MTRF Project Summary – DAWSON & TIIDUS

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<tr>
<th>Project title:</th>
<th>Effectiveness of Regular Proactive Massage Therapy for Novice Recreational Runners</th>
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| Names of Investigators/researchers: | • Kimberley Dawson PhD - Wilfred Laurier University, Dept. of Kinesiology and Physical Education  
• Peter Tiidus PhD - Wilfred Laurier University, Dept. of Kinesiology and Physical Education |
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Conferences and Presentations:  
Effectiveness of Regular Proactive Massage Therapy for Novice Recreational Runners, The American College of Sports Medicine, Baltimore, Maryland, June 2010. |

**PROJECT OVERVIEW:**

**How does this study contribute to the MT knowledge base:**
The use of massage therapy (MT) to support the activities of amateur and professional athletes is very common. However, the research to date is inconclusive in terms of its effect on improving or enhancing sports performance. This study contributes to our understanding of the potential impact of MT in this specific context. It is important to highlight that this study specifically aimed to assess a massage program of treatment that more realistically represents actual massage practice (what the researchers refer to as “ecologically valid”).

**About the study:**
In partnership with two Running Room sites in Ontario Canada, researchers conducted an effectiveness evaluation of MT program over a longer...
term training period as part of a training program for novice runners preparing for a 10km race.

The objectives of this study were to evaluate the effectiveness of a proactive 10-week MT program on:

- Muscle strength
- Pain associated with running
- Running behaviour
- Daily functioning capabilities
- Running confidence

**Ethics:**
Ethics approval was obtained from the Wilfrid Laurier University Committee on Human Research Ethics.

**Study participants were:**
Individuals who signed up to a 10 week running clinic at one of two Running Room locations in Ontario Canada. All participants were: a) healthy (injury free and healthy according to the Par-Q screening test), b) novice runners, and c) had limited to no previous experience with MT. The massage group consisted of individuals who signed up to the Waterloo ON running clinic. The control group (no massage) consisted of individuals who signed up to the Kitchener ON running clinic.

Eighteen participants enrolled in the massage group and 16 participants enrolled into the control group. Based on the researcher’s criteria of a complete dataset, analysis was completed on data collected from 16 participants (11 females, mean age 34.3) in the massage group and 12 participants (11 females, mean age 33.3) in the control group.

**Massage therapy intervention:**
A series of one weekly 30-minute massage over the 10 week training period. Each participant was assigned to one of four Registered Massage Therapists (RMTs) trained in sports massage, who worked at the same sports medicine clinic (based in Waterloo, ON).

The first session was 1 hour long and included: overall assessment, recommendations for the MT treatments, education, and a massage treatment. The remaining 9 sessions consisted of a 30 minute massage. The weekly massage schedule was set up by the participant and their RMT (to reflect the typical regular pro-active massage program for novice exercisers). Each massage treatment was individualized to the participant’s needs.

**Data collected:**
The following data was collected at 3 time points (week 1, 5, and 9):

**CYBEX II dynamometer** – To test muscle strength. This was applied to the hamstring and quadriceps muscle bellies of both legs

**Pain measure** - **7-point pain scale** (with anchors 1=no pain and 7=unbearable pain) - To evaluate pain at a) rest, b) during running, and c) after running in the quadriceps and hamstrings of both legs.

**7-point capability scale** (1=not at all capable, 7=completely capable) - To evaluate four items reflecting the participant’s ability to function daily
without pain.

*Percentage based confidence scale* (0%=not at all confident, 100%=completely confident) - To capture the participants running confidence.

*Daily physical activity journal* (kept by each participant) - To track: a) the number of times that they ran (frequency); b) the distance (kms) run, b) the intensity of the run, using a 9-pt intensity scale (1= light intensity , 9= heavy intensity ); c) pain during the run, using a 9-pt pain scale (1= no pain , 9= extreme pain); d) completion of the 10km race (yes or no) (NOTE: pain was also measured using a 7-point scale).

Although not specified in the objectives, additional questions were given to the massage group at 9 weeks in order to capture the massage experience.

**Study results:**
Based on their analysis, the researchers report the following findings:

*Muscle strength* - There were no differences between the massage group and control group

*Functional capabilities* - There were no differences between the massage group and control group

*Running confidence* - There were no differences between the massage group and control group

*Pain:* There was no difference between the massage and control groups in the amount of pain experienced. It appears that both groups reported exerting a moderate amount of effort during each run (intensity) and experienced a considerable amount of pain during a run.

*Running behaviour* - There was no difference between the massage group and control group running frequency, intensity and pain. The researchers point out that to increase mileage up to 10 km, it runners needed to run between 3-4 times/week. This was not reflected in the frequency noted in the participants’ journals. As such, the researchers stated that this suggests that neither group was sufficiently trained to run a 10 km race. However, all participants in the massage group (100%) completed the final 10 km road race while 58% of the control group completed the race (it was not possible to determine if this difference was statistically significant).

*The massage experience* - Participants in the massage group provided the following ratings:

- Enjoyment of massage: 6.5 out of 7 (with low variability).
- Confidence the perceived effectiveness of their RMT: 95.3% (with low variability).
- Perceived MT effectiveness: 6.1 out of 7, even though the quantitative measures indicate little benefit from the massage program (as noted above).
- 75% said that they would use massage again.
- 93.8% said they would recommend it.
When asked how massage affected their ability to run the 10km race, key themes were:

Theme 1: Management of pain and muscle soreness, and faster recovery time.
Theme 2: Education from the RMTs also helped in self-care and a better understanding of their body.

PRACTICE IMPLICATIONS

Although the participants perceived massage as beneficial yet the objective measures indicated no physiological benefits of a regular massage program. As such, based on these findings, the researchers’ recommendations are that MT is not a useful adjunct to training program for the specific issues addressed.

The study raises several important points that need to be considered in the context of practice: First, although the duration of each massage was the same, each massage treatment was individualized – meaning that it was developed in what was considered to be the best approach for each individual. As such, it’s important to ask: could the lack of observed effect be related to the variations in what was delivered to each person and at each treatment? Second, MT did not seem to have an effect on specific outcomes of pain (intensity or frequency), muscle strength, or running confidence. These are all relevant outcomes. However, they are not an exhaustive list of potentially relevant outcomes. Other outcomes that may be important are: race time and recovery rate. Lastly, it brings to attention the important need to evaluate practice to continuously strive for more effective treatment approaches as a client’s perceptions of improvement may not necessarily translate into functional gains.

Contributor: Ania Kania-Richmond PhD, RMT