Effect Of Canine Assisted Therapy On Functional Activity Level In Individuals With ABI/TBI

Carolyn Tassini, PT, DPT, NCS[1], Evan T. Cohen, PT, MA, PhD, NCS[2], Jamie Young, PT, DPT, NCS[1]
[1]Bancroft NeuroRehab, Mount Laurel, NJ; [2]Rutgers University, Blackwood, NJ
Carolyn.Tassini@Bancroft.org

Introduction and Purpose

Difficulty with mobility and engagement in activity are common sequelae following brain injury (BI) that lead to sedentary lifestyle, increased risk for falls, and medical complications. Canine Assisted Therapy (CAT) has been theorized to improve patient engagement and participation. This pilot study was designed to investigate the feasibility and practicality of using canine assisted therapy (CAT) on participation in walking at a day program for individuals with BI.

Methods

Study Design

- Randomized cross-over model comparing usual care daily walking intervention to the intervention with the addition of CAT
  - Usual care: participants walked with support personnel
  - CAT condition: participants held a leash of a facility dog during the walking intervention; if needed, a second leash was held by a handler
- Both conditions occurred within the same week and in the same location
- Sessions lasted up to 30 minutes
- Outcome measures included:
  - Distance walked (DW)
  - Total walking time (TWT)
  - Visual analog scale of enjoyment (VAS-E)
  - Rehabilitation Therapy Engagement Scale (RTES)

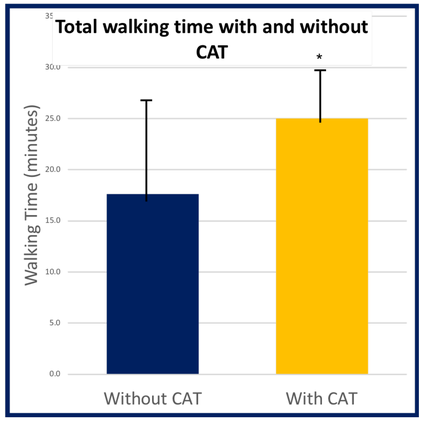
Participants

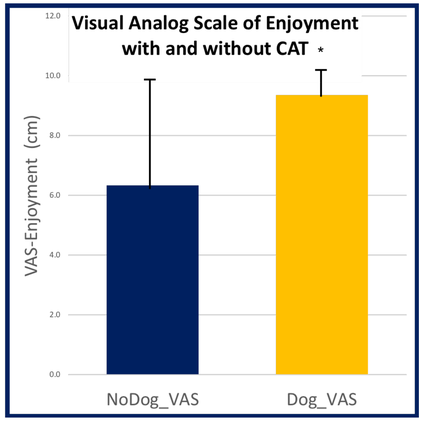
- 16 men and women attendees of a BI day program
  - Mean age=41.1 years (+/-12.9)
  - Mean Mayo Portland Adaptability Inventory-4=17.6 (+/-5.3)
- Inclusion Criteria: History of TBI/ABI, could ambulate with supervision or independently with or without an assistive device
- Exclusion Criteria: Fear or allergy of dogs, orthopedic or cardiovascular issues which prevent them from safely participating in walking program

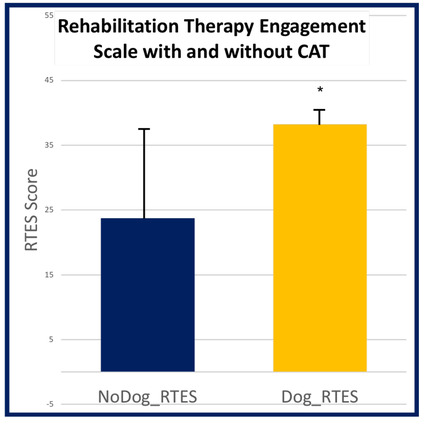
Data Analysis

- Comparisons were conducted with a paired samples t-test (DW, TWT, VAS-E) or Wilcoxon signed-ranks test (RTES)

Results







Feasibility

- **Retention**
  - 13/16 participants completed both conditions and were included in the analysis
  - 3 people declined to the control condition after first completing the CAT condition, thus their data was excluded from analysis
- **Costs**
  - Aside from the costs of maintaining a therapy dog, there was little additional cost
- **Safety**
  - There were no safety problems

Effectiveness

- **Physical Performance Measures**
  - Participants spent more TWT in the CAT condition compared to the control (p=.004)
  - No difference was found in DW
- **Patient-Report Measures**
  - Participants in the CAT condition rated higher levels of enjoyment on the VAS-E (p=.038) vs. the control
  - Participants in CAT condition rated higher levels of engagement on the RTES (p=.003) compared to the control conditions

Conclusion

- CAT using a highly trained facility dog is a safe and feasible addition to a walking program in a therapeutic BI day program
- CAT resulted in greater TWT, enjoyment, and engagement than usual care
- Participants were enthusiastic to attend CAT sessions; however, a refractory impact on attendance was noted: the three participants who did not complete both conditions were first assigned to the CAT condition and refused to complete the control condition without CAT
- Social factors incurred while during CAT (e.g. other people interrupting the walk) and/or the dog's preferred walking pace may have resulted in the lack of change in TDW
- Study limitations: Small sample size; sample was heterogeneous in their function; the therapy dog was close to retirement age and thus walked more slowly than a younger dog might
- Future studies should investigate CAT with people of varied functional levels, and whether using a different therapy dog alters intervention effectiveness

Clinical Bottom Line

Increasing activity and mobility is often a challenge for people with BI. Using CAT may be a safe and effective tool to increase activity and engagement in this population.

References

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