographic:
 - Younger age (OR 1.03, 1.01-1.05)
- Clinical:
 - Recent mania or hypomania (OR 2.77, 1.02-7.53)
 - Co-morbid OCD (OR 7.24, 1.16-45.2)
 - Not full remission BP-I illness (OR 4.12, 1.48-11.4)
 - Greater # of affective symptoms (OR 1.10, 1.03-1.18)
 - Co-morbid alcohol dependence (OR 4.89, 1.93-12.4)

Factors – bipolar disorders

- Medication:
 - Major pt frustration (OR 1.90, 1.17-3.07)
 - Tx side effects cog impairment (OR 2.59, 1.23-5.46)
 - Anticholinergic side effects d/t tx (OR 3.84, 1.34-11.1)

Factors – schizophrenia

- Outpatient commitment
 - Involuntary legal mandate for treatment
- Demographic: younger age, African American race, urban residents, homeless
- Clinical: substance abusers, greater functional impairment

Factors – physician practices

- Factors associated with polypharmacy
 - Duration of illness (OR 1.05, 1.01-1.10)
 - Psychiatrist opinion of algorithm (OR 2.86, 1.02-8.01)
 - Nurses recommendation (OR 1.76, 1.05-2.93)

Factors – depressive disorders

Pampallona et al (2002)

- Treatment with fluoxetine vs. other antidepressants
- Lack of severe side effects
- Previous use of antidepressants
- High education/IQ
- Married status
- Dx other than personality disorder, substance abuse
- Female gender

Interventions - bipolar disorders

- Involuntary outpatient commitment (OPC)
 - OR 3.85
- Review by Gaudiano et al (2008)
 - Psychoeducational – benefit in 3 of 5
 - Cognitive-behavioural – benefit in 4 of 6
 - Family focused – no benefit in 1 of 1*

Overall findings:

- Target knowledge and attitudes about medications
- Avoid more specific
- Low intensity targeted better than long duration

Interventions - schizophrenia

- Zygmunt et al (2002)
 - Evaluated psychoeducational, cognitive-behavioural, and family focused interventions (like BPD)
 - Adherence primary goal vs. secondary outcome
 - Increased intensity no greater benefit
 - No single modality better than others but interventions targeting attitudes (toward medication), behavioural change (problem solving, reminders, cues, reinforcement) and case management were effective in promoting education adherence

Interventions - schizophrenia

- Nosé et al (2003)
 - Pooled for clinical interventions (OR 2.59, 2.21-3.03)
 - Continuous outcomes SMD 0.36 (0.06-0.66)
 - Longer follow up, decreased effect
 - Homogenous population, increased effect
 - No single intervention better than others

Interventions - depressive disorders

- Peveler et al (1999)
 - Drug counselling vs leaflet – OR 2.1&2.7 @ 6,12 wks
- Simon et al (2006)
 - Telephone contact @ 2, 4, 12 weeks – no effect
- Pampallona et al (2002)
 - No clear indication of specific intervention

Interventions - homeless populations

- Muir-Cochrane et al (2006)
 - Qualitative study
 - Obtaining, managing, side effects and interactions with illicit drugs
 - Self-sealing bags, pillboxes, supervision for medication, simplifying medications

Strategies to improve health and safety

- Use of treatment algorithms or clinical guidelines (PORT statement) – education of HCPs
- Policy changes – authorization rules for polypharmacy
- Benchmarking – between hospitals, regions, provinces

QUESTIONS?