

The impact of music therapy on functional outcomes for children and adolescents with an acquired brain injury in paediatric hospital settings

Initial program theories and causal mechanisms from a realist inquiry

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Introduction

Growing evidence supports the effectiveness of music therapy in adult neurorehabilitation, and particularly for acquired brain injury (ABI). Evidence for children and adolescents remains limited, and the specific causal mechanisms behind its effectiveness have not yet been fully explored.

A realist inquiry is currently underway to examine the impact of music therapy on functional outcomes for children and adolescents with ABI during inpatient hospital or rehabilitation admissions. This research follows three phases, development, testing, and consolidation of program theory (see Figure 1), and uses multiple case studies to test these theories. Data collection includes surveys, observations, and focus group interviews with stakeholders such as patients, families, music therapists, and hospital ABI teams.

Realist research aims to explain what works, how, for whom, and under what circumstances, by developing and refining program theory. This involves identifying the interaction of intervention, context, actors, mechanisms, and outcome components (ICAMOs – see Figure 2) through an iterative process. This poster presents findings from Phase 1 of the realist inquiry.



Figure 1: Phases of realist evaluation

Aim

This inquiry explores whether a causal relationship exists between music therapy and patient outcomes for children and adolescents with ABI. Phase 1 identifies initial program theories (IPTs) and key mechanisms influencing functional outcomes in hospital settings, both nationally and internationally. Findings will inform the next phases of the realist evaluation.

Methods

Phase 1 follows five steps of realist synthesis guided by the key stages outlined by Pawson et al (2005) and realist interview methodology of Mukumbung et al (2020). The five steps include:

1. **Clarifying scope of the review:**
 - i. Appraisal of paediatric ABI literature.
 - ii. International online survey of music therapists.
2. **Development of initial program theories (IPTs)**
3. **Searching and appraising evidence** to test and refine IPTs.
4. **Data extraction and populating an evaluative framework** of ICAMO configurations
5. **Synthesising data:**
 - i. Refining IPTs and presenting them as if-then-because statements,
 - ii. Conducting online focus groups with international music therapists,
 - iii. Refining IPTs and testing them against the literature,
 - iv. Re-engaging international music therapists to review and agree IPTs for testing in Phases 2 and 3.

Results

Nineteen music therapists working in paediatric ABI completed the international online survey, representing 11 countries. Participants reported a varied experience (<2 years to >30 years) and qualifications (undergraduate to PhD). The 21-question survey explored the perceived impact of music therapy on functional outcomes for children and adolescents with ABI. Responses informed the development of IPTs, which were tested against existing paediatric music therapy evidence.

Through an iterative process ten IPTs were identified. These IPTs are currently being refined through national and international online focus groups with music therapists. Collectively the IPTs fall under five main themes that highlight that music therapy as part of paediatric neurorehabilitation strategies for children and adolescents with ABI in hospital settings:

1. **Supports recovery through personalised, holistic care** that fosters personal agency and meaningful engagement.
2. **Augments allied health treatment options and enriches patient-centred outcomes** within interprofessional neurorehabilitation teams.
3. **Offers emotional expression, improves capacity and strengthens recovery** through collaborative relationships.
4. **Facilitates neural activity and measurable functional outcomes** through the manipulation of musical elements.
5. **Requires understanding and support at all system levels** to ensure continued access for all stakeholders.

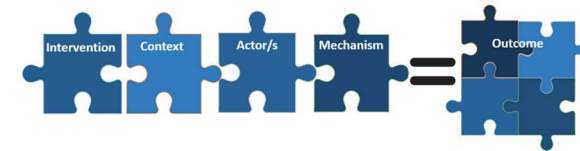


Figure 2: The key components (ICAMOs) of program theories

Conclusions

Phase 1 findings suggest that music therapy can positively impact functional outcomes for children and adolescents with an ABI during hospital or rehabilitation inpatient admissions. Testing and consolidation of the of IPTs in Phases 2 and 3 will determine the key components of the program that influence these outcomes.

Engaging stakeholders from multiple sites and perspectives will ensure a comprehensive investigation which consolidates the ICAMOs and program theories from diverse philosophical perspectives. Including medical and allied health professionals from varied training backgrounds and theoretical models will provide universally accurate and refined program theories.

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References

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