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Course Objectives

- Identify the impact of cognitive impairment on medication management
- Recognize evaluation tools to assess the impact of cognitive impairment on medication management
- List interventions to promote improved medication management for those with cognitive impairment

Introduction to Medication Management

- Classified as an Instrumental Activity of Daily Living (IADL) (American Occupational Therapy Association [AOTA], 2014)
- Comprised of many different actions (AOTA, in press)
  - Filling medications
  - Understanding medications
  - Taking medications
  - Monitoring medications and side effects
  - Continuing medication usage
  - Refilling and communicating with providers for medications
Medication Management and its Relationship to Health

- Influences health outcomes (Nieuwlaat et al., 2014)
- Negative outcomes include mortality or significant changes in health conditions (Murali, Mullan, Chen, Roodenrys, & Lonergan, 2017)
- Positive outcomes include improved health related quality of life, reduced impact of chronic disease, and limited hospital readmissions (Agh et al., 2015; McIntosh, Ironson, Antoni, Fletcher, & Schneiderman, 2016)

Medication Adherence

- Medication adherence is defined as
  - “the extent to which a person’s behavior—taking medication... corresponds with the agreed recommendations from a healthcare provider” (World Health Organization [WHO], 2003, p. 2)
- Most common approach to measuring medication adherence is counting pills and calculating a percentage (AOTA, in press; WHO, 2003)

\[
\text{Medication Adherence} = \frac{\text{Pills Consumed}}{\text{Pills Prescribed}}
\]
Medication Adherence

- Perfect adherence = 100% (AOTA, in press)
- Too few pills at the end of a prescribed period = over administered medication
- Too many pills at the end of a prescribed period = under administered medication

Medication Non-Adherence

- Average adherence rate is 50% (Nieuwlaat et al., 2014)
- Non-adherence defined as taking less than 80% of prescribed dosage (Nieuwlaat et al., 2014)
Cause of Medication Non-Adherence

• Classified as intentional and non-intentional causes
• Causes are multi-factorial
  • Cost of medication (Ritchey et al., 2016)
  • Health literacy (Conn, Enriquez, Ruppar, & Chan, 2016)
  • Impaired cognitive or physical capacity (Cole, 2012; Guariglia & Smallfield, 2015)
  • Social support and attitudes (Cole, 2011; Marcum, Hanlon, & Murray, 2017)
  • Complexity of medication regimen (AOTA, in press; WHO, 2003)
  • Integrating medications into the daily routine (Vervloet et al., 2013)

Who is at Risk for Non-Adherence

• Individuals who...
  • Have a chronic disease (Thiruschelvam et al., 2012)
  • Are over the age of 65 (Tarantino et al., 2010)
  • Take 4 or more medications (Thiruschelvam et al., 2012)
  • Have low health literacy (WHO, 2003)
  • Experience cognitive deficits (Thiruschelvam et al., 2012)
  • Have a diagnosis of depression (Thiruschelvam et al., 2012)
  • Type of medication regimen (Tarantino et al., 2010)
Medication Management Team

- Supportive environment for “medication management and adherence” (AOTA, in press, p. 2)
- Should include
  - Physicians, physician assistants, nurse practitioners
  - Pharmacists and pharmacy technicians
  - Nursing professionals
  - Occupational therapists (AOTA, in press)

Occupational Therapy’s Role

- Identify occupational performance issues associated with medication management
- Uncover cognitive and physical factors interfering with medication adherence
- Collaborate with the medication management team
- Work with clients to promote improved medication management
  (AOTA, in press)
Occupational Therapy’s Role

**Can Do**
- Analyze client performance
- Identify barriers and supports
- Collaborate with health providers and clients
- Teach client self-advocacy skills
- Treat client-specific deficits
  - (AOTA, in press)

**Can’t Do**
- Prescribe or recommend medications
- Change medication dosing schedules
- Give clients medication
- Place medications in a pillbox or other device
  - (AOTA, in press)

Medication Management

Task Analysis

It is more than putting pills in a box
Securing a Prescription

- Visiting a prescriber
- Communicating health symptoms and health needs
- Collaborating to develop a healthcare plan
- Understanding the prescription plan

Filling a Prescription

- Traveling to and from the pharmacy (AOTA, in press)
- Taking the prescription to the pharmacy (AOTA, in press)
- Communicating with the pharmacy staff (AOTA, in press)
- Managing money and insurance
Understanding the Prescription

- Identifying the need for the medication
- Reading medication dosing and instructions (AOTA, in press)
- Articulating how to take the medication (AOTA, in press)
- Knowing medication side-effects, contraindications and precautions (AOTA, in press)

Taking the Medication

- Applying knowledge of the medication schedule (AOTA, in press)
- Opening pill bottles, medication packaging,
- Handling pills (AOTA, in press)
- Managing modified diet recommendations
- Using adaptive devices
- Storing medications (AOTA, in press)
Monitoring the Medication

- Ensuring consistent schedule of medication regimen (AOTA, in press)
- Monitoring for potential side effects
- Taking action if side effects occur (AOTA, in press)
- Communicating with prescribers

Maintaining the Medication Plan

- Continuing medication as scheduled (AOTA, in press)
- Communicating with healthcare providers
- Following up for a prescription refill (AOTA, in press)
- Starting the process all over again (AOTA, in press)
Task Demands

- Requires multiple steps for successful medication
- Involves the use of cognitive, physical, and social interaction skills and body functions
- Impacted by environmental influences

Cognition

- Cognition
  - “Interrelated processes, including the ability to perceive, organize, assimilate, and manipulate information to enable the person to process information, learn and generalize” (Toglia, Golisz, & Goverover, 2014, p. 779)
  - Composed of a variety of skills and abilities including: executive function, memory, and attention—and all of their subcomponents (Gillen, 2013)
Cognitive Impairments

- “Can be transient or permanent, progressive or static, general or specific” (AOTA, 2013, p. S10)
- Range from mild to severe
- Are related to the clinical cause of the cognitive impairment (AOTA, 2013)
- Significantly impact medication management and all of its associated sub-tasks (AOTA, 2013; in press)
Assessment of Medication Management

- Best practice recommends a top-down approach (AOTA, in press; Guariglia & Smallfield, 2015; Sanders & Van Oss, 2013)
  - Start with an occupational profile
  - Understand medication routines and habits
  - Elicit a basic understanding the client’s knowledge of medication
  - Identify environmental and contextual factors influencing medication management

Assessment of Cognition Influencing Medication Management

- Screens
  - Medication Knowledge Assessment (MKA)
  - Adherence to Refills and Medication Scale (ARMS)
  - Medi-Cog
  - ManageMed Screening
- Performance Based Assessments
  - Performance Assessment of Self-Care Skills (PASS)
  - Executive Function Performance Test (EFPT)
  - Cognitive Performance Test (CPT)
Medication Knowledge Assessment

**Strengths**
- Assesses an individual's knowledge and ability to read and understanding information for medication use (American Society on Aging & American Society of Consultant Pharmacists Foundation, 2006)
- Relies on the client's current medication regimen
- Free and available online

**Limitations**
- Limited evidence supporting its reliability and validity
- Just a screen
- Need a more formal assessment to understand cognitive deficits that may impact Medication Knowledge
- Addresses one area of medication management

http://www.adultmeducation.com/assessmenttools_2.html

Adherence to Refills and Medication Scale

**Strengths**
- Evidenced-based instrument with strong reliability and validity (Kripalani, Risser, Gatti, & Jacobson, 2009)
- Reliable instrument for individuals with low health literacy (Kripalani et al., 2009)
- Two versions
  - 12-item
  - 7-item

**Limitations**
- Self-report instrument
  - May not be reliable for individuals with poor self-awareness
- Does not assess actual medication management
  - Need for performance based measure (AOTA, in press)
Medi-Cog

**Strengths**
- Consists of 2 tests:
  - Mini-Cog: 3 items
  - Medi-Cog: 5 step simulated task
- Scores correlate with an individual’s ability to fill and manage a pillbox (Anderson, Jue, & Madaras-Kelly, 2008; Anderson et al., 2014)
- Can be potentially used to recommend a pillbox (Anderson, Jue et al., 2008; Anderson et al., 2014)
- Free and available online

**Limitations**
- Simulated, rather than “real” pillbox task
- Addresses one aspect of medication management
- Need to assess other aspects of medication management

Medi-Cog: [https://www.pharmacy.umaryland.edu/media/SOP/medmanagementumarylandedu/MediCogBlank.pdf](https://www.pharmacy.umaryland.edu/media/SOP/medmanagementumarylandedu/MediCogBlank.pdf)

ManageMed Screening

**Strengths**
- Reliable and valid screen for older adults (Robnett et al., 2007)
- Quick, takes approximately 15-20 minutes
- Helps determine if an individual can manage 3 different medication routines, counting pills and pill number recall (Robnett et al., 2007)
  - Assess self-awareness (Robnett et al., 2007)
- Relatively inexpensive, ~$52.50

http://www.neattests.com/Overview.html

**Limitations**
- Medication routines are simulated, not the client’s true routine
- Assesses routine, including pill taking and management, not all aspects of medication management are assessed
- Reliability and validity studies have small, homogenous samples (Robnett et al., 2007)
  - More rigorous research needed
### Performance Assessment of Self-Care Skills

<table>
<thead>
<tr>
<th>Strengths</th>
<th>Limitations</th>
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<tbody>
<tr>
<td>• Valid and reliable performance-based assessment (Chisholm, Toto, Raina, Holm, &amp; Rogers, 2014)</td>
<td>• Healthcare version includes contrived tasks for medication management</td>
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<tr>
<td>• Assesses performance (safety, independence and adequacy) in 26 tasks—including 163 sub-tasks (Chisholm et al., 2014; Ciro, Anderson, Hershey, Prodan, &amp; Holm, 2015)</td>
<td>• Training is needed to master the assessment</td>
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<tr>
<td>• Medication management is evaluated by reading prescription label and organizing the medication via the label—score can stand alone (Chisholm et al., 2014)</td>
<td>• Prompting occurs hierarchically (Ciro et al., 2015)</td>
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<tr>
<td>• Translated into several languages</td>
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<tr>
<td>• Available for clinical use via <a href="mailto:pass@pitt.edu">pass@pitt.edu</a></td>
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### Executive Function Performance Test

<table>
<thead>
<tr>
<th>Strengths</th>
<th>Limitations</th>
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<tr>
<td>• Top-down performance based measure of higher level cognition utilized during complex tasks (Sansonetti and Hoffman, 2013)</td>
<td>• Although each subtest is valid and reliable independently, EFPT should be administered in full for optimal reliability and validity</td>
</tr>
<tr>
<td>• Integration of cognitive processes with functional performance through real world performance in IADLs (Poulin, Korner-Bitensky, and Dawson, 2013)</td>
<td>• 30-45 min to complete full EFPT</td>
</tr>
<tr>
<td>• Level of support required is scored at each component of tasks (initiation, execution (organization, sequencing, safety/judgement), and completion (Baum, et al., 2008)</td>
<td>• Set up prior to administration can be a limitation</td>
</tr>
<tr>
<td>• Can be used to educate patients and family members of cognitive impairments impacting occupational performance (Baum et al., 2016; Poulin et al., 2013)</td>
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Cognitive Performance Test

**Strengths**

- Top-down standardized performance based measure with 7 subtests (Burns, Mortimer, and Merchak, 1994; Douglas et al., 2012)
  - Med Box is one task
- Based on Allen Cognitive Disability Model and the updated Cognitive Disability Model-Reconsidered (Katz, 2011)
- Predicts client’s functional capacity and needs during IADLs/ADLs (Burns et al., 1994)
- Reveals objective outcome measure—Allen Cognitive Level—that can be utilized for intervention and discharge planning

**Limitations**

- Costs approximately $617
- Lengthy administration—approximately 30 min (Douglas et al., 2012)
- Motor skill can influence score (Burns et al., 1994)
- More robust score if all subtests are complete
  - Increases overall reliability and validity

Cognitive Rehabilitation & Medication Management

- Cognitive rehabilitation has been viewed from two lenses:
  - Restorative/remedial with an emphasis on assessment and direct intervention to restore cognitive function (Katz, 2011)
  - Adaptive/functional where assessment and treatment have emphasized functional performance and independence by adapting the environment or the task (Katz, 2011)
- Increased evidence and knowledge about neuro-anatomy have revolutionized thinking
  - Cognitive approaches are now viewed on a continuum (Katz, 2011)

**Neuroanatomical-Based**  **Restorative/Remedial**  **Compensatory**
Neuro-Anatomical Based Approaches

- Interventions are designed to target specific underlying dysfunction with the ultimate goal of facilitating improved occupational performance (Katz, 2011)
  - For example, remediation of attention or memory deficits
- Evaluation is based on the specific area
- Disadvantage is that it is a bottom-up approach
- Limited generalization to specific occupations, such as medication management and its subtasks (Katz, 2011)

Restorative/Remedial Approaches

- Emphasis is on improving or remediating body functions/body structures impacting occupational performance (Katz, 2011)
- Require intensive training in cognitive strategies with the hope that the individual can generalize training to additional areas of occupational performance (Katz, 2011)
- Effective for those with mild-to-moderate cognitive deficits and who are in the initial stages of recovery (Katz, 2011)
Restorative/ Remedial Approaches

- Also effective for those who are receiving treatment in controlled environments (e.g. inpatient rehabilitation) and those who sustained mild deficits (e.g. post-concussion) are living in the community (Katz, 2011)
- Can be used with older adults to slow cognitive aging (Katz, 2011)
- Two approaches:
  - Component specific: Using principles of neuropsychology
    - For example—implementation intention or spaced retrieval training
  - Cognitive computer-based training (Katz, 2011)

OT Intervention Models

- Focused on improving functional performance using both cognitive compensatory and functional environmental approaches (Katz, 2011)
- Cognitive compensatory approaches include:
  - Dynamic Interactional Model
  - Cognitive Orientation to Daily Occupational Performance (CO-OP) (Katz, 2011)
OT Intervention Models

- Functional and environmental categories
  - Skill- and task-specific training interventions
    - Neurofunctional approach (Katz, 2011)
  - Adapting the task/environment and caregiver education interventions
    - Cognitive Disability Model
    - Cognitive Disability Model-Reconsidered (Katz, 2011)

Dynamic Interactional Model of Cognition

- Can be effective with a variety of cognitive dysfunction etiologies
  - Developmental, neurological, or psychiatric
- Dynamic approach that attempts to explain how cognition changes depending on the fit of the person’s abilities to the environment and the task (Toglia et al., 2014)
- Assessment uses cues, activity analysis and task grading to understand a person’s potential to change (Katz, 2011)
  - SELF-AWARENESS IS KEY
- Intervention focuses on:
  - Changing the person’s strategies and self-awareness
  - Modifying the environment or the task
  - Or considering the fit of the person-environment-activity to optimize performance (Katz, 2011)
Theoretical Underpinnings of the Dynamic Interactional Model

- Cognition is defined as the ability to perceive sensory stimuli from the environment, process the sensory stimuli and produce adaptive responses that facilitate occupational performance (Katz, 2011)
  - Very closely aligns with the Information-Processing Model
- Cognition is not subdivided into specific skills and is viewed holistically as one unit (Katz, 2011)
- Cognition is a dynamic, fluid ability that changes with changing environmental demands (Katz, 2011)
  - Based on the Information-Processing Model, we will see a variation in cognitive skills and abilities throughout the day
- Because cognition is dynamic and changing, it is also viewed as modifiable/changeable (Katz, 2011)

Dynamic Interactional Model of Cognition

(Katz, 2011, p.162)
Self-Awareness & the Dynamic Interactional Model

- Multidimensional construct that includes:
  - Self-knowledge: Understanding of one’s cognitive strengths and limitations that exist outside of the context of a particular task
    - Relatively stable and slowly changes with experience and participation in activity (Katz, 2011)
  - On-line awareness: Metacognitive skills, such as ability to judge task demands, predict problems, and monitor and regulate performance
    - Changes within the activity (Katz, 2011)
  - Self-efficacy: Judgment and beliefs of one’s performance capabilities with respect to the task (Katz, 2011)
  - Individual may exhibit deficits in either of these areas that impact performance and safety during the task

Self-Awareness Treatment & the Dynamic Interactional Model

- Initially engage in familiar activities; select activities that are familiar and meaningful to the individual
- Grade the activity
- Individual needs to experience errors in performance to facilitate an adaptive response and reshape one’s knowledge and self-awareness (Katz, 2011)
### Processing Strategies & the Dynamic Interactional Model

- **Processing strategies**: Organized approaches, methods or tactics that operate and guide the efficient processing of information (Katz, 2011)
  - Part of normal cognition and help individuals acquire new information, improve understanding and cope with new demands and situations
  - Individuals with normal cognition automatically use processing strategies for successful performance (Katz, 2011)

<table>
<thead>
<tr>
<th>External Strategies</th>
<th>Internal Strategies</th>
<th>Situational Strategies</th>
<th>Non-Situational Strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interaction with external items, aids or cues</td>
<td>Mental repetition, practice, or visualization; use of self-cues, questions, and instructions</td>
<td>Strategies for specific tasks or environments</td>
<td>Strategies that can be applied to a wide range of tasks and environments</td>
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### Approach to Intervention with the Dynamic Interactional Model

1. **Before activity**, gauge client’s self-awareness and perception of performance capacity
2. **Set up activity** using principles of activity analysis and grading
3. **Complete activity**
   a. Observe and monitor participant’s performance
   b. Mediate client’s performance helping the client generate strategies and use strategies during the activity
4. **Re-evaluate client’s self-awareness and perception of performance capacity** after the task

(Katz, 2011; Toglia et al., 2014)
Application of the Dynamic Interactional Model to Medication Management

- Medication screen (MKA, ManagedMed, etc.)
  - Evaluate self-awareness vs actual performance

- Motivational interviewing
  - ‘change talk’ incorporate knowledge from screens/assessments to elicit a conversation about goals and techniques/strategies to take to achieve goals associated with medication management (Education)
  - Client/caregiver education to increased understanding and knowledge surrounding medication adherence and promote participation

- Modification
  - Incorporation of assistive technology
    - Pillbox, text messages, reminders, phone app., etc.
    - Introduction to problem solving strategies/compensatory techniques to address deficits

- Practice in context, review of self-awareness of task performance
  (Schwartz and Smith, 2016; AOTA, in press)

Cognitive Orientation to Daily Occupational Performance (CO-OP)

- CO-OP: Client-centered, performance-based, problem-solving approach that enables skill acquisition through the process of strategy use and guided discovery (Katz, 2011, p. 299)
  - Cognitive orientation: Approach is based on a problem-solving approach
  - Daily occupational performance: Focus is on performance, not activity components, but the whole occupation (Katz, 2011)

- Primary objective is skill acquisition that are client-centered and meets the occupations/activities that the client wants, needs or expected to perform (Katz, 2011)

- Other objectives of CO-OP: cognitive strategy use, generalization, and transfer (Katz, 2011)
Key-features of CO-OP

- Client-centered goals
- Dynamic performance analysis
- Cognitive strategy use
- Guided discovery
- Enabling principles
- Use of social support for carryover and practice
- Intervention format
  - (Katz, 2011)

CO-OP Approach

- Belief that cognition can act as a mediator between ability and skilled performance
  - Can be modified through the use of strategies
  - Does not change the client directly
  - Instead teaches skills/strategies to improve ability and result in improved performance (Katz, 2011)
- Cognitive strategies can address the person, the task, the environment, or the interaction between these constructs (Katz, 2011)
CO-OP Cognitive Strategies

- **Global strategies**: Used to control and coordinate other strategies; can be applied to a variety of situations and contexts
  - GOAL—PLAN—DO—CHECK
    - GOAL: identify what the client wants to do
    - PLAN: articulate a plan for achieving the GOAL
    - DO: complete the plan for the GOAL
    - CHECK: evaluate the outcome to see if it was successful
      - If it was NOT successful, re-evaluate the PLAN and DO it again (Katz, 2011)

- **Domain specific strategies (DSS)**: those that are unique to a particular task, or part of a task;
  - Use of these is temporary with the goal to gradually wean their use (Katz, 2011)

Guided Discovery in CO-OP

- **One Thing at a Time**
  - Focus intervention on only one aspect of performance (Katz, 2011)

- **Ask, Don’t Tell**
  - Use guided questioning (e.g. Socratic techniques) to help client discover their own answer (Katz, 2011)

- **Coach, Don’t Adjust**
  - Monitor your own behaviors during treatment as a therapist, DO NOT automatically adjust aspects of the session to increase client performance, let the client do it (Katz, 2011)

- **Make It Obvious**
  - Be concrete and explicit with the client’s learning (Katz, 2011)
Enabling Principles of CO-OP

- **Make It Fun**
  - Involve the client not only with the type of activity but the therapeutic use of self, be positive, energetic (Katz, 2011)

- **Promote Learning**
  - As a therapist be cognizant of basic principles of learning and use these to guide intervention (Katz, 2011)

- **Work Toward Independence**
  - Grade and fade cueing as the client attains success

- **Promote Generalization and Transfer**
  - Bridge or link client’s intervention to practice in different tasks and environments (Katz, 2011)

Intervention Format

- **PHASE I: Preparation Phase**
  - Help clients establish the GOAL (Katz, 2011)

- **PHASE II: Acquisition Phase**
  - The PLAN and the DO aspects to help clients generate and acquire skills (Katz, 2011)
    - The number of sessions will vary depending on the severity of the deficits

- **PHASE III: Verification Phase**
  - CHECK where progress is reviewed and client’s status is confirmed (Katz, 2011)
    - Usually only 1 session
Application of CO-OP Approach to Medication Management

- Establish GOALS
  - Occupational profile
    - Can use Canadian Occupational Performance Measure (COPM) (Kurklinsky, et al., 2016)
    - Identify and prioritize (client driven)
    - Develop a PLAN to meet goals
  - Acquire skills
    - Focus on the PLAN
    - Tailor treatment sessions around components of the PLAN
      - Interpretation of RX label, practice organization/storage of medications, practice phone call to pharmacy/prescriber to answer questions about medications, submit for refill, or clarification of refills remaining, etc.
  - Check
    - Reassess progress, performance, and satisfaction with performance
      - Can use COPM or other assessment for verification

Neurofunctional Approach (NFA)

- Client-centered, client-goal-driven approach with an emphasis on function, rather than impairment (Katz, 2011)
- Targets habits and routines rather than specific activities (Katz, 2011)
  - Also emphasizes modification of activity demands and contexts (Katz, 2011)
- Developed by Giles and Clark-Wilson and is based on learning theory, motor learning theory, and social psychology (Katz, 2011)
Theoretical Principles of NFA

- Cognition and function are related
- Functional processes are dependent on situation and meaning contexts in which the client is embedded
- Skilled performance develops through attentive repetition of the activities themselves
- Neural networks develop as a response to repetitive task demands
- Neural networks are specific to skills/activities
- Brain areas participate in different networks and support different functions
- Practice increases skill, habit strength and behavior
- Cognitive skills cannot be isolated from the activities in which it is used (Katz, 2011)

Principles of NFA Intervention

- Targets of intervention are determined by the client’s functional goals
- Interventions are adapted to the learning, emotional, and motor skills ability of the client
- Skills develop through practice of essential components of needed functional tasks
- Compensatory strategies used are procedural strategies, not cognitive analysis strategies
- Environmental support strategies, such as external devices, aids, and adaptation, may be used
- Use of social psychological principles can enhance goal commitment, learning and self-esteem (Katz, 2011)
NFA Elements

- Identification of the client’s goals, motivational factors, and rehabilitation needs
- Consideration of client strengths and factors associated with the neurological impairment
- Analysis of essential requirements of the specific task performance of each individual
- Development of retraining interventions appropriate for the client’s abilities
- Repetition to develop internalized performance models (e.g. errorless learning; chaining [forward or backward]; cuing hierarchy; practice schedules)
- Feedback and reinforcement methods to increase self-efficacy and promote engagement (Katz, 2011)

Application of NFA to Medication Management

- Top-down approach
  - Identification of client’s capacity and ability to engage in medication management tasks vs impairments and deficits associated with tasks
  - Utilization of client’s ability to optimize performance and independence with medication management
- Education – client/caregiver
  - Determine level of support required
  - Educate client/caregiver strategies/techniques to use for improved independence
- Medication routines
  - Development, modification, and/or maintenance of routine to promote medication adherence
- Incorporation of assistive devices or verbal/physical assist to promote participation and independence with medication management tasks
  - Break down task to allow performance in part if performance in whole is unattainable
  - Assistance incorporated to ensure adherence and safety with task
- Practice tasks and subtask in context try to prevent errors and provide support as needed
Cognitive Disability Model and Cognitive Disability Model Reconsidered

- Use of Allen Cognitive Levels or Cognitive Performance Levels to understand client’s strengths and limitations
- Provide environmental support to facilitate improved performance
  - May include grading the task or increasing cues
  - Relies on familiar task and environment
  - Creates the “Just Right Challenge”

Application of Cognitive Disability Model to Medication Management

- Utilization of CPT
  - Determination of cognitive processes
  - Level of support required
- Education
- Modification
  - Incorporation of assistive technology, physical assistance
Additional Evidence-Based Intervention Ideas

- Cochrane Review indicates only 5 of 109 RCT studies reveal improved medication adherence and clinical outcomes (Nieuwlaat et al., 2014)
  - HOWEVER, they are complex and essentially not very effective
  - Multiple components and client-centered approach

Additional Evidence-Based Intervention Ideas

- Integrative Medication Self-Management (IMedS)—goal take medication as prescribed (Schwartz & Smith, 2016)
- 3 step intervention
  - Client reflection on medication performance
  - Have client set goal
  - Have clients create strategies to improve medication management (Schwartz & Smith, 2016)
- Strategies can include:
  - Task modification
  - Self-advocacy
  - Education
  - Assistive technology
  - Environmental modification
  - Assistance with refill (Schwartz & Smith, 2016)
Additional Evidence-Based Intervention Ideas

- Sanders and Van Oss (2013) recommended the use of daily routines and habits to facilitate improved medication management
  - Client-centered approach and interview
  - Understand time to take medications; medication location/storage; types of devices used for medication management; timing of medication management in the daily routine; and the need for assist from others
  - Activity based methods were most effective
    - Link medication administration with bed or meal time OR other daily activity

Additional Intervention Ideas

- Technology based strategies
Future Directions for Occupational Therapy’s Role in Medication Management

- Theory based interventions for medication management
- Interventions need to be integrated as long as there is a need to address medication adherence in a cost-effective manner
- Emphasize OT’s role in medication management
  - Seek to better understand adherence issues to better understand how to intervene (physical, cognitive, emotional, financial)

Case Study

Jean is a 75-year-old female with a history of CHF, COPD, A-fib, and CVA. She is a frequent flier at the local acute care hospital due to her cardiopulmonary conditions. She has experienced cognitive deficits following her CVA which result in her inability to manage her medications frequently. Jean either underdoses or overdoses. She also regularly forgets to fill prescriptions or pick up prescriptions at the pharmacy and has trouble integrating new medication regimens after discharge from the hospital. In the past 9 months, Jean has been hospitalized 4 times due to either a CHF or a COPD exacerbation.

Jean is widowed and lives alone in a senior housing complex. She has a limited social support system and is on a fixed income.

Following her recent hospitalization, Jean was referred to home health for a nursing and occupational therapy evaluation.
Case Study Evaluation

• Identify factors contributing to medication adherence issues
  • Cognitive impairments, chronic conditions, lack of social support, and financial limitations

• Environment
  • Patient is being treated in an acute care setting
  • Patient is returning ‘home’ alone
  • Refusal of follow-up care

• Revolving door patient
  • Impact on individual’s health and finances
  • Impact on health care system

• How to break the cycle?

Case Study Intervention

• Identify model or approach to guide intervention
  • Dynamic Interactional Model

• Occupational profile
  • Clients goals, awareness, and motivation to adhere to medications
  • Motivational interviewing → ‘Change talk’

• Screen/assess individual
  • ManagedMed – quick and easy to administer
  • EFPT – self-awareness component to actual performance

• Modification
  • Education – impact on health/finances, review of medications, importance of routine
  • Development of strategies/techniques to improve adherence
  • Development of medication routine
    • Assistive technology
      • Organization, clear/concise directions, reminders,
      • Collaboration with pharmacy/prescriber for simplification
        • Pharmacy phone calls/reminders, delivery options
        • Determination of current medications and schedule
          • Removal/disposal to reduce confusion
Conclusion

- Impact of cognitive impairment on medication management
- Evaluation tools to assess the impact of cognitive impairment on medication management
- Choose interventions to promote improved medication management for those with cognitive impairment

References

References


References


Questions?

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