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



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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.³ 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.⁴ 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
- Data was analyzed for univariate descriptive statistics and differences in pre- and post-test anxiety and pain results.

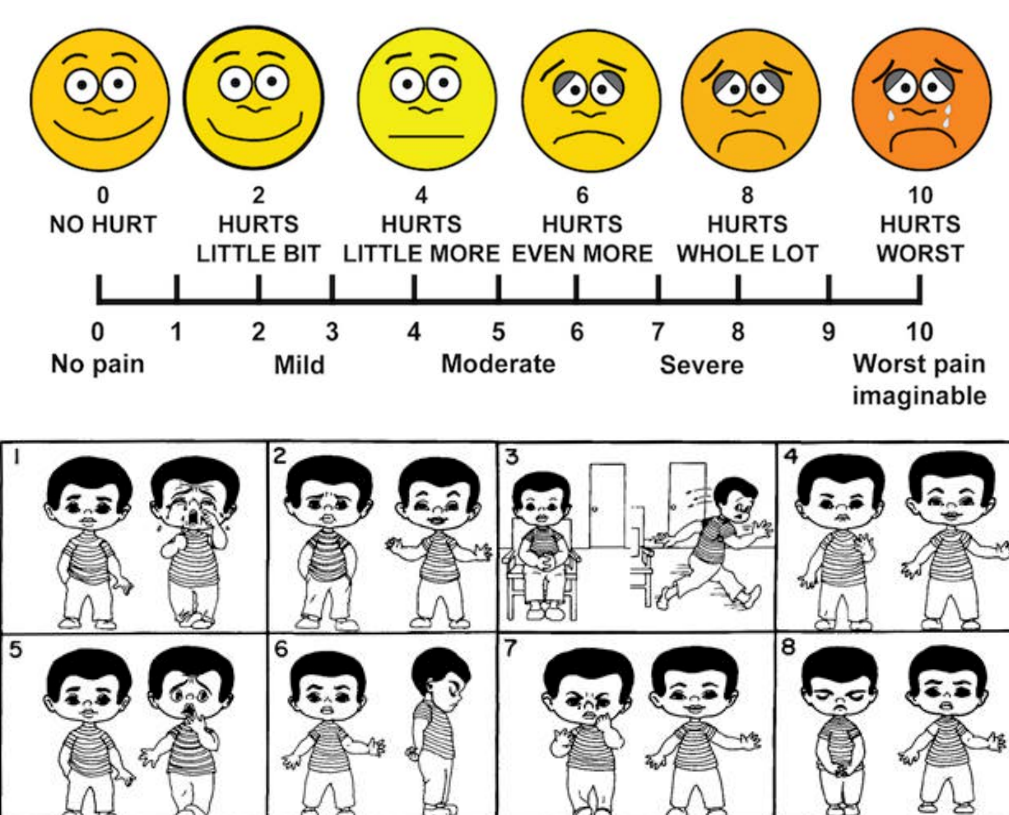


Figure 1: Wong-Baker Faces Pain Rating Scale and the Venham Situation Anxiety Scale^{5,12}

Results

Table 1: Description of population in which art intervention was performed

Variable	Total N	Mean (SD) or N(%)	Range
Child Age	35	7.83 (3.67)	3-18
Number of healthcare visits (past 6 months)	35	5.66 (5.53)	1-30
Supervised art	35	26 (74%)	
Length of art intervention (minutes)*	26		
Child Sex	35		
Male		20 (57%)	
Female		15 (43%)	
Location	34		
Infusion Bay		4 (12%)	
CSC Outpatient		19 (56%)	
Baird 5		11 (32%)	
Pre-intervention pain**	30	0.67 (1.42)	0-6
Post-intervention pain**	30	0.30 (0.88)	0-4
Pre-intervention anxiety**	30	0.87 (1.46)	0-6
Post-intervention anxiety**	30	0.80 (1.77)	0-8

*Supervised visits only **Complete surveys only

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

	Mean (SE)	p-value
Difference in pain	0.37 (0.14)	0.0137
Difference in anxiety	0.07 (0.31)	0.8295

Figure 2: Art activity chosen by the child

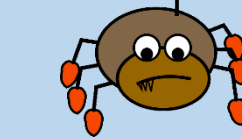
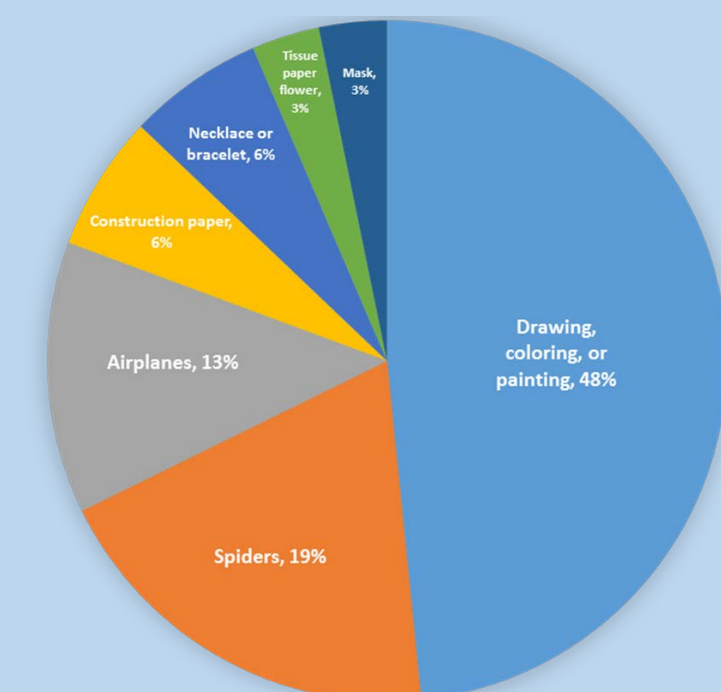
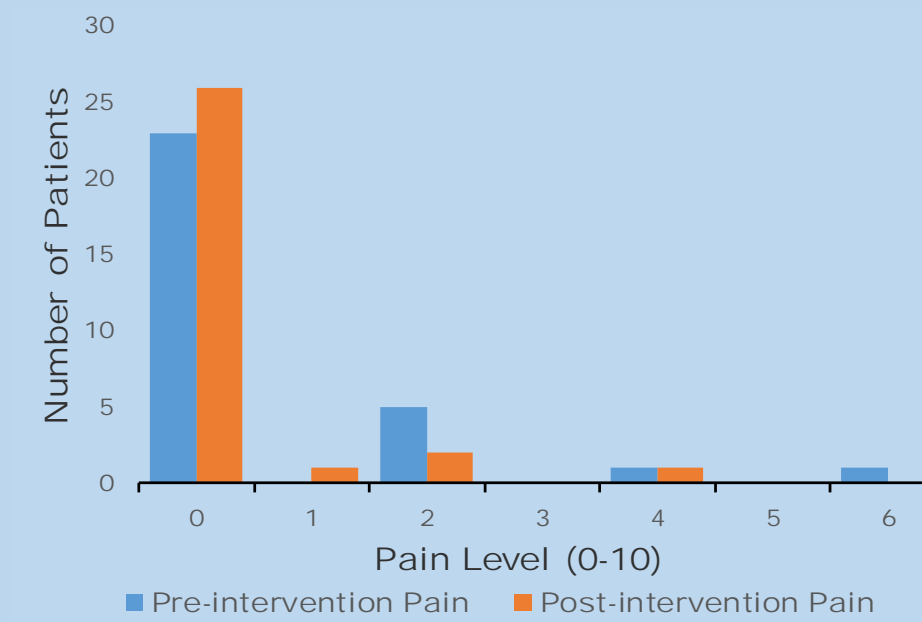


Figure 3: Pre-intervention versus post-intervention pain



“Hope” by Julia, age 12

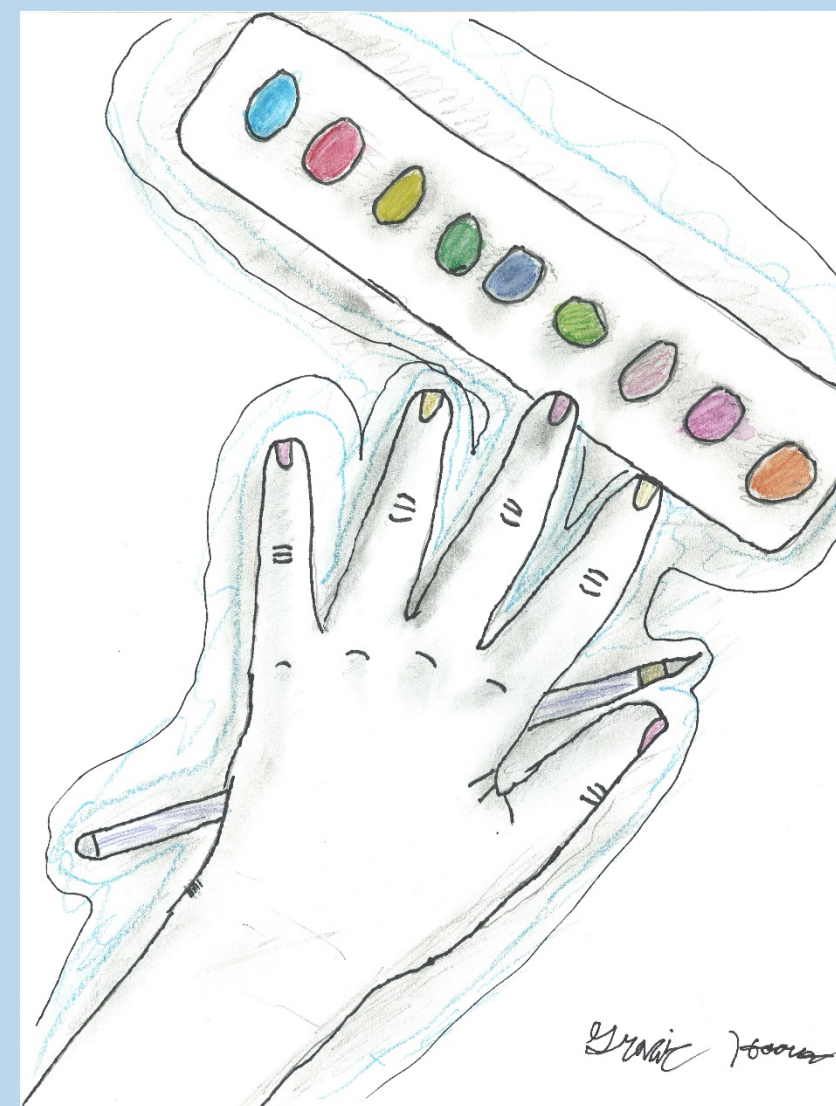
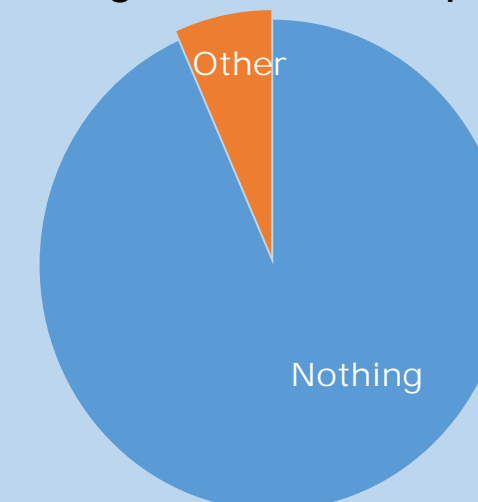


Figure 4: Describe how you felt while making art?



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

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