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Effects of Art Intervention on Pediatric Anxiety and Pain in the Medical Setting

Ashley L Deeb¹; Miles W Grunvald¹; David A Leon¹; Anton Manyak¹; Lindsay R Miller¹; Kelsey M Veilleux¹; Lisa H Wang¹; Buffy F Dekmar²; Rebecca Schwarz²; Shaden Eldakar-Hein¹,³

¹UVM College of Medicine, ²Burlington City Arts, ³UVM Medical Center

Introduction

Hospitalization and illness can be a painful and stressful time for a child.¹ ² There may be anxiety over procedures and inpatient stays disrupt normal routines.² Previous research found that for pre-school aged children, having parents around, having the help of the hospital staff, and playing an active role in alleviating their fears were the most helpful in reducing anxiety.³ Another study found that visual creative expressions can be meaningful experiences for young adult cancer survivors.¹¹ Additionally, there is abundant literature on formal art therapy and its favorable effects on children in the hospital, however, there are fewer studies investigating less standardized “art intervention” in the same population.⁶,⁷,⁸,⁹,¹⁰ The purpose of our project was to assess whether art intervention reduces anxiety and pain in inpatient and outpatient pediatric patients.

Methods

- Children aged 3-18
- Outpatient clinic, the inpatient floor, and the infusion bays.
- Guardians – general demographic information
- Children – pre survey and post survey (Figure 1)
- Art intervention – supervised or unsupervised
- Table 1: Description of population in which art intervention was performed

<table>
<thead>
<tr>
<th>Variable</th>
<th>Total N</th>
<th>Mean (SE)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Child Age</td>
<td>35</td>
<td>10.5 (1.4)</td>
<td>0.235</td>
</tr>
<tr>
<td>Number of healthcare visits (past 6 months)</td>
<td>30</td>
<td>3.66 (0.54)</td>
<td>0.16</td>
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<tr>
<td>Length of art intervention (minutes)*</td>
<td>35</td>
<td>26.74 (6.57)</td>
<td></td>
</tr>
<tr>
<td>Child Sex</td>
<td>35</td>
<td>Female: 18 (51%); Male: 17 (49%)</td>
<td></td>
</tr>
<tr>
<td>Location</td>
<td>35</td>
<td>Infusion Bay: 10 (29%); Outpatient: 25 (71%)</td>
<td></td>
</tr>
<tr>
<td>Supervised art</td>
<td>30</td>
<td>Yes: 26 (87%); No: 4 (13%)</td>
<td></td>
</tr>
<tr>
<td>Post-intervention pain**</td>
<td>30</td>
<td>0.67 (1.42)</td>
<td>0.8295</td>
</tr>
<tr>
<td>Post-intervention anxiety**</td>
<td>30</td>
<td>0.80 (1.77)</td>
<td>0.8295</td>
</tr>
</tbody>
</table>

*Supervised visits only  **Complete surveys only

Table 2: Difference in pain and anxiety before and after art intervention

<table>
<thead>
<tr>
<th>Difference</th>
<th>Mean (SE)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Difference in pain</td>
<td>0.37 (0.14)</td>
<td>0.0137</td>
</tr>
<tr>
<td>Difference in anxiety</td>
<td>0.07 (0.31)</td>
<td>0.6295</td>
</tr>
</tbody>
</table>

Results

Figure 3: Pre-intervention versus post-intervention pain

Figure 4: Describe how you felt while making art?

Figure 5: What would you change about this experience?

Discussion

- Art intervention decreased pain and these children had a lower baseline anxiety
- Art from the Heart provides a positive benefit and should continue to be supported by the hospital staff.

Limitations:

- Selection bias - patients who were sickest may not have agreed to do art or were inaccessible to volunteers.
- There was a lower inpatient ward census which impacted the sample size, limiting power.
- This study was conducted at one medical center and on one small portion of the potential patient population

Future Directions:

- Investigate effect on sicker children
- Investigate effect at other medical centers

Acknowledgements

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References