

Effectiveness of Spa Treatment of Lumbar Degenerative Disc Disease

Monika Sobolak¹
Przemysław Minta²
Małgorzata Fortuna¹

¹PhD, The Karkonosze University of Applied Sciences in Jelenia Gora, Poland

²Sc.D., Academy of Physiotherapy in Wrocław, Poland

Abstract

Introduction

In patients with low back pain (LBP) defense against the pain and the associated stress provoke significantly destructive emotional factor, which determines an increased resting tension of anti-gravity muscles, which in turn leads to their weakness, limitations of strength and excessive fatigue with all its consequences. The aim of the work was to determine the effectiveness of spa treatment in LBP by using the indirect, apparatus method for assessment of muscle strength of knee extensors and with using direct method which is the Visual Analogue Scale (VAS).

Materials and Methods

The study involved 22 men and 19 women (age 45-55 years) directed to 24-day spa treatment because of chronic LBP. On the first and last day of therapy Kistler force sensor was used (to measure the maximum isometric strength of knee extensor) and scale VAS for evaluate the pain which is related with LBP. In addition, on the last day of the stay, patients were asked to determine the effectiveness of the therapy.

Results

The analysis of the results has not shown the statistically significant influence of spa therapy on the pain and average strength of knee extensors in both men and women. In the entire study group, along with the increase in pain, the strength of the knee extensors diminished. Women, at the beginning of the stay, were characterized by average relationships between knee extensors and pain. At the end of the stay in women in the left limb, the strength of correlation decreased to poor, while in the right limb it increased to high at a statistically significant level. Almost half of the patients (48.8%) reported no improvement in health at the end of the spa treatment.

Conclusion

Comprehensive spa treatment does not affect the maximum isometric strength of the knee extensors. The spa treatment did not show any effect on the severity of pain in assessment by using the VAS.

Article Information

Conference Proceedings: Global Congress on Physiotherapy, Physical Rehabilitation and Sports Medicine (Paris)

Conference date: 18-19 November, 2019

[Inovineconferences.com](http://inovineconferences.com)

***Corresponding author:** Monika Sobolak, PhD, The Karkonosze University of Applied Sciences in Jelenia Gora, Poland; Email: [monika.sobolak\(at\)kpswjg.pl](mailto:monika.sobolak(at)kpswjg.pl)

Citation: Sobolak M, Minta P, Fortuna M (2019) Effectiveness of Spa Treatment of Lumbar Degenerative Disc Disease. J Health Sci Dev.

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Figure: 1. Measurement of the maximum isometric muscle strength of knee extensors; 2. The measuring device and assembly structure; 3. Kistler force sensor (model 9311B)