NORTHWESTERN UNIVERSITY HeLP Health Literacy & Learning Program

NORTHWESTERN UNIVERSITY FEINBERG SCHOOL OF MEDICINE

Low health literacy predicts decline in physical function among older adults: Findings from the LitCog cohort

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Aging and physical function

- Proportion of adults 60+ increasing
- Physical function important outcome to monitor as population ages
  - Associated with risk of falling, cognition, & mortality
- Physical function increased in recent years[1]
- Disparities exist among population sub-groups[2]

[1]Feedman et al, 2002, JAMA
[2]Seeman et al, 2010, Am J Public Health

Health literacy, age and physical function

- Limited health literacy is more prevalent among older adults[1]
- Cross sectional associations with physical function[2]
- Longitudinal analyses needed to establish if decline is faster among people with low health literacy

[1]Gazmararian et al., 1999, JAMA; Paasche-Orlow et al., 2005 JGIM
[2]Wolf et al. 2005, Arch Intern Med; Serper et al., 2014, Health Serv Res

Objective

- To determine if health literacy is associated with decline in physical function among an established cohort of older adults.

LitCog

- Cohort of community-dwelling older American adults
- Recruited from GIM clinic and five FQHCs in Chicago, IL
- 828 patients aged 55-74 at baseline (2008-2011)
- 529 (63.9%) retained after 3.2 years (SD=0.4)

Key reference: Wolf et al., 2010 JGIM

Measures

- Baseline:
  - Newest Vital Sign (NVS)
  - Single-items: smoking, physical activity, BMI, alcohol
  - Age, gender, race, education, chronic conditions

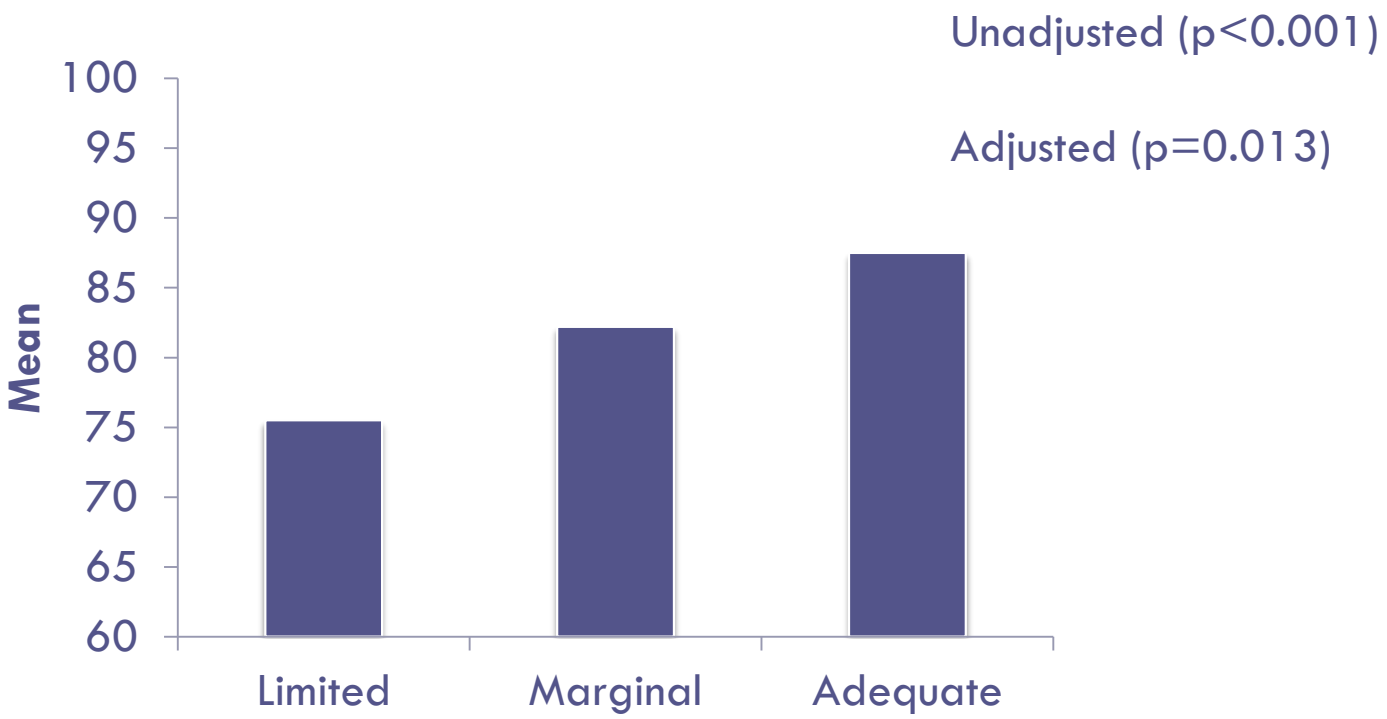
- Outcome measure:
  - 10-item PROMIS physical function
  - Meaningful decline (>0.5 SD of baseline score)

Baseline characteristics

- Mean Age – 63 years
- 31% male
- 44% Non-white
- 11% current smoker
- 41% ≥ 1 drink per week
- 60% < active 4 times per week
- 67% Overweight or Obese
- 23% marginal health literacy
- 26% limited health literacy

Baseline results

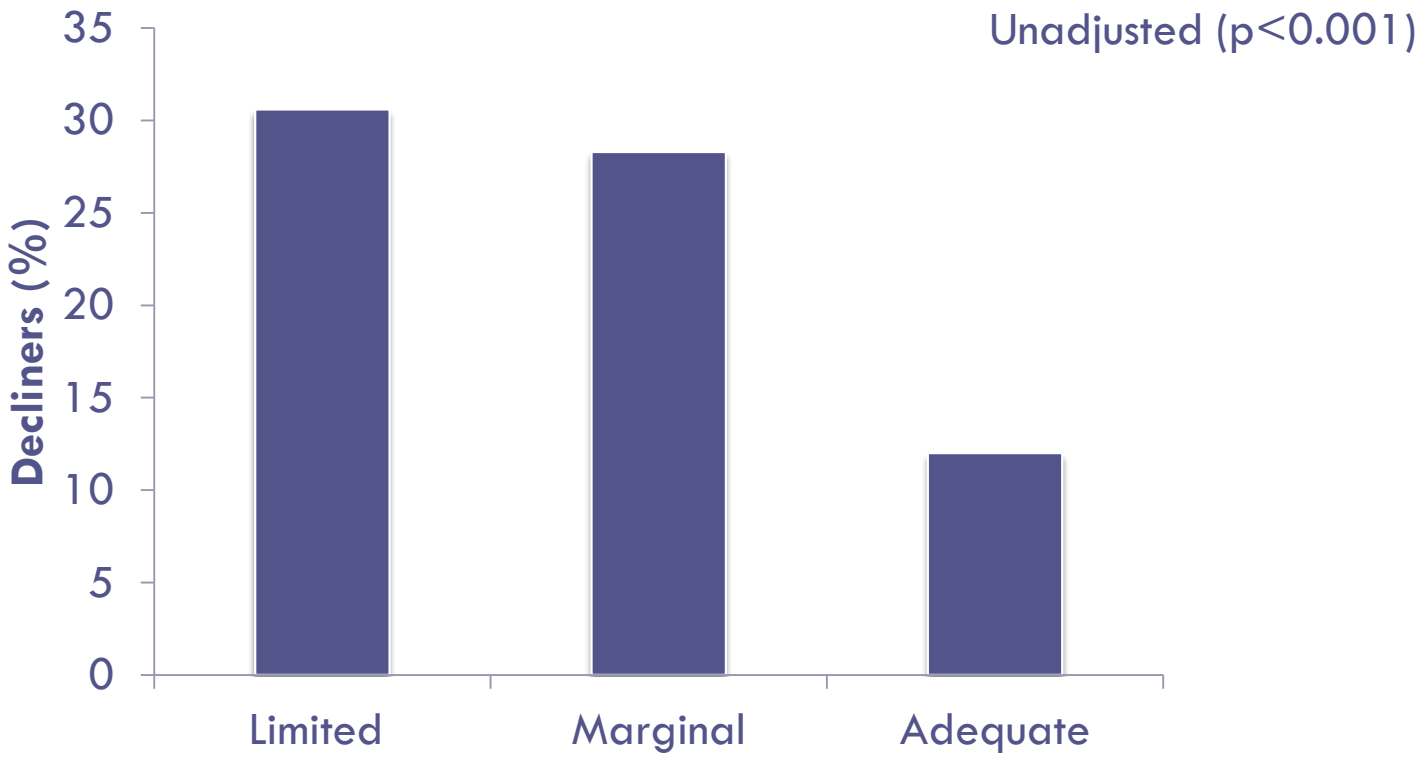
- Baseline physical function: M=83.2 (SD=17) out of 100



Adjusted analyses control for age, gender, race, education, smoking status, physical activity, alcohol intake, BMI, number of chronic conditions

Follow-up results

- T_2 physical function: 81.9 (SD=17; p=0.006)
- 20.5% experienced a meaningful decline



Follow-up results

	Decline in Physical Function	
	OR (95% CI)	P value
Health Literacy		
Marginal	2.67 (1.41 - 5.04)	0.003
Limited	2.63 (1.25 - 5.56)	0.01
BMI		
Overweight	2.30 (1.21 - 4.37)	0.01
Obese	2.11 (1.11 - 4.04)	0.02
Chronic Conditions		
1	1.46 (0.62 - 3.46)	0.39
2+	2.77 (1.21 - 6.31)	0.02

Adjusted analyses control for age, gender, race, education, smoking status, physical activity, alcohol intake, baseline physical function

Conclusions

- First study to prospectively examine health literacy and 3 year decline in health status
- Magnitude of associations comparable to 2 or more chronic conditions, or being overweight/obese
- Poor health self-management skills likely the cause?
  - e.g. medication use, preventive health service use

Limitations

- Single urban city
- Self-reported outcomes
- Participants who completed T_2 interview
  - Adequate health literacy skills
  - Fewer chronic conditions
  - Higher baseline physical function score

Clinical implications

- Limited health literacy is prevalent among older adults – promoting clinician awareness important
- Prevention and self-management strategies should include health literacy in design
- Future studies should further investigate causal mechanisms linking health literacy to physical decline

Thank You!

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