



Chronic Low Back Pain Related to Physical Activity



EXERCISE SCIENCE
SACRED HEART UNIVERSITY

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Introduction

Low Back Pain (LBP) has been increasingly prevalent in recent years. It is currently the second leading cause of disability in America, with an estimated 80% of the population experiencing it at some point in life.¹ Because of this, the impact it has on Physical Activity should be investigated.

Purpose

Our purpose is to examine previously collected Data to find correlations between reported low back pain levels and measures of physical activity, such as walking and climbing stairs

Design

Data collected in a 2018 study was examined to analyze correlations between reports of chronic low back pain and physical activity. A Pearson’s r-correlation test was run to determine relationships between the prevalence of low back pain, walking ability, and ability to climb stairs.

Importance

Findings of this could help to determine physical activities which could be made difficult due to chronic low back pain

METHODS

- Responses to the Roland-Morris Disability Questionnaire of 60 participants were organized.
- Pearson’s r-correlation test was conducted.
- Fields included in the analysis:
 - Average reported pain in the last 7 days
 - ability to climb stairs in the last 7 days
 - Ability to walk for at least 15 minutes in the last 7 days
- Statistical tests were conducted through Microsoft Excel and SPSS software.

RESULTS

From the 60 responses analyzed, the average intensity of pain was found to be positively but weakly correlated with walking (R=0.26) and climbing stairs (R=0.17). Both tests were found to be statistically insignificant. Walking ability impacted by LBP was found to be of stronger positive correlation with the ability to climb stairs (R=0.55). This test was statistically significant (p=0.00001).

Walking 1-5 vs. Stair Ability 1-5 r-Correlation		
	Stairs	Walk
Stairs	1.000	0.549
Walk	0.549	1.000

Table 1 – Pearson’s R value for walking vs. Stairs

Walking 1-5 vs. LBP 1-10 r-Correlation		
	Pain	Walk
Pain	1.000	0.216
Walk	0.216	1.000

Table 2 – Pearson’s R value for walking vs. LBP

Stair ability 1-5 vs. LBP 1-10 r-Correlation		
	Pain	Stairs
Pain	1.000	0.174
Stairs	0.174	1.000

Table 3 – Pearson’s R value for Stairs vs. LBP

Conclusion

This data analysis revealed weak correlations between LBP intensity and walking or climbing stairs, but a stronger relationship between walking ability and ability to climb stairs. Results from this analysis suggest having an issue with one form of physical activity could indicate issues with another. Walsh et. al found similarly that diverse physical activities can be affected in LBP patients.² Given the indicated association between the two modes of physical activity, health care professionals should take caution in the mode of exercise being prescribed to such patients.

REFERENCES

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