

ABSTRACT

A Comparison in Outcomes of Lumbar Stabilization and Medical Exercise Therapy for Patients Diagnosed with Herniated Lumbar Intervertebral Disc

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Purpose

The purpose of the study was to determine the extent to which statistically significant differences in selected outcomes existed between subjects with herniated lumbar intervertebral discs who participated in a graded exercise program (Medical Exercise Therapy) and subjects with the same diagnosis who participated in a program of Lumbar Stabilization Exercises.

The selected outcomes chosen for this study included pain, sleep, recreation, ability to put arms overhead, sit, lift weights, work, lift from the floor, squat, walk, stand, bend and unilaterally stand.

Methodology

The research design consisted of a retrospective analysis of both male and female patients' files who had completed both the intake and discharge forms, who had an MRI result, who had a diagnosis of either herniated lumbar disc (ICD.9 – 722.1) or herniated lumbar disc with radiculopathy (ICD.9 – 722.73) and had no record of gout, epilepsy/seizures, stroke, chest pain/heart attack, arthritis, or diabetes, did not wear a pacemaker and were not currently pregnant.

Data pertaining to the variable of pain were collected at intake and discharge using the Visual Analog Scale, while data on all the other variables were collected at these same intervals using a five-point Likert scale.

Data were analyzed by computing the mean change scores for the subjects in each therapy group (Medical Exercise Therapy and Lumbar Stabilization Exercise) on each of the selected variables, then comparing them statistically using a two-tailed independent samples t-test.

Results

Mean change scores were greater for Medical Exercise Therapy group on the following variables: Pain (27.2 vs. 20.6); Sleep (17.7 vs. 15.9); Recreation (34.7 vs. 22.9); Arms Over Head (7.1 vs. 4.9); Sitting (25.0 vs. 20.3); Lifting (28.3 vs. 22.5); Squatting (31.2 vs. 23.3); and Bending (29.6 vs. 22.6).

Mean change scores were greater for Lumbar Stabilization Exercise subjects on the following variables: Working (21.9 vs. 20.0); Lifting from Floor (25.3 vs. 25.0); Walking (20.2 vs. 15.5); Standing (20.0 vs. 17.1); and Unilateral Stance (19.4 vs. 16.7).

Although differences in mean change scores were observed for every variable, none of these differences exceeded the 0.05 level of confidence, thus, none of the null hypotheses could be rejected.

Conclusions

While both approaches to therapy produced observable improvements on each of the selected variables studied, and while each therapy approach appeared to be more effective than the other on some of the variables, nevertheless, statistical analysis of the difference data did not yield statistically significant results. Such findings may be the result of the retrospective research design and/or the relatively small sample of subjects who participated in the MET program (30, vs. 261 for the Lumbar Stabilization Exercise group). In response to these conclusions, the researcher set forth several suggestions for further research, including conducting prospective studies which feature control groups and randomized clinical trials.