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Tel: 305-751-8626

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THE EFFECTS OF THE AQUA-PT ON MYOFASCIAL PAIN

Elsayed Abdel-Moty, PhD
Tarek Khalil, PhD
Hubert L. Rosomoff, MD, D Med Sci
Renee Steele-Rosomoff, RN, MBA
University of Miami
Comprehensive Pain and Rehabilitation Center
600 Alton Road, Miami Beach, Florida 33139

INTRODUCTION

Recently, several "non-traditional" , "complementary" approaches have been introduced into the field of pain management. The efficacy of some of these methods is being tested and preliminary reports are being published. One such system is the Aqua-PT.

The Aqua-PT is a bed-like machine that is blanketed by a waterproof barrier and an acrylic top canopy that closes over the patient (Figure 1). The canopy contains 36 travelling water jets capable of producing 2-11 lbs of force at 2-10 cycles per second. The Aqua PT incorporates three modalities / physical agents:

1) Mechanical massage therapy (massage effect of the water jet streams as they pulsate over the body of the patient).

2) Hydrotherapy (water jet streams pulsating on the patient).

3) Dry heat therapy (the temperature of the air circulating throughout the machine due to the water temperature ranging from 90-104 °F).

Water temperature, pressure, travel speed, and pulsation rate vary and are controllable. During treatment, the patient can control some treatment parameters via a hand-held panel.

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OBJECTIVE

This pilot study examined the clinical value of using the Aqua PT in a sample of patients with chronic pain as a dry mechanical massager for soft tissue preparation prior to aggressive stretching.

METHODS

A sample of 123 chronic pain patients with primary diagnosis of myofascial syndromes participated in this study. These were patients admitted for evaluation and treatment at the University of Miami Comprehensive Pain and Rehabilitation Center at South Shore Hospital and Medical Center, Miami Beach, Florida.

Following adequate medical screening and established preparation procedures, the patient was placed prone in the Aqua PT and the canopy was closed. Each treatment session lasted 15 minutes.

Pain level was documented prior to and following treatment using the I-10 visual-analog scale (VAS).

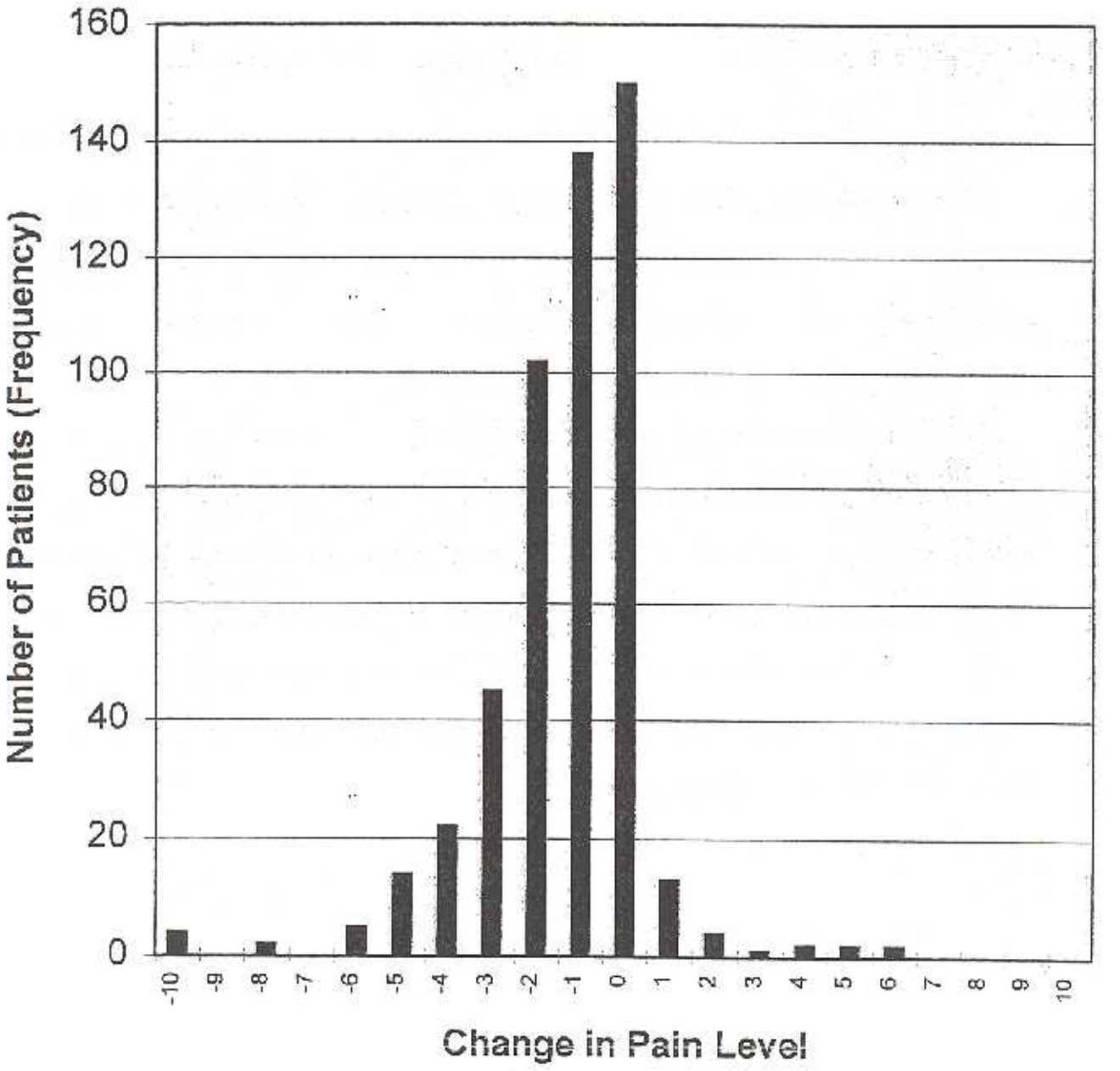
Overall, patients received a total of 740 sessions. Fourteen different areas of the body were treated separately and in combinations.

RESULTS

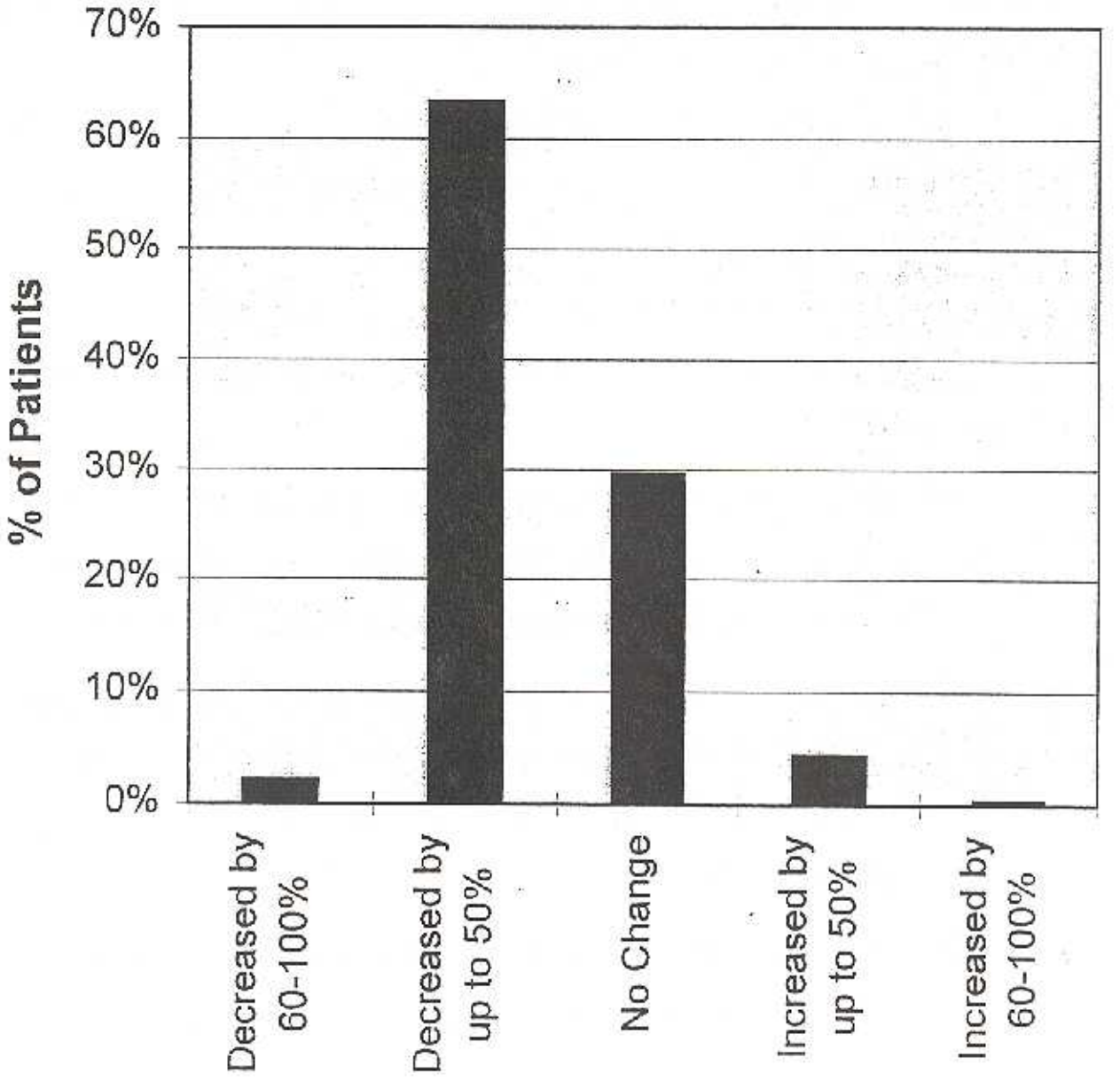
Not factoring water jest travel speed, water pressure, pulsation frequency, areas treated, or number of treatment sessions per patient, preliminary results indicate that the Aqua PT can be beneficial in chronic pain patients with myofascial pain syndromes.

On the average, patients reported a pain reduction of 1.4 (SD = -1.8). Four patients (7.9%) reported pain elimination due to Aqua-Pt treatment. Additionally, 25 patients (20.3%) reported pain reduction of 50% or more. Overall, of the 123 patients, 65.6% reported pain reduction of various degrees; 29.6% reported no change in pain; and 4.8% reported pain increase. Increase in pain was, reportedly, due to being in the prone position for the treatment period.

Change in Pain Level
(= Pre - Post) Distribution



Cumulative Change in Self-Report of Pain Level



CONCLUSIONS

The Aqua PT allows convenience in the treatment of large areas of the body and delivers more tolerable, sustained superficial heating than other techniques (paraffin, whirlpool).

For the relatively short treatment time of 15 minutes, the Aqua PT can aide pain management by providing some degree of pain relief thus preparing patients for aggressive therapy.

Controlled studies and clinical trials are being conducted at our facility in order to:

1) determine optimal machine parameters for various pain conditions (e.g. water pressure, water temperature, jets travel speed, frequency of water pulsation, and duration of treatment;
2) conduct "controlled" studies to evaluate the efficacy of the Aqua-PT and its effectiveness in the treatment of patients with myofascila pain and other syndromes including fibromyalgia and RSD; and
3) study treatment outcome and carry-over in terms of pain reduction and improved function (e.g. ranges of motion).