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# Survey of parental acceptance of massage therapy, energy therapy and acupuncture for their children in the acute pediatric inpatient rehabilitation setting

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ABSTRACT

*Objective:* To examine factors that influence parents' decision to accept or decline complementary therapies on an inpatient rehabilitation unit.
*Design/Setting:* Parents of children aged 2–21 admitted for acute pediatric rehabilitation were provided a survey regarding their child's use of massage, energy therapy and acupuncture during admission. They were also asked about religious beliefs, education, perceived severity of injury and perceived response to the therapies. The study was conducted on the Inpatient Acute Pediatric Rehabilitation Unit at Kennedy Krieger Institute in Baltimore, Maryland, USA.
*Results:* Of those who completed the survey (n = 38), 39% accepted massage services, 49% accepted energy therapy, and 16% accepted acupuncture for their child. Acceptance of massage services was significantly correlated with belonging to an organized religion ($p < 0.05$). Participation in weekly religious services was associated with rejection of energy therapy ($p < 0.01$). Prior parental experience with massage and acupuncture was associated with acceptance of these services for their child ($p < 0.01$). Chronicity of condition and family education was not related to acceptance or rejection of services. Over 80% of parents felt massage and energy therapy helped the recovery process. In 63% of parents surveyed, acupuncture was felt to help the recovery process.
*Conclusions:* Prior exposure to massage therapy and acupuncture was the most important factor in a parent accepting these services for their child. All three services were subjectively felt to have facilitated recovery. Future studies should assess subjective versus objective utility of these therapies in acute pediatric rehabilitation.



## 1. Introduction

The website of the National Center for Complementary and Alternative Medicine (NCCAM, part of the National Institutes of Health) refers to Complementary and Alternative Medicine (CAM) as "complementary health approaches that fall outside typical mainstream medical care." It defines complementary medicine as the use of non-mainstream approaches to health care together with conventional medicine, whereas alternative medicine is considered to take the place of conventional medicine.[1]

CAM use in the pediatric population has been well documented.[2–12] The 2007 National Health Interview Survey, conducted by the Centers for Disease Control and Prevention, analyzed data regarding 9417 children under age 17. This study revealed that 11.8% of children had used CAM in the 12 months prior to the survey administration and revealed certain demographics that increased the likelihood that a child would receive CAM. These factors included white race, increased socio-economic status and complex medical conditions.[13] Use of CAM in chronically ill children and children with disabilities has also been well documented in the medical literature.[14–34]

A study by Lorenc et al. regarding CAM use demonstrated a socio-behavioral model for decision making, with decisions made based on variables including predisposing factors, enabling factors, need factors and healthcare experience. Predisposing factors included demographics and belief systems. Enabling factors

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included resources, access to CAM and availability. Need factors including severity of health problems and perceived need including parents' assessment of health status. The most important factor, however, was determined to be parental experience with CAM.[35] McCurdy et al. assessed the use of CAM in pediatric oncology patients and noted that increased use of CAM was noted in patients who considered themselves very religious. The most common types of CAM utilized were faith healing, megavitamins/minerals, massage, dietary supplements, relaxation techniques, and herbal medicines/teas.[36]

A review of the literature found there is limited published data regarding the use of CAM in children receiving acute inpatient rehabilitation. As our setting provides acupuncture, massage and energy therapy without additional cost to parents, analysis of the use of CAM in our setting provides insight into parental decision making regarding the use of CAM for their children with the removal of financial constraints. The objective of our study was to determine why parents accepted or declined complementary therapies for their children in the immediate period following acute spinal cord injury, acute brain injury or following orthopedic surgery. We hypothesized that the reasons for participation in CAM may be related to the severity of condition/injury, the chronicity of condition/injury, educational attainment of the family, prior CAM experience, and religious belief systems.

Our facility provides traditional acute rehabilitative services (physical therapy, occupational therapy, speech and language therapy and therapeutic recreation) as well as optional complementary services (massage therapy, acupuncture and energy therapy). Parents are made aware of CAM services at the time of admission by nursing staff. Children participate in these modalities if not medically contraindicated. A physician must write an order for the complementary therapy. There is no additional billing to the family for these services.

The 2007 National Health Interview Survey provides useful and concise definitions of the CAM services our facility offers:

Acupuncture describes a family of procedures involving stimulation of anatomical points on the body by a variety of techniques. American practices of acupuncture incorporate medical traditions from China, Japan, Korea, and other countries. The acupuncture technique that has been most studied scientifically involves penetrating the skin with thin, solid, metallic needles that are manipulated by the hands or by electrical stimulation.

Energy healing therapy involves the channeling of healing energy through the hands of a practitioner into the client's body to restore a normal energy balance and, therefore, health. Energy healing therapy has been used to treat a wide variety of ailments and health problems, and is often used in conjunction with other alternative and conventional medical treatments.

Massage therapists manipulate muscle and connective tissue to enhance function of those tissues and promote relaxation and well-being.[13]

In our inpatient pediatric rehabilitation setting, patients tend to fall into two groups: chronic conditions (such as cerebral palsy) undergoing an orthopedic procedure and new onset conditions with resultant new disabilities (such as spinal cord injury or traumatic brain injury). There were no restrictions to access to the service based on resources, access, or availability.

## 2. Methods and materials

### 2.1. Participants

Parents of children admitted for rehabilitation following orthopedic surgery, brain injury or spinal cord injury at our facility were eligible for participation in the study. Exclusion criteria included non-English speakers, parents of children aged less than 2 years or over 21 years of age, and parents of children admitted for reasons other than the above. Children in foster care were also excluded.

**Table 1**
Background Parent and Child Information.

| | Mean (Std Deviation) | Range |
|---|---|---|
| Parent age (years) | 43.9 (9.7) | 23–65 |
| Parent Education (grade) | 15.1 (6.3) | 12th to post graduate |
| Age of child (years) | 12.2 (2.4) | 2–21 |
| Time since diagnosis (years) | 2.74 (2.2) | 0–20 |
| Gender | Male 54% | Female 46% |
| Parent rating of severity of injury | | |
| | Severe | Non-Severe |
| Orthopedic Surgery | 7 (58%) | 5 (42%) |
| Brain Injury | 16 (100%) | 0 (0%) |
| Spinal Cord Injury | 11 (100%) | 0 (0%) – |
| Other | 4 (100%) | 0 (0%) |
| Parental religious practice information | | |
| | Yes | No |
| Organized religion | 24 (66%) | 12 (33%) |
| Attends weekly service | 15 (45%) | 18 (55%) |
| Prayer to help recovery | 34 (97%) | 1 (3%) |
| Daily Prayer | 30 (83%) | 6 (17%) |

### 2.2. Study procedures

Per our institute admission protocol, all parents are provided information at the time of admission regarding options for complementary therapies. CAM services were not promoted to parents prior to admission. Complementary services did not interfere with traditional rehabilitation therapies. CAM services were provided 1–2 times per week and in the evening. The frequency of therapy sessions was based on CAM provider availability and needs of individual patients.

During the ten month study period, eligible parents were provided an informational flyer explaining our study. Approximately one week prior to discharge, a study team member contacted parents. Parents who agreed to participate were given a paper survey of questions about their child's use of CAM during the admission. Parents were not helped to complete the survey.

Background information collected included parental age, parental educational level, gender and age of their child. Parents indicated if their child was admitted for a severe and/or life threatening condition. Parents provided the date of injury or diagnosis of the condition that resulted in admission to acute rehabilitation. Duration of time since injury or diagnosis was based on that date. Parents provided information regarding religious practices including if they identified with an organized religion, if they attended weekly services, if they prayed daily and if they felt prayer would help with their child's recovery. (See Table 1) Parents were asked about prior awareness, parental and child use massage therapy, energy therapy and acupuncture. (See Table 2) Parents were surveyed regarding reasons for allowing their child to receive massage therapy, energy therapy and acupuncture. (See Table 3) Finally, parents reported if each CAM modality their child received helped with recovery. (See Table 4)

No identifying information was collected. The Johns Hopkins Medicine Institutional Review Board granted exempt research status for this study.

### 2.3. Analysis

Chi-square analyses (for discrete variables) and Analysis of Variance (for continuous variables) were used to identify differences in characteristics of parents who accepted each of the CAM services offered and those who declined. Specifically, we compared