The Effectiveness of Art Therapy Interventions in Reducing Post Traumatic Stress Disorder (PTSD) Symptoms in Pediatric Trauma Patients

Linda Chapman MA, ATR-BC, Diane Morabito RN, MPH, Chris Ladakakos PhD, Herbert Schreier MD & M. Margaret Knudson MD

To cite this article: Linda Chapman MA, ATR-BC, Diane Morabito RN, MPH, Chris Ladakakos PhD, Herbert Schreier MD & M. Margaret Knudson MD (2001) The Effectiveness of Art Therapy Interventions in Reducing Post Traumatic Stress Disorder (PTSD) Symptoms in Pediatric Trauma Patients, Art Therapy, 18:2, 100-104, DOI: 10.1080/07421656.2001.10129750

To link to this article: http://dx.doi.org/10.1080/07421656.2001.10129750

Published online: 22 Apr 2011.

Submit your article to this journal

Article views: 6151

View related articles

Citing articles: 42 View citing articles
The Effectiveness of Art Therapy Interventions in Reducing Post Traumatic Stress Disorder (PTSD) Symptoms in Pediatric Trauma Patients

Linda Chapman, MA, ATR-BC, San Francisco, CA, Diane Morabito, RN, MPH, San Francisco, CA, Chris Ladakakos, PhD, Oakland, CA, Herbert Schreier, MD, Oakland, CA, and M. Margaret Knudson, MD, San Francisco, CA

Abstract

Although post traumatic stress disorder (PTSD) in children has been extensively studied during the past 15 years, little research exists regarding the efficacy of treatment interventions. This report describes an outcome-based art therapy research project currently conducted at a large urban hospital trauma center. Included are the theoretical rationale and overview of an art therapy treatment intervention called the Chapman Art Therapy Treatment Intervention (CATTI) designed to reduce PTSD symptoms in pediatric trauma patients. Used in this study, the CATTI was evaluated for efficacy in measuring the reduction of PTSD symptoms at intervals of 1 week, 1 month, and 6 months after discharge from the hospital. An early analysis of the data does not indicate statistically significant differences in the reduction of PTSD symptoms between the experimental and control groups. However, there is evidence that the children receiving the art therapy intervention did show a reduction in acute stress symptoms.

Introduction

In the United States, pediatric trauma is the leading cause of death after 1 year of age. Each year, over 2 million children require hospitalization after sustaining traumatic injuries. Over 100,000 children are permanently disabled, and 8,500 die each year from accidental injuries. It is estimated that 300 children are wounded each day by firearms, and five are murdered. In addition to the psychological costs to the family and society incurred by this epidemic, over $15 billion is spent annually to care for injured children (Baker & Waller, 1989; Deal, Gomby, Zippiroli, & Behrman, 2000).

Physical traumatic injuries generate emotional phenomena that include a defensive behavioral pattern, a grief reaction, and a psychological retreat. Additionally, some patients exhibit PTSD symptoms including reexperiencing the event, avoidance of thoughts and feelings about the event, and hyper-arousal in the presence of relevant stimuli (American Psychiatric Association, Diagnostic and Statistical Manual of Mental Disorders IV, 1994).

To address these symptoms in a population of hospitalized children and adolescents in an urban Level I Trauma Center, a program directed by the first author was established in 1988 by the Departments of Pediatrics and Psychiatry at the University of California San Francisco at San Francisco General Hospital. The program offered psychological treatment services as a standard component of care for the 1,200 patients age 0-18 admitted annually. Seventy percent of the patients were trauma patients, victims of gunshot or stab wounds and other acts of violence, severe child abuse, or unintentional injuries such as motor vehicle accidents, falls, and burns. The other 30% were admitted for acute and chronic childhood illnesses such as asthma, sickle cell disease, and neglect.

Children were seen beginning in the intensive care or pediatric ward, and were offered individual trauma resolution therapy, group therapy when applicable, milieu activity therapy, and Child Life-oriented services throughout their hospital stay.

With very limited opportunity for follow-up psychotherapy services for the patients, it was hoped that early trauma resolution therapy during hospitalization would reduce PTSD symptoms and behaviors that may lead to disruptions in development, future psychopathology, or recurring injuries—the proposed but not systematically tested results of untreated PTSD (Hubbard, Realmuto, Northwood, & Masten, 1995; Tellez, Mackersie, Morabito, Shagoury, & Heye, 1995; Terr, 1990).

History of the Current Project

Art therapists’ observations of hospitalized, traumatized children indicated behaviors consistent with the DSM-IV definition of PTSD and the criteria used for this diagnosis. Re-experiencing phenomena were observed in post traumatic play, psychobiological reactions, and recurrent intrusive images. Avoidance symptoms were exhibited in gaze aversion, withdrawal, dissociative episodes, apathy toward primary caregivers, refusal to comply with treatment plans, and regressed developmental skills. Symptoms of increased arousal were observed in nightmares and sleep disturbances, irritability, new aggressive behaviors, exaggerated startle responses, and anxious attachment. The DSM-IV suggests that these symptoms must be present for a period of 1 month or longer to qualify for the diagnosis.

As part of the programming at San Francisco General Hospital, an art therapy treatment intervention was developed to reduce PTSD symptoms in patients prior to their discharge from
the hospital. Though not in a controlled study or systematic appraisal, the intervention was implemented over a 10-year period with hundreds of hospitalized pediatric trauma patients across the developmental spectrum with results that warranted a controlled study. After nearly 10 years of programming, a research proposal was submitted to the San Francisco Injury Center (SFIC) for Research and Prevention, one of 10 Injury Control Centers funded by the National Centers for Disease Control and Prevention (CDC) in Washington, DC.

In a collaborative effort with Children’s Hospital Oakland in Oakland, California, the project was expanded to include several specific investigations. The specific aims of the study were:

- To determine the incidence rate of PTSD in pediatric trauma patients following an acute traumatic injury
- To determine the outcome of a specific art therapy treatment intervention in reducing PTSD symptoms in a population of hospitalized children
- To determine the outcome of the intervention at 1-week, 1-month and 6-month follow-up evaluations
- To examine the ability of parents or caregivers to assess the child’s level of stress
- To examine the ability of nursing staff to assess the child’s level of stress

This report features the intervention component of the project, as other aspects of the study are beyond the limitations of a brief report. Other publications covering other specific aims of the project are currently in preparation.

Method

The study is a prospective, randomized cohort design. Subjects were children 7 to 17 years old who had been admitted to a Level I Trauma Center for traumatic injuries. The sustained injury must have been of sufficient severity to require the child to remain at the hospital for a minimum of 24 hours. Children were excluded if admitted for injuries resulting from burns, child abuse, and severe head injury. Severe head injury was defined as an Abbreviated Injury Scale ≥3.

Unlike the adult literature, child PTSD literature indicates that the type and severity of the trauma may affect the incidence of PTSD. Therefore, an attempt was made to create a sample of similarly traumatized children. Non-English-speaking children and parents/caregivers were not included in the study due to a lack of non-English-speaking therapists and interviewers.

Assessment and Follow-Up Tools and Procedures

The following assessment measures were used to assess baseline measures of PTSD symptoms in all children, parents, and caregivers enrolled in the study.

The measurement used to pretest and posttest the study participants was The Children’s Post Traumatic Stress Disorder Index (PTSD-I), designed and validated by Robert Pynoos, MD (1997) for the assessment of post traumatic stress reactions of school age children and adolescents after exposure to a broad range of traumatic events. The PTSD-I is a self-report measure that asks the individuals to respond to a 20-item inventory of symptoms based primarily on the diagnostic criteria in the DSM-IV. The PTSD-I also includes an adolescent and parent version to assess parents’ reports of their children’s trauma symptoms. The PTSD-I scores are categorized according to the following breakpoints: raw score ≤12, doubtful PTSD; score of 12-24, mild level of PTSD; score of 25-39, moderate level of PTSD; score of 40-59, severe PTSD; score ≥60, very severe PTSD. Interviews are repeated 1 week after injury, 1 month after hospital discharge, and 6 months after hospital discharge. One year interviews are currently being conducted for children who continue to demonstrate symptomatology at 6 months. The age range for the PTSD-I spans from age 5 to adulthood.

Baseline Measures

- University of California at Los Angeles Post Traumatic Stress Disorder Index (PTSD-I) Child or Adolescent Version (Rodriguez, Steinberg, & Pynoos, 1997)
- University of California at Los Angeles Post Traumatic Stress Disorder Index (PTSI-I) Parent Version (Rodriguez, Steinberg, & Pynoos, 1997)
- Post Traumatic Stress Disorder Diagnostic Scale (Foa, 1995)
- Family Environment Scale (Moos & Moos, 1994)
- Nursing Checklist (three shifts) (modified version of PTSD-RI-Parent Version)

Postintervention Measures

The same measures, with the exception of the Nursing Checklist, were administered to all children and parents or caregivers enrolled in the study at 1-week, 1-month, and 6-month intervals.

Procedurally, all children admitted to the trauma service were screened within 24 hours of admission. The children’s families were offered a description of the project and an explanation of the assessment, treatment, and follow-up procedures. The interviewer obtained permission and proper documentation from child and parent or caregiver to participate in the study, and the baseline measures were completed by the parent and child. Those children scoring ≤12 on the PTSD-I were randomized to a control group or the intervention group. The control group received usual hospital care. The intervention group received the art therapy intervention from one of two participating art therapists. A group of children with no PTSD symptoms were also assessed and followed to determine a possible delay in symptom presentation.

Chapman Art Therapy Treatment Intervention (CATTI)

A specific drawing treatment intervention was developed by the first author as a brief, trauma resolution method. The Chapman Art Therapy Treatment Intervention (CATTI) is designed for incident-specific, medical trauma to provide an opportunity for the child to sequentially relate and cognitively comprehend the traumatic event, transport to the hospital, emergency care, hospitalization and treatment regimen, and posthospital care and adjustment.

As the literature suggests, in cases of severe PTSD, incident-specific, individual treatment is indicated (Frederick, 1985; Shelby, 2000), and “trauma mastery must be incident-specific for specific resolution of the problem” (Frederick, 1985, p. 93). The CATTI offers developmentally and culturally sensitive trauma resolution therapy to reduce PTSD symptoms, and to facilitate the integration of the experience into one’s larger, autobiograph-
ART THERAPY AND PTSD

1.4, ± SD 3.2 days).

As illustrated in Table 1, ethnic representation is fairly well mixed. The finding that 70% of the trauma victims were male is consistent with adult trauma statistics. The most common mech-

CATTI Procedure

The CATTI begins with a graphic kinesthetic activity designed to stimulate the formation of images by activating the cerebellum (Lusebrink, 1990). The motor activity allows for a release of tension, and the rhythm and motion serve as a method of relaxation (Lusebrink, 1990) to aid in tolerating the stressors (Frederick, 1985). The kinesthetic activity is followed by a series of carefully worded directives to elicit a series of drawings designed to complete a coherent narrative about the event. Each drawing in the narrative is followed by an opportunity for the child to offer accompanying verbalizations related to each image.

The systematic method of accessing the material is consistent with the child’s visual and sensory modes of recording traumatic experiences (Terr, 1990; van der Kolk, 1994). The drawings, or kinesthetic activity, activate the limbic system, the center for emotional and perceptual processes. This is most often expressed behaviorally in tears, or a loud, angry voice. The emotional experience is considered to be essential in order for a corrective emotional experience to occur (Schore, 1994). Children’s emotional expressions are validated by the therapist as normal responses to the traumatic event to universalize their experience and reduce anxiety (Frederick, 1995).

The affective expression is often followed by a rapid shift to cognitive functioning, evidenced in the child’s ability to utilize language and sequentially relate a coherent narrative about the event and ensuing medical care. The child is also able to formulate adaptive coping mechanisms, and in some patients, the orbital prefrontal system is engaged as the child’s dialogue includes more complex concepts such as consequences, compassion, and a moral imperative.

Inherent in the CATTI is the opportunity for the child to maintain control over the expression and containment of his or her graphic and verbal traumatic material. The child is able to express trauma-specific fears (Terr, 1990), perceptions, and misperceptions about the event, medical care, and future. The child is also able to relate his or her own unique story in a manner consistent with his or her level of graphic, perceptual, and cognitive development.

After completing the drawing and verbal narrative, the child is engaged in a retelling of the event, using the drawings to illustrate the narrative. During the retelling, numerous issues are addressed, including but not limited to: misperceptions, rescue and revenge fantasies, blame, shame and guilt, coping strategies, treatment and follow-up plans, traumatic reminders, and reintegration strategies.

Preliminary Results

A total of 85 patients were enrolled in the study: 31 received the art therapy intervention, 27 received standard hospital care, and 27 did not present PTSD symptoms at the baseline interview. Hospital care was defined as the normal and usual course of pediatric care including Child Life services, art therapy, social work, and psychiatric consults.

Regarding child-specific variables, the average age of the child was 10 years (mean 10.7, SD ± 2.6 years). The average length of stay in the hospital was 4.4 days (mean 4.4, SD ± 5.5 days), and average length of stay in the ICU was 1.4 days (mean 1.4, ± SD 3.2 days).

Demographics

As illustrated in Table 1, ethnic representation is fairly well mixed. The finding that 70% of the trauma victims were male is consistent with adult trauma statistics. The most common mech-
anism of injury is primarily from automobile vs. pedestrian or automobile vs. bicycle accidents. Other injuries represented include sports, animal, and penetrating injuries and falls. As shown in Table 2, most of the injuries involved the extremities, consistent with the high incidence of injuries resulting from motor vehicle accidents in the sample.

**CATTI vs. Standard Hospital Treatment**

No significant overall difference in patients’ PTSD-I scores was found between those who received the CATTI and those receiving standard hospital treatment. Table 1 illustrates the decrease in symptoms for each group of children from baseline to 1 week and 1 month. Although no statistically significant difference was determined, examination of individual symptom clusters revealed that intervention produced a reduction in all DSM-IV PTSD Criteria C (avoidance) symptoms at 1 week and sustained that decrease 1 month. While this finding could be due to regression to the mean, it may indicate that the CATTI may be effective in reducing acute stress symptoms, and may allow children to discuss and process their traumatic experiences more effectively when compared to the standard treatment group.

**Discussion**

It is imperative for the art therapy profession to conduct controlled studies to measure the efficacy of art therapy treatment interventions and strategies. This prospective research project offers one investigation that contributes to that effort.

There are several limitations to the study. First, most of the children in the sample suffered mild to moderate injuries, and the sample size is fairly small. Second, the assessment tools may not be sensitive enough to accurately measure symptoms of hospitalized acutely injured children. The presentation of post traumatic stress

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Race/Ethnicity</td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>35.3%</td>
</tr>
<tr>
<td>Black</td>
<td>29.4%</td>
</tr>
<tr>
<td>Asian</td>
<td>23.5%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>11.8%</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>70.6%</td>
</tr>
<tr>
<td>Female</td>
<td>29.4%</td>
</tr>
<tr>
<td>Mechanism of</td>
<td></td>
</tr>
<tr>
<td>MVA/MCA</td>
<td>23.5%</td>
</tr>
<tr>
<td>Auto/Ped or Bike</td>
<td>47.1%</td>
</tr>
<tr>
<td>Other</td>
<td>29.4%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parental Marital Status</td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>41.2%</td>
</tr>
<tr>
<td>Single</td>
<td>58.8%</td>
</tr>
<tr>
<td>Body Region of Most Severe Injury</td>
<td></td>
</tr>
<tr>
<td>Head</td>
<td>17.6%</td>
</tr>
<tr>
<td>Chest</td>
<td>5.9%</td>
</tr>
<tr>
<td>Abdomen</td>
<td>5.9%</td>
</tr>
<tr>
<td>Extremities</td>
<td>58.9%</td>
</tr>
<tr>
<td>Multiple</td>
<td>11.8%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mechanism of</td>
<td></td>
</tr>
<tr>
<td>MVA/MCA</td>
<td>23.5%</td>
</tr>
<tr>
<td>Auto/Ped or Bike</td>
<td>47.1%</td>
</tr>
<tr>
<td>Other</td>
<td>29.4%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parental Marital Status</td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>41.2%</td>
</tr>
<tr>
<td>Single</td>
<td>58.8%</td>
</tr>
<tr>
<td>Body Region of Most Severe Injury</td>
<td></td>
</tr>
<tr>
<td>Head</td>
<td>17.6%</td>
</tr>
<tr>
<td>Chest</td>
<td>5.9%</td>
</tr>
<tr>
<td>Abdomen</td>
<td>5.9%</td>
</tr>
<tr>
<td>Extremities</td>
<td>58.9%</td>
</tr>
<tr>
<td>Multiple</td>
<td>11.8%</td>
</tr>
</tbody>
</table>
symptoms in acutely injured children is often idiosyncratic and manifested in conjunction with physical injuries, painful medical procedures, and hospitalization. The currently available reaction indices do not entirely describe the observable, often brief and severe stress symptom presentation in acutely injured children.

Third, the intervention was designed to be administered as a component of ongoing psychological pediatric trauma care, and previous interaction with the injured child and his or her family. In the study sample, children were seen without prior interaction with the therapist facilitating the intervention. Finally, it is difficult to ascertain whether PTSD symptoms measured in the follow-up data are independent of other traumatic events that may have occurred in the child’s life since the intervention. Or, as the literature suggests, children with multiple traumas may have less PTSD, which may be a possible variable in the efficacy of the intervention. Perhaps, as suggested in recent literature, anxiety and depression may be more descriptive of a child’s reaction to trauma than PTSD (Pynoos, Steinberg, & Piacentini, 1999; Terr, 1999; Yule, et al., 2000).

Further outcome results of 6-month follow-up data are being compiled. Other data will include the physical and neurological reactions during the intervention (eye contact, sighs, tears, mention of pain, autonomic nervous system responses, and psychobiological reactions), and the child’s perception of the perpetrator (object, person, etc.). Data related to the drawings will include the amount of time spent on each drawing in the narrative, the main focus of the drawing and number of details drawn, and the amount of assistance, if any, required from the therapist to complete the narrative. Additionally, the drawings may contain valuable developmental information about how children perceive traumatic events, medical care, and rehabilitation. It is hoped that the data from this component of the study will contribute to the development of the required assessment and treatment tools to provide the essential psychological component of comprehensive pediatric trauma care.

References


学霸图书馆
www.xuebalib.com

本文献由“学霸图书馆-文献云下载”收集自网络，仅供学习交流使用。

学霸图书馆（www.xuebalib.com）是一个“整合众多图书馆数据库资源，
提供一站式文献检索和下载服务”的24小时在线不限IP图书馆。

图书馆致力于便利、促进学习与科研，提供最强文献下载服务。

图书馆导航：
图书馆首页 文献云下载 图书馆入口 外文数据库大全 疑难文献辅助工具