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Polypharmacy & the SLP during the COVID-19 Pandemic: Part 3

Jeanna Winchester, PhD

Moderated by:
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Polypharmacy & the SLP during the COVID-19 Pandemic: Part 3

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Bio

- Jeanna Winchester PhD is a clinical cognitive neuroscientist who specializes in neurodegeneration and aging. She is a professor, a published author and a scientist.

- Presenter Disclosure: Financial: Jeanna Winchester was paid an honorarium for this presentation. She owns a firm that provides continuing education and consulting services to healthcare professionals. Nonfinancial: Jeanna has authored articles related to this topic.

- Content Disclosure: This learning event does not focus exclusively on any specific product or service.

- Sponsor Disclosure: This course is presented by SpeechPathology.com.

Learning Outcomes

After this course, participants will be able to:

- Describe the risks of polypharmacy associated with dysphagia, speech-language disorders and cognitive decline.
- Identify the factors contributing to polypharmacy in children, teens and adults during the COVID-19 pandemic.
- Describe the long-term effects of polypharmacy on cognition in individuals with COVID-19.

Polypharmacy & Cognition

- Polypharmacy defined as 5+ medications taken at one time
- Can result in falls, frailty, disability and mortality in older adults (OA)
- Increases fall risk up to 5x
  - Gait disturbances are noted
  - Also possible effects on cognition

Polypharmacy & Cognition

- The use of psychotropic medications on adults is increasing
- Can cause additional dysfunction when polypharmacy is taken into account
- A recent study investigated this relationship in antidepressants, mood stabilizers, anxiolytics, antipsychotics and analgesics in the elderly

Polypharmacy & Cognition

- Polypharmacy in psychotropic medications is common because these medications can be prescribed in off-label situations

- For example, antidepressants are prescribed in adults for medical conditions besides depression
  - 12% of psychotropic users take at least 2 psychotropics
  - 1 in 4 elderly persons uses analgesics and psycholeptics or antidepressants at the same time

Polypharmacy & Cognition

- Mean age of these participants was 69yrs +/-10yrs and more than 80% of the participants were women
- >40% of participants were taking psychotropic medications, & in that group, >75% were taking more than one psychotropic medication
- Antidepressants, analgesics and hypnotics were the most common

Polypharmacy & Cognition

- Participants taking psychotropic drugs were generally older, took more medications, had more comorbidities and lower muscular strength than non-psychotropic users
  - Cognitive and mobility scores were significantly more impaired among psychotropic users

- Participants taking 2+ psychotropic drugs were at risk for impaired cognitive measures, independent of other variables
  - Particularly Executive Functioning & Global Cognition

Polypharmacy & Speech-Language Function

- This study provides further evidence for polypharmacy of psychotropic medication use on:
  - Executive function
  - Global cognition
  - Psychomotor function
  - Concentration
  - Attention
  - Memory
- Reminder: these patients had relatively normal cognition prior to the initiation of the study

Polypharmacy & Speech-Language Function

- In another study of polypharmacy in African American participants
- In this study, the mean age of 73yrs, included 399 African American OA and nearly 65% of the study participants were females
- Almost 75% of all participants were taking 5+ medications per day
  - The average was more than 7 medications per day

Polypharmacy & Speech-Language Function

- Showed a clear association between polypharmacy and poorer memory function in economically disadvantaged African American OA
  - Beyond what is expected when other health and demographic factors are accounted for

- Likely an association between polypharmacy and memory dysfunction rather than causation

Polypharmacy & Speech-Language Function

- The Speech-Language Pathologist (SLP) is particularly adept and identifying and providing therapeutic intervention in this type of population

- Can be helpful to utilize a review of medications as a form of active speech engagement during a session, to not only obtain necessary polypharmacy information, but to assess free recall and aphasia
  - Two birds, one stone!

COVID-19 & Delirium

- Likely altered cognitive status while infected if over the age of 60yrs and COVID-19+
- How does this affect consent/care?
- Likely need to assess Memory, Attention, Lexical Recall as well as Thematic Comprehension/Recall Neuromotor Functions, Taste, Smell, Executive Functions & Dysphagia

COVID-19 & Delirium

- It's a "USE IT OR LOST IT" situation!

- By assessing these early in a patient's treatment and facilitating maintenance of these functions while the patient recovers from the COVID-19 infection
  - More likely to have positive patient outcomes
    - Though → this may not alter the destruction of other systems, that remains unknown
  - More likely to improve the patient's quality of life as they are going through this difficult time

COVID-19 & Cognitive Decline

- Case studies have also indicated that individuals previously at risk of Mild Cognitive Impairment (MCI) or with a current MCI diagnosis are at risk of delirium during or following survival of COVID-19
- Likely significantly under reported in the current research, as it is not highly emphasized
- However, more patients are likely to show signs of cognitive deficits in the next few years

COVID-19 & Speech-Language/ Cognitive Disorders in Children

- A UK study showed among hospitalized children:
  - Unrelenting Fever
  - Variable Rash
  - Conjunctivitis
  - Peripheral Edema
  - Generalized extremity pain
  - Significant GI symptoms
  - All progressed to vasoplegic shock
    - Required norepinephrine and milrinone for hemodynamic support
  - Generally no significant respiratory involvement

COVID-19 & Speech-Language/ Cognitive Disorders in Children

- Small number of children→ it's a case study from May 2020
  - Among the 8 children in this case study, 1 passed away from right MCA/ACA ischemic infarction (14yrs old)
  - Ages of the study: 4yrs, 6yrs, 8yrs, 12yrs, 13yrs, 14yrs

- Even in children, there is a large cerebral/cardiovascular insult and hyperinflammatory syndrome
  - Hospitalized from 3 to 7 days
  - Could increase risk for polypharmacy in this population

COVID-19 & Speech-Language/ Cognitive Disorders in Children

- In June, a larger study was conducted in children 0-5yrs (582 kids)
  - 25% had pre-existing conditions
  - >60% were hospitalized
  - 4% required mechanical ventilation
  - 4 children passed away, 578 survived and 25 required additional respiratory support

- Working in the school systems, it is important to remember that Medical Speech Pathology applies even in pediatric groups!

COVID-19 & Speech-Language/ Cognitive Disorders in Children

- Just as cardio/cerebrovascular and pulmonary damage can affect the systems of dysphagia in adults, it can affect these systems in children

- Caveat: they are children and their time to recuperate function and return to more active lifestyles may be shorter than in the adults and older adults
  - Still require that rehabilitative support!
  - Learning, memory, task switching, attention, motor, dysphagia

COVID-19 & Dysphagia/Cognitive Disorders in Young & Middle-Aged Adults

- Previously we discussed the neurological and psychiatric/delirium effects of COVID-19

- For the SLP, it is important to emphasize similar tasks as we discussed in the neurological course but from a cognitive perspective
  - Memory in simple and complex tasks
  - Spatial awareness, navigating environments
  - Motor function and dysphagia
  - Attention, comprehension, global cognition

COVID-19 & Dysphagia/Cognitive Disorders in Older Adults

- In this group, it is especially important to bring it back to polypharmacy and the cognitive domains previously discussed

- Reviewing medications taken
  - Various types of recall: Can they recall it to you, accurately, without looking?
  - Thematic comprehension and recall: Do they know why they are taking this medication and what it does?
  - Procedural memory/ task switching and exec. function: Can they walk you through the steps?

COVID-19 & Dysphagia/Cognitive Disorders in Older Adults

- Particularly with dysphagia, swallowing is a multiregional, multisensory experience encompassing more than just the swallow itself
  - How do they feel about what happened?
  - Does it hurt? Is this an aversive experience?
  - Depression, here, is key and can increase the risk of a maladaptive experience

- These emotional, cognitive, motor and multisensory integration factors all can affect the "eating experience" and result in dysphagia

COVID-19 & Dysphagia/Cognitive Disorders in Older Adults

- Finally, it's all about fatigue

- Fatigue in older adults can predispose an individual to dysphagia
  - Fatigue is increased in polypharmacy
  - Fatigue is increased in individuals recovering from any major infection
    - This is particularly true with the type of severe infection found in COVID-19, regardless of age group
    - In older adults who have increased fatigue, anyway, this could become an aspiration risk

Summary/Q&A

- Psychotropic medications are often associated with polypharmacy, cognitive decline and are likely to be found in patients recovering from a COVID-19+ diagnosis
- Each of these factors has significant implications for the SLP
- These factors may contribute to increasing SNF and repeat hospital admission rates in the coming years

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