



A leisure rehabilitation program may encourage stroke patients to participate in leisure activities

CITATION: Drummond, A. E. R., & Walker, M. F. (1995). A randomized controlled trial of leisure rehabilitation after stroke. *Clinical Rehabilitation, 9*, 283–290.

LEVEL OF EVIDENCE: IA1b

Randomized control trial, n=20 per condition, high internal validity (no alternate explanation for outcome), moderate external validity (between high and low)

RESEARCH OBJECTIVE/QUESTION

To evaluate the effectiveness of a leisure rehabilitation program with clients who have had a stroke.

DESIGN

X	RCT		Single Case		Case Control
	Cohort		Before-After		Cross Sectional

SAMPLING PROCEDURE

X	Random		Consecutive
	Controlled		Convenience

SAMPLE

N=65; G1) 21 G2) 21 G3) 23	M age=G1) 58.95 G2) 70.10 G3) 68.65	Male=37; G1)14 G2) 10 G3) 13	Ethnicity= NR	Female=28; G1) 7 G2) 11 G3) 10
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Group 1 = G1); Group 2 = G2); Group 3 = G3)

PARTICIPANT CHARACTERISTICS

- Group members similar in marital status, side of hemiplegia, time before stroke and initial assessment
- There was no difference between groups in gender and between the number of visits made to the leisure group and the conventional occupational therapy treatment group.
- Significant difference in age was found between G1 and G2, and between G1 and G3, but

not between G2 and G3

MEDICAL DIAGNOSIS/CLINICAL DISORDER

Stroke

OT TREATMENT DIAGNOSIS

NR = Not Reported

OUTCOMES

<u>AREA</u>	<u>OT TERMINOLOG Y</u>	<u>ICIDH-2</u>	<u>MEASURE</u>	<u>FREQUENCY</u>	<u>RELIABILIT Y/VALIDITY</u>
Participation in leisure activities (number of leisure activities and amount of time spent on leisure activities)	Performance Area	Activity Limitations Participation	The Nottingham Leisure Questionnaire	Administered three times (Admission to stroke unit, three and six months after discharge)	No information provided
Motor performance	Performance component	Activity Limitations	Rivermead Motor Function Scale	Twice—at admission and at discharge from stroke unit	No information provided
Functional performance (i.e., self-care)	Performance area	Activity Limitations	Self-care section of the Rivermead Activities of Daily Living Scale	Twice—at admission and at discharge from stroke unit	No information provided

INTERVENTION

Description

Group 1— Leisure Rehabilitation

(i.e., detailed discussion of hobbies and interests, practice of transfers needed for leisure pursuits, positioning, provision of equipment, adaptations, advice on obtaining financial assistance and transportation, and referral to voluntary agencies)

Group 2— Conventional Occupational Therapy

(i.e., transfers, practice with washing and dressing, and where appropriate, perceptual treatments)

*no description or details provided

Group 3— Control group

Had no additional input over that which was received from hospital and social services
 *no description of these services

OT & ICDH-2 Terminology

Performance area and components
 Participation

Who Delivered

Occupational therapist

Setting

Not Described

Frequency

One time per week for the first 3 months after discharge, and once every 2 weeks for the next 3 months for a total of 6 months; minimum of 30 minutes per session

Duration

6 months

RESULTS

<u>STATISTICAL TESTS</u>	<u>STATISTICAL RESULTS</u>	<u>DESCRIPTIVE INFORMATION</u>	<u>SUMMARY OF KEY RESULTS</u>
Chi square	Marital status Chi square=9.61, d.f.6, p=0.14 Side of hemiplegia Chi square=2.34,d.f.4, p=0.67 Gender Chi square=1.56, p=0.46		No statistically significant differences found between the three groups in marital status and side of hemiplegia; no difference in gender between groups
Kruskal-Wallis	1) Time before stroke and initial assessment H=1.74, p=0.42 2) Age H=10.58, p<0.01 3) Leisure on admission 1. total leisure score (TOTL) 2. H=3.13, p=0.21 3. total leisure activity (TLA) 4. H=4.22, p=0.12 5. Leisure scores at 3		1) No statistically significant difference was found between the three groups during the time before the stroke and initial assessment. 2) Statistically there was a significant difference in age among the groups. 3) No statistically significant differences were found among the groups for leisure on

	months 6. TOTL 7. H=11.88, p<0.01		admission 4) Total leisure scores and total leisure activity scores were both significantly different among the groups at 3 and 6 months
Kruskal-Wallis (continued)	8. TLA 9. H=18.42, p<0.001 10. Leisure scores at 6 months 11. TOTL 12. H=19.95, p<0.001 13. TLA 14. H=27.02, p<0.001 15. Motor performance on admission and discharge 16. H= 1.38, p=0.50); H=2.93, p=0.23 17. Functional performance on admission and discharge 18 .H=1.66, p<0.44; H=3.63, p<0.16		5) No statistically significant differences were found among groups in motor or functional performance at admission or discharge
Kruskal-Wallis (continued)			

<u>STATISTICAL TESTS</u>	<u>STATISTICAL RESULTS</u>	<u>DESCRIPTIVE INFORMATION</u>	<u>SUMMARY OF KEY RESULTS</u>
Mann-Whitney U-test	<p>1) G1 & G2 U=99.5, $p < 0.01$ G1&G3 U=134.5, $p < 0.01$ G2 & G3 U=218, $p = 0.58$</p> <p>2) G1 & G2 Post-test (3 months) TOTL U=100.5, $p < 0.01$ TLA U=75.5, $p < 0.001$ Post-test (6 months) TOTL U=53, $p < 0.001$ TLA U=35.5, $p < 0.001$ G1 & G3 Post-test (3 months) TOTL U=98.5, $p < 0.01$ TLA U=69, $p < 0.001$ Post-test (6 months) TOTL U=63.5, $p < 0.001$ TLA U=34, $p < 0.001$</p>	<p>1) Comparison of ages among the three groups</p> <p>2) Comparison of leisure scores among the three groups</p>	<p>1) Participants in the leisure treatment group were significantly younger than participants in the other groups.</p> <p>2) Leisure scores were significantly higher in the leisure rehabilitation group at 3 and 6 month assessments. There were no significant differences in scores among the conventional OT group and the control group.</p>
ANOVA & ANCOVA	<p>1) TOTL & TLA scores at 3 months</p> <p>2) $F_{2,58} = 4.85$, $p = 0.01$</p> <p>3) $F_{2, 58} = 7.89$, $p = 0.001$</p> <p>4) TOTL & TLA scores at 6 months</p> <p>5) $F_{2,56} = 9.16$, $p < 0.001$</p> <p>6) $F_{2, 56} = 16.68$, $p < 0.001$</p>	<p>Analysis of variance (ANOVA) was conducted on the significant results. For those results that remained significant, the effect of age (the covariate) was studied by removing the effect of age on the results (ANCOVA).</p>	<p>Tests illustrated a significant difference among the three groups but did not detect where the difference was.</p>
Duncan procedure & a posteriori test			<p>Results confirmed that the differences were between G1 & G2 and between G1 & G3, at the 1% level of significance, suggesting that leisure scores remained higher in G1 even when age was removed.</p>

CONCLUSIONS

- There were no significant differences between the groups on baseline assessments, suggesting that leisure and functional performance of the groups was similar before occupational therapy intervention.
- After 3 and 6 months of occupational therapy intervention, participants in the leisure rehabilitation program had higher leisure scores than those in other groups, suggesting that this intervention is an effective way to maintain and increase leisure participation after stroke.

Appears that the occupational therapist providing intervention also administered a posttest at 3 and 6 months.

- Terminology used in this document is based on two systems of classification current at the time the evidence-based literature reviews were completed: *Uniform Terminology for Occupational Therapy Practice—Third Edition* (AOTA, 1994) and *International Classification of Functioning, Disability and Health (ICIDH-2)* (World Health Organization [WHO], 1999). More recently, the *Uniform Terminology* document was replaced by *Occupational Therapy Practice Framework: Domain and Process* (AOTA, 2002), and modifications to *ICIDH-2* were finalized in the *International Classification of Functioning, Disability and Health* (WHO, 2001).

This work is based on the evidence-based literature review completed by Mary Law, PhD, OT(C), Debra Stewart, BSc, MSc, and Brenda McGibbon Lammi, BPHE, BHSc (OT), MSc.

For more information about the Evidence-Based Literature Review Project, contact the Practice Department at the American Occupational Therapy Association, 301-652-6611, x 2040.

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