

UC San Diego

Independent Study Projects

Title

Massage therapy in the neurologic intensive care unit

Permalink

<https://escholarship.org/uc/item/90k2v26j>

Authors

Chang, Victoria A.
Raskin, Erin
Karanjia, Navaz
et al.

Publication Date

2019

Introduction

- Integrative medicine combines conventional and complementary therapeutic approaches to provide holistic patient care
- Demonstrated benefits of massage therapy in healthcare settings:
 - Decreased pain in fibromyalgia patients [1]
 - Reduced nausea, fatigue, pain in cancer patients [2]
 - Enhanced cytotoxic T-cell activity in HIV-positive individuals [3]
 - Decreased pain, anxiety, tension in post-operative surgical patients [4,5]
- Integrative medicine studies often exclude patients w/ brain injury
 - Questionable safety
 - Inability to monitor subjective effects (many comatose/sedated patients)
 - Negative effects on intracranial pressure
- Study purpose: to assess the feasibility and safety of massage in the neurocritical care unit (NICU) and its impact on patient vital signs, subjective pain assessment, and complications

Hypotheses

- Massage patients experience improvement in vital signs (heart rate, respiratory rate, blood pressure) pre- and post- massage
- Massage patients experience improvement in subjective pain score pre- and post- massage
- Massage patients do not experience complications as a result of the massage

Materials and Methods

- 21 NICU patients received massage during summer 2017
- Exclusion criteria: < 18 years old, imprisoned, pregnant, clinically unstable, known deep venous thrombosis.
- 22 cases analyzed (1 patient received 2 massages)
- Extracted from medical record:
 - Patient demographics
 - Neurologic diagnosis and severity
 - Pre- and post-massage vital signs, pain scores, therapist feedback
 - In-hospital, post-massage complications
- Outcome assessment
 - Compare objective parameters pre- and post- massage
 - In-hospital complications were analyzed by neurocritical care specialists blinded to objective and subjective data for possible relationship to massage

Table 1: Baseline Characteristics (N = 21)

Age	N
20-40	2
41-50	4
51-60	8
61-70	3
71+	4
Mean = 57; Median = 56 (SD = 14)	
Gender	N
Male	10
Female	11
Primary Diagnosis	N
Intracranial hemorrhage*	9
Ischemic stroke	3
Aneurysm s/p elective intervention	2
Status Epilepticus	2
Vertebral artery dissection	2
Brain abscess	1
Cervical stenosis	1
Guillain-Barre Syndrome	1

* Includes intraparenchymal hemorrhage, hemorrhagic stroke, subarachnoid hemorrhage

Results

- Among 8 subjects who could provide a subjective pain score [0-10], pain scores decreased by 1.75 points (p<0.05) post-massage
- 10 subjects reported enjoyment and/or relaxation with massage
- No statistically significant changes in HR, MAP, RR
- 12 patients experienced complications (including 3 deaths) during their hospitalizations, none of which could be attributed to massage

Table 2: Pre- and Post-Massage Objective Findings (N = 22)

	N	Mean	P-value	95% Confidence Interval [Lower, Upper]
HR Difference	22	-1.045	0.556	[-4.680, 2.590]
MAP Difference	22	-2.227	0.327	[-6.846, 2.391]
RR Difference	22	0.500	0.594	[-1.420, 2.420]
Pain Score Difference	8	-1.750	0.047	[-3.470, -0.030]

Conclusion

- Massage therapy in the NICU appears to be safe, feasible, and improves patient pain self-assessment without vital sign instability
- Initial phase of larger pilot study comparing cases with matched controls to evaluate impact of massage therapy on outcomes

References

- Sunshine W (1996) Fibromyalgia benefits from massage therapy and transcutaneous electrical stimulation. Journal of clinical rheumatology [1076-1608] 2: 1 pg:18 -22
- Cassileth BR (2004). Massage therapy for symptom control: outcome study at a major cancer center. Journal of Pain and Symptom Management , Volume 28 , Issue 3 , 244 - 249
- Ironson G, Field T, Scafidi F, [...], Fletcher MA (2010) Massage Therapy is Associated with Enhancement of the Immune System's Cytotoxic Capacity, International Journal of Neuroscience, 84:1-4, 205-217.
- Drackley NL, Deqnim AC, Jakub JW, Cutshall SM, Thornley BS, Brodt JK, Vanderlei LK, Case JK, Bungum LD, Cha SS, Bauer BA, Boughhey JC (2012) Effect of massage therapy for postsurgical mastectomy recipients. Clin J Oncol Nurs 16: 121-124.
- Cutshall SM, Wentworth LJ, Engen D, Sundt TM, Kelly RF, Bauer BA (2010) Effect of massage therapy on pain, anxiety and tension in cardiac surgical patients who received standard care. Complement Ther Clin Pract 16: 92-95.

Figure 1: Massage Location

