

STARS Education and Research Alliance

CREATING KNOWLEDGE | TRANSFORMING CARE

STARS Critically Appraised Topic (CAT) Group
Interprofessional group interventions for ABI







STARS Critically Appraised Topic (CAT) Group: Interprofessional practice group interventions for people with acquired brain injury

Specific Question:

What is the effectiveness of interprofessional group-based interventions for adults with acquired brain injury (ABI) between 16-65 years old receiving inpatient or outpatient rehabilitation compared to uniprofessional group or single patient interventions, on patient and clinician and service outcomes?

Clinical bottom line

There is evidence of interprofessional group-based rehabilitation interventions being conducted with patients with brain injury and some evidence of improvements in patient outcomes e.g., improved coping skills, adjustment and social communication skills. However, no high-quality research has compared the clinical or cost-effectiveness of interprofessional group-based interventions versus single discipline group or individual interventions. Further research is needed.

Why is this important?

It is well documented that interprofessional collaborative practice results in better outcomes that lead to better health for individuals [1]. According to the World Health Organisation (WHO) [2], "Collaborative practice happens when multiple health workers from different professional backgrounds work together with patients, families, carers and communities to deliver the highest quality of care across settings". These interactions can be complex and to work together interprofessionally means spending substantial time negotiating professional differences in a deliberate and structured fashion, a task that is easier said than done [3].

Rehabilitation of individuals following ABI involves systematic, contextual, personalised supports to improve cognitive function and empower safe, productive and independent participation in daily activities. It is important to approach cognitive rehabilitation from a shared perspective and build team-based interprofessional collaborative practice to help individuals manage complex, multifactorial post-injury challenges and promote positive treatment outcomes [4].

On the STARS rehabilitation wards, and in particular ward 5A Brian Injury Rehabilitation Unit (BIRU), interprofessional practice group interventions are being offered for this patient population. These can be resource and time intensive, requiring multiple disciplines involved in the development, implementation, and review of one therapeutic interaction. Positive outcomes of group interventions for rehabilitation have been reported, however this has been predominantly explored through a single disciplinary approach [5,6]. To ensure STARS patients receive the best care, rehabilitation clinicians want to better understand best evidence about the comparative effectiveness of interprofessional practice group interventions versus single discipline therapy.

Inclusion Criteria

We defined interprofessional intervention as: one where disciplines overlap practice with shared goals coordinated into a unified management plan, rather than working only within individual disciplines. This allows for group decision-making and group responsibility, with the patient considered an active member of the team [7].

Focus of study: Studies conducted within the context of interprofessional interventions, using the above definition. Studies that deal with actions of professionals that are seen to contribute to interprofessional collaboration. The PICOT (next page) provides more detail.

Study design: Intervention research study designs near the top of the hierarchy of evidence for interventions.

Publication status: Studies published in peer-reviewed journals.

Language: Only studies written in English.

Search dates

All years since databases commenced.

Type of Study

Meta-analysis, Systematic Review, Scoping Review, High-quality RCT

PICOT

	Description	Search terms	
Population and Setting	Acquired Brain Injury, aged 16-65 years old, receiving rehabilitation (inpatient or outpatient)	Brain injuries, Traumatic brain injuries, Acquired brain injuries, Stroke, Craniocerebral trauma, Anoxia, Hypoxia, Meningitis, TBI, ABI, Brain damage, Brain lesion, Cerebral injury, Cerebral damage AND Rehabilitation, Outpatient, Inpatient, Hospital AND Adult	
Intervention or Exposure (ie what is being tested)	Intervention: groups (2 or more patients involved), interprofessional (2 or more different disciplines involved in facilitation/definition and evidence of collaboration)	Interprofessional, Inter-professional, Multidisciplinary, Interdisciplinary, Interorganisational, Interagency, Inter-agency AND Group-based, Group treatment, Group Intervention	
Comparison, if any	Single discipline interventions, group based interventions not meeting our definition as above, co-located interventions, studies with waitlist controls		
Outcomes of interest	Outcomes: patient outcomes (PREMS, PROMS, satisfaction, therapy frequency, intensity) and patient and clinician perspectives, experiences and satisfaction, quality of life (QoL), length of stay (LOS), occasions of service (OOS)	proction, and bectives, but it is to consider the construction of	
Types of studies	Highest quality and best evidence for intervention studies – meta-analysis SR, high-quality RCT, etc		

Databases Searched

PubMed, CINAHL, Embase & Cochrane Library

Date of searches

15/09/20023 & 17/10/2023 (Updated terms)

Search Strategies (including subject headings)

PubMed 296 results

("Brain Injuries" [Mesh] OR Stroke [Mesh] OR "Brain Injuries, Traumatic" [Mesh] OR Craniocerebral Trauma [mesh] OR Anoxia [ti] OR Hypoxia, Brain [mesh] OR "Meningitis" [Majr] OR "traumatic brain injur*" [ti] OR "TBI" [ti] OR "brain injur*" [ti] OR "brain injur*" [ti] OR "cerebral brain injury" [ti] OR "traumatic brain injury" [ti] OR "cerebral lesion*" [ti] OR "cerebral lesion*" [ti] OR "cerebral lesion*" [ti] OR "cerebral damage" [ti] OR "traumatic brain*" [ti] OR "cerebral lesion*" [ti] OR "cerebral damage" [ti] OR "traumatic brain*" [ti] OR "axonal injur*" [ti] OR "cerebral lesion*" [ti] OR "cerebral damage" [ti] OR "traumatic brain*" [ti] OR "axonal injur*" [ti] OR "fraumatic Encephalopath*" [title] or neurotrauma* [title] AND (("Interprofessional reations" [MAJR] OR "Patient Care Team" [MAJR] OR "Inter-professional" [ti] OR "Interprofessional reations" [ti] OR "Interprofessional reations" [ti] OR "Interprofessional" [ti] OR "Interprofessional collaborative practice" [tiab] OR multi-professional [ti] OR multi-professional [ti] OR multi-professional [ti] OR care* [ti] OR team* [ti] OR multi-professional [ti] OR collaborative approach*" [ti] OR "Group based" [ti] OR "Group treatment*" [ti] OR group Intervention [ti]) AND ("Systematic Reviews as Topic" [Mesh] OR "Systematic Review" [Publication Type] OR "systematic" [ti] OR "Cochrane review*" [ti] OR "systematically" [tiab] OR "cochrane database syst rev" [Journal] OR "meta-analysis as topic" [MeSH:noexp] OR Meta-Analysis [ptyp] OR meta-analy* [tiab] OR meta-analy* [tiab] OR "meta-analysis" [ti] OR "meta analyses" [ti] OR "meta analyses" [ti] OR "cochrane database syst rev" [Journal] OR "meta-analysis" [ti] OR "meta analyses" [ti] OR "rehabilitation Type] OR rendomized controlled trial [pt] OR randomi[tiab] OR "randomised" [tiab] OR longitudinal studies [mesh:noexp] OR follow-up studies [mesh:noexp] OR prospective stud

[MeSH Terms] OR rehab*[tiab] OR "length of stay"[MeSH Terms] OR "length of stay"[tiab] OR PROMS[tiab] OR "patient reported outcome measures"[MeSH Terms] OR "patient reported outcome measures"[tiab] OR PREMS[tiab] OR "Patient Reported Experience Measures"[tiab] OR "quality of health care"[mh:noexp] OR "clinical competence"[mh:noexp] OR "guideline adherence"[mh:noexp] OR "quality improvement"[mh] OR "quality indicators, health care"[mh] OR "quality of healthcare"[tiab] OR "quality of health care"[tiab] OR "quality improvement"[tiab] OR "guideline adherence"[tiab] OR "quality improvement"[tiab] OR "model of care"[tiab] OR "models of care"[tiab] OR "quality indicator*"[tiab] OR "quality measure*"[tiab] OR "quality intervention*"[tiab] OR "quality dimension*"[tiab] OR "quality assessment"[tiab] OR "delivery of health care"[MeSH Terms] OR "Patient Satisfaction"[Mesh] OR "Personal Satisfaction"[Mesh] OR Communication[ti] OR "functional status"[MeSH Terms] OR Functional independence[tiab])

CINAHL Complete (EBSCOhost) 247 results

((MH "Brain Injuries+") OR (MH "Stroke+") OR (MH "Anoxia+") OR (TI Anoxia OR AB Anoxia) OR "Hypoxia" OR ((MM "Meningitis+") OR (TI "traumatic brain injur*" OR AB "traumatic brain injur*") OR (TI TBI OR AB TBI) OR (TI mTBI OR AB mTBI) OR (TI "brain injur*" OR AB "brain injur*") OR (TI "brain trauma*" OR AB "brain trauma*") OR (TI "acquired brain injury" OR AB "acquired brain injury") OR (TI stroke OR AB stroke) OR (TI "traumatic brain injury" OR AB "traumatic brain injury") OR (TI "brain lesion*" OR AB "brain lesion*") OR (TI "brain damage" OR AB "brain damage") OR (TI "cerebral injur*" OR AB "cerebral injur*") OR (TI "cerebral trauma*") OR (TI "cerebral lesion*") OR (TI "cerebral damage" OR AB "cerebral damage") OR (TI "traumatic brain*") OR (TI "axonal injur*" OR AB "axonal injur*") OR (TI "Traumatic Encephalopath*") OR (TI neurotrauma*))

(MM "Interprofessional Relations+") OR (MM "Multidisciplinary Care Team") OR (TI Inter-professional) OR (TI Interprofessional) OR (TI Multi-disciplinary) OR (TI Multi-disciplinary) OR (TI Multi-disciplinary) OR (TI multi-modal) OR (TI multi-professional) OR (TI multi-modal) OR (TI multi-professional) OR (TI multi-professional)) AND ((TI therap*) OR (TI restor*) OR (TI care*) OR (TI team*) OR (TI rehab*) OR (TI collaborative approach*") OR (TI "Group based") OR (TI "Group treatment*") OR (TI "Group Intervention"))

AND

(MH "Systematic Review") OR (PT "Systematic Review") OR (TI systematic) OR (TI "Cochrane review*") OR (TI systematically OR AB systematically) OR (SO "cochrane database syst rev" OR ST "cochrane database syst rev" OR IB "cochrane database syst rev") OR (MH "Meta Analysis") OR (TI metaanaly* OR AB metaanaly*) OR (TI meta-analy* OR AB meta-analy*) OR (TI "meta analysis") OR (TI "meta analyses") OR (TI "meta review*") OR (MH "Clinical Trials+") OR ("Controlled Clinical Trial") OR ("randomized controlled trial") OR (TI randomized OR AB randomized) OR (TI randomised OR AB randomised) OR (TI randomise

((TI rehabilitation OR AB rehabilitation) OR (MH rehabilitation+) OR (TI rehab* OR AB rehab*) OR (MH "length of stay") OR (TI "length of stay") OR (TI PROMS OR AB PROMS) OR (MH "Patient-Reported Outcomes+") OR (TI "patient reported outcome measures" OR AB "patient reported outcome measures") OR (TI PREMS OR AB PREMS) OR (TI "Patient Reported Experience Measures" OR AB "Patient Reported Experience Measures") OR (MH "quality of health care") OR (MH "clinical competence") OR (MH "guideline adherence") OR (MH "quality improvement+") OR (TI "quality of healthcare" OR AB "quality of healthcare") OR (TI "quality improvement") OR "clinical competence [tiab]" OR "guideline adherence [tiab]" OR (TI "quality improvement") OR (TI "model of care") OR (TI "model of care") OR (TI "quality improvement") OR (TI "quality indicator*") OR (TI "quality measure*") OR (TI "quality measure*") OR (TI "quality intervention*") OR (TI "quality dimension*") OR (TI "quality dimension*") OR (TI "quality assessment") OR (MH "Patient Satisfaction+") OR (TI Communication) OR (MH "functional status+") OR (TI "Functional independence"))

Embase (Elsevier) 188 results

('Brain Injuries'/exp OR Stroke/exp OR 'Brain Injuries, Traumatic'/exp OR 'Craniocerebral Trauma'/exp OR Anoxia:ti,ab OR 'Hypoxia, Brain'/exp OR Meningitis/exp/mj OR 'traumatic brain injur*':ti,ab OR TBI:ti,ab OR mTBI:ti,ab OR 'brain injur*':ti,ab OR 'brain trauma*':ti,ab OR 'acquired brain injury':ti,ab OR stroke:ti,ab OR 'traumatic brain injury':ti,ab OR 'brain lesion*':ti,ab OR 'brain damage':ti,ab OR 'cerebral injur*':ti,ab OR 'cerebral trauma*':ti,ab OR 'cerebral lesion*':ti,ab OR 'cerebral damage':ti,ab OR 'traumatic brain*':ti,ab OR 'axonal injur*':ti,ab OR 'Traumatic Encephalopath*':ti OR neurotrauma*:ti)

AND

('Interprofessional relations'/exp/mj OR 'Patient Care Team'/exp/mj OR Inter-professional:ti OR Interprofessional:ti OR multiprofessional:ti OR multiprofessional:ti OR multiprofessional:ti OR multiprofessional:ti OR restor*:ti OR care*:ti OR team*:ti OR rehab*:ti OR collabor*:ti OR 'Collaborative approach*':ti OR 'Group based':ti OR 'Group treatment*':ti OR 'Group Intervention':ti)

AND

('Systematic Reviews as Topic'/exp OR term:it OR systematic:ti OR 'Cochrane review*':ti OR systematically:ti,ab OR 'cochrane database syst rev':jt OR 'meta-analysis as topic'/de OR metaanaly*:ti,ab OR meta-analy*:ti,ab OR 'meta analysis':ti OR 'meta analyses':ti OR 'meta review*':ti OR 'clinical trials as topic'/de OR term:it OR term:it OR random:ti,ab OR randomised:ti,ab OR

randomly:ti,ab OR placebo:ti,ab OR trial:ti OR "clinical trial":ti,ab OR scoping:ti OR 'cohort studies'/de OR 'longitudinal studies'/de OR 'follow-up studies'/de OR 'prospective studies'/de OR cohort:ti,ab OR longitudinal:ti,ab OR prospective:ti,ab OR retrospective:ti,ab OR retrospective:ti,ab OR 'Qualitative Research'/exp OR 'Evaluation Studies as Topic'/exp)

("Rehabilitation" OR rehabilitation:ti,ab OR rehabilitation/exp OR rehab*:ti,ab OR 'length of stay':ti,ab OR 'PROMS:ti,ab OR 'patient reported outcome measures':ti,ab OR 'patient reported outcome measures':ti,ab OR PREMS:ti,ab OR 'Patient Reported Experience Measures':ti,ab OR 'quality of health care'/de OR 'clinical competence'/de OR 'guideline adherence'/de OR 'quality improvement'/exp OR 'quality indicators, health care'/exp OR 'quality of healthcare':ti,ab OR 'quality of healthcare':ti,ab OR 'quality of health care':ti,ab OR 'quality improvement':ti,ab OR 'quality improvement':ti,ab OR 'model of care':ti,ab OR 'quality indicator*':ti,ab OR 'quality measure*':ti,ab OR 'quality intervention*':ti,ab OR 'quality dimension*':ti,ab OR 'quality assessment':ti,ab OR 'delivery of health care'/exp OR 'Patient Satisfaction'/exp OR 'Personal Satisfaction'/exp OR Communication:ti OR 'functional status'/exp OR 'Functional independence':ti,ab)

Cochrane Library (Wiley) 148 results

#1 ([mh "Brain Injuries"] OR [mh Stroke] OR [mh "Brain Injuries, Traumatic"] OR [mh "Craniocerebral Trauma"] OR Anoxia:ti,ab OR [mh "Hypoxia, Brain"] OR [mh Meningitis] OR ("traumatic brain" NEXT injur*):ti,ab OR TBI:ti,ab OR mTBI:ti,ab OR ("brain" NEXT injur*):ti,ab OR ("brain" NEXT trauma*):ti,ab OR "acquired brain injury":ti,ab OR stroke:ti,ab OR "traumatic brain injury":ti,ab OR ("brain" NEXT lesion*):ti,ab OR "brain damage":ti,ab OR ("cerebral" NEXT injur*):ti,ab OR ("cerebral" NEXT trauma*):ti,ab OR ("cerebral" NEXT brain*):ti,ab OR ("axonal" NEXT injur*):ti,ab OR ("Traumatic" NEXT Encephalopath*):ti OR neurotrauma*:ti)

#2 ("Interprofessional relations" [mh] OR [mh "Patient Care Team"] OR Inter-professional:ti OR Interprofessional:ti OR Interprofessional:ti OR Interprofessional:ti OR Interprofessional:ti OR Interprofessional:ti OR multi-disciplinary:ti OR Multidisciplinary:ti OR teamwork:ti OR "Interprofessional collaborative practice":ti,ab OR multi-modal:ti OR multi-professional:ti OR multimodal:ti OR multiprofessional:ti OR restor*:ti OR care*:ti OR team*:ti OR rehab*:ti OR collabor*:ti OR ("Collaborative" NEXT approach*):ti OR "Group based":ti OR ("Group" NEXT treatment*):ti OR "Group Intervention":ti)

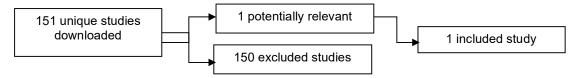
#3 #1 AND #2

#4 (rehabilitation:ti,ab OR [mh rehabilitation] OR rehab*:ti,ab OR [mh "length of stay"] OR "length of stay":ti,ab OR PROMS:ti,ab OR [mh "patient reported outcome measures"] OR "patient reported outcome measures":ti,ab OR PREMS:ti,ab OR "Patient Reported Experience Measures":ti,ab OR [mh ^"quality of health care"] OR [mh ^"clinical competence"] OR [mh ^"guideline adherence"] OR [mh "quality improvement"] OR [mh "quality indicators, health care"] OR "quality of healthcare":ti,ab OR "quality of healthcare":ti,ab OR "quality of healthcare":ti,ab OR "quality of healthcare":ti,ab OR "model of care":ti,ab OR "models of care":ti,ab OR ("quality" NEXT indicator*):ti,ab OR ("quality" NEXT measure*):ti,ab OR ("quality" NEXT intervention*):ti,ab OR ("quality" NEXT dimension*):ti,ab OR "quality assessment":ti,ab OR [mh "delivery of health care"] OR [mh "Patient Satisfaction"] OR [mh "Personal Satisfaction"] OR Communication:ti OR [mh "functional status"] OR "Functional independence":ti,ab)

Search process

Exported results to spreadsheet, removed duplicates, removed non-English articles etc.

Results



First Author, year and type of study	Population and setting	Intervention or exposure tested	Study results	Assessment of quality and comments
Patterson. 2016, scoping review	TBI (and mixed ie, could also include other neurological conditions such as stroke)	This review summarised research studies including those testing group therapy interventions, offered to inpatients and outpatients, for people with TBI. Most interventions primarily addressed impairments such as cognition.	There is limited high quality evidence about the effectiveness of group versus individual interventions (only 20 of 99 studies included were RCTs; only 6 studies (2x RCTs, 3x pre/post and 1x case series) were judged to be true interdisciplinary group interventions as per our definition).	This was a high quality scoping review. According to PRISMA-ScR Checklist, this paper met 20/22 items. Ratings of quantitative and mixed methods studies were not presented, and no protocol was published. It must be noted that these items are not typical practice for scoping reviews as the intent of this methodology is to provide an

	Outpatient and inpatient	The scoping review asked the following 3 questions: 1) What types of group delivered interventions have been researched with patients following TBI? 2) What group delivered therapy interventions are effective following TBI? 3) What are patient and clinician perceptions of group delivered interventions following TBI?	Overall results: Whilst group interventions have been demonstrated to lead to significant changes in target outcomes, the impact of the group setting or group participation has not been widely investigated. Results of the 6 most relevant studies in the scoping review: outcomes were similar to overall outcomes of the scoping review. No outcomes reported on differences between group facilitators (ie. between single professions, interdisciplinary or multidisciplinary group approaches)	overview of the literature and key themes rather than a complete indepth analysis of the quality of the included studies. Other limitations of this paper in relation to the CAT question was that it did not specifically look at comparing interprofessional vs single discipline group interventions, focused only on TBI (not ABI more broadly), and only included literature published up to 2014.
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Summary

There is evidence of interprofessional group-based rehabilitation interventions being conducted with patients with brain injury and some evidence of improvements in patient outcomes e.g., improved coping skills, adjustment and social communication skills. However, no high-quality research evidence has compared the clinical or cost-effectiveness of interprofessional group-based interventions versus single discipline group or individual interventions.

There is also limited documentation about how 'interprofessional' studied interventions were. Due to the multidimensional nature of interprofessional collaboration, limited descriptions, and insufficient reports on psychometric qualities of evaluation instruments, it is difficult to compare and evaluate interventions [8].

Implications for Practice/Research

There is some but limited evidence to support the use of interprofessional group interventions in STARS rehabilitation wards for patients with ABI. To justify continued resource and time allocation, better quality research evidence is required to compare the clinical and cost-effectiveness of this approach compared to other approaches. Given this, it is important for clinicians to consider formal measurement and evaluation to describe interventions and outcomes, and support scalability across wards and to other teams. Clinical teams should be supported to consider further quality improvement and research projects investigating a capability framework for group intervention facilitation, understand the 'recipe for success' for interprofessional interventions and develop collective competencies for interprofessional interventions.

What would you tweet?

Interprofessional groups are regularly used in #ABI rehabilitation. Yet evidence on whether these are more effective than single discipline therapy is missing; more research is needed.

Critical Appraisal Topic Group Team Members

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References

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- [6] English C, Hillier SL, Lynch EA. Circuit class therapy for improving mobility after stroke. Cochrane Database Syst Rev. 2017(6). DOI: 10.1002/14651858.CD007513.pub3
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