Consequences of Mild Cognitive Impairment [Preliminary Findings]

Jennifer Sjostedt
RN, GNP-BC, PhD Student

MARQUETTE UNIVERSITY
COLLEGE OF NURSING
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Background & Significance

What is Mild Cognitive Impairment (MCI)?

- Functional impairment affecting mental processes, such as memory and executive functioning, that is more than what is expected for normal aging and often precedes dementia (Petersen, 2003; Petersen, 2011)
- Diagnosed around age 60
- Affects up to 1 in 5 older adults globally (Laino, 2011)

Issues with MCI

- Subjective/unclear diagnosis
  - In DSM-V as “minor neurocognitive disorder” (APA, 2011, 2012)
- No national or international guidelines for management of MCI (Dean & Wilcock, 2012)
- Lacks a conceptual framework that addresses consequences of having MCI
Figure 1. Continuum of cognitive impairment (Petersen et al., 2001)

Figure 2. Theorized progression from MCI to AD (Petersen et al., 2001)
Consequences of MCI

• You’ve been diagnosed with MCI, *so what?*
• Consequences explored mostly in qualitative studies, and include:
  ▫ Uncertainty
  ▫ Coping
  ▫ Psychological Distress
Sjostedt’s Conceptualization of MCI

Why is it important to have a conceptual framework addressing consequences of having MCI?

- Guides development of specific interventions and evaluation of interventions for persons MCI
- Helps to legitimize MCI as a target for research
Disconnection from Normality (physical, mental, emotional) + Absence of Severe Functional Impairment and Dementia

Attributes

Antecedents

Modifiable
Lifestyle Factors
Dietary Deficiencies
Medications
Stress

Potentially Modifiable
Chronic Conditions
Neuropsychiatric Disorders
Awareness

Non-Modifiable
Sociodemographic Factors
Neuropathologic Changes

Consequences

Abnormal Continuum (Dementia)

Uncertainty

Coping

Psychological Distress

Normal Continuum (Return towards Baseline)

Worsening Cognition

Stagnation

Improving Cognition

Heterogeneity

Unstable Limbo

Normalization
Summary of Key Variable Definitions

- **MCI** is an unstable state of limbo weighted by heterogeneity between a person’s normal and abnormal continuums (normal aging versus dementia).
- **Uncertainty** is an emotional state that occurs when a person is unable to assign definite value to events or objects and/or is unable to predict an outcome (Mishel, 1983).
- **Coping** is the intentional cognitive and/or behavioral efforts to manage internal or external demands appraised as exceeding the resources of or taxing the person (Lazarus, 2000; Lazarus & Folkman, 1984).
- **Psychological distress** is the physical, psychosomatic, or emotional reactions to a stressor which negatively affect a person’s well-being (Kellner, 1987).
Purpose (Aims)

1. To describe the levels of uncertainty, coping, and psychological distress in older adults with MCI
2. To examine the differences in scores on uncertainty, coping, and psychological distress between the two subtypes of MCI
3. To examine the strength and direction of relationships between scores on uncertainty, coping, and psychological distress within the subtypes of MCI
4. Test select components of a new conceptual framework for MCI by examining the relationships among uncertainty, coping, psychological distress, time since diagnosis, and level of cognitive impairment from MCI
Methods

 Subjects
- 129 Participants for a power of 0.80 at $\alpha = 0.05$
  - Reduced to 91 participants after preliminary analysis
- Inclusion: aged $\geq 55$, diagnosed with MCI, understand English
- Exclusion: do not meet inclusion criteria, have other complicating neuro-psych disorder(s), or suspected already progressed to dementia

 Setting & Sampling
- Froedtert Hospital Memory Disorders Clinic
- Clinic sees on average 3 persons with MCI/week
- Data collection occurs after participant’s normal clinic appointment
  - Only one collection point
Study Design and Procedure

- Descriptive correlational design
- Advantages:
  - Ability to demonstrate relationships
  - Reduced drop-out rate and missing data
- Limitations:
  - Inability to track change over time
  - Inability to identify causal relationships

- In person data collection at the clinic
- Data collection through paper/pencil survey: (1) Montreal cognitive assessment, (2) demographic survey, (3) Uncertainty stress scale, (4) Brief COPE, and (5) Kellner Symptom Questionnaire
- Participants receive $10 pick-n-save gift-card at study completion
Instruments

Montreal Cognitive Assessment
- MCI
- 11 items
  - 0-30 points
  - Lower scores = more cognitive impairment
- $\alpha = 0.83$ (Nasreddine et al., 2005)

Uncertainty Stress Scale
- Uncertainty
- 59 items
  - 0-397 points
  - Higher scores = more uncertainty
- $\alpha = 0.92-0.96$ (Agretelis, 1999; Barron, 2000; Ford, 1989)

Brief COPE
- Coping
- 28 items
  - 0-84 points
  - Higher scores = more use of that coping method
- $\alpha = 0.50-0.90$ (Carver, 1997; Lin & Heidrich, 2012; McIlvane et al., 2008)

Symptom Questionnaire
- Psychological distress
- 92 items
  - 0-92 points
  - Higher scores = more distress
- $\alpha = 0.76-0.95$ (Bull, Luo, & Maruyama, 1994; Williams, 1993)
Aim 1: To describe the levels of uncertainty, coping, and psychological distress in older adults with MCI

- Response frequencies, means, and descriptive statistics.
- Following assessment of variable frequencies, outliers (scatter plots), skewness and kurtosis, reliability statistics (including Cronbach’s alpha) will be conducted for each of the instrument sub-scales and whole scales.
Results

• Enrollment is ongoing and results will be added to this presentation in May to provide the most up-to-date data.
Limitations

- Convenience sampling
  - Plus recruitment from only one clinic
- Not longitudinal
  - Will not be able to determine changes related to MCI over time
- Lengthy data collection
  - Instruments have multiple items
- 2 instruments (USS, and SQ) not yet used in persons with MCI
Conclusions

- Findings will provide basis for designing nursing interventions to promote coping and reduce uncertainty and psychological distress
- The USS needs further refinement for continued use in older adults with MCI
- Future research will also be needed with more diverse populations
Thank you

Questions?