

Comprehensive Medication Reviews for Persons with Intellectual or Developmental Disabilities at Michigan Medicine

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Objective

Present evidence supporting development of an interprofessional practice experience around comprehensive medication reviews for adults with IDD at MI Medicine

Definitions

- **Developmental Disabilities**
 - Severe, **chronic** disability of an individual age 5 years or older (**up to 22**) that is attributable to a mental or physical impairment or combination of mental and physical impairments; **lifelong**
 - Results in substantial **functional limitations** in three or more of the following areas of major life activity including
 - self-care, receptive and expressive language, learning, mobility, self-direction,
 - capacity for independent living, and economic self-sufficiency.
- **Intellectual Disabilities**
 - Significant limitations in both **intellectual functioning** and in **adaptive behavior**, which covers many everyday social and practical skills. This disability originates before the **age of 22, life-long**
 - Intellectual functioning—Generally, upper threshold IQ test score of around 70 or as high as 75
 - Deficits in adaptive behavior is the collection of conceptual, social, and practical skills that are learned and performed by people in their everyday lives.
 - **Conceptual skills**—language and literacy; money, time, and number concepts; and self-direction.
 - **Social skills**—interpersonal skills, social responsibility, self-esteem, gullibility, naïveté (i.e., wariness), social problem solving, and the ability to follow rules/obey laws and to avoid being victimized.
 - **Practical skills**—activities of daily living (personal care), occupational skills, healthcare, travel/transportation, schedules/routines, safety, use of money, use of the telephone.

People with
IDD have
similar medical
conditions as
those without,
with some
exceptions

- Mental health
 - Anxiety and/or depression
- Hypothyroidism
- Obesity
- Weight loss
- Paralysis
- Seizures
- From literature,
 - Cardiovascular disease, heart failure, diabetes, stroke
- Challenging behavior

Medication Management

- Typical family home
 - Community pharmacy
 - Family derived administration process
- Supported living environment
 - Pharmacy
 - Community pharmacy
 - Contracted behavioral health pharmacy
 - Contracted community pharmacy
 - Administration process
 - Patient and family derived administration process
 - Formal medication administration process – hospital or nursing home model

Medication related problems identified

- Polypharmacy, potential drug interactions
- Duplication of therapy
- Inadequate monitoring
- Complex medication regimens
- Reliance on caregivers
- Communication problems
- Physical dexterity
- Vision and hearing impairment
- Literacy/Health literacy
- Diagnostic overshadowing

Caregiver informed issues around managing medications

- **prescribers** understanding of **insurance and agency policies** regarding medication utilization;
- lack of **continuity of care** and **accuracy of the medication record** as well as **clinical records**;
- **poor communication** among patients, caregivers, and clinicians;
- **patient willingness** to take medication;
- **caregiver understanding and training** of medication-related topics;
- the **health system** being unprepared to work with people who have **IDD**.

Polypharmacy

- MI Medicine adult patients with IDD
 - Number of subjects with 5 or more medications
 - IDD 173 (86.5%)
 - Non IDD 138 (69.0%)
 - Number of subjects with 10 or more medications
 - IDD 110 (55.0%)
 - Non IDD 56 (28.0%)

Complex medication regimens

- Compared the Medications Regimen Complexity Index (MRCI) scores and number of medications of patients with IDD to a group without IDD (Non-IDD group)
- The MRCI score of the
 - IDD group (29.0+8.1, n=200)
 - Non-IDD group (16.7±12.0, n=200),
p<0.001.

Health Literacy

- People with ID often lack understanding of their medication, including name, purpose, and when and how to take it. Often confused or unaware of adverse effects (Smith et al, 2019)
 - Information may be given to caregiver, as well as the patient
- Caregiver *health literacy*: directly correlated with performance on a medication administration test (0.3, $P=0.04$).
 - Lower health literacy, greater number of mistakes on medication administration test

Caregiver concerns and stress related to managing medications

- Medication Administration Hassles Scale
- The mean FCMAHS score was **28.9** (possible range 0–120). **Highest scores (greatest hassles) were significantly associated with**
 - a **greater level of support required by the care-recipient,**
 - **stronger caregiver** beliefs of the **necessity** of medication and **concern** about using medications,
 - **lack of** previous caregiver health-care **training,** and
 - being an **employed caregiver** rather than family member.
- Medication management can contribute to **caregiver stress.**

Caregiver understanding of disease management – Asthma as example

- Most caregivers had **acceptable health literacy**
 - **low scores on the asthma self-management and inhaler technique tests.**
- **Barriers to controlling asthma** were **inadequate caregiver and patient education** about the illness as well as **knowing and avoiding asthma triggers.**
- **Barriers to medication management** were knowing **inhaler technique, knowledge of medication and forgetting to use medication.**
- Asthma was **controlled in 63.2%** of patients, while almost **75% of patients were considered nonadherent** to controller therapy.
- Most caregivers had **inadequate understanding of asthma self-management** as well as inhaler technique despite having high health literacy. Improving caregiver and patient knowledge and skills may lead to better asthma control.

Disparities in Adverse Medication Events Leading to Hospitalization

- Adults with IDD had **greater odds of having a hospitalization associated with an AME** than the general adult population.
 - **Unadjusted odds ratios** (95% CI) for hospitalization due to any medication for IDD was **2.47** (2.31–2.65).
 - In the multivariate logistic regression model, IDD was significantly associated, with an **odds ratio of 1.28** (1.19–1.38).

Disparities in Use of Guideline-Based Therapy

- **For HF and ASCVD, more patients with IDD did not receive GBP.**
- For Heart Failure
 - Beta blocker IDD 46.8% Non-IDD 59.8% p<0.001
 - ACE-I, ARB IDD 50.3% Non-IDD 55.4% p=0.003
- For ASCVD
 - Statins IDD 47.9% Non-IDD 58.7% p<0.001
 - Beta blockers IDD 35.8% Non-IDD 48.4% p<0.001
 - Antiplatelet IDD 13.1% Non-IDD 18.9% p<0.001
- Subgroup analysis revealed that patients who had Down syndrome had lower GBP use in 4 of the 5 measures.

Literature: Pharmacist Involvement in Ensuring Safe and Effective use of Medications for persons with IDD

- Systematic search of databases 2004-2014 (O'Dwyer)
- Literature databases searched up to 2017, 8 studies met criteria (Nabhanizadeh A)
- 26 studies from numerous databases with no limits on publication date, 76 pharmacist care interventions identified Cognitive service (Lee, 2020)
- **Summary** of three systematic reviews
 - **Limited research, mainly descriptive, few clinical outcomes assessed**
 - **Primarily in institutionalized residents**
 - **Primarily in psychiatry**
 - **Primarily involve recommendations and education/advisory role**

In-home comprehensive medication reviews for adults with IDD: A pilot study

- **15 residents of group homes in western Wayne County**
- Pharmacist visited **home**, conducted comprehensive medication review
- Evaluation
 - Identified MRPs, pharmacist recommendations, recommendation acceptance, time spent directly on intervention, and barriers to implementation.
- **Thirty-six MRPs were identified**
 - **Average of 2.4 ± 1.5 per person**
 - **3 calls to physicians to discuss 5 MRPs, and 3 telephone calls for pharmacy-related MRPs, all of which were accepted**

Next Steps- Michigan Medicine

- **Create an interprofessional practice experience**
 - One point not discussed: lack of training and awareness in health professional curriculum
 - Medical issues
 - Social determinants
 - Lived experiences
 - Centered on **in-home (in person or virtual) comprehensive medication reviews**
 - **Community participatory** involvement in development of intervention
 - **Learners**
 - Pharmacy students, family medicine residents; medical, nursing, dentistry, social work, occupational therapy, genetic counseling students
- Continue the **Health and Disabilities interprofessional experience course**
- **R18 – In home CMR Wayne County**

Pharmacists
(health care
professionals)
have an
obligation to
ensure the safe
and effective use
of medications
by persons with
disabilities



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