



Curare e assistere il paziente anziano
28 Maggio 2010



La riabilitazione motoria della persona affetta da demenza

Sara Morghen

Outline

- Introduzione e tipologia di problemi motori associati alla demenza
- Problemi riabilitativi associati alla demenza
- Efficacia della riabilitazione
- Strategie per l'ottimizzazione degli outcome
- Conclusioni
- Future directions

Introduzione

- The vivid political discussion about misallocation of financial resources in medical care and the **questionable gain** during rehabilitation has led to limitation of access to rehabilitation in persons with cognitive impairment (Huger et al., 2009)
- As the population progressively ages, it will become essential to promote independence and functional ability in order to decrease the burden from the society and the individual (Poyter et al., 2008).

Prevalence and Impact of Dementia-related Functional Limitations in the United States, 2001 to 2005

Henry Michael Arrighi, PhD, Trent McLaughlin, PhD, and Christopher Leibman, PharmD

TABLE 2. Types of Functional Limitations Among Americans Aged ≥ 60 years With and Without Functional Limitations Related to Dementia, National Health Interview Survey 2001 to 2005

| Activity* | Persons With Dementia-related Functional Limitations (n = 443)† | | Persons Without Dementia-related Functional Limitations (n = 23,031)† | | P |
|--|---|-----------|---|-----------|-------|
| | % | 95% CI | % | 95% CI | |
| Walk a quarter mile | 69.9 | 64.7-74.6 | 57.8 | 57.0-58.6 | 0.001 |
| Climb 10 steps without resting | 68.2 | 62.5-73.3 | 47.4 | 46.6-48.3 | 0.001 |
| Stand for 2 h | 74.4 | 69.3-78.9 | 64.4 | 63.6-65.2 | 0.001 |
| Sit for 2 h | 35.4 | 30.3-40.9 | 28.7 | 28.0-29.5 | 0.017 |
| Stoop, bend, or kneel | 72.0 | 66.8-76.7 | 75.2 | 74.6-75.8 | 0.202 |
| Reach above head | 44.4 | 38.7-50.2 | 30.1 | 29.3-30.9 | 0.001 |
| Use fingers to handle small objects | 41.9 | 37.0-46.9 | 30.0 | 29.2-30.8 | 0.001 |
| Push or pull large objects | 62.3 | 56.7-67.5 | 47.6 | 46.7-48.4 | 0.001 |
| Carry something heavy (10lb) | 62.6 | 57.0-67.9 | 31.9 | 37.0-32.7 | 0.001 |
| Go out to do things (eg, shopping, movies) | 61.1 | 56.0-66.0 | 31.9 | 31.1-32.7 | 0.001 |
| Participate in social activities | 58.6 | 43.0-64.0 | 23.8 | 23.1-24.5 | 0.001 |
| Relax | 33.3 | 28.8-38.3 | 12.1 | 11.5-12.7 | 0.001 |

Data source: National Center for Health Statistics (2001 to 2005).

*All activities must be undertaken without the need for special equipment; more than 1 category may be reported.

†Unweighted.

CI indicates confidence interval.

Dementia as a Risk Factor for Falls and Fall Injuries Among Nursing Home Residents

Carol van Doorn, PhD,* Ann L. Gruber-Baldini, PhD,* Sheryl Zimmerman, PhD,[†]
J. Richard Hebel, PhD,* Cynthia L. Port, PhD,* Mona Baumgarten, PhD,* Charlene C. Quinn, PhD,*
George Taler, MD,[‡] Conrad May, MD,[§] and Jay Magaziner, PhD, MSHyg,* for the Epidemiology of
Dementia in Nursing Homes Research Group

OBJECTIVES: To compare rates of falling between nursing home residents with and without dementia and to examine dementia as an independent risk factor for falls and fall injuries.

DESIGN: Prospective cohort study with 2 years of follow-up.

SETTING: Fifty-nine randomly selected nursing homes in Maryland, stratified by geographic region and facility size.

PARTICIPANTS: Two thousand fifteen newly admitted residents aged 65 and older.

MEASUREMENTS: During 2 years after nursing home admission, fall data were collected from nursing home charts and hospital discharge summaries.

81,5 vs 80,6 years

Valutazione della
cognitività attraverso
MDS cognition scale

Table 2. Falls During 2-Year Follow-Up by Dementia Status in Newly Admitted Residents of 59 Maryland Nursing Homes, 1992–1995

| Dementia Status | Rate of Falling* | Unadjusted Relative Risk | 95% Confidence Interval | Adjusted Rate of Falling* [†] | Adjusted Relative Risk [†] | 95% Confidence Interval |
|-----------------|------------------|--------------------------|-------------------------|--|-------------------------------------|-------------------------|
| Without | 2.33 | 1.00 | — | 1.87 | 1.00 | — |
| With | 4.05 | 1.74 [‡] | 1.34–2.25 | 3.61 | 1.93 [‡] | 1.54–2.42 |

*Rate per 365 patient days.

[†]Adjusted for: resident believes could improve activities of daily living (ADLs), stroke history, presence of Alzheimer care unit in facility, and number of full-time nursing aides per 100 beds.

[‡]P < .001.

Outline

- Introduzione e tipologia di problemi motori associati alla demenza
- Problemi riabilitativi associati alla demenza
- Efficacia della riabilitazione
- Strategie per l'ottimizzazione degli outcome
- Conclusioni
- Future directions

Rehabilitating Patients With Dementia Who Have Had a Hip Fracture

Part II: Cognitive Symptoms That Influence Care

*Katherine McGilton, PhD, RN; Jennie Wells, MD; Aileen Davis, PhD;
Elizabeth Rochon, PhD; Sue Calabrese, MN, RN; Gary Teare, PhD;
Gary Naglie, MD; Melissa Biscardi, RN*

Objective: The objective of this study was to identify the cognitive symptoms that HCPs find difficult to manage in dementia patients, and the strategies that they report using when patients exhibit these symptoms. **Subjects and Methods:** One hundred thirty-three HCPs (ie, nurses, therapists, dieticians, social workers) in 7 GRUs in Ontario, Canada, completed a questionnaire focused on the frequency of cognitive symptoms that persons with dementia experienced after hip fracture surgery and on the strategies HCPs used to manage these symptoms.

Table 2. Number of HCPs reporting that cognitive symptoms interfered with rehabilitation care*

| Cognitive disturbance | | Nursing (n = 96) | Allied health (n = 37) |
|--|------------------------------|---------------------|---------------------------|
| Memory problems | Does not interfere with care | 4 (4.2) | 0 (0) |
| | Does interfere with care | 92 (95.8) | 37 (100) |
| Loss of spatial orientation | Does not interfere with care | 11 (11.5) | 11 (29.7) |
| | Does interfere with care | 85 (88.5) | 25 (67.6) |
| Loss of recognition | Does not interfere with care | 30 (31.3) | 15 (40.5) |
| | Does interfere with care | 66 (68.7) | 22 (59.5) |
| Loss of purposeful movements | Does not interfere with care | 8 (8.3) | 3 (8.1) |
| | Does interfere with care | 88 (91.7) | 33 (89.2) |
| Language impairments | Does not interfere with care | 16 (16.7) | 12 (32.4) |
| | Does interfere with care | 80 (83.3) | 24 (64.9) |
| Lack of insight/judgment | Does not interfere with care | 6 (6.25) | 2 (5.4) |
| | Does interfere with care | 90 (93.75) | 34 (91.9) |
| Loss of ability to initiate activities | Does not interfere with care | 12 (12.5) | 14 (37.8) |
| | Does interfere with care | 84 (87.5) | 22 (59.5) |

*Values given are number (percentage).

Table 3. Proportion of staff who identified a cognitive symptom as interfering with care and who indicated a strategy to minimize the impact of the symptom on care*

| Cognitive disturbance | | Nursing | Allied health |
|--------------------------------|--------------------------|------------|---------------|
| 1. Memory problems | Does interfere with care | 92 (95.8) | 37 (100) |
| | Reported strategies | 45 (49.5) | 37 (100) |
| 2. Lack of insight/judgment | Does interfere with care | 90 (93.75) | 34 (91.9) |
| | Reported strategies | 53 (60.2) | 36 (97.3) |
| 3. Loss of purposeful movement | Does interfere with care | 88 (91.7) | 33 (89.2) |
| | Reported strategies | 40 (45.5) | 22 (100) |

*Values given are number (percentage).

Problemi riabilitativi associati alla demenza

- Difficoltà nella comunicazione
 - Disturbi di attenzione e alle funzioni esecutive
 - Disturbi nella comprensione a breve termine
 - Paura
- Mancanza di collaborazione**
- Difficoltà nella valutazione del dolore
 - Atteggiamento 'nichilista' del fisioterapista

Outline

- Prevalenza e tipologia di problemi motori associati alla demenza
- Problemi riabilitativi associati alla demenza
- Efficacia della riabilitazione
- Strategie per l'ottimizzazione degli outcome
- Conclusioni
- Future directions

Functional Outcomes for Older Adults with Cognitive Impairment in a Comprehensive Outpatient Rehabilitation Facility

Fang Yu, PhD,*† Lois K. Evans, DNSc,† and Eileen M. Sullivan-Marx, PhD†

Table 1. Characteristics of the Sample

| Characteristic | Total Sample (N = 201) | Cognitively Intact (n = 125) | Cognitively Impaired (n = 76) | P-value |
|---|---------------------------|---------------------------------|----------------------------------|---------|
| Demographic | | | | |
| Age | | | | |
| Mean ± SD | 77.6 ± 7.8 | 77.5 ± 7.6 | 77.9 ± 8.1 | .74 |
| ≥80, n (%) | 87 (43.3) | 53 (42.4) | 34 (44.7) | .77 |
| <80, n (%) | 114 (56.7) | 72 (57.6) | 42 (55.3) | |
| Sex, n (%) | | | | |
| Male | 34 (16.9) | 21 (16.8) | 13 (17.1) | .96 |
| Female | 167 (83.1) | 104 (83.2) | 63 (82.9) | |
| Race, n (%) | | | | |
| White | 47 (23.4) | 37 (29.6) | 10 (13.2) | .008† |
| Black | 154 (76.6) | 88 (70.4) | 66 (86.8) | |
| Education, years, mean ± SD | 10.6 ± 3.6 | 11.2 ± 3.2 | 9.4 ± 4.0 | <.001† |
| Health insurance coverage, n (%) | | | | |
| Medicare only | 47 (23.4) | 25 (20.0) | 22 (29.0) | .007† |
| Medicare plus Medicaid | 22 (11.0) | 10 (8.0) | 12 (15.8) | |
| Medicare plus private | 128 (63.6) | 89 (71.2) | 39 (51.2) | |
| Private insurance only | 4 (2.0) | 1 (0.8) | 3 (4.0) | |
| Living arrangement, n (%) | | | | |
| Home alone | 89 (44.2) | 64 (51.2) | 25 (32.9) | .06* |
| Home with ≥1 caregivers | 102 (50.8) | 54 (43.2) | 48 (63.2) | |
| Residential facility | 6 (3.0) | 4 (3.2) | 2 (2.6) | |
| Undocumented | 4 (2.0) | 3 (2.4) | 1 (1.3) | |
| Mini-Mental State Examination score, mean ± SD (range 0–30) | 23.8 ± 4.4 | 26.4 ± 1.7 | 19.6 ± 4.3 | <.001† |
| Number of medical comorbidities, mean ± SD | 4.1 ± 1.8 | 4.0 ± 1.9 | 4.1 ± 1.6 | .64 |
| Geriatric Depression Scale score, mean ± SD (range 0–30) | 8.8 ± 6.5 | 8.9 ± 6.9 | 8.8 ± 6.1 | |
| Depression, n (%) | | | | |
| No | 136 (67.7) | 39 (31.2) | 26 (34.2) | .75 |
| Yes | 65 (32.3) | 86 (68.8) | 50 (65.8) | |
| Functional Independence Measure motor subscale score on admission, mean ± SD [§] | 76.7 ± 12.7 | 78.9 ± 10.7 | 73.1 ± 14.7 | <.001† |

P < *.05; †.01; †.001.

[§]Range 13 = requiring total assistance to 91 = complete independence.

SD = standard deviation.

Table 2. Comparison of Rehabilitation Outcomes Between Groups

| Rehabilitation Outcome | Total Sample | Cognitively Intact | Cognitively Impaired | P-value |
|--|--------------------|--------------------|----------------------|--------------------|
| | (N = 201) | (n = 125) | (n = 76) | |
| Functional gain, mean \pm SD | 3.9 \pm 4.9 | 3.5 \pm 4.5 | 4.6 \pm 5.4 | .21 |
| Admission motor FIM score | 76.7 \pm 12.7 | 78.9 \pm 10.7 | 73.1 \pm 14.7 | <.001 [†] |
| Discharge motor FIM score | 80.6 \pm 11.1 | 82.4 \pm 9.5 | 77.6 \pm 12.9 | .004* |
| P-value for functional gain | <.001 [†] | <.001 [†] | <.001 [†] | |
| Rehabilitation efficiency, mean \pm SD | 0.35 \pm 0.45 | 0.32 \pm 0.44 | 0.40 \pm 0.48 | .25 |
| Days of service, mean \pm SD | 11.5 \pm 5.2 | 11.4 \pm 5.6 | 11.6 \pm 4.5 | .21 |
| Discharge location, n (%) | | | | 1.00 |
| Remained at home | 188 (93.5) | 117 (93.6) | 71 (93.4) | |
| Hospitalized due to illness | 13 (6.5) | 8 (6.4) | 5 (6.6) | |

Note: The comparisons of rehabilitation outcomes (functional gain, rehabilitation efficiency, days of service, and discharge location) between the two groups were made without controlling for covariates.

P < *.01; [†].001.

SD = standard deviation; FIM = Functional Independence Measurement.

Predictors of successful rehabilitation in geriatric patients: subgroup analysis of patients with cognitive impairment

Maria Karin Ghisla¹, Stefania Cossi², Annalisa Timpini², Fiorenzo Baroni¹, Emanuela Facchi¹, and Alessandra Marengoni²

¹Geriatric Evaluation and Rehabilitation Unit, Richiedei Foundation, Gussago (Brescia), ²Geriatric Unit-Internal Medicine I, Civili Hospital, Department of Medical and Surgery Sciences, University of Brescia, Brescia, Italy

Table 1 - Socio-demographic, functional, health, mental, and nutritional characteristics of whole study population and subgroups of patients with MMSE \geq 18 and MMSE $<$ 18 by functional improvement at discharge.

| Functional Improvement | Whole population (n=2650) | | MMSE \geq 18 (n=2086) | | MMSE $<$ 18 (n=564) | |
|---------------------------|---------------------------|--------------|-------------------------|-------------|---------------------|-------------|
| | Yes (n=2132) | No (n=518) | Yes (n=1740) | No (n=346) | Yes (n=392) | No (n=172) |
| Age (yr) | 81.6 (6.7) | 81.8 (6.6) | 81.3 (6.6) | 81.3 (6.4) | 82.8 (7.0) | 83.1 (6.7) |
| Female | 78 | 73* | 79 | 71* | 71.0 | 77.3 |
| Education (yr) | 5.2 (2.3) | 5.4 (2.7) | 5.3 (2.3) | 5.5 (2.7) | 4.9 (2.4) | 5.0 (2.6) |
| Living with someone | 61 | 66 | 58 | 59 | 79 | 80 |
| Tinetti admission (score) | 13.9 (8.1) | 15.8 (10.3)* | 14.9 (7.7) | 18.9 (9.2)* | 9.1 (8.3) | 9.4 (9.3) |
| \geq 19 | 35 | 50* | 39 | 63* | 18 | 23 |
| GIC (score) | | | | | | |
| 1-2 | 33 | 36 | 33 | 40 | 31 | 28 |
| 3-4 | 67 | 64 | 67 | 60 | 69 | 72 |
| MMSE (score) | 22.6 (6.1) | 19.9 (7.9)* | 24.9 (3.2) | 24.6 (3.1) | 12.2 (5.2) | 10.7 (6.1)* |
| $>$ 23 | 58 | 46* | 71 | 69 | - | - |
| MNA-SF (score) | 9.6 (3.0) | 9.1 (3.1)* | 9.9 (2.9) | 9.8 (2.9) | 7.8 (2.9) | 7.7 (3.1) |
| \geq 11 | 45 | 39* | 51 | 48 | 22 | 21 |

*Comparison between groups; $p < 0.05$. Values in continuous variables expressed as means (standard deviations). Values in categorical variables expressed as percentages. GIC: Geriatric Index of Comorbidity; MMSE: Mini-Mental State Examination; MNA-SF: Mini-Nutritional Assessment Short Form.

Yichayaou Beloosesky · Joseph Grinblat
Boris Epelboym · David Hendel

Dementia does not significantly affect complications and functional gain in elderly patients operated on for intracapsular hip fracture

Table 1 Epidemiological characteristics (*ADL* activities of daily living) ($n = 42$)

| Variables | No. of patients (%) |
|---|---------------------|
| Age (years) | |
| 65–74 | 13 (31%) |
| 75–84 | 16 (38%) |
| ≥ 85 | 13 (31%) |
| Pre-fracture functional groups (Katz Index of ADL) | |
| Fully dependent (0–5) | 2 (5%) |
| Partially dependent (6–9) | 10 (24%) |
| Independent (10–12) | 30 (71%) |
| Cognitive groups (Mini-Mental State Examination) | |
| Demented (≤ 17) | 9 (21%) |
| Normal-mild dementia (≥ 18) | 33 (79%) |
| Severely demented (≤ 14) | 8 (19%) |
| Moderately demented (15–23) | 11 (26%) |
| Normal (≥ 24) | 23 (55%) |
| Discharge | |
| Rehabilitation | 29 (69%) |
| Home | 6 (14%) |
| Nursing Home | 3 (7%) |
| Death | 4 (10%) |

Importanza della valutazione dello stato premorboso per la progettazione di obiettivi realistici per il paziente

*Rehabilitation is about enabling people who are disabled by injury or disease to achieve **their** optimal physical, psychological, social and vocational well-being*

Randomised, clinically controlled trial of intensive geriatric rehabilitation in patients with hip fracture: subgroup analysis of patients with dementia

Tiina M Huusko, Pertti Karppi, Veikko Avikainen, Hannu Kautiainen, Raimo Sulkava

Table 2 Length of hospital stay according to mini mental state examination score

| Score† | Intervention group | | Control group | | P value* |
|--------|--------------------|---------------------|----------------|---------------------|----------|
| | No of patients | Median (range) stay | No of patients | Median (range) stay | |
| 0-11 | 19 | 85 (13-365) | 9 | 67 (15-365) | 0.902 |
| 12-17 | 24 | 47 (10-365) | 12 | 147 (18-365) | 0.042 |
| 18-23 | 35 | 29 (16-138) | 42 | 46 (10-365) | 0.002 |
| 24-30 | 41 | 26 (12-162) | 56 | 42 (10-365) | 0.376 |

*P value adjusted by using Hommel's method.

†Mini mental state examination was not performed on one patient in the intervention group and four in the control group.

Table 3 Place of residence and mortality of patients according to score on mini mental state examination

| Score | 3 months | | 1 year | |
|--------------------|--------------|----------|--------------|----------|
| | Intervention | Control | Intervention | Control |
| 0-11 | | | | |
| Independent living | 7 (37) | 4 (44) | 7 (37) | 3 (33) |
| Nursing home | 2 (11) | 0 (0) | 5 (26) | 0 (0) |
| Hospital | 8 (42) | 4 (44) | 2 (11) | 3 (33) |
| Dead | 2 (11) | 1 (11) | 5 (26) | 3 (33) |
| Total | 19 (100) | 9 (100) | 19 (100) | 9 (100) |
| 12-17 | | | | |
| Independent living | 15 (63) | 2 (17) | 15 (62) | 4 (33) |
| Nursing home | 2 (8) | 1 (8) | 1 (4) | 2 (17) |
| Hospital | 4 (17) | 8 (67) | 4 (17) | 4 (33) |
| Dead | 3 (12) | 1 (8) | 4 (17) | 2 (17) |
| Total | 24 (100) | 12 (100) | 24 (100) | 12 (100) |
| 18-23 | | | | |
| Independent living | 32 (91) | 28 (67) | 27 (77) | 32 (76) |
| Nursing home | 0 (0) | 2 (5) | 2 (6) | 3 (7) |
| Hospital | 2 (6) | 10 (24) | 2 (6) | 2 (5) |
| Dead | 1 (3) | 2 (5) | 4 (11) | 5 (12) |
| Total | 35 (100) | 42 (100) | 35 (100) | 42 (100) |
| 24-30 | | | | |
| Independent living | 35 (85) | 47 (84) | 34 (83) | 47 (84) |
| Nursing home | 0 (0) | 1 (2) | 1 (2) | 1 (2) |
| Hospital | 5 (12) | 7 (12) | 2 (5) | 0 (0) |
| Dead | 1 (2) | 1 (2) | 4 (10) | 8 (14) |
| Total | 41 (100) | 46 (100) | 41 (100) | 56 (100) |

ENDURANCE AND STRENGTH TRAINING OUTCOMES ON COGNITIVELY IMPAIRED AND COGNITIVELY INTACT OLDER ADULTS: A META-ANALYSIS

P.C. HEYN¹, K.E. JOHNSON¹, and A. F. KRAMER²

¹ School of Medicine, University of Colorado at Denver, Denver, CO

² Beckman Institute for Advanced Science and Technology, University of Illinois, Urbana, Illinois

Abstract

Background—Dementia is a common syndrome in the geriatric population. Subsequent impairment of cognitive functioning impacts the patient's mobility, ADLs, and IADLs. It is suggested that older persons with lower levels of cognition are less likely to achieve independence in ADLs and ambulation (1–2). Frequently, nursing home residents are viewed as too frail or cognitively impaired to benefit from exercise rehabilitation. Often, persons with Mini Mental State Score (MMSE) score below 25 are excluded from physical rehabilitation programs. However, Diamond (3) and Goldstein (4) concluded that geriatric patients with mild to moderate cognitive impairment were just as likely as cognitively intact patients to improve in functional abilities as a result of participation in exercise rehabilitation programs.

Purpose—The objective of this study is to compare, through a meta-analysis endurance and strength outcomes of Cognitively Impaired (MMSE <23) and Cognitively Intact (MMSE >24) older adults who participate in similar exercise programs.

Methods—Published articles were identified by using electronic and manual searches. Key search words included exercise, training, strength, endurance, rehabilitation, cognitive impairment, cognition, Mini Mental State Exam (MMSE), older adult, aged, and geriatrics. Articles were included if they were from RCTs or well-designed control studies.

Results—A total of 41 manuscripts met the inclusion criteria. We examined 21 exercise trials with cognitively impaired individuals (CI=1411) and 20 exercise trials with cognitively intact individuals (IN=1510). Degree of cognitive impairment is based on the reported MMSE score. Moderate to large effect sizes (ES = *d*_w, Hedges *g*) were found for strength and endurance outcomes for the CI groups (*d*_w = .51, 95% CI= .42–.60), and for the IN groups (*d*_w = .49, 95% CI= .40–.58). No statistically significant difference in ES was found between the CI and IN studies on strength (*t*=1.675, *DF*= 8, *P*=.132), endurance (*t*=1.904, *DF*= 14, *P*=.078), and combined strength and endurance effects (*t*=1.434, *DF*= 56, *P*=.263).

Conclusions—These results suggest that cognitively impaired older adults who participate in exercise rehabilitation programs have similar strength and endurance training outcomes as age and gender matched cognitively intact older participants and therefore impaired individuals should not be excluded from exercise rehabilitation programs.

Effectiveness of Physical Training on Motor Performance and Fall Prevention in Cognitively Impaired Older Persons

A Systematic Review

ABSTRACT

Hauer K, Becker C, Lindemann U, Beyer N: Effectiveness of physical training on motor performance and fall prevention in cognitively impaired older persons: A systematic review. *Am J Phys Med Rehabil* 2006;85:847–857.

Objective: To determine whether older cognitively impaired people benefit from physical training with regard to motor performance or fall risk reduction and to critically evaluate the methodologic approach in identified randomized controlled intervention trials.

Design: Published randomized controlled intervention trials from 1966 through 2004 were identified in PubMed, CINAHL, Gerolit, and the Cochrane Central Register of Controlled Trials according to predefined inclusion criteria and evaluated by two independent reviewers using a modified rating system for randomized controlled intervention trials developed by the Cochrane Library.

Results: There were 11 randomized controlled intervention trials that met the predefined inclusion criteria. There was a large heterogeneity regarding methodology, sample size, type of intervention, study outcomes, and analyses. We found conflicting evidence regarding the effect of physical training on motor performance and falls in older people with cognitive impairment. However, a considerable number of the studies had methodologic limitations, which hampered the evaluation of the effectiveness of training.

Conclusions: The randomized controlled intervention trials showed only limited effectiveness of physical training in patients with cognitive impairment. More studies with adequate sample size, sensitive and validated measurements, and higher specificity for the types of intervention targeting subgroups of patients with different degrees of cognitive impairment are required to give evidence-based recommendations.

Problematicità nella valutazione dell'efficacia

Dementia can not be viewed as a single disease entity

- The participants within the trials were not homogeneous in terms of their diagnosis and severity of dementia and level of mobility (Cochrane Rev 2009)
- Diversity between the type of exercise, frequency, duration and length of time the activity being offered among studies

Caratteristiche sociodemografiche, cliniche, fisiche e funzionali di 328 pazienti con frattura di femore ricoverati presso il DdR della CdC “Ancelle della Carità”, stratificati in base al punteggio ottenuto al MMSE

| Characteristics | MMSE =0-15 (n=98) | MMSE =16-23 (n=112) | MMSE =24-30 (n=124) | <i>p-value</i> |
|--|----------------------|------------------------|------------------------|----------------|
| Age, years | 86.1 ± 6.3 | 83.4 ± 6.8 | 79.3 ± 6.5 | <.0001 |
| Female gender, n (%) | 75 (81.5) | 95 (84.8) | 106 (85.5) | .712 |
| Living alone, n (%) | 19 (20.9) | 35 (32.1) | 52 (42.6) | .004 |
| Charlson Comorbidity Index | 1.9 ± 1.8 | 1.8 ± 1.5 | 1.6 ± 1.4 | .482 |
| Number of drugs | 5.7 ± 2.5 | 5.5 ± 2.2 | 5.3 ± 2.6 | .411 |
| Body Mass Index on admission (Kg/cm2) | 22.1 ± 4.2 | 23.1 ± 5.5 | 23.6 ± 4.4 | .094 |
| Albumin serum level (g/dl) | 2.7 ± 0.3 | 2.8 ± 0.3 | 2.8 ± 0.3 | .603 |
| MMSE (0-30) | 9.0 ± 5.3 | 19.4 ± 2.3 | 26.6 ± 1.8 | <.0001 |
| Delirium, n (%) | 64 (71.1) | 50 (47.6) | 23(19.7) | <.0001 |
| Barthel Index (0-100) | | | | |
| Total score before fracture | 70.0 ± 24.5 | 82.9 ± 15.1 | 91.9 ± 13.6 | <.0001 |
| Total score on admission | 14.7 ± 3.8 | 26.5 ± 11.6 | 34.8 ± 11.1 | <.0001 |
| Total score at discharge | 38.1 ± 27.4 | 60.3 ± 24.7 | 78.3 ± 18.3 | <.0001 |
| Barthel Index walking sub-item (0-15) | | | | |
| before fracture | 11.4 ± 3.8 | 12.6 ± 2.6 | 13.5 ± 2.9 | <.0001 |
| at discharge | 6.2 ± 4.9 | 9.3 ± 4.4 | 11.6 ± 3.7 | <.0001 |
| Walking independence at discharge, n (%) | 24 (26.4) | 57 (51.8) | 94 (75.8) | <.0001 |
| Length of stay (days) | 28.6 ± 9.7 | 28.7 ± 10.2 | 28.0 ± 9.9 | .842 |

“They are just going to get worst anyway...”

*“...One likely explanation for rehabilitation benefits for cognitively impaired older adults is that motor rehabilitation is **procedural learning** that remains intact even when cognition is compromised....motor based rehabilitation services focus more on procedural knowledge, whereas mental status examinations rely more on declarative abilities.”*

Importanza della valutazione multidimensionale

La riabilitazione motoria ha potenziale effetto solo sulla motricità?

Ansia e depressione

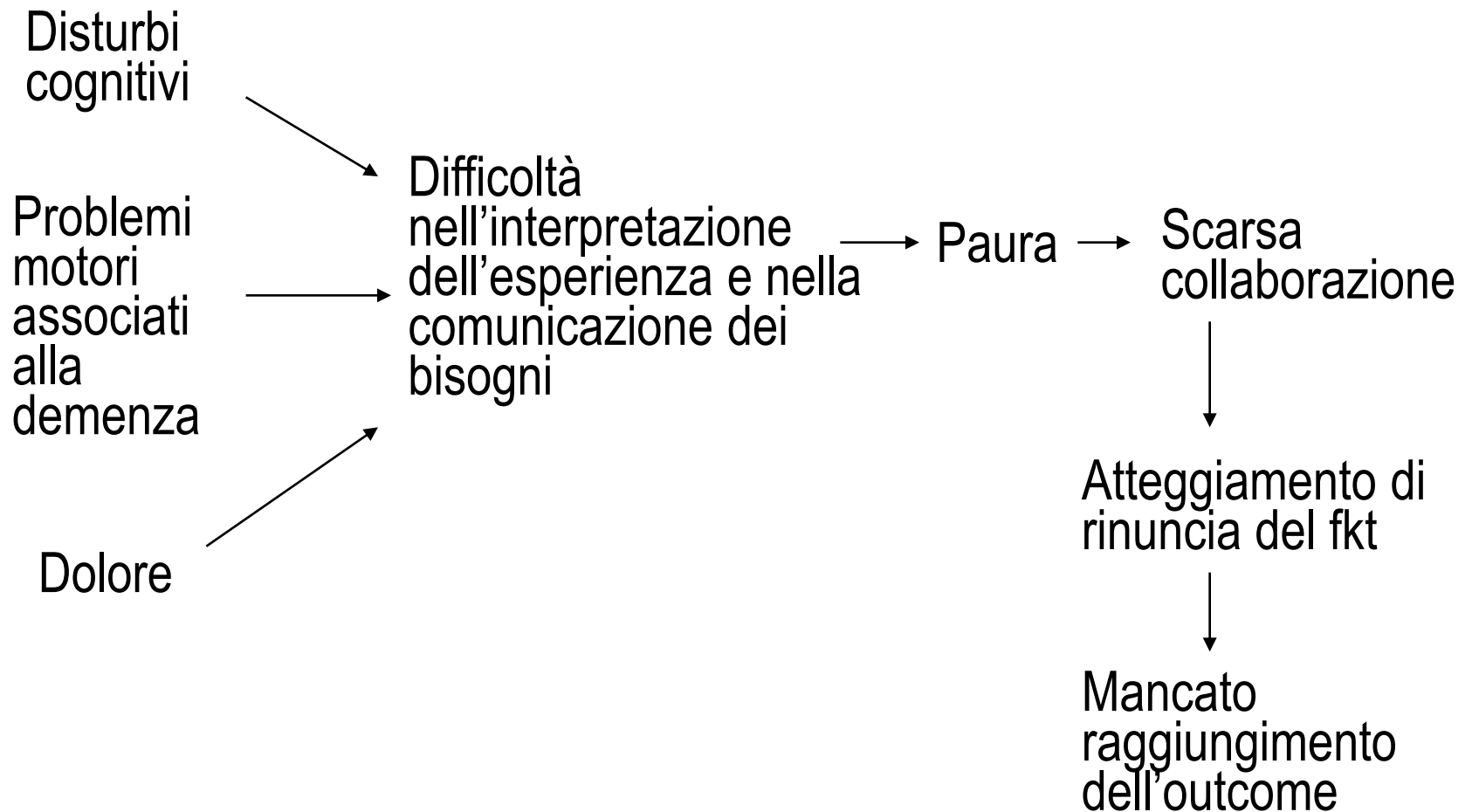
Cognitività

Qualità della vita

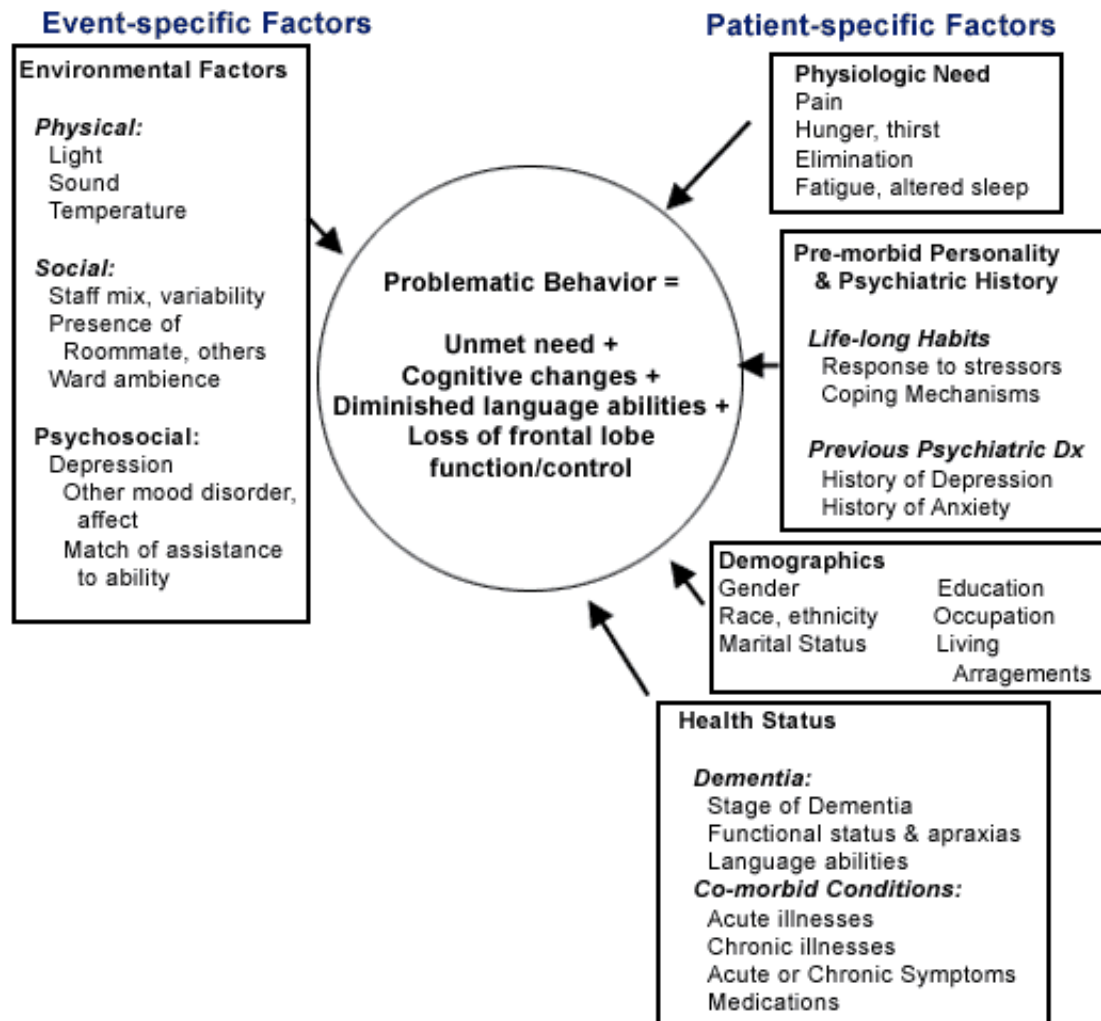
Outline

- Introduzione e tipologia di problemi motori associati alla demenza
- Problemi riabilitativi associati alla demenza
- Efficacia della riabilitazione
- Strategie per l'ottimizzazione degli outcome
- Conclusioni
- Future directions

Un modello per l'interpretazione della difficoltà nel raggiungimento dell'outcome positivi nei pazienti con demenza severa



Problemi riabilitativi associati alla demenza



Strategie per l'ottimizzazione degli outcome

- Strategie comunicative
- Strategie per il miglioramento dei disturbi attentivi e delle funzioni esecutive
- Strategie per il superamento della paura
- Valutazione del dolore e delle condizioni ambientali interferenti

Strategie comunicative – farsi capire

- Utilizzare la comunicazione faccia a faccia
- Aumentare la salienza del messaggio
- Rallentare la velocità dell'eloquio/fornire tempi maggiori per le risposte
- Semplificare la struttura sintattica
- Fornire informazioni gestuali supplementari al messaggio
- Imitazione

Strategie comunicative - capire

- Attenzione al significato delle parole...

| Patient states | Possible meaning or emotion expressed |
|-----------------------------|---|
| I want to go home. | Nothing seems familiar here. I feel lost. I am afraid. |
| I am looking for my mother. | I feel sad or lonely. I need love and affection. I miss my mother. |
| I need to catch the bus. | I am bored. I need some purpose in my day. I need to do something that is meaningful. |
| No, I do not want to. | No, I do not understand. I am afraid and I do not know you. I am in pain and cannot tell you. |

Strategie per il miglioramento dei disturbi attentivi e delle funzioni esecutive

- Utilizzare segnali di allerta verbali (ad es., “è pronto?”, o previsione della performance nei meno severi)
- Ridurre le richieste verbali interferenti
- Accorgimenti ambientali
- Spostare l'attenzione se emergono difficoltà di ragionamento logico o di critica tali da interferire con il processo riabilitativo

Identifying Pleasant Activities for Alzheimer's Disease Patients: The Pleasant Events Schedule-AD¹

Linda Teri, PhD,² and Rebecca G. Logsdon, PhD²

| | Frequency | | | Availability | | | Enjoyability | |
|--|------------|-------------|-------|--------------|-------------|-------|--------------|---------------------|
| | Not at all | A few times | Often | Not at all | A few times | Often | Now enjoys | Enjoyed in the past |
| 1. Being outside (sitting outside, being in the country) | | | | | | | | |
| 2. Meeting someone new or making new friends | | | | | | | | |
| 3. Planning trips or vacations, looking at travel brochures, traveling | | | | | | | | |
| 4. Shopping, buying things (for self or others) | | | | | | | | |
| 5. Being at the beach | | | | | | | | |
| 6. Reading or listening to stories, novels, plays, or poems | | | | | | | | |
| 7. Listening to music (radio, stereo) | | | | | | | | |
| 8. Watching T.V. | | | | | | | | |
| 9. Camping | | | | | | | | |
| 44. Looking at photo albums and photos | | | | | | | | |
| 45. Stamp collecting, or other collections | | | | | | | | |
| 46. Sorting out drawers or closets | | | | | | | | |
| 47. Going for a ride in the car | | | | | | | | |
| 48. Going to church, attending religious ceremonies | | | | | | | | |
| 49. Singing | | | | | | | | |
| 50. Grooming self (wearing makeup, having hair done) | | | | | | | | |
| 51. Going to the movies | | | | | | | | |
| 52. Recalling and discussing past events | | | | | | | | |
| 53. Participating or watching sports (golf, baseball, football, etc.) | | | | | | | | |

Strategie per il superamento della paura

- Individuazione/modificazione delle situazioni esacerbanti
- Proporre compiti motori finalizzati
- Aumentare la consapevolezza del corpo attraverso il sistema sensoriale
- Preparare il paziente all'azione (conduite d'approche)
- Offrire elementi di sicurezza
- Rispettare i tempi del paziente
- Valutare e gestire l'eventuale presenza di dolore

- “Mrs Cohen had spent the past 10 years living in an excellent long-term care facility where I worked as a clinical nurse specialist. She was now in the late stages of dementia. She had reverted to only speaking a few words of Yiddish, and so communication was limited. She grunted, yelled out, and sucked air through her teeth repetitively. She was physically aggressive with staff, particularly when physical care was provided.”

- “The medical director recognized that she was in the final stages of her illness and, in consultation with the family, limited medical tests and treatments.”
- ...“Eventually Mrs Cohen died...the family requested an autopsy and the medical director came to my office to report the results: she had a belly full of cancer”.

Valutazione del dolore Discomfort Scale for Advanced Dementia

Noisy breathing: negative sounding noise on inspiration or expiration; breathing looks strenuous, labored, or wearing; respirations sound loud, harsh, or gasping; difficulty breathing or trying hard at attempting to achieve a good gas exchange; episodic bursts of rapid breaths or hyperventilation.

Negative vocalization: noise or speech with a negative or disapproving quality; hushed low sounds such as constant muttering with a guttural tone; monotone, subdued, or varying pitched noise with a definite unpleasant sound; faster rate than a conversation or drawn out as in a moan or groan; repeating the same words with a mournful tone; expressing hurt or pain.

Content facial expression: pleasant calm looking face; tranquil, at ease, or serene; relaxed facial expression with a slack unclenched jaw; overall look is one of peace.

Sad facial expression: troubled looking face; looking hurt, worried, lost, or lonesome; distressed appearance; sunken, "hang dog" look with lackluster eyes; tears; crying.

Frightened facial expression: scared, concerned looking face; looking bothered, fearful, or troubled; alarmed appearance with open eyes and pleading face.

Frown: face looks strained; stern or scowling looks; displeased expression with a wrinkled brow and creases in the forehead; corners of mouth turned down.

Relaxed body language: easy openhanded position; look of being in a restful position and may be cuddled up or stretched out; muscles look of normal firmness and joints are without stress; look of idle, lazy, or "laid back;" appearance of "just killing the day"; casual.

Tense body language: extremities show tension; wringing hands, clenched fist, or knees pulled up tightly; look of being in a strained and inflexible position.

Fidgeting: restless impatient motion; acts squirming or jittery; appearance of trying to get away from hurt area; forceful touching, tugging, or rubbing of body parts.

Table 2. Scoring Schema for Discomfort Scale for Advanced Alzheimer Patients

| Item Score | Frequency ^a | Intensity ^b | Duration ^c |
|------------|------------------------|------------------------|-----------------------|
| 0 | 0 | — | — |
| 1 | 1 | Low | Short |
| 2 | 1 | High | Short |
| 2 | 1 | Low | Long |
| 2 | 2 | Low | Short |
| 3 | ≅ 1 | High | Long |
| 3 | ≅ 2 | High | Short |
| 3 | ≅ 2 | Low | Long |
| 3 | ≅ 3 | Low | Short |

^aNumber of episodes during a 5-min period. ^bLow intensity = barely to moderately perceptible; high intensity = present in moderate to great magnitude. ^cShort duration < 1 min; long duration ≥ 1 min.

- “About a year ago, my mother had a serious hip fracture...her hip was repaired by joining the two segment of the bone with a metal pin. The good news was that my mother’s broken hip would probably heal. The bad news was (according to one doctor) that **she would probably never walk again and would be dead within a year...**
- Factors against recovery were:
 - 90 years old
 - Alzheimer’s disease
 - Residual effect of anesthesia
 - Torsion of the leg and one leg shorter than the other
 - Decubitus sores on her ankle and heel

- “The hard reality is that if my mother **could not**, or would not, respond to the words of the physical therapists to get up and start walking, she would be assigned to a nonmobile ward. This meant that her bones and muscles would degenerate, she would continue to get bedsores, and she probably would be die within a year”
- While watching the evaluation, I had determined that the initial warm-up procedure had caused my mother **so much pain that she was afraid** of putting more weight on her leg by standing. The physical therapists didn't want to lift her into an erect position without her consent. Also, given her restricted cognitive level, **it was hard to reason with her**. She was assigned to immobility ward.

- “I decided to try to get her up myself. I simply said to her, “Okay Ma, let’s get up” and then proceeded to help her up. Once she was on her feet, I helped her to enter to parallel bars. The rest is history...she progressed from the parallel bars to a walker to walking on her own without mechanical assistance...the staff say that they never seen such an amazing recovery”

Ethel walking
after hip fracture
recovery

Created with a
non-activated version
www.avs4you.com

TABLE 1. Achieving Optimal Performance in Individuals with Alzheimer Disease

| Characteristics of Interaction | Suggested Mechanisms of Attainment |
|--|---|
| Individual perceives a personal connection with the tester/researcher/clinician | Individual is oriented to their own personal history Individual is talked through a "reminiscence" before the activity |
| Individual perceives the environment to be low stress | There are no distracting stimuli The setting is a familiar place The people are familiar |
| Interpersonal interaction is perceived as friendly, nonthreatening, clear in purpose | Tester/researcher/clinician uses direct, friendly eye contact and facial expression Clinician sits (does not stand) across from patient to explain the task at hand in simple terms Clinician uses pleasant but firm voice commands (not questions) when trying to elicit a physical response or activity Clinician gives commands one step at a time Clinician gives meaningful goals vs actions |
| The optimal progression of cuing is followed | Begin with verbal instruction with concurrent visual cue. Allow 10 sec for response. If no response, provide gesturing and demonstration. Allow 10 sec for response. If no response, provide tactile guidance. Allow 10 sec for response. If no response, provide physical assistance |

*“...Improvements in the patients’ functional mobility **can be expected**, if the problems associated with dementia can be successfully managed”*

Outline

- Introduzione e tipologia di problemi motori associati alla demenza
- Problemi riabilitativi associati alla demenza
- Efficacia della riabilitazione
- Strategie per l'ottimizzazione degli outcome
- Conclusioni
- Future directions

Conclusioni

- Efficacia → risultati controversi (ma eterogeneità nei metodi e nei campioni), maggiore evidenza nei pazienti con demenza lieve e moderata
- Alcuni studi mostrano risultati positivi anche per i pazienti con demenza severa
- Importanza della valutazione multidimensionale ingresso-dimissione e valutazione del dolore
- Ad oggi non sono state sviluppate linee guida internazionali condivise sul training motorio-fisioterapico dei pazienti con deterioramento cognitivo (non esiste evidenza che un metodo riabilitativo sia più efficace di un altro)
- Promuovere l'utilizzo di strategie mirate

Future directions

- Definire specifici interventi riabilitativi mirati al superamento degli disturbi cognitivi/comportamentali per il raggiungimento degli outcome
- Limitare l'eterogeneità del campione negli studi
- Valutazione del mantenimento dell'efficacia a lungo termine