



The impact of early intervention specialist music therapy for patients' rehabilitation, recovery and well-being on a major trauma ward

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DESCRIPTION

Chiltern Music Therapy (CMT) is a provider of services in the assessment and care of patients in medical and neurorehabilitation settings and has a specialist team of music therapists with additional training in Neurologic Music Therapy (NMT). Neurologic Music Therapy is an evidence-based model of practice in which specific techniques are used to aid patients in the improvement of physical function, cognition, speech and communication as well as supporting emotional and mental health needs (W. L. Magee, Clark, Tamplin, & Bradt, 2017; Thaut, McIntosh, & Hoemberg, 2015). While these specialist CMT services have been implemented in longer term neurorehabilitation wards there appeared to be a gap in understanding if and how such a service would impact patients in acute neurorehabilitation, more specifically trauma. Therefore, a six-month pilot project was set-up from April to October 2018, funded by Irwin Mitchell Solicitors, in order to evidence the potential benefits of music therapy for patients on a major acute trauma ward in London.

CONTEXT

Major trauma results from forces outside of the body, such as falls, road traffic accidents, assaults, burns, shooting, stabbing or impalement, often requiring lifesaving interventions. For those who survive a traumatic injury; many will have permanent disabilities (National Institute for Health and Care Excellence, 2016; "Trauma Facts," n.d.). As well as resulting in physical and cognitive difficulties, long term effects may also include difficulties in mental health such as depression, anxiety and post-traumatic stress disorder (Wiseman, Curtis, Lam, & Foster, 2015).

The literature citing the potential impact of music therapy on those recovering from a brain injury, in both rehabilitation in the physical and cognitive domains (W. L. Magee et al., 2017; W. L. Magee & O'Kelly, 2015) as well as its potential impact on those suffering from psychological and emotional difficulties (Chan, Wong, & Thayala, 2011) suggests its applicability to patients who have experienced major trauma. Research has also suggested that music therapy may aid in coping during recovery for those who have undergone trauma (Garrido, Baker, Davidson, Moore, & Wasserman, 2015).

Therefore, the aims of the pilot project were:

1. To explore the benefits of music therapy as an integrated service in the multi-disciplinary care team on an acute trauma ward.
2. To explore the impact of music therapy on patient outcomes, including physical, cognitive, speech and communication and emotional well-being.
3. To evidence the benefits of music therapy for patients of acute trauma to staff, patients and families, specifically in the context of UK hospital care.

METHOD

One Music Therapist (MT), was onsite the acute trauma ward for 2 half days per week providing clinical work. This time allowed for ≤6 clinical sessions per week.

Prior to the start of the pilot, Chiltern Music Therapy provided presentations for clinical staff training, including two introductions to Neurologic Music Therapy, and a guide to referral criteria. All patients seen by the music therapists were referred by members of the Multi-Disciplinary Team (MDT), including SALT, OT, PT, Nursing staff, and members of the Trauma team.

Patients were referred to support functioning in the following areas:

Speech & Communication	Motor Skills
To work alongside the Speech and Language Therapy team to support patients with speech disorders and communication issues caused by brain injury or illness, such as expressive aphasia, apraxia or dysfluency.	To work alongside the Physiotherapy and Occupational Therapy teams to provide rehabilitation and maintenance programmes to improve strength and coordination of fine and gross motor skills, improve muscle control, range of motion, and grip.
Cognition (arousal, awareness, attention) and Learning Skills	Emotional Health and Well-Being
To provide MATADOC assessments to measure PDOC patients' level of awareness.	To support patients with emotional difficulties, reduce anxiety and depression and to provide opportunities for self-expression.
To improve and maintain memory, support decision-making and problem-solving skills, improve sustained, divided, and selective attention, focus and awareness.	To provide emotional support for adaptation to injury.

OUTCOMES

In order to collate information on how many patients the service could reach, as well as why patients were being referred, the music therapist kept an ongoing log of referrals as received by the MDT. To gather outcomes on patient impact, specific assessment tools were used depending on the patients' reasons for referral and needs. For those patients with low awareness, the Music Therapy Assessment Tool for Awareness in Disorders of Consciousness (MATADOC) was used. The MATADOC assesses awareness with a focus on the patient's observed responses to auditory stimuli, including salient music (Magee, Siegert, Daveson, Lenton-Smith, & Taylor, 2014). For those patients referred for communication needs, scales such as the *Speech Intelligibility: Self Assessment Form* were employed in order to note any changes in the patient's perceived improvement in speech intelligibility pre-and post-session. The Depression Intensity Scale Circles (DISC) (Turner-Stokes et al, 2005), a measure to assess the level of depression/mood for those with communication and

cognitive needs following brain injury, was used for patients presenting with low mood. As well as this, patient self-report, family and staff observations and case study examples were collected.

In the final month of the project a feedback questionnaire was sent to the multi-disciplinary team to explore the project's impact on patients as perceived by the staff, and to gain insight into the strengths and challenges of the project. The questionnaire consisted of 20 multiple-choice questions (with additional space for comments) focusing on the perceived impact of music therapy on patients, the perceived level of patient engagement, the contribution of the music therapy service as a whole, and suggestions for service improvement.

RESULTS

Between April and October 2018, 41 patients were referred across 5 wards, with an age range of 16-82, and a wide range of diagnoses and needs. Of these patients, 8 were female, and 33 were male. Trauma patients included those injured due to traffic accidents and life changing injuries, suicide attempts, crime and cancer. Reasons for patient referral to music therapy covered all areas with emotional well-being and engagement being the most prominent (34%) followed by referrals for MATADOC Assessment (20%) speech and communication (17%) cognition (17%) and motor skills (2%), for the remaining 10% of referrals reasons were not given.

Overall, 90% of trauma patients were referred to music therapy for psycho-social support, suggesting a significant need, amongst a patient population with life-changing injuries, for emotional support at the acute stage of their care. Examples of referral reasons for psycho-social support included patients exhibiting low mood, flashbacks, history of depression, poor engagement and anxiety.

Single Case Example

Results from a single case exemplifies how outcome measures were used to meet patient specific needs and goals. R was referred to music therapy in order to improve speech intelligibility and level of mood. For R, reduced intelligibility in speech resulted in breakdowns in communication as well as significant frustration and volatility. R was seen in music therapy two times per week (forty minute sessions) over four weeks. These sessions included work using Rhythmic Speech Cuing (RSC), in which speech rate is controlled using an external rhythmic stimulus to improve fluency, articulation rate, and intelligibility (Thaut & Hoemberg, 2014) as well as singing of familiar songs to improve breath control, volume of voice and enhance mood.

The Speech Intelligibility: Self-Assessment form was used to gather the patient's perception of his intelligibility pre and post session. Caregivers were also asked to rate speech intelligibility for the first and last session (pre and post) based on a five point likert scale with the first point being "I have no idea what this person is describing" to "I understand perfectly what this person is describing".

Figure 1 show the patient's perceived improvement in speech intelligibility for the first, mid (third) and final sixth session. "With metronome" refers to the patient's perceived intelligibility when speech was paired with a metronome. The metronome served as a stable time anchor to which the patient could adjust his pace of speech, in order to improve intelligibility, sharpness of articulation, and speech fluency. Caregivers perception of the patient's speech also suggests an improvement from the first to last session (see Figure 3). A positive impact can also be seen in the patient's perception of mood pre and post session as demonstrated in Figure 4.

Figure 1: Patient's perceived improved in speech in the first, mid and last music therapy sessions

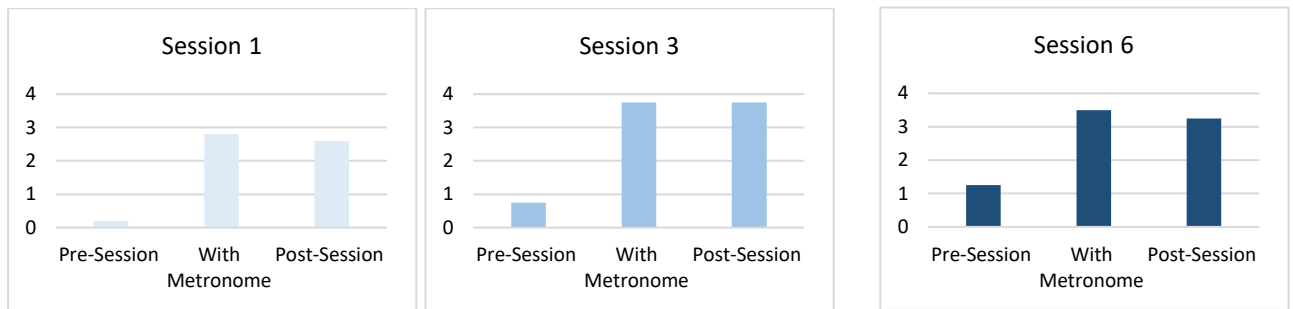


Figure 2: Carer perception of patient's speech intelligibility from the first to last session.

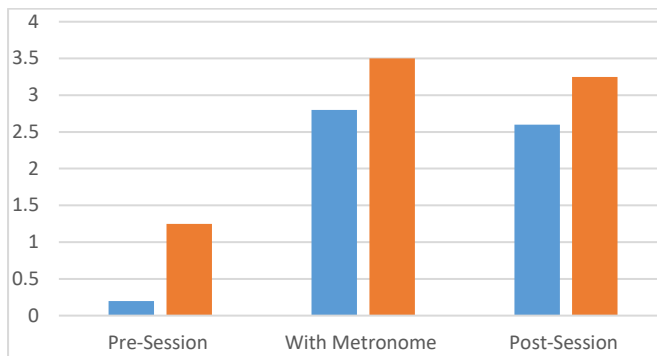
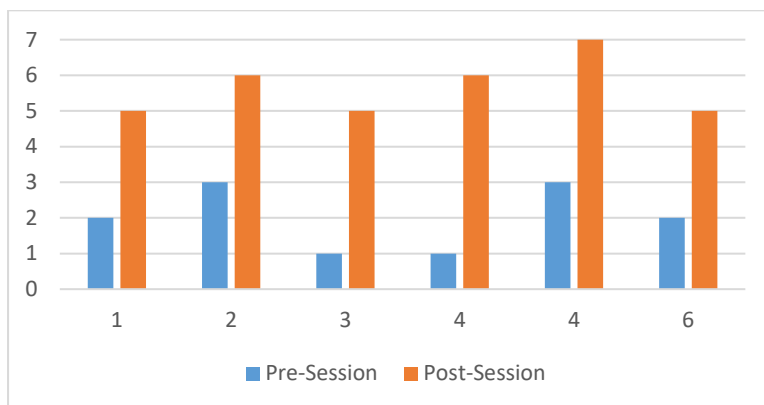


Figure 3: Patient perception of mood pre and post session as rated using the DISC



Overall, short-term improvements were seen in functional speech intelligibility (as rated by patient perception and caregivers). Music Therapy also had a positive impact on the patient's emotional well-being. However, further sessions would be needed in order to increase the carryover between sessions and post-treatment.

Staff Questionnaire

19 members of staff responded to the feedback questionnaire. In reporting their perception of the impact music therapy had in specific areas of care the majority of respondents felt music therapy aided in patient's mental health, overall emotional well-being, improvement in mood and decrease in anxiety, followed by engagement in therapy and speech and communication (See Figure 4)

The following written comments by staff further solidify the observed impact of music therapy on patient mood and engagement.

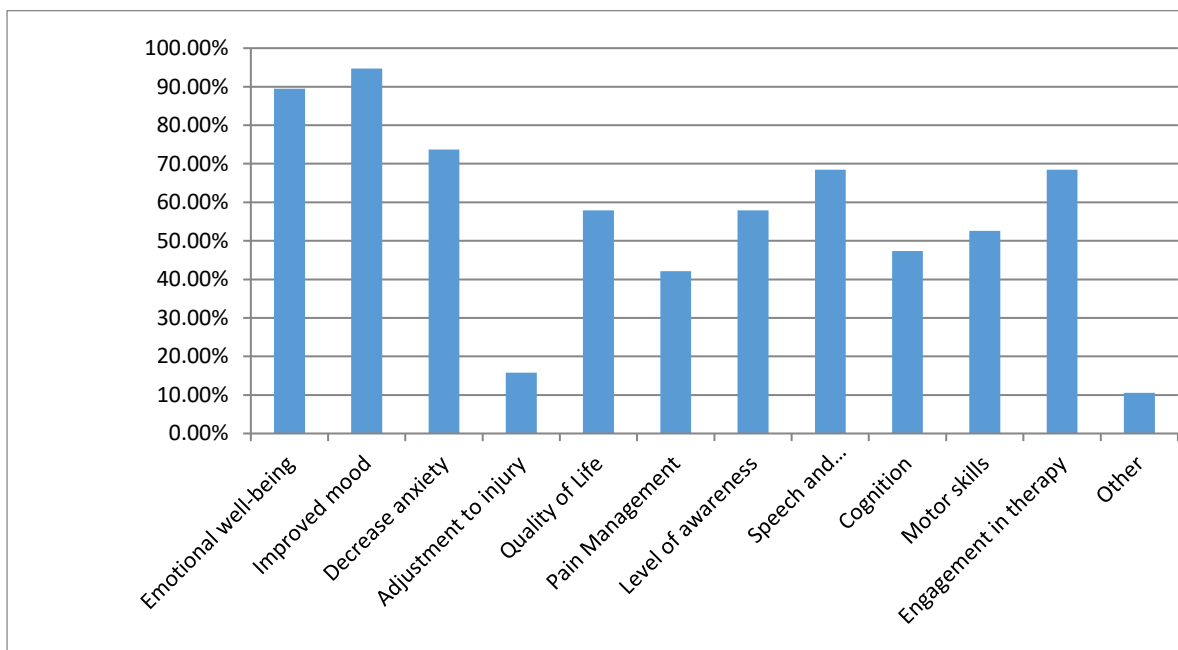
'We had an incredibly unwell young lady who would do very little with OT/PT and I NEVER saw smile until she had music therapy where she was able to engage in some really meaningful activity which massively helped her focus on what her positives were in life and motivate her for therapy.'

'The whole MDT were often amazed at the level of engagement our patients displayed through improved facial expression in patients with flat affect, in turn taking and participation in patients where overt behavioural issues and use of verbal expression in patients we had only witnessed using non- verbal communication.'

'I saw patients with severe cognitive and motor deficits light up and interact emotionally, and physically much more than I had previously seen them do so when with other staff.'

'Pts who were withdrawn and reluctant to engage with services responded well to the music therapy which appears to have boosted their confidence and/or resilience to be able to deal with other therapy in a more productive way.'

Figure 4: Staff perception of music therapy's impact on specific areas of care



As well as the above, 80% of respondents felt that music therapy contributed significantly toward the assessment and/or early rehabilitation of patients on the ward while 10% felt the service made a moderate contribution and 10% felt the service made a small contribution.

70% of staff respondents observed patients engaging in music therapy when they had not been engaging in other therapies, while 30% did not observe this to occur.

Finally, 80% of respondents felt that music therapy created an improved and more comprehensive service for patients, while 30% felt music therapy slightly improved the service for patients. All respondents stated that they would recommend music therapy to other trauma services in the healthcare sector.

LEARNING POINTS

A major challenge of the pilot proved to be significant time constraints due to a service of one music therapist on the ward for two half-days. This meant that not all patients referred by the MDT could be seen. Furthermore, it was difficult for the music therapist to be thoroughly embedded in the care team, for example, not being present for relevant MDT meetings.

During the six months, there was a high turnover amongst the clinical staff. As many of the staff were on 9-month rotations, by end of the 6-month pilot only 2 members of staff had seen the original pre-service presentation. Furthermore, the timing of the pilot during the summer period meant that many staff were on annual leave and a number of staff were overworked.

Due to the high acuity of patients, treatment goals were often yet to be determined, which led to challenges in gathering meaningful, measured outcomes. As well as this there was often a great deal of uncertainty around when patients would be discharged, which impacted treatment planning.

Looking Forward - at the hospital

Upon completion of the pilot it was recommended that Neurologic Music Therapy be included as part of the Royal London's established team of therapists with at least two full days of Music Therapy provided each week. Two full days would begin to allow for more interaction with staff as well as more time to take on a fuller caseload of referrals.

A full day service would include the creation and handover of Music Therapy Home Programmes with staff and family members in order to enable patients to continue and maintain their progress once they have been discharged from the hospital.

In response to the high turnover of staff it was recommended that one half-day every six months be earmarked for providing Continued Professional Development and staff training opportunities onsite. This would also help to ensure a more streamlined referral process.

To embed the music therapist more fully into the MDT a model in which the Music Therapist works closely with one key member of staff within each therapy team (Speech and Language, Occupation Therapy and Physiotherapy) is recommended to ensure that the referral system is managed and implemented as effectively as possible. In addition, the Music Therapist's attendance at team or departmental meetings would further aid to embed the service more fully, effectively and efficiently within the ward environment.

Looking forward - beyond the hospital

The following recommendation was given by a staff member concerning continuity of service and community access:

"When music therapy started on our wards and we witnessed the value of the service; it showed that there is a definite gap in community access. It would be useful to be able to provide music therapy for a short period of time for our patients leaving hospital. There are often long waits for community services, and this is a crucial time in a patients' recovery"

Therefore, in the future, a Music Therapy service would want to support patients during the transition before community care, as well as provide support during long wait times, periods of

stress and uncertainty. Chiltern Music Therapy would then ideally have the capacity to follow patients into the community.

This can be done by linking in with local support groups at discharge (Headway, the Brain Injury Group, and The United Kingdom Acquired Brain Injury Forum), providing home Programs to support functional carryover, providing 1:1 NMT sessions at home, training care staff and families, and inviting patients to Chiltern Music Therapy community groups.

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