

Being physically active after spinal cord injury (SCI): Self-reported Exercise Regimens from Community-dwelling Adults

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Purpose

To detail the exercise regimens of community-dwelling adults with SCI and identify associated health characteristics with their exercise-active lifestyle.

Background/Significance

People with mobility impairments are more likely to live a sedentary lifestyle, putting them at greater risk for a variety of adverse health conditions.

Subjects:

Persons with a spinal cord injury.

Methods

Using convenience and snowball sampling, individuals with SCI (N=627) from across the U.S. completed a self-reported mail-in survey. Collected information included:

- Exercise status
- Exercise activities (aerobic, strengthening and flexibility), including their intensity, frequency and duration
- Logistics of exercise regimen (facility versus home exercise)
- Incidence of chronic and secondary conditions
- Health risk behaviors
- Incidence of pressure sores
- Chronic pain
- Functional capacity
- Therapy (Physical, occupational, speech, therapeutic)
- Community integration
- Perceived exercise self-efficacy
- Demographic information

Data Analysis:

SPSS v. 14.0; descriptive statistics, bi-variate analysis

Results

Non-Exercisers	188	30%
Exercise "at home" only	253	40%
Exercise "outside the home" only	64	10%
Exercise both "at home" and "outside the home"	121	20%
Total Sample	626	100%

*We identify an "exerciser" as someone who reported exercise, which we left undefined, "at home", "outside the home" or "at home and outside the home". A "non-exerciser" is someone who reported no physical activity.

Demographics

Bi-variate analysis indicated that "exercisers" and "non-exercisers" did not differ significantly in most demographics. There were significant differences in completeness of injury, age at injury and income.

	Exercisers (N=438)	Non-Exercisers (N=188)
Sex	62.5% male	65.6% male
Age (average)	49	49
Race	87.9% white	91.4% white
Income (≤\$20k)	25%*	34%*
Education	Some college	Some college
Injury level	44.5% C level	52.7% C level
Completeness	64% incomplete*	44% incomplete*
Age at injury (average)	34*	30*
BMI	25.82	26.60

*p<0.5

Self-reported Exercise Regimens

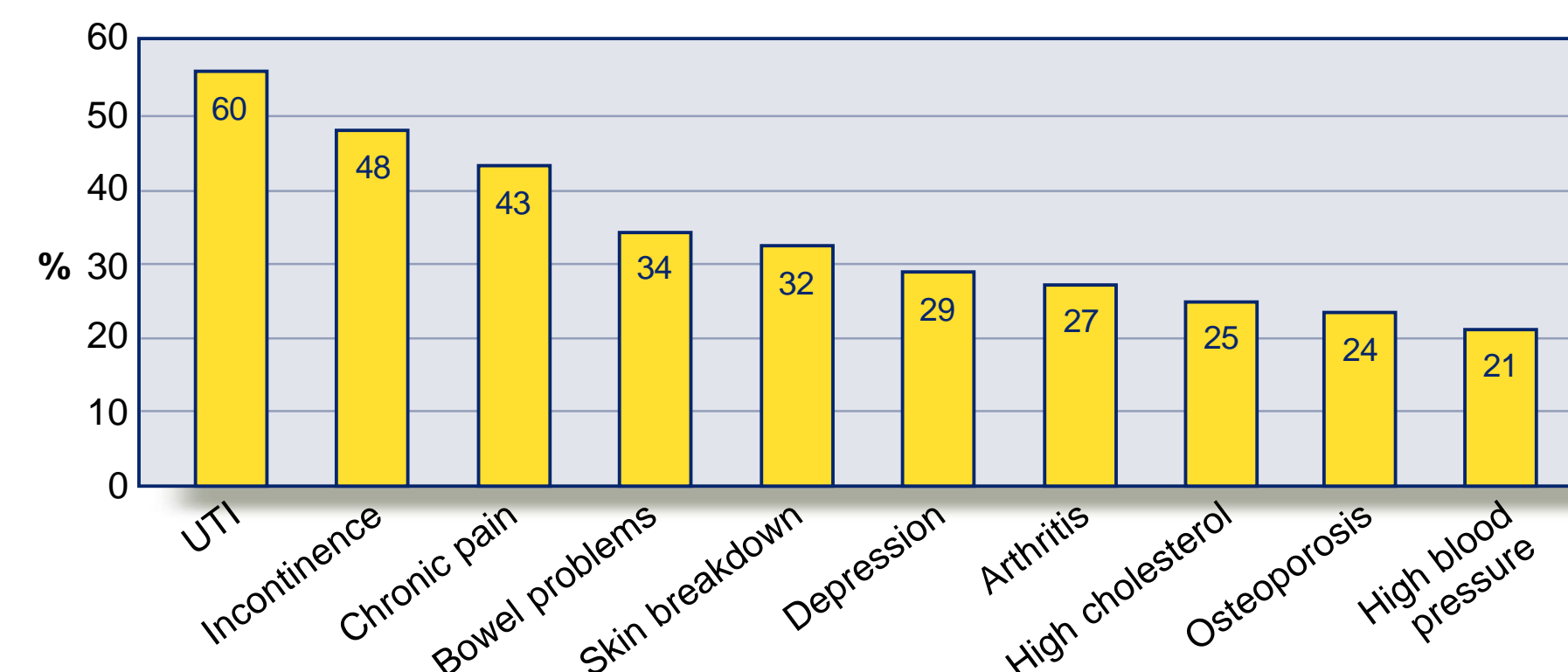
"Exercisers" were asked to report their aerobic, strengthening and flexibility based activities. The following were the most commonly reported.

Aerobic Activities	N	%
Wheelchair pushing	79	14
Arm cycle	67	11
Walking	65	11
Swimming	42	8
Aerobic activity	36	5
Bicycling	24	4
Strengthening Activities	N	%
Weight lifting	242	39
Elastic bands	62	10
Strengthening activities	23	5
Weight machines	27	5
Arm lifts/arm weights	17	3
Push-ups	11	3
Flexibility Activities	N	%
Stretching	299	48
Range-of-motion	80	13
Leg/foot stretches	31	6
Yoga	14	3
Standing frame	13	3
Flexibility activity	11	3

4 times per week → median frequency of above activities reported by "exercisers"
45 minutes → median length of exercise routine reported by "exercisers"

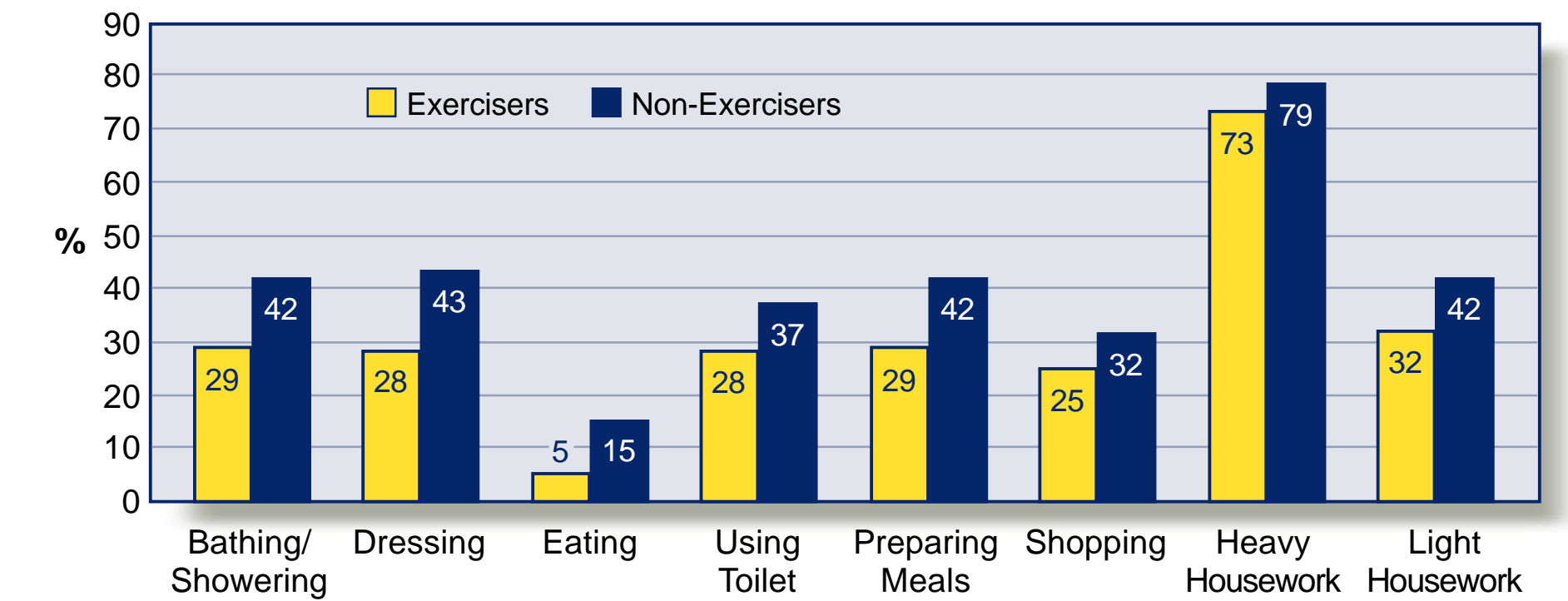
Chronic and Secondary Conditions

The following conditions were the most frequently reported by self-identified "exercisers":



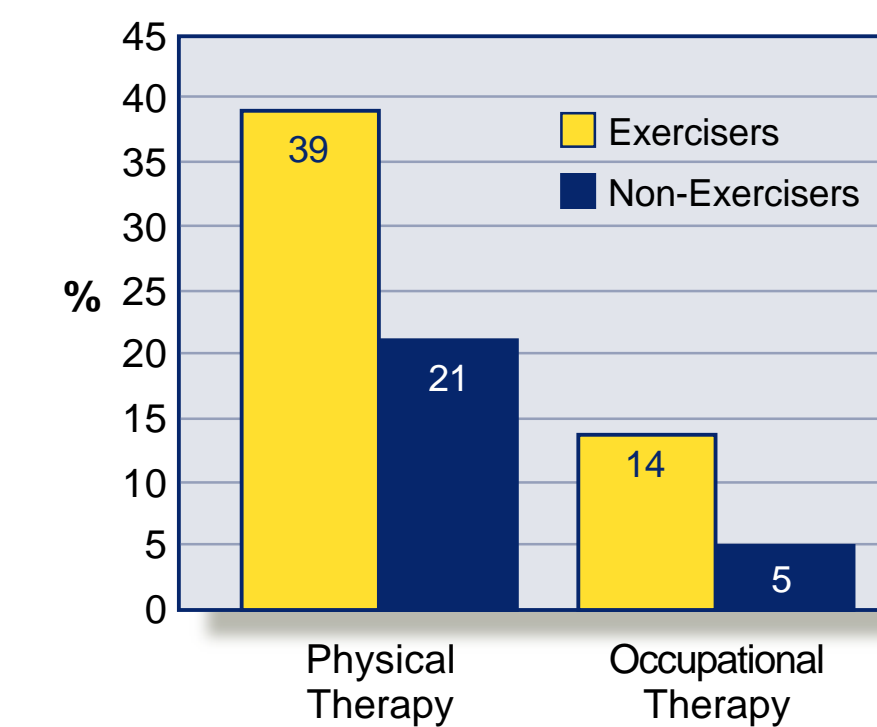
Functional Capacity

Participants were asked to rate the level of help needed for a variety of daily activities. The 5-point scale ranged from needing help "none of the time" to "all of the time". The differences between the average rates reported by "exercisers" versus "non-exercisers" were all statistically significant (p = .05) with "exercisers" reporting greater levels of functional capacity. The following graph outlines the percent of participants who required help "most of the time" or "all of the time":



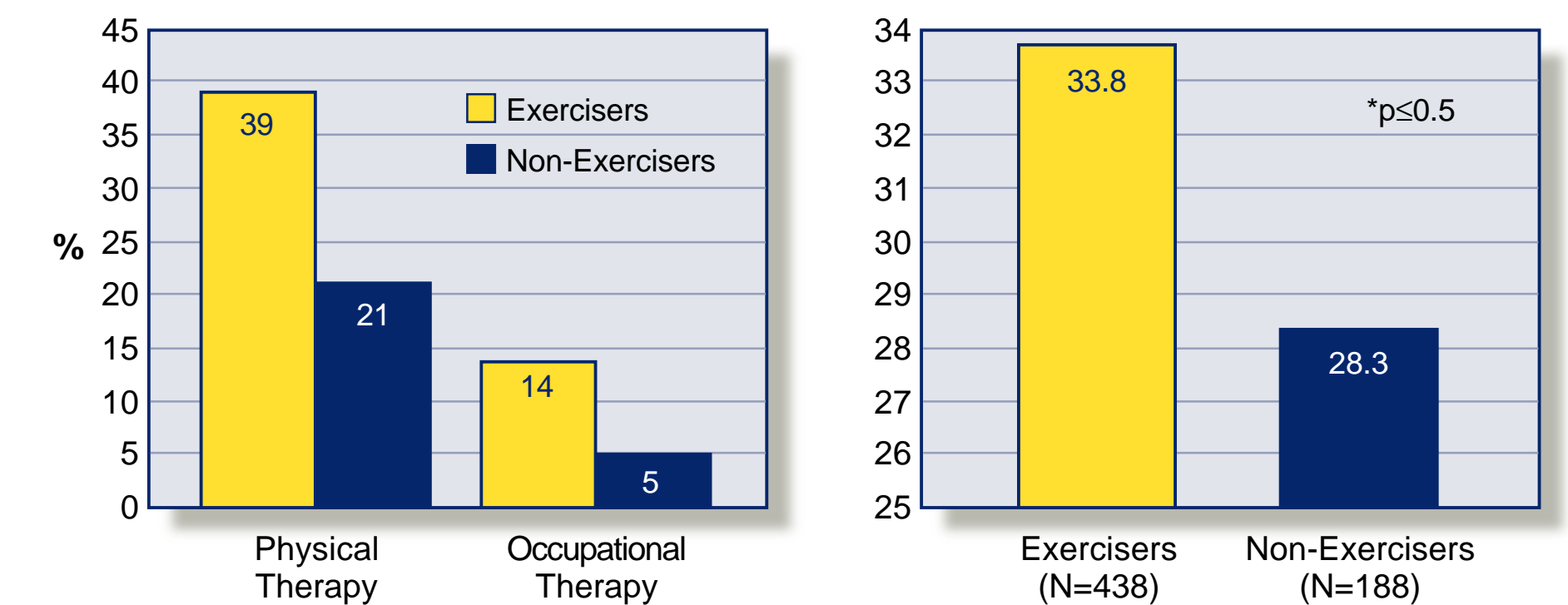
Therapy Use

"Exercisers" utilized both physical and occupational therapy at higher rates than "non-exercisers":



Exercise Self-Efficacy

Perceived exercise self-efficacy was higher among "exercisers".



Conclusions

- Contrary to public opinion, the majority of people with SCI in our sample view themselves as exercise active.
- Completeness of injury, age of injury and income proved to be significant predictors of exercise status.
- Perceived self-efficacy (the confidence to be exercise active with an SCI) is significantly higher among exercise active people with SCI and is likely an important moderator of exercise engagement.
- Incidence of certain secondary conditions is significantly lower among adults with SCI who exercise when compared to those who do not.
- Self identified exercisers show higher therapy utilization rates and great functional capability.

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Please contact matthew.e.kehr@medstar.net with questions or comments