ACRM
AMERICAN CONGRESS OF REHABILITATION MEDICINE

Archives of Physical Medicine and Rehabilitation

journal homepage: www.archives-pmr.org

Archives of Physical Medicine and Rehabilitation 2016;97:281-91

ORIGINAL RESEARCH

Comparison of a Cognitive-Behavioral Coping Skills Group to a Peer Support Group in a Brain Injury Population

Samantha Backhaus, PhD,[a,b] Summer Ibarra, PhD,[a,b] Devan Parrott, MS,[a] James Malec, PhD, ABPP[a,b]

From the [a]Rehabilitation Hospital of Indiana, Neuro Rehabilitation Center, Indianapolis, IN; and [b]Indiana University School of Medicine, Department of Physical Medicine and Rehabilitation, Indianapolis, IN.

Abstract

Objective: To compare the efficacy of 2 group treatments for persons with brain injury (BI) and their caregivers in promoting perceived self-efficacy (PSE) and emotional and neurobehavioral functioning.

Design: Randomized controlled trial.

Setting: Outpatient BI rehabilitation.

Participants: Subjects (N=38), including 19 with BI and 19 caregivers, participated in a BI coping skills group or a support group.

Interventions: BI coping skills is a manualized cognitive-behavioral treatment (CBT). CBT was compared with a structurally equivalent support group.

Main Outcome Measures: Brain Injury Coping Skills Questionnaire (PSE), Brief Symptom Inventory-18 ([BSI-18]; emotional distress), and Frontal Systems Behavior Scale (neurobehavioral functions).

Results: There were no significant differences between survivors and caregivers on the Brain Injury Coping Skills Questionnaire and BSI-18; therefore, groups were combined during final analyses. Frontal Systems Behavior Scale caregiver data were used for analysis. Both groups showed significantly improved PSE between baseline and follow-up on repeated-measures analysis of variance, with the CBT group showing greater stabilization of change. There was no significant group by time interaction on measures of neurobehavioral functions, but the CBT group showed significant improvements at 3-month follow-up. No significant effects were found on the BSI-18.

Conclusions: To our knowledge, no studies to date have been published comparing a CBT intervention with a support group in a BI population with caregiver participation. This study showed that given equivalent group structure, individuals with BI and caregivers may benefit from either type of intervention in enhancing PSE or maintaining emotional stability. However, there was a trend for individuals who received CBT to maintain the effects of improved PSE, whereas support group participants showed a trend for decline. This study offers a new conceptualization that with certain group dynamics and support, individuals with BI and caregivers may benefit similarly from either a support group or CBT intervention. However, because our sample did not include individuals in clinically significant emotional distress, we cannot rule out the possibility that those with more significant challenges in PSE or emotional functions may show greater benefits with a CBT group.

Archives of Physical Medicine and Rehabilitation 2016;97:281-91

The occurrence of emotional and neurobehavioral challenges in individuals with brain injury (BI) has been well documented.[1-4] Research has consistently shown a link between these challenges and a person's overall rehabilitation outcome.[1-3] Additionally, the importance of addressing family needs and general well-being of family and caregivers is widely accepted[5-8] because this has been shown to influence the overall rehabilitation outcome of individuals with BI.[7-9] In one of the largest multicentered prospective studies to date, roughly one third of caregivers reported experiencing clinically significant psychological distress, including depression, anxiety, and somatic symptomology.[5] Caregiver burden increases and negatively impacts family functioning as neurobehavioral and personality changes

Supported by the Indiana Spinal Cord and Traumatic Brain Injury Research Fund and the Dr. Lisa Thompson Center for Family Education Fund, Rehabilitation Hospital of Indiana Foundation.
Disclosures: none.

0003-9993/15/$36 - see front matter © 2016 by the American Congress of Rehabilitation Medicine
http://dx.doi.org/10.1016/j.apmr.2015.10.097

emerge.[6] Potential for successful rehabilitation of the person with BI is influenced by the family/caregiver's ability to effectively cope with and manage the care of their loved one.[7,8]

Given that the role of caregiving has a pervasive impact on family functioning and rehabilitation outcome,[9] family needs have been investigated by clinical researchers. These studies have demonstrated that families express the need to learn more information about (1) the injury and how it effects their loved one[10]; (2) expectations for prognosis and recovery, communicating well with professionals, and effective skills for managing BI challenges[11]; (3) identifying community[12] and mental health resources[13]; and (4) how to communicate with similar families.[14] Families who receive greater support and services and learn adaptive coping strategies are less likely to show marked deterioration.[15] In fact, when caregivers perceive that they have adequate social support, it has been shown to help buffer their experience of stress associated with the caregiving role,[16] which can help them to assist their injured loved ones by providing more effective support.[9] Therefore, in an effort to improve overall rehabilitation outcomes, Rotundi et al[14] posit that it is imperative to provide services to the caregivers and persons with BI.

The role of perceived self-efficacy (PSE) in BI has also become an area of increasing interest among researchers in recent years. PSE is defined by Bandura[17] as believing in one's personal capabilities. In the context of Lazarus and Folkman's cognitive-relational theory, it is proposed that an individual will respond to stress by attempting to first determine whether the situation is either irrelevant, benign positive, or stressful, referred to as the primary appraisal process.[18] When a situation is deemed stressful, the individual then engages in the secondary appraisal process, which involves the individual's evaluation of "competence, social support, and material or other resources in order to readapt to the circumstances and to re-establish equilibrium between person and environment."[18(p197)] One means by which an individual may attempt to improve balance between the self and environment is through exercising self-efficacy beliefs.[19] It has been suggested that individuals who possess and use high self-efficacy beliefs are more likely to engage in a variety of adaptive coping and problem-solving strategies.[19] Furthermore, recent studies within a BI population have shown a link between PSE and social participation,[20,21] and PSE has also been found to lead to increased positive regard toward the caregiving role.[16] Importantly, Cicerone and Azulay[21] found that the greatest contribution to predicting life satisfaction was the person's PSE for managing their cognitive challenges.

Presumably then, learning effective coping skills can reduce distress, increase a sense of control, and increase PSE, improving the ability to overcome challenges for individuals with BI and family members. Research in this area has gained momentum during the last decade.[4,17-19] Most intervention studies include some component of cognitive-behavioral therapy (CBT) and suggest CBT can be effective for some individuals with BI[20-23] when specific accommodations are provided. The results of these studies indicate that individual and group therapies are helpful in increasing adaptive coping strategies,[23,24] improving PSE in coping with BI,[22] and improving psychological well-being.[25]

For our initial study,[22] a 12-week, CBT-based group intervention was developed, the BI coping skills group, which included individuals with BI and their caregivers, and aimed to enhance psychological functioning and PSE.[17] Although limited by a relatively small sample size, results of this randomized controlled study revealed significant improvements in PSE in BI coping skills participants (survivor and caregiver data were combined because of a lack of significant differences between the 2 groups) when compared with a treatment-as-usual (TAU) control group immediately after treatment and at 3 months postintervention. Both groups significantly improved in psychological functioning immediately after treatment. However, participants in the TAU group showed an increase in psychological distress at 3 months postintervention, whereas emotional functioning in BI coping skills participants remained stable, suggesting that CBT could have some benefit to improving PSE and preventing emotional decline. Some psychotherapy researchers however suggest that control conditions should be structurally equivalent to the treatment they are being compared with (eg, length or frequency of sessions).[26] In the BI coping skills study,[22] individuals either received the intervention or did not, making this a structurally nonequivalent comparison. Therefore, it is unknown whether the specific components of this type of program were effective or whether the effect was caused by nonspecific effects (eg, having a peer support system).

Therefore, the aim of this study was to examine whether group CBT would result in improved PSE, emotional functioning, and neurobehavioral functioning in a BI sample compared with a structurally similar peer support group program. It was hypothesized that individuals who participate in group CBT treatment would report improvements in these areas when compared with those who participate in a structurally equivalent peer support group without formal CBT intervention.

List of abbreviations:

BI	**brain injury**
BSI-18	**Brief Symptom Inventory-18**
CBT	**cognitive-behavioral therapy**
CI	**confidence interval**
FrSBe	**Frontal Systems Behavioral Scale**
PSE	**perceived self-efficacy**
TAU	**treatment-as-usual**

Methods

The study protocol was approved by the Indiana University Institutional Review Board, and the procedures for the study were in accordance with the standards of this board.

Participants and recruitment

Participants were recruited from consecutive admissions to inpatient and outpatient BI services at a major rehabilitation hospital in the Midwestern United States. Ability to consent to participate in the study among participants with BI was determined with the Orientation Log[27] and Cognitive Log.[28] Potential participants who scored $\geq$25 on the Orientation Log for 2 consecutive days and $\geq$15 on the Cognitive Log were considered to be able to consent.

Inclusion criteria for participants with BI were as follows: history of BI, including traumatic BI, strokes, subarachnoid hemorrhages, intracerebral hemorrhages, encephalopathies; between the ages of 18 and 65 years old; functional reading ability indicated by a score at least 70 on the Wide Range Achievement Test 3 reading score; and caregiver willing to participate (consistent with the goals of including caregiver participation to enhance overall rehabilitation potential). Exclusion criteria were aphasia and/or functional expression difficulties that could limit group participation, active psychosis, progressive tumors,