

IS AQUA THERAPY MORE EFFECTIVE THAN LAND PHYSIOTHERAPY IN CONSERVATIVE TREATMENT OF LUMBAR DISC HERNIATION?

V. Dudoniene¹, R. Sakaliene^{1,2}, V. Juodzbaliene¹,
L. Varniene³, L. Petkeviciute¹

¹ Lithuanian Sports University,

² Lithuanian University of Health Sciences,

³ Children's Hospital, Affiliate to Vilnius University Hospital, Lithuania

Introduction

- Physical therapy often plays a major role in conservative treatment of herniated lumbar disc.
- The scientific literature says that both methods, aqua and traditional land therapies, statistically significant relieve pain, and improve quality of life
(Dundar et al., 2009; Bressel et al., 2011).
- It is still unclear which of these methods is more effective.

The Aim

To determine which physiotherapy technique, land or aqua, is more effective in conservative treatment of lumbar disc herniation.

Study design - Clinical trial.

Subjects

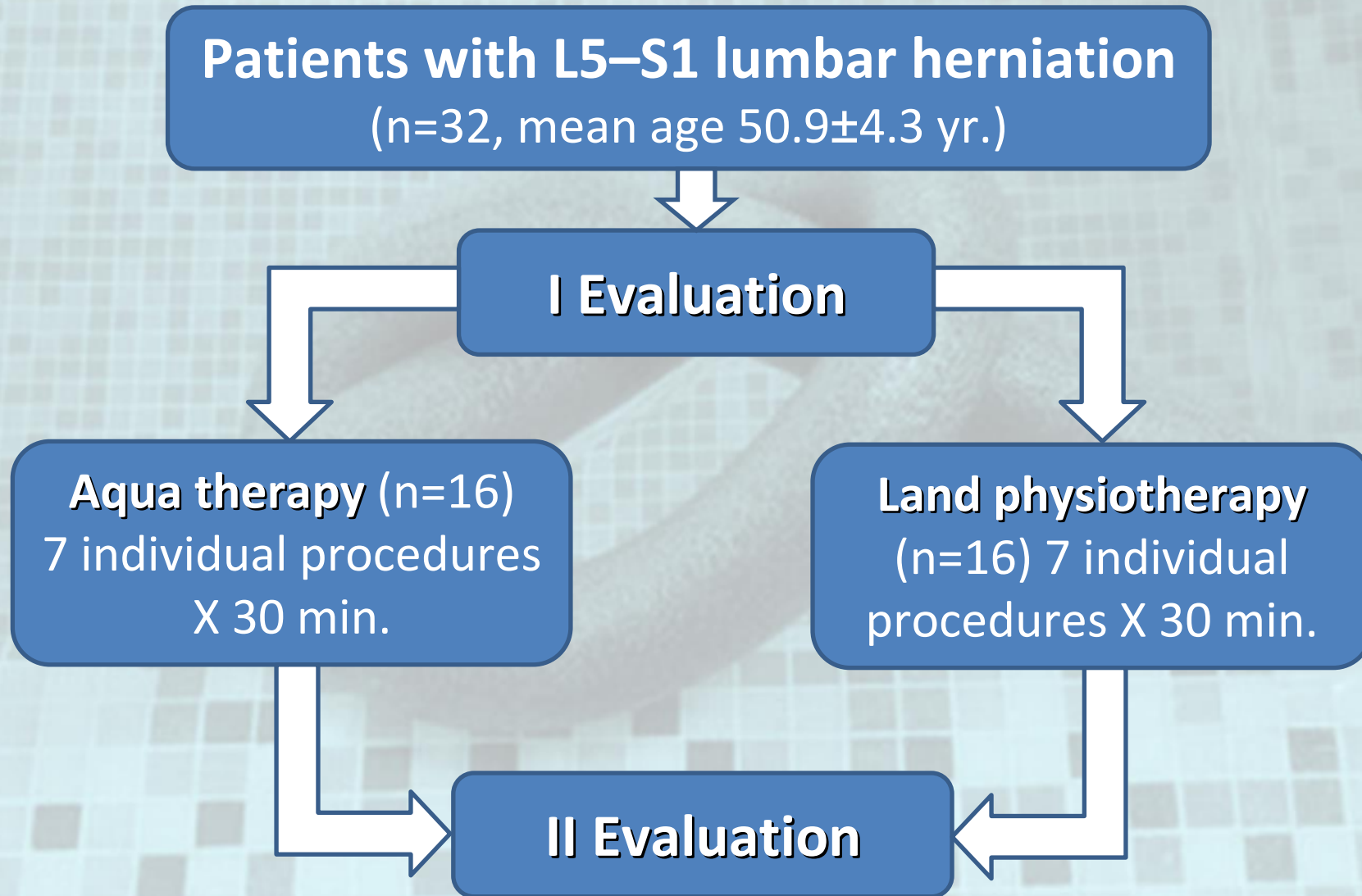
Inpatients: 16 males +16 females

TWO groups: **Aqua & Land** (groups matched for age, gender, weight, height)

Inclusion criteria:

- Herniation in lumbar spine L5-S1 (MRI).
- Age: 45-59 yrs.
- No neurological signs and symptoms.

Organization of the study



Research Methods

- Straight leg raise angle – **goniometry**
- Back pain intensity – **VAS**
- Test for **static endurance** of abdominal muscles (*Magee, 2008*)
- Tests for **static endurance** of back muscles (*Magee, 2008*)
- **Oswestry disability index** (*Fritz & Irrgan, 2001*)

Intervention

AQUA THERAPY



20 min.
relaxation
strengthening
stretching



10 min.
suspension /
vertical
traction

LAND PHYSIOTHERAPY

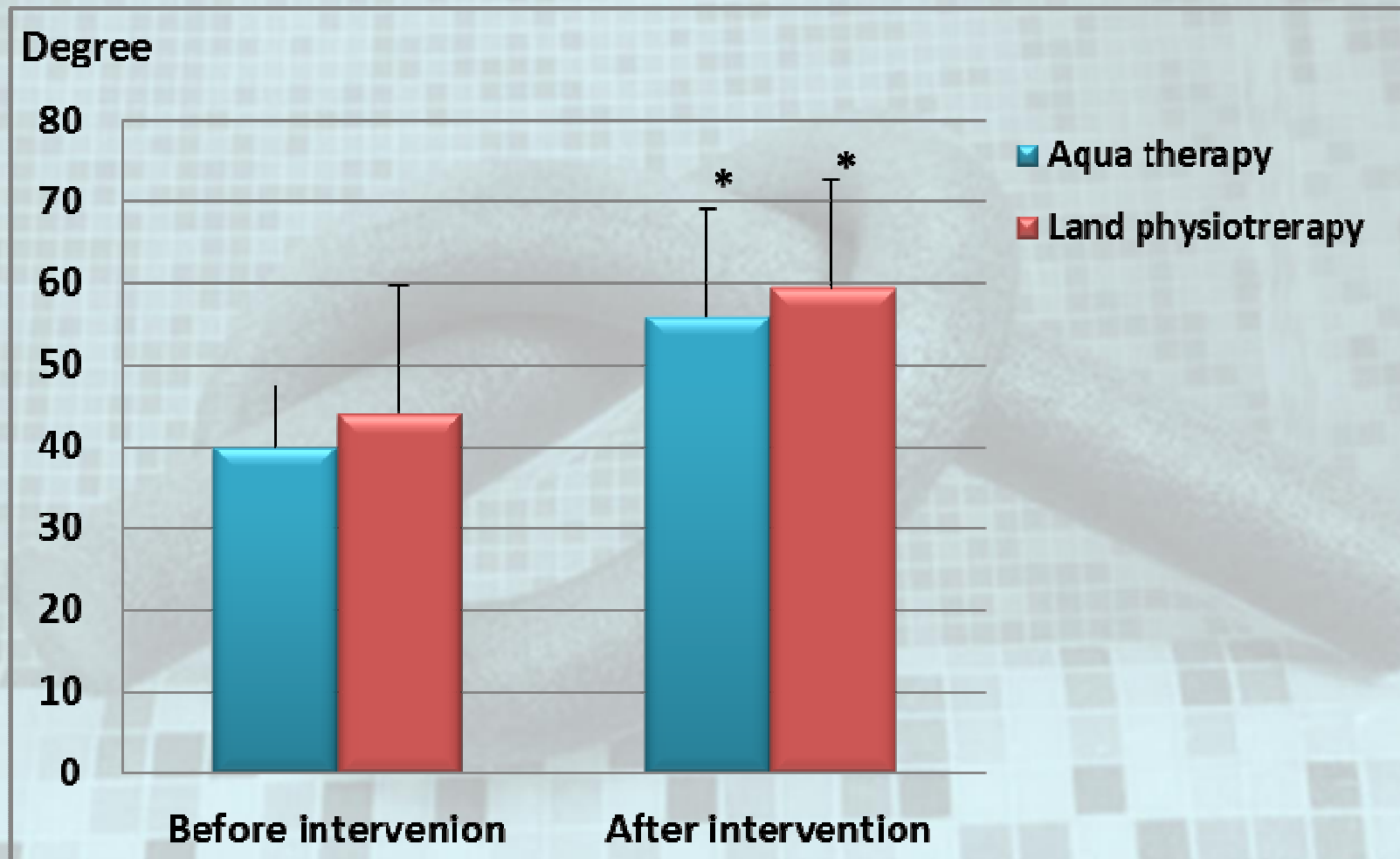
Core
stabilization



Stretching

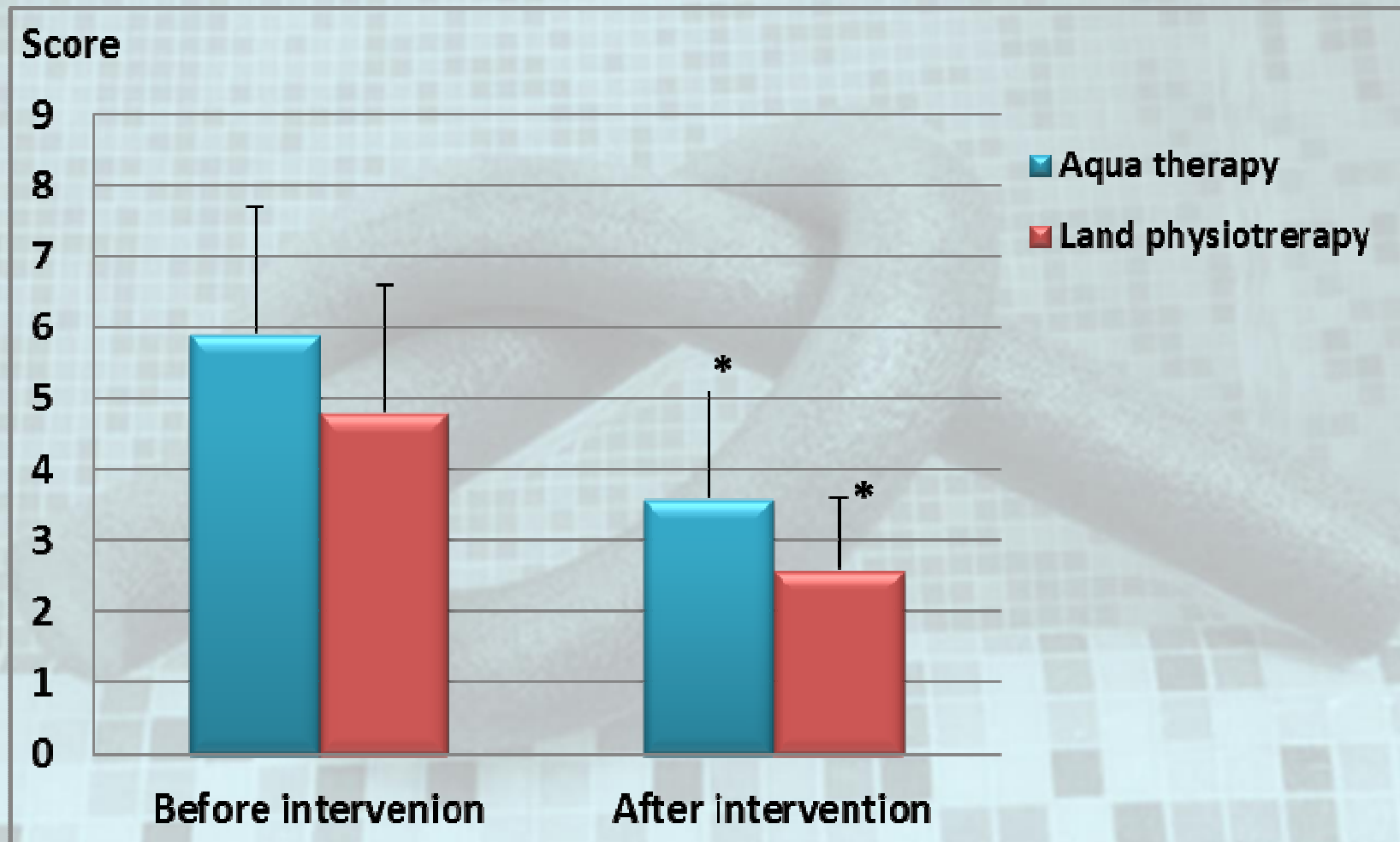


Results: Straight leg raise angle



*— $p < 0.05$ comparing results within groups before and after intervention

Results: Back pain intensity



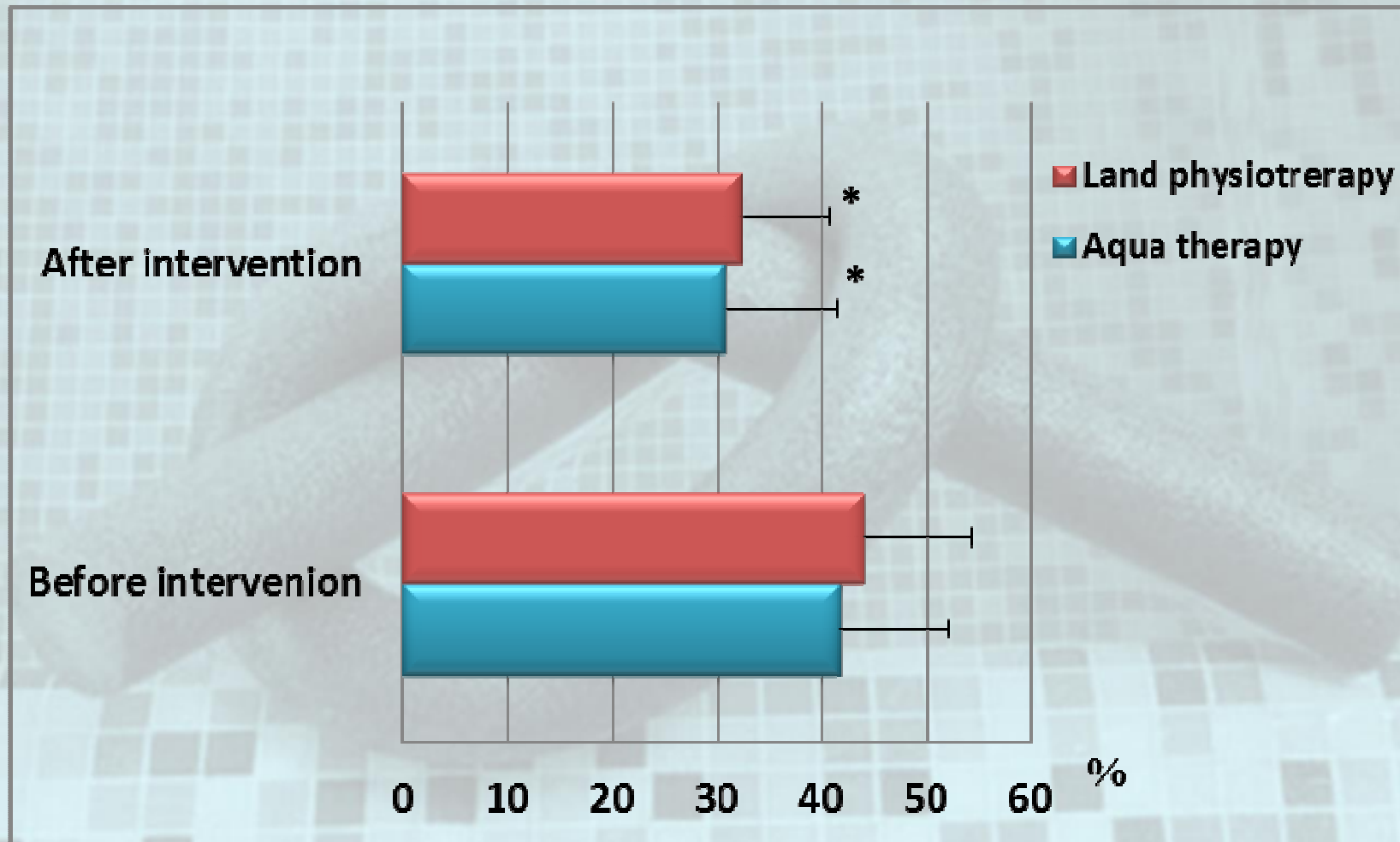
*— $p < 0.05$ comparing results within groups before and after intervention

Results: Static endurance of abdominal and back muscles

Score	Before intervention		After intervention	
	Aqua TH	Land PT	Aqua TH	Land PT
AM static endurance	2.7±0.7	2.8±0.8	3.4±0.62*	3.4±0.6*
BM static endurance	2.6±0.8	2.6±0.9	3.6±0.7*	3.3±0.8*

*AM – abdominal muscles; BM – back muscles; TH – therapy; PT – physiotherapy;
– $p < 0.05$ comparing results within groups before and after intervention.

Results: Oswestry disability index



*– $p < 0.05$ comparing results within groups before and after intervention

Conclusion

Aqua therapy **was not more effective** than land physiotherapy in conservative **treatment** of lumbar disc herniation.