

Physical Activity and Health Conditions in Veterans with Spinal Cord Injuries

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Background

- People with spinal cord injuries (SCI) are at increased risk for secondary conditions (e.g., osteoporosis, cardiovascular and respiratory disease), as well as, medical complications (e.g., pressure sores and urinary tract infections).
- It is suggested that those with an active lifestyle experience a lower incidence of such conditions. However, people with SCI are frequently characterized as being less physically active than their non-disabled counterparts.
- This study sought to examine physical activity participation in relation to self-reported secondary conditions among veterans with SCI.

Methods

- Convenience sampling was used to recruit participants (both veterans and non-veterans) with SCI nationally for a mail survey on exercise and secondary conditions.
- Veteran participants were targeted via distribution of recruitment flyers to persons with SCI that were included on a VA national SCI database. Veteran status was ascertained by an affirmative response to a survey question inquiring whether they have "ever served on active duty in the United States Armed Forces, either in the regular military or in the National Guard or Reserve Unit."
- The self-report mail survey collected a wide range of information, including exercise status, exercise activities, prevalence of chronic conditions and incidence of secondary conditions, health risk behaviors, functional capacity, community integration, perceived exercise self-efficacy, therapy utilization, and socio-demographic information.
- Data analysis: SPSS v. 16.0; descriptive statistics, bi-variate analysis

Results

- Veterans with SCI (n=157)

Participant Characteristics by Exercise Status

	Exercise-active Veterans (n=108)	Non-exercise-active Veterans (n=49)
Male	91%	96%
Age (mean) years	59	60
White (vs. non-white)	89%	96%
Completed some graduate school	25% *	9% *
Married	71%	65%
Income (= \$20k)	20%	20%
Age at injury (years)	42**	35**
Tetraplegic level of injury	43%	43%
Incomplete injury	58%	52%
Body mass index (mean)	27	27
Which of the following best describes your service in the US military? (N=157)		
Retired from military	15%	
Medically discharged from service	26%	
Discharged from service	59%	
In the past 12-months, from who have you received your health care? (N=157)		
VA only	36%	
Non-VA only	19%	
VA and non-VA	44%	
Have not received any health care	1%	
73% of participants have seen a VA doctor or been to VA hospital in the past year		
41% of participants have seen a non-VA doctor or non-VA hospital in the past year		

*p<0.05 **p<0.01

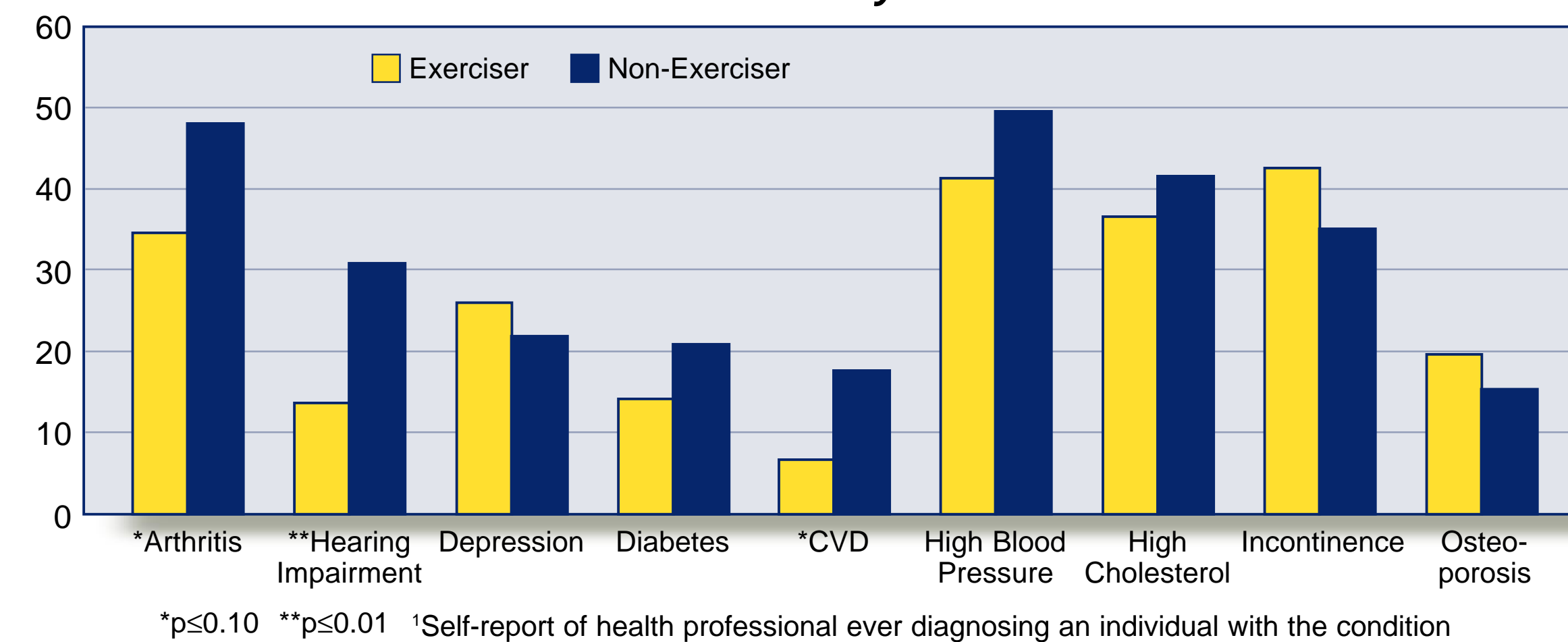
Exercise status (N= 108)

- 69% of all veterans reported regular physical activity
 - 65% exercise at home only
 - 31% exercise at home and at a gym
 - 4% exercise at a gym only
- Most frequently reported exercise activities of active veterans:
 - Aerobic activities:
 - Walking (19%)
 - Wheelchair pushing (15%)
 - Arm cycle (13%)
 - Exercise bike (10%)
 - Strengthening activities:
 - Weight lifting (55%)
 - Elastic bands (9%)
 - Weight machines (7%)
 - Flexibility activities:
 - Stretching (60%)
 - Range of motion (7%)
 - Leg/foot stretches (7%)

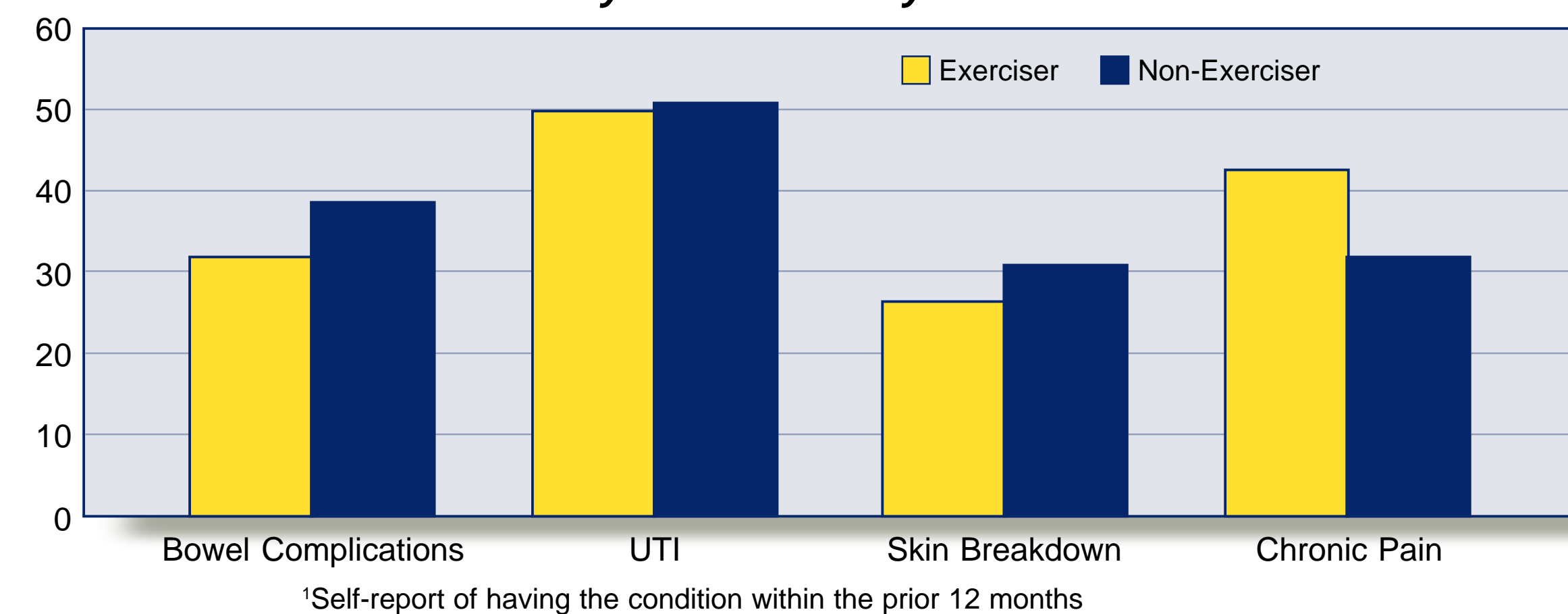
Top Reasons for Inactivity Reported by Non-exercise-active Veterans with SCI (N=49)

- Costs of gym membership and/or equipment (61%)
- Lack of motivation or interest (57%)
- Lack of accessible facilities (42%)
- Unable to because of SCI or poor health (33%)
- Pain (10%)

Chronic Conditions¹ by Exercise Status

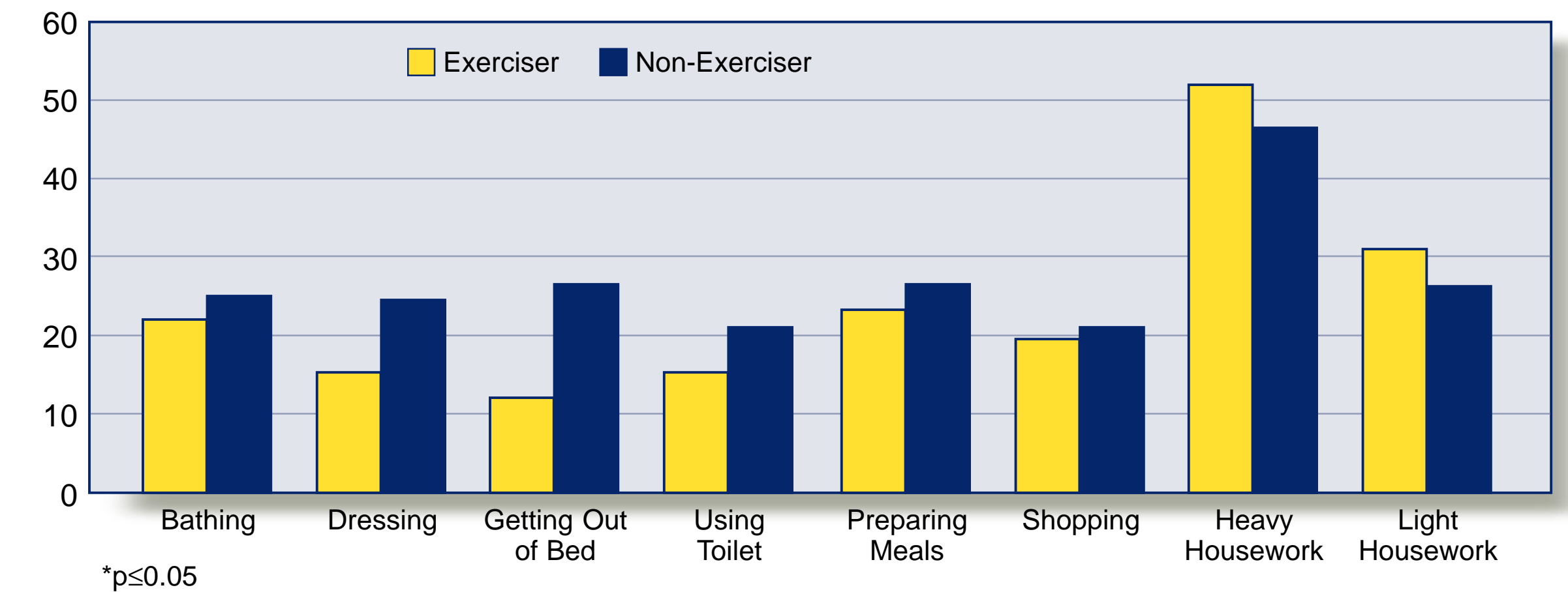


Secondary Conditions¹ by Exercise Status



Functional Capacity

Participants were asked to rate the level of help needed for certain daily activities. The 5-point scale ranged from "none of the time" to "all of the time". The following graph outlines the percent of participants, separated by exercise status, that required help "most of the time" or "all of the time".

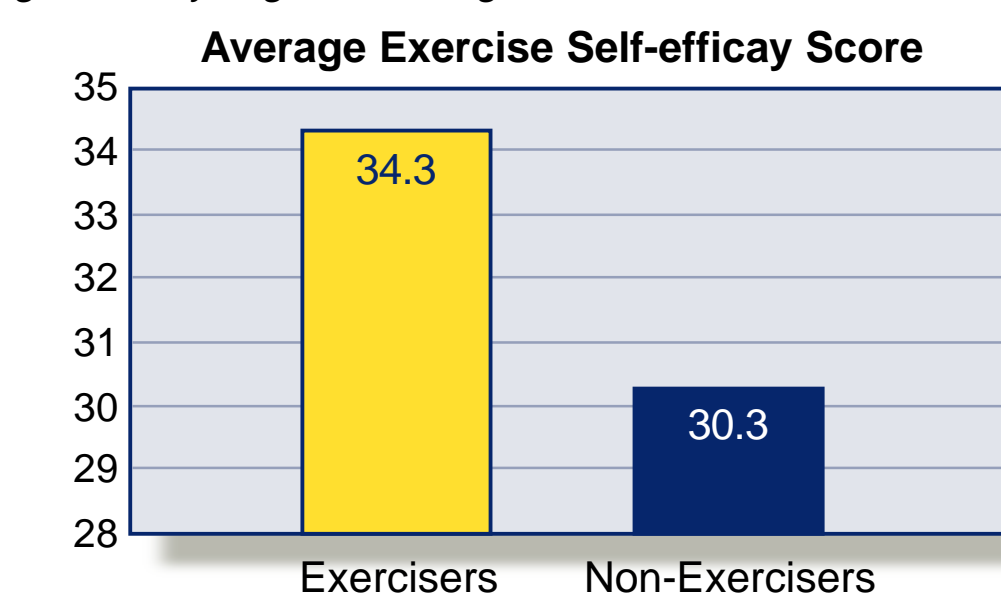
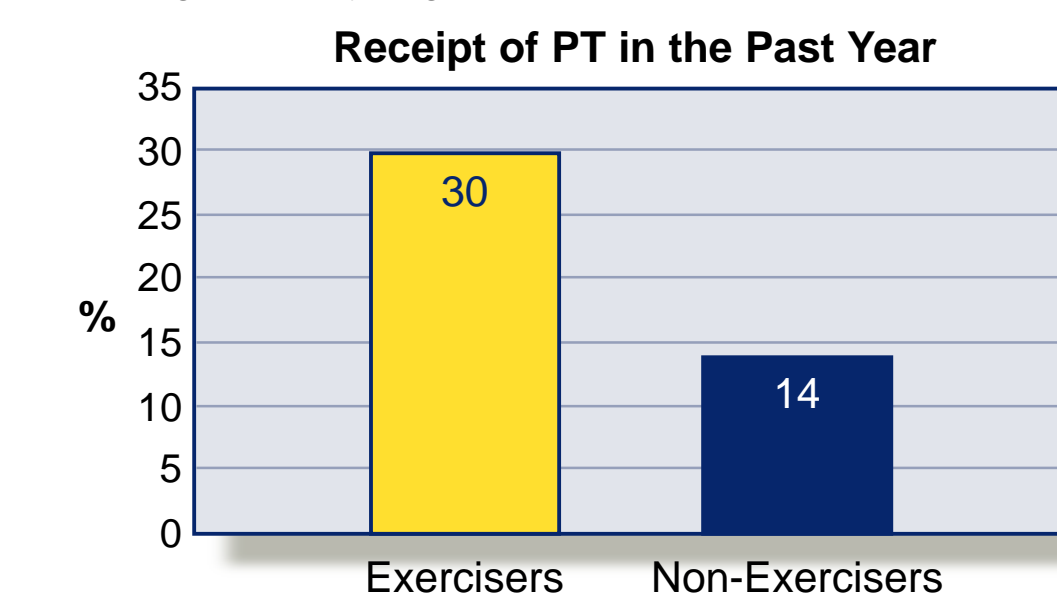


Exercise Self-Efficacy

Participants completed the Exercise Self-Efficacy Scale¹, which measures confidence to be exercise-active with a SCI. Findings showed that exercise self-efficacy was significantly higher among exercise-active veterans.

Therapy Use

"Exercisers" utilized physical therapy services at a significantly higher rate than "Non-exercisers".



¹Kroll, T., Kehn, M., Ho, P., Groah, S. (2007). The SCI Exercise Self-Efficacy Scale (ESES): development and psychometric properties. *International Journal of Behavioral Nutrition and Physical Activity*, 4(34).

Conclusions

- Contrary to public opinion, a large proportion of veterans with SCI consider themselves exercise-active.
- Social/Environmental barriers to an exercise lifestyle continue to be reported, including financial, equipment and facility accessibility. Lack of motivation was also a top reason, suggesting that efforts to increase motivation and interest in this population are warranted.
- Although exercisers generally reported fewer chronic and secondary conditions, and greater levels of functional capacity, the differences with non-exercisers were not always significant. The lack of stark health disparities may be due to a high average age (60) of the veteran subgroup, the uneven group size between exercisers and non-exercisers or self-reported exercise behavior may be prone to a high social desirability bias. Also because this survey is cross-sectional individuals may not exercise because they have these conditions.
- Self identified exercisers reported high utilization rates of physical therapy emphasizing the critical role rehabilitation may play in ensuring exercise-active status of people with SCI.
- Individuals with SCI who are exercise-active report significantly higher levels of exercise self-efficacy. Efforts to increase self-efficacy in people with SCI could result in increased levels of physical activity.

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