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# Benefits of Group Therapy for Traumatic Brain Injury (TBI)

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Victoria Vaughan & Kristyn Bickley

## Background Information: According to the CDC:

- The economic cost of TBI in 2010, including direct and indirect medical costs, was estimated to be approximately \$76.5 billion.
- Effects of TBI can include impaired thinking or memory, movement, sensation (e.g., vision or hearing), or emotional functioning (e.g., personality changes, depression).
- Those who survive a TBI can face effects that last a few days, or the rest of their lives.

## 1 Ask: Research Question

“What are the benefits of utilizing group therapy for TBI?”

## 2a Acquire: Search Terms

**Databases:** Scopus, ClinicalKey, Google Scholar Search

**Search Terms:** group, group therapy, group format, benefits, occupational therapy, TBI, ABI, brain injury

## 2b Acquire: Selected Articles

**Vestri et al. (2014):** Quasi-experimental design that took place in a post-acute rehab unit in Northern Italy for patients suffering from TBIs. Investigated the hypothesis that group rehab is more effective than individual treatments. Use of a pre-test and post-test design (n= 74). Individual treatment (n= 32) and group therapy + individual treatment (n= 42).

**Harrison-Felix et al. (2018):** RCT to evaluate the effectiveness of a replicable group treatment program for improving social competency post TBI. N=179; interactive group treatment (n= 90) and noninteractive treatment group (n= 89). Completed with civilian, military and veteran adults with TBI and social competence difficulties at least 6 months post-injury.

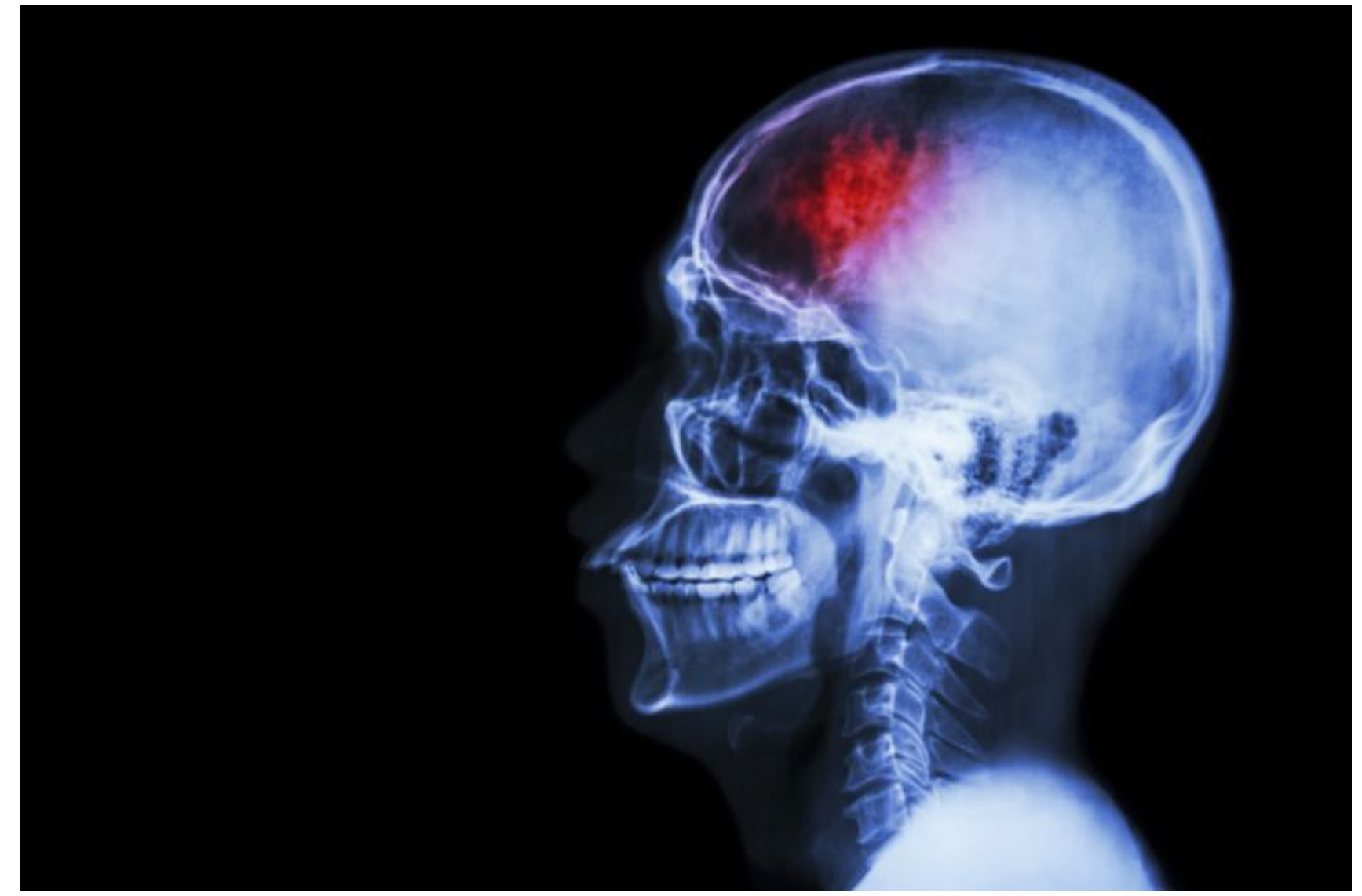
**Lesniak et al. (2018):** RCT to compare the efficacy of group vs. individual memory therapy for patients with acquired brain injury. N=65; Subjects assigned to GT (n= 22), IT (n= 23), or no therapy (n= 20).

## 3a Appraise: Study Quality

**Vestri et al. (2014):** Level IV. Utilized the Functional Independence Measure (FIM), Disability Rating Scale (DRS), and the Ranchos Los Amigos Scale of Cognitive functioning (LCFS), shown to be reliable and valid measures. Unequal groups. Lacked random assignment. Variations were noted in number and types of activities, duration of phases, and types and frequency of treatment. Overall, the study lacks power with its relatively small sample size.

**Harrison-Felix et al. (2018):** Level II. Large sample size. Wide range of participants makes it difficult to define study sample. Unknown if results could generalize to the general TBI population. Unequal representation of sex (males= 61; females=29). Attrition was a noted limitation. Utilized Profile of Pragmatic Impairment in Communication (PPIC) for main outcome measure, which is found to have excellent reliability in most subscales. Study otherwise relied on self-report measures. Noted that the both groups received the same therapeutic content, possibly contributed to similar results.

**Lesniak et al. (2018):** Level II. Varied etiology of patient groups (TBI, cerebrovascular accident, encephalitis) may have impacted results. Small sample size with unequal groups. Attrition was a limitation noted in the study (GT- 4 participants lost). Primary outcome measure used was the Rivermead Behavioural Memory Test (RBMT), which is considered an ecologically valid tool to assess memory disabilities. Single blinding was utilized during cognitive assessment.



(BrainLine, 2017)

## 3b Appraise: Study Results

**Vestri et al. (2014):** Within the entire sample, there were statistically significant improvements found in the DRS and FIM. Using the DRS, 13 out of 26 participants improved with 2 impaired and 6 unchanged post-test ( $p < 0.001$ ). With the FIM, 23 out of 25 participants improved post intervention ( $p < 0.001$ ). The LCFS could not be analysed d/t missing data. Following treatment, there was greater improvement in the FIM scale for those in the combined individual and group treatment ( $p = 0.01$ ). Clinical significance was found in the cost-effective group treatment strategies.

**Harrison-Felix et al. (2018):** Social competence goals (GAS) were achieved and maintained for most participants regardless of treatment method. Significant improvements in the primary outcome (PPIC) and 2 of the secondary outcomes (LCQ and BSI) were seen immediately post-treatment and at 3 months post-treatment in the interactive group. These improvements were not statistically different between the group interactive structured treatment and the alternative treatment arms ( $p = .0766$ ). Changes in scores suggest that the group interactive format is not a superior method of treatment delivery.

**Lesniak et al. (2018):** Both therapeutic groups had similar significant improvements on the RBMT ( $p < .001$ ) after treatment, with large effect sizes in both groups GT ( $r = .60$ ); IT ( $r = .56$ ). The NT group improved ( $p = .015$ ), but with a small effect size ( $r = .11$ ). Relatives of participants in the GT group reported decreased frequency of memory failures ( $p = 0.026$ ) and after therapy, only the GT group continued to improve ( $p = 0.013$ ). Clinical significance was noted that the GT group participated in exercises that resembled everyday situations, which generalized over to greater gains in real-life tasks.

## 4 Apply: Conclusions for Practice

Patients with TBI were found to experience benefits from both group therapy and individual therapy. Group therapy can be less costly to implement and there are other possible benefits from participating in groups such as support from others (for both participants and family members). Because of the heterogeneity of the population of people that experience TBI and the variety of topics and outcome measures utilized within research, it is difficult to generalize about specific benefits of group therapy for specific individuals. There is the need for additional high-level controlled trials to examine these benefits.

*References available on request.*

**Group therapy was found to have positive subjective outcomes from family members, but there was no significant difference found between occupational therapy group therapy and individual therapy interventions for TBI.**

