ABI Journal Club

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Title and abstract

TOPICS IN STROKE REHABILITATION
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ARTICLE

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Health literacy is associated with less depression symptoms, higher perceived recovery, higher perceived participation, and walking ability one year after stroke – a cross-sectional study

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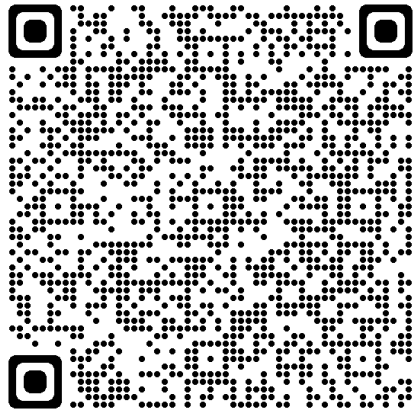
Why did I choose this article?

Health literacy is an important concept in self-management
In many other health conditions improved health literacy and self-management have shown positive impacts on outcomes
Well known rehabilitation journal with Journal Impact Factor – 2.18
Available digitally through NSH library
Population that is relevant for our practice
Swedish Health Care System – like Canada in that there is a national publicly funded health care system

Guides

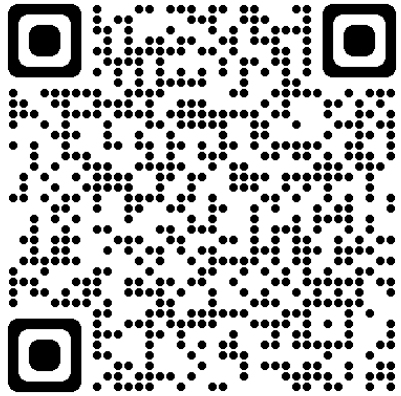
- Critical Appraisal Skills Programme - CASP Checklist on Cohort Study

https://casp-uk.net/casp-tools-checklists



- STROBE checklist on Cross-Sectional/Cohort/Case Control Studies

https://casp-uk.net/images/checklist/documents/CASP-Cohort-Study-Checklist



Introduction

- **Health Literacy** – WHO definition

  The knowledge and competence that enables people to access, understand, appraise and use information and services in ways that promote and maintain good health

- Connect importance of health literacy in context of stroke, lifestyle changes, secondary prevention, rehabilitation, medication management and health care follow-ups

Introduction

Health Literacy

In previous studies show association between health literacy and stroke related outcomes and function

Study Objective

“To explore the health literacy in a Swedish cohort 12 months post-discharge, and the associations between health literacy and depression symptoms, walking ability, perceived stroke recovery, and perceived participation”

Methods

- Cross-sectional study
  - Cohort
    - diagnosis of stroke discharged from acute stroke unit or geriatric unit from 2 different hospitals in Stockholm between April 2016 and Feb 2019 and referred to in-home rehabilitation services* (full cohort n = 190 at baseline and n = 146 at 12 month) and completed European Health Literacy Survey Questionnaire (n=108)
  - Data Collection – European Health Literacy Survey Questionnaire plus the 12- month after hospital discharge data collected at home with performance-based tests and questionnaires related to the cohort prospective observational study.

Data Collection

- European Health Literacy Survey Questionnaire*
- Sociodemographic data (age, sex, educational level)
- The Modified Rankin Score
- Hospital Anxiety and Depression Scale
- Walking ability with 10 m walk
- Perceived recovery (VAS scale Of the SIS)
- Perceived participation (SIS domain participation)

Statistical analysis

- Quantile Regression
- Logistic Regression
  - Variables dichotomized
    - Depression (Depression symptoms $\geq$ 4)
    - Walking (with aids, without aids, unable)
    - Perceived Recovery and Participation (SIS : 0 – 84 low participation and recovery, $\geq$ 85 high participation and high recovery)

Four Models

A. Adjusted for age and sex
B. Adjusted for age, sex and education
C. Adjusted for age, sex, education and depression.

Results

Table 1. Characteristics of the included participants ($n = 108$).

Variable	Number (%)
Women	39 (36)
Age (years, mean, SD)	72 ± 12
Degree of disability*	
mild	64 (60)
moderate	38 (35)
severe	5 (5)
Education level	
elementary	31 (29)
secondary	25 (23)
university/college	52 (48)
Health literacy level	
inadequate	10 (9)
problematic	31 (27)
sufficient	67 (62)
Depression	31 (27)
Walk without aids	88 (85)
High recovery	60 (56)
High participation	59 (55)

*Data missing on degree of disability for one participant

Table 2. Quantile regression models showing the cross-sectional association between continuous variables of clinical outcomes and higher health literacy one year post stroke.

Outcome		Model A	Model B
Depression	Coefficient	−0.24*	−0.24*
	95% CI	−0.43 to−0.057	−0.42 to−0.046
Recovery	Coefficient	1.90*	1.79*
	95% CI	0.31–3.48	0.23–3.36
Participation	Coefficient	2.73**	3.19**
	95% CI	0.84–4.63	1.30–5.09

Model A was adjusted for age and sex; **Model B** was adjusted for age, sex, and education level. Statistical significance was indicated by: *$p < 0.05$; **$p < 0.01$.

- Higher levels of Health literacy significantly associated with:
  - Less depression symptoms
  - Higher levels of perceived recovery
  - Higher levels of perceived participation

Table 3. Logistic regression models showing the cross-sectional association between clinical outcomes and higher health literacy one year post stroke.

Outcome		Model A	Model B	Model C
Depression	Odds ratio	0.81**	0.81**	-
	95% CI	0.70–0.94	0.70–0.94	
Walk without aids	Odds ratio	1.21*	1.21*	1.19
	95% CI	1.01–1.45	1.00–1.45	0.98–1.44
High recovery	Odds ratio	1.28**	1.28**	1.21*
	95% CI	1.09–1.50	1.09–1.50	1.02–1.42
High participation	Odds ratio	1.34**	1.34**	1.25*
	95% CI	1.13–1.59	1.13–1.59	1.05–1.48

Model A was adjusted for age and sex; **Model B** was adjusted for age, sex, and education level; **Model C** was adjusted for age, sex, education level, and depression.
*$p < 0.05$; **$p < 0.01$.

- Higher levels of Health literacy significantly associated with all dichotomous outcomes
  - Less Depression symptoms (HADS $\geq$ 4)
  - Walking without aid (except in model C)
  - Higher levels of perceived recovery (SIS recovery VAS $\geq$ 85)
  - Higher levels of perceived participation (SIS domain participation $\geq$ 85)

Discussion

- Association between better outcomes and level of health literacy
- Postulate that high health literacy my increase an individual’s ability to engage in self-management activities (needs further study)
- Health literacy is important to consider when designing interventions post-stroke
- Consider how health care professionals' provision of information, effective communication and structured education interventions can help improve health literacy
- Limitations from study design (can’t assume causal relationship), exclusion of significant aphasia/cog impairment, high levels of health literacy in study cohort


Thank you