AN EVIDENCE-BASED REVIEW OF BEHAVIORAL TREATMENTS FOR DEMENTIA
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Quick Review of Cognitive-Communicative Profiles

- Alzheimer’s disease (AD)
  - Affects 5.4 million Americans (Alzheimer’s Association, 2011)
  - Heterogeneous profiles
  - Early/primary deficit areas (Xie et al., 2010)

Frontotemporal lobar degeneration (FTLD)

- 5-20% of dementia cases (Grossman, 2007)
- Clinical subgroups (Anand et al., 2009; Xie et al., 2010)
  - Dysexecutive/social disorder
  - Semantic dementia (SD)
  - Progressive nonfluent aphasia
  - Corticobasal syndrome
**Vascular Dementia (VaD)**

- 2nd most common cause of dementia
- Heterogeneous profiles
- Early/primary deficit areas (Giovannetti et al., 2006; Leblanc et al., 2006)

**Dementia with Lewy Bodies (DLB)**

- About 4% of all dementia cases (Ikemoto, 2009)
  - Can be Lewy body variant of AD
  - Often have a rapid deterioration
  - Early/prominent deficit areas (AA, 2011)

**Mild Cognitive Impairment (MCI)**

- MCI criteria (Faucounau et al., 2010; Ries et al., 2007)
- MCI statistics (Alzheimer's Association, 2011)
- Highly variable cognitive profiles across individuals with MCI (Libon et al., 2010)
Dementia Protective Factors
- Early diagnosis and treatment of vascular disorders
- Establishing and maintaining a rich social network
- Keeping intellectually and physically active

Important Tx Resources
- www.ancds.org
- www.asha.org/members/slp/topics/ebp/evidence_guidelines.htm
- www.psychbite.com

Memory Strategies
- Internal Memory Strategies
  - e.g., visual imagery, association, alphabet cueing
  - Useful for MCI patients (Hampstead et al., 2008; Stott & Spector, 2010)
- External Memory Strategies
  - Low vs. high tech
  - Specific vs. variety of settings
  - Useful for broader dementia population
Memory Strategies

- Must explicitly train external device and strategy use (Mateer, 2009; Singer & Bashir, 1999; Sahbarg et al., 2007)
  - Requires systematic instruction
    - Acquisition
      - how to use strategy
    - Application
      - what strategy can do
    - Adaptation
      - when, where, and with whom to use

Intensive/Cognitive Stimulation

- Across studies (Chapman et al., 2004; Concocelli et al., 2010; Clare et al., 2010; Farina et al., 2006; Fousomou et al., 2010; Matsuda et al., 2010; Orrell et al., 2005; Sitzer et al., 2006; Spector et al., 2003, 2010; Tesar et al., 2005; Treiber et al., 2011; Viola et al., 2011; Yi-Xuan et al., 2010)
  - Involved patients with mild to moderate dementia
  - Included MCI, AD, VaD, mixed, and unspecified
  - Protocol variations

Intensive/Cognitive Stimulation

- ↑ attention, memory, executive function, language, ADL skills
- ↓ patient neuropsychiatric problems and caregiver depression and distress
- ↑ patient and caregiver QOL ratings
- ↑ brain activation
- > outcomes in cognitive stimulation + donepezil vs. donepezil alone (Chapman et al., 2004; Matsuda et al., 2010; Rozzini et al., 2007)
- Effects typically maintained 4.5 months post-tx (Sitzer et al., 2006)
Montessori-Based Intervention

- Principles of Montessori approach (Livingston et al., 2005; Mahendra et al., 2006)
  - Take place in prepared environment
  - Progress from simple/concrete to complex/abstract
  - Break task/activity into its parts
  - Train each part sequentially with cues to minimize errors and maximize success
  - Progress from observation and recognition to recall and demonstration
  - Use real-life materials
  - Emphasize all sensory modalities
  - Work at one's own pace
- Individual or group sessions

Montessori-Based Intervention

- Session number, length, and frequency have varied
- Variety of dementia types ranging from mild to severe
- Outcomes across studies (Camp et al., 1997; Geazali & Jarrett, 2002; Judge et al., 2000; Lee et al., 2007; Lin et al., 2010; Orsulic-Jeras et al., 2000; Pamparo et al., 2001; van der Ploeg & O'Connor, 2010)
  - Active/task engagement, positive affect/pleasure, functional status, social interaction, independent task completion
  - Passive/no engagement, negative affect, eating difficulty, repetitive vocalizations, apathy, confusion, aggression

Reminiscence Therapy

- Rationale (Kim et al., 2006; O'Shea et al., 2011)
  - Retrograde memory may be less degraded
  - Reminiscence involves all cognitive domains
- Used with:
  - Primarily mild to moderately severe dementia
  - Various dementia types
- Procedures involve:
  - Typically group format
  - Focus on one theme or topic per session
Reminiscence Therapy

- **Outcomes across studies** (Akanuma et al., 2011; Hsieh et al., 2010; Kawate et al., 2008; Leks et al., 2009; Su et al., in press; Wang et al., 2009; Yamagami et al., 2007)
  - ↓ depression, agitated behaviors
  - ↑ arousal, cognitive skills including attention and immediate and delayed recall, cingulate activation, overall well being, amount of verbal output, quality of life, social skills/friendships

Implicit Memory Approaches

- **Spaced retrieval** (Balota et al., 2006; Bourgeois et al., 2003; Bourgeois & Melton, 1998; Cherry et al., 2010; Hopper et al., 2004, 2010; Lee et al., 2009)
  - Recall information over progressively longer intervals
  - Target behaviors
  - Appropriate for mild to severe dementia
  - In person and phone intervention
  - Outcomes across studies:
    - ↑ Recall of target info or skill
    - No generalization

Implicit Memory Approaches

- **Errorless learning** (Clare, 2001; Clare & Jones, 2008; Dechamps et al., 2011; Dunn & Clare, 2007; Gonzalez Rothi et al., 2009; Jokel et al., 2010; Page et al., 2006)
  - Cue or break down tasks into discrete steps so client never makes a recall error
  - Target behaviors
  - Used with AD, FTLD, and VaD of various severities
Implicit Memory Approaches

- Errorless learning outcomes across studies (Clare, 2001; Clare & Jones, 2008; Dechamps et al., 2011; Dunn & Clare, 2007; Gonzalez Rothi et al., 2009; Jokel et al., 2010; Page et al., 2006)
  -↑ face-name associations
  -Outcomes may vary across patients
  -Inconsistent findings regarding benefits of errorless vs. errorful/effortful learning

Holistic/Alternative Approaches

- Sensory stimulation approaches (Anderson et al., 2011; Bradt et al., 2010; Camberg et al., 1999; Chung & Loi, 2009; Fowler, 2008; Kverno et al., 2009; Livingston et al., 2005; Miller et al., 2008; Murray et al., 2003; Riley-Doucet, 2009; Yasuda et al., 2009)
  - Rationale
  - Appropriate for all dementia severities, particularly late stage patients
  - Sessions ranged in length

Holistic/Alternative Approaches

- Sensory stimulation approaches
  - Outcomes across studies
    -↑ primarily while doing the activity
    -↑ mealtime behaviors, self-care, socialization, communication, orientation, sleep-wake cycles, mood, concentration, memory, cause and effect, caregiver attitude/feelings toward patient
    -↓ disruptive behaviors, agitation
Holistic/Alternative Approaches

- Movement/exercise therapy (Cott et al., 2002; de Carvalho Bastone & Filho, 2004; Hale et al., 2003; Roach et al., 2011; Steinberg et al., 2009; Toto et al., 2001; Yu et al., 2006)
  - Used with variety of dementia types and severities
  - Improvements or slower declines observed in:
    - Physical/cardiovascular functioning
    - Sleep patterns
    - Cognitive skills
    - Emotional well being
    - ADLs and transfers

Caregiver Training

- Provide with educational and counseling resources
  - Family Caregiver Alliance [Website]
  - NIH/MedlinePlus [Website]
  - FTDA (famil) Caregiver Support Center [Website]
  - Harvard Health Publications, e.g., [Website]

Caregiver Training

- Task demand modifications (Catroppa & Anderson, 2006; Selber & Munuw, 2001)
- Social Manipulations
  - Aimed at minimizing learned helplessness
  - Assure dementia patient has social role other that of “dementia patient”
  - Example strategies
Caregiver Training

- Environmental Accommodations (Brush et al., 2002; Brush & Colkins, 2008; Giovannetti et al., 2007; Livingston et al., 2003; Small et al., 2003)
  - Keep environment predictable and distraction free
  - Assure adequate visual contrast and lighting
- Pacing strategies (Sohlberg & Mateer, 2001)

Caregiver Training

- Organizational systems (Michel & Mateer, 2006)
- Linguistic manipulations (Hopper, 2001; Petryk & Hopper, 2009; Small et al., 2003; Small & Perry, 2005)
  - Content
  - Structure
  - Use

Caregiver Training

- Can be trained to administer all direct intervention approaches just reviewed (e.g., O’Shea et al., 2011; Riley-Doucet, 2009; Steinberg et al., 2009)
- Outcomes of across caregiver training studies (Done & Thomas, 2001; Hopper, 2001; Livingston et al., 2005; Marriott et al., 2000)
  - ↓ distress, depression, communication problems between caregiver-patient pairs
  - ↑ emotional well being of caregiver and patient
  - Delay institutionalization of patient
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