

ISHP SPRING MEETING

PSYCHIATRIC POLYPHARMACY

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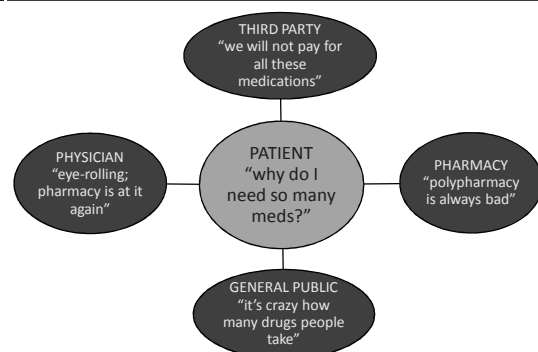
Program Objectives

- Describe some common perceptions of the term polypharmacy
- Identify essential components of a psychiatric polypharmacy program
- Understand obstacles in the implementation of a successful psychiatric polypharmacy program
- Given a description of a specific patient, determine if he or she meets the criteria for polypharmacy intervention in the Intermountain model

Disclosure of Interests

- I have no relevant financial interests with respect to this subject

Polypharmacy: Common Perceptions



Focus on ADR: Naranjo Scale or Algorithm⁴

- The **Naranjo algorithm, Naranjo Scale, or Naranjo Nomogram** is a questionnaire designed by Naranjo *et al.* for determining the likelihood of whether an ADR (adverse drug reaction) is actually due to the drug rather than the result of other factors.

Naranjo Scoring

>9	Definite ADR
5-8	Probable ADR
1-4	Possible ADR
0	Doubtful ADR

Naranjo Questionnaire⁴

Question	Yes	No	Don't know
1. Are there previous conclusive reports on this reaction?	1	0	0
2. Did the adverse event appear after the suspected drug was given?	2	-1	0
3. Did the adverse reaction improve when the drug was d/c'd or a specific antagonist was given?	1	0	0
4. Did the adverse reaction appear when the drug was re-administered?	2	-1	0
5. Are there alternative causes that could have caused the reaction?	-1	2	0
6. Did the reaction reappear when a placebo was given?	-1	1	0
7. Was the drug detected in any body fluid in toxic concentrations?	1	0	0
8. Was the reaction more severe when the dose was increased, or less severe when the dose was decreased?	1	0	0
9. Did the patient have a similar reaction to the same or similar drugs in any previous exposure?	1	0	0
10. Was the adverse event confirmed by any objective evidence?	1	0	0
TOTAL SCORE			

Keep in Mind: **Legitimate** Polypharmacy³

- Disease state management
 - CHF
 - ACE-I, β -blocker, aldosterone antagonist
 - Diabetes
 - Often requires multiple medications
 - Comorbid disease state treatment
 - Hypertension
 - Cancer
- Risk of non-adherence increases as number of medications increases

Antipsychotic Polypharmacy (APP)⁵

- Generally defined as ≥ 2 antipsychotic medications in one patient
- Often used to manage refractory s/s of schizophrenia
- Pooled data from 147 studies between 1970s-2009
 - 82.9% were schizophrenic patients (n=1,418,163)
 - APP prevalence of 19.6%
 - Interquartile range (IQR) 12.9%-35%

Psychiatric Population: Polypharmacy Issues^{5,6}

- Complexity of medications used for psychiatric illness
- Patient non-adherence
- Patient refusal
- Patient thinks medications “don’t work” so they don’t take them
- Recently overheard by patient at IMH: “I’m not taking my meds; that’s not the problem, YOU’RE the problem!”

In the News:



- "I can't balance myself. I can't walk well. I'm getting very forgetful," Hearne says. "I have prostate cancer. I have a lot of mental problems that's going on with me. I'm a paranoid schizophrenic. I suffer from manic depression." - 64 year old homeless man, Linwood Hearne

<http://www.npr.org/2013/03/13/173463462/aging-homeless-face-more-health-issues-early-death?ft=1&f=3>

Global APP Incidence⁵

- Asia 32% (IQR= 19.2%-53%)
- Europe 23% (IQR= 15%-42.1%)
- Note: lower than Asia and Europe {
 - Oceania 16.4% (IQR= 9.8%-20%)
 - North America 16% (IQR= 7.2%-24.4%)
 - 1980s → 12.7%
 - 2000s → 17.0%
 - **Steady increase- not going away**

Why Do We Care About APP?^{7,8}

- Some states use reduction in APP as a quality-of-care target
- Joint Commission → accreditation! (more to follow)
- More drugs → increased costs
- Difficult to ascertain which drug therapy is contributing to symptom improvements and/or adverse effects

The Joint Commission and Polypharmacy⁷

- Defines polypharmacy as concurrent use of multiple medications in one patient
 - ▣ VAGUE!
- ↑ fall risk
- ↑ hospitalization
- ↑ disorientation
- ↑ medication administration errors
- Associated with ↑ mortality compared to monotherapy

Hospital Based Inpatient Psychiatric Services (HBIPS)⁷

- Joint Commission HBIPS Core Measure Set

Set Measure ID #	Description
HBIPS-1	Admission screening for violence risk, substance use, psychological trauma history and patient strengths completed
HBIPS-2	Hours of physical restraint use
HBIPS-3	Hours of seclusion use
HBIPS-4	Patients discharged on multiple antipsychotic medications
HBIPS-5	Patients discharged on multiple antipsychotic medications with appropriate justification
HBIPS-6	Post discharge continuing care plan created
HBIPS-7	Post discharge continuing care plan transmitted to next level of care provider upon discharge

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More on HBIPS-4 and HBIPS-5⁷

- Any antipsychotic is included
- If patient is on 2 forms of same medication, it is still counted as 1 medication
- PRN antipsychotics are excluded
- Short-acting IM antipsychotics are excluded

Joint Commission: Types of Polypharmacy⁷

- Same-Class
- Multiclass
- Adjunctive
- Augmentation

Same-Class Polypharmacy⁷

- The use of more than one medication from the same medication class
- Example:
 - risperidone and olanzapine
 - Both atypical antipsychotics
 - Note that some drugs in same class still have variable receptor affinities, side effects, etc
 - paroxetine and fluoxetine
 - Both SSRIs; combo is almost always inappropriate

Multiclass Polypharmacy⁷

- The use of full therapeutic doses of more than one medication from different medication classes to treat the same symptoms.
- Example: mirtazapine + paroxetine
 - Both antidepressants
 - mirtazapine: α_2 blockade, 5-HT_{2A} and 5-HT₃ blockade
 - paroxetine: SSRI

Adjunctive Polypharmacy⁷

- The use of one medication to treat the side effects or secondary symptoms of another medication from a different medication class.
- Example: fluphenazine + propranolol
- Fluphenazine: antipsychotic
- Propranolol: β -blocker for akathisia related to antipsychotic use

Augmentation^{7,13}

- The use of one medication at a lower than normal dose along with another medication from a **different medication class** at its full therapeutic dose to treat the same symptoms, **OR** the addition of a medication that would be used alone to address the same symptoms.
- Example: citalopram + risperidone for resistant depression

Case Example #1

- 17 y/o male
- Mood disorder, agitation
- Medications
 - Benztropine 1mg PO BID
 - Clonidine 0.1mg PO TID
 - Paliperidone (Invega Sustenna) 156mg/mL IM x1 (monthly)
 - Lamotrigine 50mg PO BID
 - Olanzapine ODT 10mg TID PRN
 - Risperidone 1mg PO BID

Case Example #2

- 28 y/o male
- Mood disorder, depression, anxiety
- Medications:
 - Modafinil 200mg PO QAM
 - Paroxetine 20mg PO QD
 - Trazodone 200 PO QHS
 - Olanzapine (Zyprexa Zydis) 10mg PO Q6H PRN
 - Quetiapine 100mg PO QHS (may repeat x1)
 - Haloperidol 10mg PO TID

Case Example #2

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Any other noticeable problems?

Implementing Polypharmacy Policy^{2,4,8,9}

- Necessities
 - Clear definition of polypharmacy
 - Physicians/pharmacists/administration in agreement
 - Adequate resources to screen and identify polypharmacy
 - Notify prescribers that polypharmacy requires proper justification
 - Continued monitoring for ADRs
 - Proper documentation of polypharmacy interventions

Potential Justifications for APP⁵

- Active cross-titration
- Utilizing different routes of administration

Theoretical Justifications for APP⁵

- Treatment of different types of symptoms
 - I.E. cognitive, negative
- Treatment of comorbid conditions
 - I.E. anxiety, insomnia, depression
- Using drug-drug interactions to augment or speed efficacy of the first antipsychotic
 - Especially if failed clozapine trial
- Using drug-drug interactions to decrease chance of adverse effects

Reasons Difficult to Justify APP⁵

- Cross-titration stoppage
 - Prescriber hesitant to complete the switch if symptoms improve
- Miscommunications
- Relying on marketing strategies that are unfounded
- Using drugs to treat side effects, but that have no evidence for long-term outcomes
 - Ex: Antipsychotics + benzodiazepines
- Patient or family demand
- Prescriber habits
- Cost

Intermountain Hospital Model

Intermountain Hospital Model

- Patient's chart is flagged if:
 - ≥6 psychoactive medications
 - Antipsychotics
 - Antidepressants
 - Anti-anxiety agents
 - Anticonvulsants
 - Stimulants
 - Mood stabilizers
 - Opioids
 - Sedative/hypnotics

Intermountain Hospital Model

- Patient's chart is flagged if:
 - ≥6 psychoactive medications*
 - Antipsychotics $\xrightarrow{\text{and/or}}$ ≥3 antipsychotics
 - Antidepressants $\xrightarrow{\text{and/or}}$ ≥3 antidepressants**
 - Anti-anxiety agents $\xrightarrow{\text{and/or}}$ ≥3 anti-anxiety agents
 - Anticonvulsants
 - Stimulants
 - Mood stabilizers
 - Opioids
 - Sedative/hypnotics

*scheduled meds or PRN!
**except trazodone, at doses <150mg QD

Intermountain Hospital Model

- Future categories that may need to be added
 - "Triptans"
 - Muscle relaxants
 - Buprenorphine/Naloxone (Suboxone/Subutex)

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Implementing Polypharmacy Policy

- Obstacles
 - Polypharmacy definition unclear
 - Policy may need to be revised/reviewed frequently, especially at first
 - Lack of willingness of prescribers to participate
 - Reimbursement!
 - Lack of resources to screen
 - Pharmacist availability/time constraints
 - Lack of physician oversight
 - Dosing ceiling
 - RPh clinical judgment
 - Defined goals:
 - Find the “worst of the worst”/outliers?
 - Find EVERYTHING?

Intermountain Hospital Polypharmacy Case Example

- 45 y/o male – dx: schizophrenia

Scheduled medications:

- Clonidine 0.2mg PO QHS
- Diphenhydramine 50mg PO BID
- Docusate 100mg PO BID
- Paliperidone 6mg PO QHS
- Clonazepam 0.5mg PO BID
- Metformin 500mg PO BID
- Risperidone 0.5mg PO QAM
- Risperidone 0.25mg PO QHS

PRN medications:

- Diphenhydramine 50mg/mL inj Q6H PRN
- Haloperidol 10mg PO Q6H PRN
- Hydroxyzine 25mg PO TID PRN
- Trazodone 50-100mg PO QHS PRN

Areas Needing More Research^{5, 10,11,12,13,14}

- Antipsychotic combinations
 - More effective than monotherapy?
- Antidepressant/antipsychotic combinations
 - Evidence is lacking
- Clearly defined multiple-drug class research
 - Especially for psychiatric medications
- Clear definition of polypharmacy
 - Based solely on number of drugs or based on outcomes?
 - Who decides?

Conclusion⁸

- “Make things as simple as possible. Never simpler”
 - Albert Einstein
- Sometimes multiple medications are necessary
- Sound clinical judgment, guideline-based approach
- “We don’t always know what we don’t know”
 - S.C.

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