

**Assessment and comparison of the pain perception in children with and without play therapy during intravenous injection.****Author:****Mrs. Titi Xavier Ph.D. Nursing Scholar, MVG University, Jaipur, Rajasthan, India.****Co-author:****Dr. (Mr.) Dr. (Prof.) S.N. NanjundeGowda****INTRODUCTION**

Distraction is a well-established cognitive behavioral technique that has effectively reduce pain and distress in children undergoing invasive medical procedures.<sup>1</sup>Distraction is an effective strategy for decreasing procedural pain, fear, and distress by reducing the sensory and affective components of pain and the diversion capacity left to process that pain.<sup>2</sup>In addition, distraction also may be a vehicle to modify how painful stimuli are processed.<sup>3</sup>

**METHODS**

A Quasi experimental research approach was considered to be the most appropriate to collect the data and gather the information regarding the Assessment and comparison of the pain perception in children with and without play therapy during intravenous injection. Consent for the participation was confirmed by the subjects' acceptance to fill out the questionnaire as was clarified earlier.

The research design selected for present study was **Time series with withdrawn and reinstated treatment design**

**Findings regarding sample characteristics:**

- Majority of children (56.67%) were male, 76.67% were in age group of 4-7 years.
- 66.67% of children had past history of medical illness, 16.67% had history of accidents or injuries. 43.33% were hospitalized earlier out of them 46.15% had duration of hospital stay of more than five days.
- Majority of children (76.67%) had present duration of hospitalization less than and equal to 48 hours, prescribed intravenous injection was ceftriaxone in 46.70% of children and time duration of Intravenous injection administration is less than and equal to ten minutes in 53.33% of children.
- As regards to intravenous cannulation, 76.67% had cannulation for less than and equal to 48 hours, for 46.67% children site for cannulation was metacarpal vein and for 76.67% 24 gauge size of cannula was used.
- Majority of children (76.67%) of children had no history of allergy to any drug.
- Total number of Intravenous injections per day was less than and equal to six in 63.33% of children.
- Mother was present during Intravenous injection with 43.33% children.

**RESULTS**

These are the findings related to assessment and comparison of the pain perception in children with and without play therapy during intravenous injection. The pain assessed through FACES pain scale at the initiation, at five minutes and at termination of administration of intravenous injection were analyzed using descriptive (frequency, percentage) and inferential statistics (t-value).

**TABLE 1**

**Mean and Standard Deviation of Pain score of Children With and without play therapy During Intravenous Injection on Day 1 and Day 2**

**N=30**

Pain Score	Days	Children	Time of administration of intravenous injection		
			At initiation	At 5 min.	At termination
			Mean $\pm$ SD	Mean $\pm$ SD	Mean $\pm$ SD
	<b>DAY 1</b>	With play therapy	4.20 $\pm$ 1.92	3.07 $\pm$ 1.46	1.53 $\pm$ 1.46
		Without play therapy	9.20 $\pm$ 1.24	9.07 $\pm$ 1.43	7.67 $\pm$ 1.49
	<b>DAY 2</b>	With play therapy	3.60 $\pm$ 1.61	2.13 $\pm$ 1.38	0.87 $\pm$ 1.25
		Without play therapy	8.93 $\pm$ 1.36	8.53 $\pm$ 1.17	7.27 $\pm$ 1.44

The data presented in Table 1 revealed that the mean pain score of the children without play therapy at initiation (9.20  $\pm$  1.24, 8.93  $\pm$  1.36), at five minute (9.07  $\pm$  1.43, 8.53  $\pm$  1.17) and at termination (7.67  $\pm$  1.49, 7.27  $\pm$  1.44) of administration of intravenous injection were higher than the mean pain score of the children with play therapy at initiation (4.20  $\pm$  1.92, 3.60  $\pm$  1.61), at five minute (3.07  $\pm$  1.46, 2.13  $\pm$  1.38) and at termination (1.53  $\pm$  1.46, 0.87  $\pm$  1.25) of administration of intravenous injection on Day 1 and 2 respectively.

Further it is elicited that the mean pain score in children with play therapy at initiation (4.20  $\pm$  1.92, 3.60  $\pm$  1.61), was higher than the mean pain score at five minute (3.07  $\pm$  1.46, 2.13  $\pm$  1.38) and at termination (1.53  $\pm$  1.46, 0.87  $\pm$  1.25) of administration of intravenous injection on day 1 and 2 respectively. Also the mean pain score in the children at five minute (3.07  $\pm$  1.46, 2.13  $\pm$  1.38) was higher than the mean pain score at termination (1.53  $\pm$  1.46, 0.87  $\pm$  1.25) of administration of intravenous injection on day 1 and 2 respectively.

Data also depicted that the mean pain score in children without play therapy at initiation ( $9.20 \pm 1.24$ ,  $8.93 \pm 1.36$ ), was higher than the mean pain score at five minute ( $9.07 \pm 1.43$ ,  $8.53 \pm 1.17$ ) and at termination ( $7.67 \pm 1.49$ ,  $7.27 \pm 1.44$ ) of administration of intravenous injection on day 1 and 2 respectively. Also the mean pain score in the children at five minute ( $9.07 \pm 1.43$ ,  $8.53 \pm 1.17$ ) was higher than the mean pain score at termination ( $7.67 \pm 1.49$ ,  $7.27 \pm 1.44$ ) of administration of intravenous injection on day 1 and 2 respectively

TABLE 2

Mean, Mean Difference, Standard Error of Mean Difference and "t" value of Pain Score of Children With and without play therapy At Initiation, At Five Minute and At Termination of Administration of Intravenous Injection at Day 1 and Day 2

N=30

Days	Time of administration of intravenous injection	Children		M <sub>D</sub>	SD <sub>D</sub>	SE <sub>MD</sub>	't'
		With Play Therapy (Evening)	Without Play therapy (Morning)				
Day 1	At initiation	4.20	9.20	5.00	2.39	0.35	11.45*
	At 5 min.	3.07	9.07	6.00	2.03	0.28	16.15*
	At termination	1.53	7.67	6.13	2.22	0.34	15.10*
Day 2	At initiation	3.60	8.93	5.33	2.12	0.36	13.76*
	At 5 min.	2.13	8.53	6.40	1.69	0.29	20.69*
	At termination	0.87	7.27	6.40	1.85	0.29	18.95*

't' (29)=2.05, \*significant ( $P \leq 0.05$ ), NS- Non significant ( $P > 0.05$ )

The data presented in Table 2 revealed that the mean pain score of children without play therapy at initiation (9.20, 8.93), at five minute (9.07, 3.30) and at termination (7.76, 0.73) of intravenous injection were higher than the mean pain score of children with play therapy at initiation (4.20, 3.60), at five

minute (3.07, 1.03) and at termination (1.53, 0.17) of intravenous injection on day 1 and day 2 respectively. It further showed that 't' value calculated between mean pain score of children with and without play therapy at initiation ('t'(29)=11.45, 13.76), at five minute ('t'(29)=16.15, 20.69) as well as at termination ('t'(29)=15.10, 18.95) of administration of intravenous injection were found to be statistically significant at 0.05 level of significance.

The computed 't' value indicated the significant difference between mean pain score with and without cartoon distraction. Thus it is established that the mean difference obtained in pain score with and without play therapy at initiation, at five minute and at termination of intravenous injection was true difference and not by chance, hence null hypothesis  $H_{01}$  was rejected and research hypothesis was accepted, indicated that the mean pain score without play therapy was higher than mean pain score with play therapy at initiation, at five minutes and at termination of administration of intravenous injection. Thus it inferred that play therapy was effective in reducing pain perception in children during intravenous injection.

## Discussion

Analysis of this study indicates the significant reduction in pain and distress in children with play therapy during intravenous injection. **Bellieni CV et al.** Surveyed 69 children aged 7–12 years undergoing Intravenous injection with the use of the Oucher scale, and found that TV watching (ie watching an age appropriate cartoon on TV) was more effective than active distraction performed by their mothers.<sup>4</sup> **Mason et al.** Suggested that a passive strategy (such as watching TV) might be more effective than an active one (distraction with an interactive toy) for decreasing the pain of intravenous injection because the child distress interfered with their ability to interact with the distractor.<sup>4</sup>

The result of present study showed that play therapy therapy is effective in reducing pain in children during painful medical procedure. Which are, consistent with previous investigations by **Rockville, MD (1992)** that distraction and adult coaching appear to be beneficial for young children undergoing painful medical procedures.<sup>5</sup> These findings are also consistent with previous study by **Vessey, J., Carlson, K., & McGill, J. (1994)** that watching cartoon film and psychological intervention can influence children procedural pain and enhances children's cooperation during the procedure.<sup>6</sup>

## References

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