

In a cohort study, Braden, Hawley, Newman, Morey,

constraints. No intent-to-treat analysis was completed. Improvements in social behaviour were noted as measured directly, though the impact did not translate to subjective awareness. This could be due to a lack of power, as dropouts resulted in participant numbers below the optimum for power requirements. Overall, the results of this study provide an equivocal level of evidence.

Discussion

Before drawing conclusions from the studies critically appraised in this paper, there are several limitations to consider when comparing directly across studies. One consideration is the variability of study participants relating to time post-injury and severity of brain injury. Dahlberg et al (2007), McDonald et al. (2008) and Braden et al (2010) all included outpatient subjects in the chronic stage of recovery, more than 1 year post injury. In the earlier study by Wiseman-Hakes and colleagues (1998), the majority of participants were acute, <8 months post-injury. As the study was designed, it is not possible to determine if improvements are attributable to the group therapy or spontaneous recovery in the acute stage. Inclusion criteria for severity of brain injury were unspecified by Braden et al. (2010) and Wiseman-Hakes et al. (1998). When specified, (Dahlberg et al., 2007; McDonald et al., 2008) participants had a moderate-severe to severe TBI. Finally, social skills deficits are variable and extremely difficult to define, and the presence was either noted by a case manager, by a significant other, or through self-report in each study examined. The nature of traumatic brain injury lends itself to a heterogeneous population, and a challenge in research is to restrict the study population enough to determine the conditions in which treatment will be most efficacious (ie. time post-injury, severity, deficits, etc.). It is of importance, however, to not restrict inclusion criteria in a manner that questions generalizability to the general TBI population as with Dahlberg et al. (2007) and McDonald et al. (2008).

All four studies (Wiseman-Hakes et al., 1998; Dahlberg et al., 2007; McDonald et al., 2008; Braden et al., 2010) ran small groups, led by experienced clinicians. Each intervention targeted generalization through weekly homework in the community, or by involving family and friends directly in therapy. Length of treatment ranged from 6 weeks (Wiseman-Hakes et al., 1998) to 13 weeks (Braden et al., 2010) with frequency from once a week (Dahlberg et al., 2007; McDonald et al., 2008; Braden et al., 2010) to 4 days each week (Wiseman-Hakes et al., 1998). The intensity and delivery of therapy was similar

throughout the studies reviewed, however a lack of widely used outcome measures in social communication skills is a common methodological limitation. Improvements in social communication were primarily measured objectively. Though the rating process was completed in a similar manner, rating scales were not always reported to capture consistent social skills deficits. Dahlberg et al. (2007) and Braden and colleagues (2010) used an identical measure that broadly assessed 10 areas of communication skills. This measure was designed specifically for use with TBI, and held high concurrent validity and good interrater reliability. McDonald and colleagues (2008) were ultimately measuring the degree to which the conversant adapts to social context. Wiseman-Hakes et al. (1998) measured a full range of treated and untreated pragmatic communication skills, though their primary outcome measure had no reliability data. Only Wiseman-Hakes and colleagues (1998) completed assessment observations in natural settings, personalized to each participant, whereas the remaining papers described measures obtained in a contrived manner or therapeutic setting. This diversity in outcome measure

significant trend

this area of research, similar outcomes,

