Psychotropic Polypharmacy in Individuals with IDD

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Polypharmacy:
From the Greek words “poly” (more than one)
plus “pharmacon” (drug)
No standard cut point with regard to the number
Alternative definitions:
“more meds than are medically necessary”
“meds that are not indicated”
“not effective”
“constitute a therapeutic duplication”
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Polypharmacy definition (per NASMHPD Technical Report 2001)

5 types of polypharmacy described
1: Same-Class Polypharmacy
2: Multi-Class Polypharmacy
3: Adjunctive Polypharmacy
4: Augmentation Polypharmacy
5: Total Polypharmacy

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Literature review on how to study polypharmacy: Four methodological lessons
1. Need consistent definitions
2. Need to use population-based sampling
3. Need development of clinical guidelines
4. Importance of studying associated variables
   (Stortz et al., 2014)

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Rational polypharmacy: Situations where polypharmacy is useful, beneficial, even desirable
1. Treatment of two distinct illnesses (ex: seizures and mood disorder or psychotic disorder).
2. To treat an adverse effect produced by the primary drug.
3. To provide acute symptom relief while awaiting the delayed effect of another med.
4. To treat intervening phases of an illness.
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Rational polypharmacy: Situations where polypharmacy is useful, beneficial, even desirable

5. To boost or augment the efficacy of primary treatment.
7. May decrease the drug dosage required in treatment with monotherapy.
8. Temporary polypharmacy during overlap or cross-titration of medications.

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Rates of polypharmacy in the non-IDD population continue to rise

In the adult outpatient setting ~ 1/3 of patients are prescribed 3 or more psychotropic medications

Prevalence of multi-class polypharmacy around 1/5 in the child and adolescent outpatient population

(Mojtabai et al., 2010; Comer et al., 2010)

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Computerized pharmacy records for 2344 community-based persons with IDD over 17 months

52% of Rx were for psychotropics
62% of population took > 1 psychotropic
36% took 3 or more
Majority prescribed for persons 20-50, except for stimulants (peaked < 20 years old)

(Lott et al., 2004)
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Compared Medicaid recipients with psychiatric disorders to those with both IDD and psychiatric illness, over 5 years of pharmacy records.

- Adults with sole diagnosis took antidepressants at significantly higher rate than those with dual dx.
- For 3/5 years, adults with sole diagnosis took antipsychotics to significantly greater extent than those with dual dx.
- Children with dual dx took mood stabilizers significantly more than sole dx.
- Polypharmacy rates for both adults and children were higher for dual dx, but not statistically significant.  
  
  (Edelsohn et al., 2014)

Prevalence of polypharmacy

Randomized study of ~900 adults with IDD in Victoria Australia.

Polypharmacy defined as concurrent use of 5 or > meds.

- 76% of adults with ID had used prescribed meds.
- 21% exposed to polypharmacy.

Polypharmacy associated with:

- Older age
- Unemployment
- Trouble getting help from family/friends
- Greater # of visits to GPs
- Fair or poor reported health status
- Inability to walk independently

  (Haider et al., Res DD 2014)

Survey of 114 older adults with IDD in Australia/NS Wales

- 62% were taking a CNS-active medication.
- 47% were taking > 1.

- Of those medicated:
  - 46% had neuro dx (epilepsy or Parkinson's)
  - 45% had psychiatric diagnosis

Polypharmacy was predicted by:

- Presence of neuro or psychiatric dx.
- Higher Devel Behav Checklist scores
- Male gender

  (Chitty et al., A/NS JPsych 2016)
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Literature review of prevalence and patterns of polypharmacy in ASD

47 studies of > 300K individuals with ASD
Prevalence of pharmacotherapy 2.7-80% (median 46%)
Polypharmacy in 5.4-54% (median 23%)
Antipsychotics most common, followed by ADHD meds and antidepressants.
Older age and psychiatric co-morbidity associated with both psychopharmacology, and polypharmacy

(Jobski et al., Acta Scand Psych 2017)

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Measured AE with MD questionnaire, and QOL with the ID QOL-16
103 adults with IDD and challenging behavior
84% had at least 1 AE
46% had at least 3 AE
Using psychotropic significantly increased AE
61% of those taking 2 or more psychotropics had >3 AE, vs 13% not taking psychotropics
AE had significantly negative effect on QOL

(Scheifes et al., Res DD 2016)

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Comparison of movement side effects of antipsychotics
9013 patients with IDD vs 34242 without (total of 149K patient years).
Movement disorder in 275/10K in IDD group.
Movement disorder in 248/10K in those w/o IDD.
Incidence of any movement side effect was significantly greater in those with IDD, with Parkinsonism and akathisia showing the greatest difference.
NMS was three times greater in subjects with IDD.
Findings were not due to differences in the % or FGA vs SGA.

CONCLUSION:
"Provides evidence to substantiate the long-held assumption that people with IDD are more susceptible to movement side effects of antipsychotic drugs."

(Sheehan et al., BMJ Open 2017)
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Investigation of association between long-term antipsychotic polypharmacy (APP) and mortality

Nearly 11K adults with SMI, who had been prescribed long term AP monotherapy (77%) or APP (23%). Patients on long-term APP had a small elevated risk of mortality. Strengths of association between APP and mortality remained after adjustment for antipsychotic dose. 

(Kadra et al., Acta Psych Scand 2018)

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Medication use and potentially-inappropriate prescribing (PIP) and polypharmacy increases with age and morbidity → neglected area of research. In older adults with IDD, polypharmacy is prevalent, and PIP may be common. Exposure to anticholinergic and sedative medications also have AE. Appropriate methods to measure and research PIP in persons with IDD are lacking.

(O'Dwyer et al., Ther Adv Drug Saf 2018)

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- Examined effects of a structure medication review to improve pharmacotherapy

- 55 patients with borderline/mild IDD and behavior problems in a treatment facility took total of 284 medications

- 34% had a drug-related problem

(Scheifes et al., J A Res ID 2016)
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Dartmouth study, analyzing prescribing practices at 8 NH CMHC’s over 2 years, using Medicaid data

Intervention: “Academic detailing” (education about r/b) and audits (comparing prescribers to peers) at beginning, then at 1,11, and 23 months.

Outcome: prevalence of antipsychotic polypharmacy decreased 2% (from 13.1% to 10.9% over 2 years)

(Brunette et al., 2018)

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Controlled antipsychotic discontinuation

Multicenter parallel group study of 98 persons with IDD (age 15-66), using two discontinuation schedules (14 and 28 wks), with taper every 2-4 weeks, f/u 12 wks after drug stopped.

Primary outcome measure was ABC.

Discontinuation was stopped with behavioral worsening.

Results:
43/98 achieved complete discontinuation
7/43 had resumed use at f/up
Mean ABC ratings improved significantly for those achieving discontinuation (AND for those who didn’t)
No difference in groups based on speed of discontinuation
Higher pre-discontinuation rates of EPS/autonomic sx predicted less improvement
Higher pre-discontinuation EPS also predicted incomplete discontinuation

(de Kuijper et al., JIDR 2014)

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“Deprescribing” – Concept originating in geriatric medicine

A deprescribing protocol is proposed comprising 5 steps:
1: Ascertain all drugs the patient is currently taking and the reasons for each one.
2: Consider overall risk of drug-induced harm in individual patients in determining the required intensity of deprescribing intervention.
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3: Assess each drug in regard to its current or future benefit potential compared with current or future harm or burden potential.

4: Prioritize drugs for discontinuation that have the lowest benefit-harm ratio and lowest likelihood of adverse withdrawal reactions or disease rebound syndromes.

5: Implement a discontinuation regimen and monitor patients closely for improvement in outcomes or onset of adverse effects.

(Scott et al., 2015)

Thank you

Questions?

REFERENCES


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REFERENCES

- O’Dwyer M et al., Ther Adv Drug Safety 2018