Effectiveness of cartoon animation on reduction of pain during painful procedure among children

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Abstract
The pain response in individual is learned through social learning and experience. Early pain experience may play a particularly important role in shaping an individual’s pain responses. Behaviors that are commonly used to identify presence of pain are facial expression, vocalization, posture, movement. Crying is widely accepted as a method of communicating pain. Cry pattern, facial expression and body movements are behavior indication of children. Inadequate relief of pain during childhood painful procedure may have long-term negative effects on future pain tolerance and pain responses (Ann Emerg Medical 2005). The findings related the post test level of mean pain score was 6.5 with S.D 19.5 and in the control group the post test mean score was 8.16 with S.D 34.168. The calculated t value of 6.68 was statistically significant at p < 0.05 level indicating that there was significant difference in the post test level of pain between the experimental and control group.

Keywords: Cartoon animation, reduction of pain, children

Introduction
Relief of pain is a basic need and right of all children. Management of pain in the child must be individualized. Age, sex, birth order, cultural background, parents, caregivers response, and past experiences affects the Childs response the newborn baby, the infant, and the toddler are unable to localize and describe the severity of pain. The nurse must be aware of the child response to pain through the assessment of behavioral responses and differentiation of crying. Distraction techniques used with the toddler age group are mostly passive. Cognitive strategies used to reduce pain perception in children are either visual or auditory interventions. Visual aids can include pictures, cartoons, mobile phones, and mirrors. Auditory aids include music, lullabies sung by parents or healthcare professionals.

Objectives
1. To assess the effectiveness of cartoon animation on reduction of pain among children between experimental and control group during painful procedure.
2. To find out association between the level of pain during painful procedure among children in experimental and control with their socio demographic variables.

Methodology
The research design used for the study was quasi experimental, Post test only design with control group. The study was conducted among children selected Hospital Raisen. The analysis, interpretation and discussion of data collected from 60 subjects, children at selected hospitals of Raisen. Descriptive and inferential statistics were adopted for the analysis and interpretation of the data.

Findings and Discussion
Section-I: Description of demographic variables of experimental and control group.
- The data showed with regard to that age in months in experimental group 7(23.33%) were in 1-3 years, 5(16.6%) were in 4-6 years, 8(26.6%) were in 7-9 years, 10(33.33%) were in 10-12 year. In control group 8(26.6%) were in 1-3 year, 5(16.6%) were in 4-6 year, 10(33.3%) were in 7-9 year, 7(23.33%) were in 10-12 year.
- With regard to the gender in the experimental group, 12 (40%) were males and 18(60%) were females, where as in the control group, 13 (43.3%) were males and 17(56.6%) were females.
Regarding order of birth in the experimental group, 16(53.33%) were in 1st order, 10(33.33%) were in the 2nd order, and 4(13.33%) were in the 3rd and above, where as in the control group, 15(50%) were in the 1st order, 10(33.33%) were in the 2nd order, 5(16.6%) were in the 3rd and above.

With regard to the number of siblings in experimental group, 16(53.33%) with no siblings, 10(33.33%) with one, 4(13.33%) with two and more siblings, where as in control group, 15(50%) with none, 10(33.33%) with one, 5(16.6%) with two and more.

With regard to type of family in experimental group, 14(46.6%) with nuclear family, 10(33.33%) with joint family, 6(20%) with extended family, were as in control group, 13(43.3%) with nuclear family, 8(26.6%) with joint family, 9(30%) with extended family.

Regarding education of father in experimental group, 0(0%) were illiterate, 2(6.6%) were primary, 5(16.6%) secondary, 23(76.66%) were collegiate, 0(0%) were others, where as in control group, none of them were illiterate, 3(10%) were primary, 5(16.6%) were secondary 22(73.3%) were collegiate, 0(0%) were others.

Regarding education of mother in experimental group, 0(0%) were illiterate, 3(10%) were primary, 5(16.6%) were secondary, 22(73.3%) were collegiate, 0(0%) were others, where as in control group, 0(0%) were illiterate, 5(16.6%) were primary, 5(16.6%) were secondary 22(73.3%) were collegiate, 0(0%) were others.

With regard to the occupation of father in experimental group, 0(0%) were unemployed, 7(23.3%) were coolie, 13(43.33%) were professional, 10(33.33%) were businessman, 0(0%) others. Where as in control group, 0(0%) were unemployed, 5(16.6%) were coolie, 15(50%) were professionals, 10(33.3%) were businessman, none of them from other profession.

With regard to occupation of mother in experimental group, 12(40%) were housewives, 3(10%) were coolie, 13(43.33%) were professional, 2(6.6%) were business and 0(0%) were others, where as in control group, 10(33.3%) were housewives, 2(6.6%) were coolie, 15(50%) were professionals, 3(10%) were business and none of them from other profession.

With regard to previous experience of painful procedure in experimental group 16(53.33%) were in no experience, none of them were within a week, 3(10%) were a week back, 2(6.6%) were two weeks back and 9(30%) were more than two weeks, where as in control group, 15(50%) were in no experience, none of them were within a week, 2(6.6%) were a week back, 3(10%) were two weeks back and 10(33.3%) were more than two weeks.

Regarding site of painful procedure in experimental group, 18(60%) were in dorsum of hand, 12(40%) were in wrist (radial), 0(0%) were ankle and 0(0%) were in other procedures, where as in control group, 20(66.6%) were in dorsum of hand, 10(33.3%) were in wrist (radial), 0(0%) were ankle and 0(0%) were others.

### Section-II: Comparison of post test level of pain between the experimental and control group. N=60

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>SD</th>
<th>Mean difference</th>
<th>Df</th>
<th>Paired “t” test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>6.5</td>
<td>19.5</td>
<td>1.66</td>
<td>59</td>
<td>6.68*</td>
</tr>
<tr>
<td>Control</td>
<td>8.16</td>
<td>34.16</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
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</tbody>
</table>

The data that in the experimental group, the post test level of mean pain score was 6.5 with S.D 19.5 and in the control group the post test mean score was 8.16 with S.D 34.168. The mean difference score was ± 1.66. The calculated ‘t’-value of 6.68* was statistically significant at P< 0.05 level indicating that there was significant difference in the post test level of pain between the experimental and control group. Hence H1 is accepted.

### Conclusion

Today society is complex and ever changing children grow and learn not only to cope with current demands but also to prepare with many unexpected events they will face in their tomorrows. Adults serve as advocates for children and it is the duty of every adult citizen to keep up this unit of pride safely for the benefit of the country. So we should be sensitive to the feelings, and need of children to build a better tomorrow. For this reason children are considered as the pride of a nation.

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