

# Effectiveness of Distraction with Blowing Soap Bubbles on Post-Operative Pain among Children

Kaur Navneet<sup>1</sup>, Sharma Mukeshchandra<sup>2</sup>

**Abstract:** Pain is an uncomfortable sensation or feeling. It is such an important factor in health that it has been called the fifth Vital Sign. Distraction is a simple and very effective pain reduction method for infants and children. The aim of study was to evaluate effectiveness of distraction with blowing soap bubbles on post-operative pain among children. Method-This study was conducted in GianSagar medical College and hospital, Rajpura District Patiala Punjab.. Study design used was factorial design (3X2) factor A was distraction with blowing soap bubbles and duration of distraction with blowing soap bubbles was factor B. Level 1 of factor A was distraction with blowing soap bubbles by researcher and level 2 of factor A was distraction with blowing soap bubbles by child itself at specified time duration of 1 minute, 3 minutes and 5 minutes (level of factor B). Study conducted on 120 postoperative children selected by using simple random sampling. In each cell 10 Subjects were randomly assigned by using lottery method. However, each cell act as control for each other, separate 60 samples in control group were also taken. FLACC scale and Wong Baker Pain rating scale were used for measuring postoperative pain. Results of the study shown the effectiveness of distraction with blowing soap bubbles by comparing mean postoperative pain score of experimental and control group using ANOVA and it was revealed that there is significant difference in mean post-operative pain score of experimental group as compared to control group.

**Keywords:** Effectiveness, Postoperative pain, Distraction, blowing-soap-bubbles, Children

## 1. Introduction

Physical pain is an unpleasant experience associated with tissue damage that occurs following a surgical intervention. In a private hospital the children who were attending the surgical OPD, 60% of them were advised to undergo surgical intervention. Sources of physical pain for the hospitalized child may occur as a result of painful procedures, surgery, illness or injury.<sup>1</sup> Complications of pain include fever, seizures, tissue damage, mental disturbances. Complication of post-operative pain includes hemorrhages, tissue damage, nerve damage, mental irritation etc.<sup>2</sup>

Distraction inhibits with the pain stimulus, thereby altering the awareness of the pain. Mild or moderate pain can be modified by focusing on an activity in the environment. The distraction must be powerful enough to involve the person with total interest without resulting in fatigue and pain of long duration. This requires a variety of meaningful distraction such as the following –playing games, blowing soap bubbles, watching television, listening to favorite music, rhythmic breathing and focusing on object.<sup>3</sup>

The phrase “minor surgery” is misleading. Minor surgery leads one to think that the procedure is less painful than other surgeries. However, surgery means that there is an incision made by a scalpel, which is always painful and has the potential to cause ongoing pain. When an invasive procedure has been done, nurses should assume that pain exist, and should be alert for continuing pain.<sup>4</sup> Various Distraction Techniques are used by the various Researchers to relieve post-operative pain in children. In this Context, A study was conducted by Emily Rogers at children’s Memorial Hospital in Chicago to help young patients deal with procedures including injections and getting their blood drawn. They use a “distraction bag” with pin wheels, bubbles, whistles and books and also helps young children practice relaxation and breathing techniques.<sup>5</sup> An evaluative study was conducted at department of radiology at Children’s Medical Centre, Dallas, USA, to evaluate the

effect of self-selected distractors (i.e. bubbles, music tables, hand held video games) on pain, fear and distress in fifty children and adolescents with cancer, age 5 to 8 years. Intervention participants demonstrated significantly less fear and distress.<sup>6</sup> Jim Gibson stated that there are several ways to ease the pain children have. Soap bubbles can be brought and bubbles can be blown during the post-operative period, suggesting they are blowing away the hurt.<sup>7</sup>

Hence According to the above mentioned studies, there is need to address pain during post-operative period. As Hospitalization of children is so common today that there is a tendency to forget its importance as a break in the unity of the family and it has an emotional impact upon the child and the family. It is essential then for those children especially, if they are to be spared the psychologic or emotional trauma of hospitalization. Nurses can intervene and play a vital role in this effort.

### Aim of Study

The aim of study is to evaluate effectiveness of distraction with blowing soap bubbles on post-operative pain among children.

### Objectives

- 1) To assess the level of post-operative pain among children admitted in post-operative ward in experimental and control group.
- 2) To assess the level of post-operative pain among children after each interval of distraction with **blowing soap bubbles by researcher** in experimental group.
- 3) To assess the level of post-operative pain among children after each interval of distraction with **blowing soap bubbles by children** in experimental group.
- 4) To evaluate the effectiveness of distraction with blowing soap bubbles on post-operative pain among children by comparing mean pain scores of both experimental and control group with exposure to time duration by using ANOVA.

## Operational Definitions

**Evaluate:** Evaluate means to determine the value or significance of distraction with blowing soap bubbles on post-operative pain of children.

**Effectiveness:** Effectiveness is the level at which objectives are obtained and problems are solved. It refers to the extent of which the distraction with blowing soap bubbles has achieved the desired effect on post-operative pain.

**Distraction with Blowing Soap Bubbles:** Distraction with soap bubbles is a technique which aims to change the focus of children from pain to something interesting by blowing soap bubbles.

**Post-Operative Pain:** Perception of pain by post-operative children age group 4 – 8 years measured by Wong Bakers Scale.

## Hypothesis

H1- There is significant decrease in Post-operative Pain Score of Experimental Group as compared to control group with exposure to specified time duration

## Delimitations

- Study was limited to children of 4-8 years only.
- The parents who are willing to let their child participate in the study.

## Research Design

The present study attempts to evaluate the effectiveness of distraction with blowing soap bubbles and measuring pain of post-operative children among the age group of 4 to 8 years in GianSagar Hospital, Patiala and Rajindra Hospital, Patiala. Hence in context to the study, Factorial Research Design was adopted for the study. Based on the design, Two factors are used i.e. Type of distraction is factor A and Duration of exposure to distraction is factor B. Level 1(A<sub>1</sub>) of factor A is blowing soap bubbles by the researcher and level 2(A<sub>2</sub>) of factor A is blowing soap bubbles by the child and Levels of factor B are duration of exposure to distraction that is for 1 minute (B<sub>1</sub>), for 3 minutes (B<sub>2</sub>) and for 5 minutes (B<sub>3</sub>). In each cell 10 Subjects were randomly assigned by using lottery method. However, each cell act as control for each other, separate 60 samples in control group were also taken.

Schematic representation of design		
Duration of Exposure to Distraction	Blowing Soap Bubbles	
	By Researcher (A <sub>1</sub> )	By Child (A <sub>2</sub> )
1 Min.(B <sub>1</sub> )	A <sub>1</sub> B <sub>1</sub>	A <sub>2</sub> B <sub>1</sub>
3 Min.(B <sub>2</sub> )	A <sub>1</sub> B <sub>2</sub>	A <sub>2</sub> B <sub>2</sub>
5 Min.(B <sub>3</sub> )	A <sub>1</sub> B <sub>3</sub>	A <sub>2</sub> B <sub>3</sub>

## Research Setting

The study was conducted in Post-operative ward for children at GianSagar Hospital, Rajpura, District Patiala and Rajindra Hospital, Patiala. Rajindra hospital was built in 1954. The hospital is named after Maharaja Sir Rajinder Singh. It is a 1250 bedded multispeciality hospital. Dr V.K Sharda is the Medical superintendent of Rajindra Hospital. My research setting was the surgical ward for children of Rajindra

Hospital. HOD of pediatric surgery is Dr. Ashok Sharma. Pediatric unit is further divided into pediatric medicine department, pediatric surgical department, emergency and intensive care units (NICU, PICU). Total census of pediatric surgical patients in 2013 – 14 is 826. This setting was chosen on the basis of investigator's feasibility, in term of availability and accessibility of children in hospitals

## Target population

In this study, the population consists of Post-operative children of age group 4-8 years in the selected hospitals of district Patiala.

## Sample and Sampling Technique

The sample comprised of 120 postoperative children of age group 4 – 8 years. 60 postoperative children in experimental group & 60 postoperative children in control group. Random assignment of subject done by lottery method.

## Inclusion Criteria

- 1) Post-operative children of age group 4-8 years.
- 2) Children whose parents allow them to participate in the study.
- 3) Conscious children
- 4) Children who have taken analgesics will be included after 3 hours of pain medication

## Exclusion Criteria

- 1) Post-operative children other than age group of 4-8 years.
- 2) Children whose parents don't allow them to participate in the study.
- 3) Unconscious children or semiconscious children.
- 4) Children under the influence of drugs

## Selection of tool

Wong Bakers Scale and FALCC scale was used to assess the level of pain among post-operative children. Tools were standardized so permission was taken from appropriate authority for using the tool.

## Data collection procedure

The data was collected in the time period from 11 February, 2014 to 10 March, 2014. The investigator had obtained the written permission from concerned authorities before data collection. The purpose of the study was explained and consent was taken from the sample. 120 postoperative children were taken as total sample by simple random sampling. Firstly level of post-operative pain was assessed using FLACC scale and Wong Baker pain scale. After that researcher engaged the child in blowing soap bubbles for specified time duration of 1 minute and then pain of the child was assessed followed by engagement of child in blowing soap bubbles by the child itself at specified time duration of 1 minute. Similarly pain measurement before and after blowing soap bubbles by the researcher and the child was done at specified time duration of 1 minute, 3 minutes and 5 minutes in experimental group. In control group pain assessment was done by the researcher at specified time duration of 1 minute, 3 minutes and 5 minutes without any interventions by the researcher.

**Ethical consideration**

Approval of research / ethical committee of GianSagar Hospital was taken before starting the study. Permission was obtained from the Principal of the college. Anonymity of subjects and confidentiality of information was maintained. It was ensured that the study would not have any bad affect to the participants in any way.

**Plan for Data Analysis**

Data were coded and organized for analysis using descriptive and inferential statistics. Frequency and percentage distribution was used to analyze the demographic data of post-operative children. In Inferential statistics, ANOVA, Kruskal Wallis and Wilcoxon paired sign rank test was used to compare result between groups. Table 1 depicts that by comparing both pre test score and post test score of experimental group, majority of 38(63.33%) children were having severe pain but after intervention 36 (60%) of children were relaxed. 22(36.66%) of children were having mild level of pain and none of the children complained about severe pain after the distraction . while in control group pre test score includes 9(15%) of children have mild level of pain, 16(26.66%) have moderate level of pain and 35(58.3%) have severe level of pain and post test score was also same at specified time intervals without any distraction.

**Table 1:** Frequency & Percentage distribution of level of post-operative pain among children by FLACC Scale. N= 120, N<sub>1</sub>= 60 N<sub>2</sub> = 60

Level of pain	Score	Experimental Group				Control Group			
		Pre test score		Post test score		Pre test score		Post test score	
		f	%	f	%	f	%	f	%
Relaxed	0	0	0	36	60%	0	0	0	0
Mild	1-3	3	5%	22	36.66%	9	15%	9	15%
Moderate	4-6	19	31.66%	2	3.33%	16	26.66%	16	26.66%
Severe	7-10	38	63.33%	0	0%	35	58.30%	35	58.30%

Table 1 depicts that by comparing both pre test score and post test score of experimental group, majority of 38(63.33%) children were having severe pain but after intervention 36 (60%) of children were relaxed. 22(36.66%) of children were having mild level of pain and none of the children complained about severe pain after the distraction . while in control group pre test score includes 9(15%) of children have mild level of pain, 16(26.66%) have moderate level of pain and 35(58.3%) have severe level of pain and post test score was also same at specified time intervals without any distraction.

**Table 2** depict that in experimental group 13(21.66%) of the children reported that pain hurts worst but after distraction with blowing soap bubbles none of the children reported that pain hurts worst, hurts whole a lot and hurts even more in experimental group.36(60%) of children reported no hurt, 19(31.66%) reported hurts little bit and 5(8.33%) reported hurts little more after the intervention. while in control group, according to both pre test score and post test score without any intervention, none of the children reported no hurt and hurts little bit , (9)15%of children reported hurts little more, (18)30% hurts even more , (21)35% hurts whole a lot and (12)20% reported pain hurts worst.

**Table 2:** Frequency & Percentage distribution of level of post-operative pain among children by Wong Baker pain rating scale, N= 120, N<sub>1</sub>= 60 N<sub>2</sub> = 60

Faces	Pain Score	Experimental Group				Control Group			
		Pre test score		Post test score		Pre test score		Post test score	
		f	%	f	%	f	%	f	%
No hurt	0	0	0%	36	60%	0	0%	0	0%
Hurts little bit	2	0	0%	19	31.66%	0	0%	0	0%
Hurts littlemore	4	5	8.33%	5	8.33%	9	15%	9	15%
Hurts even more	6	16	26.66%	0	0%	18	30%	18	30%
Hurts whole alot	8	26	43.33%	0	0%	21	35%	21	35%
Hurts worst	10	13	21.66%	0	0%	12	20%	12	20%

**Comparison of Pre and Post scores of postoperative pain in the Experimental group**

**Hypotheses-**

- **H<sub>01</sub>:** There is no significant decrease in postoperative pain scores after distraction with blowing soap bubbles.
- **H<sub>1</sub>:** There is significant decrease in postoperative pain scores after distraction with blowing soap bubbles.

Table 3 shows the comparison of postoperative pain scores before and after the sdistractio with blowing soap bubbles through FLACC scale Interview. To test the hypothesis Wilcoxon Paired Sign Rank test was used and it was concluded that there is significant difference between pre and post pain scores (Z = -6.829 p<0.05). Hence,we can conclude that distraction with blowing soap bubbles is effective in relieving post-operative pain.

**Table 3:** Comparison of Pre and Post scores of postoperative pain in the Experimental group through FLACC scale N=60

Post-operative pain Scores	Number of subjects	Mean Rank Postoperative pain scores	Wilcoxon Paired Sign Rank test (Z value)	P value
Pre test	60	30.50	-6.829	.000*
Post test	60			

\*significant

**Table 4:** Comparison of Pre and Post scores of post-operative pain in the Experimental group through Wong Baker Pain rating scale, N=60

Post-operative pain Scores	Number of subjects	Mean Rank of postoperative pain scores	Wilcoxon Paired Sign Rank test (Z value)	P value
Pre test	60	30.50	-6.901	.000*
Post test	60			

\*significant

Table 4 shows the comparison of postoperative pain scores before and after the distraction with blowing soap bubbles through Wong Baker pain rating scale. To test the hypothesis Wilcoxon Paired Sign Rank test was used and it was concluded that there is significant difference between pre and post pain scores (Z = -6.901<0.05). Hencewe can conclude that distraction with blowing soap bubbles is effective in relieving post-operative pain.

**Level of post-operative pain among children admitted in post-operative ward after specified time interval (1**

**minute, 3 minutes and 5 minutes) of distraction with blowing soap bubbles by researcher.**

This section deals with the post-operative pain scores of children admitted in post-operative ward after specified time interval of distraction with blowing soap bubbles by researcher in experimental group.

**H<sub>02</sub>** There is no significant difference in level of pain among children after distraction with blowing soap bubbles by researcher at specified time intervals.

**H<sub>2</sub>** There is significant difference in level of pain among children after distraction with blowing soap bubbles by researcher at specified time interval

**Table 5:** Comparison of difference in post-operative pain scores of children at time duration (1 min., 3mins, 5 mins.) of distraction with blowing soap bubbles by researcher observed through FLACC scale using kruskalwallis test, N= 30

Time interval of distraction with blowing soap bubbles	Number of subjects	Mean rank of post-operative scores	Kruskal Wallis H value ( $\chi^2$ )	P value
1 minute	10	14.35	0.959	.619**
3 minutes	10	17.4		
5 minutes	10	14.75		

df = 2 Table value = 5.99

\*\*Non significant

Table 5-shows the comparison of difference in terms of post scores of post-operative pain after 3 specified duration of distraction with blowing soap bubbles that is (1 minute 3 minutes and 5 minutes) at age group of 4-8 years of children. To test the hypothesis Kruskal Wallis H test was applied and it was revealed that is no significant difference( $\chi^2_{(2)}= 0.959, P> 0.05$ ) in the post test scores of post-operative pain. Hence it is concluded that that there is no statistical difference among the 3 different durations of distraction with blowing soap bubbles based on the post test score of post-operative pain of the children

**Table 6:** Comparison of difference in post-operative pain scores of children at time duration (1 min., 3mins, 5 mins.) of distraction with blowing soap bubbles by children observed through Wong Baker pain rating scale using kruskalwallis test, N= 30

Time interval of distraction with blowing soap bubbles	Number of subjects	Mean rank of post-operative scores	Kruskal Wallis H value ( $\chi^2$ )	P value
1 minute	10	14.55	1.430	.489**
3 minutes	10	17.55		
5 minutes	10	14.20		

df=2 Table Value 5.99

\*\* Non significant

Table 6 shows the comparison of difference in terms of post test scores after 3 specified duration of distraction with blowing soap bubbles that is (1 minute 3 minutes and 5minutes). To test the hypothesis Kruskal Wallis H test was applied and it was revealed that is no significant difference( $\chi^2_{(2)}= 1.430, P> 0.05$ ) in the post test scores of post-operative pain. Hence it is concluded that that there is no statistical difference among the 3 different durations of

distraction with blowing soap bubbles on post-operative pain of children.

**Level of post-operative pain among children admitted in post-operative ward after specified time interval of distraction with blowing soap bubbles by children**

This section deals with the post-operative pain scores of children admitted in post-operative ward after specified time interval of distraction with blowing soap bubbles by children in experimental group.

**H<sub>03</sub>** There is no significant difference in level of pain among children after distraction with blowing soap bubbles by children at specified time intervals.

**H<sub>3</sub>** There is significant difference in level of pain among children after distraction with blowing soap bubbles by children at specified time interval.

**Table 7:** Comparison of difference in post pain scores of children at time duration of distraction with blowing soap bubbles (1 minute, 3 minutes, 5 minutes) by child observed through FLACC scale, N = 30

Time interval of distraction with blowing soap bubbles	Number of subjects	Mean rank of post-operative scores	Kruskal Wallis H value ( $\chi^2$ )	P value
1 minute	10	13.15	1.572	.456**
3 minutes	10	17.5		
5 minutes	10	15.70		

df=2 Table Value 5.99 \*\*Non significant

Table 7 shows the comparison of difference in terms of post test scores after 3 specified duration of distraction with blowing soap bubbles that is (1 minute 3 minutes and 5minutes).To test the hypothesis Kruskal Wallis H test was applied and it was revealed that is no significant difference( $\chi^2_{(2)}= 1.572, P> 0.05$ ) in the post test scores of post-operative pain. Hence it is concluded that that there is no statistical difference among the 3 different durations of distraction with blowing soap bubbles on post-operative pain of children. Table 8 shows the comparison of difference in terms of post test scores after 3 specified duration of distraction with blowing soap bubbles that is (1 minute 3 minutes and 5minutes).To test the hypothesis Kruskal Wallis H test was applied and it was revealed that is no significant difference( $\chi^2_{(2)}= 1.933 < 5.99, P=0.380 > 0.05$ ) in the post test scores of post-operative pain. Hence it is concluded that that there is no statistical difference among the 3 different durations of distraction with blowing soap bubbles on post-operative pain of children.

**Table 8:** Comparison of difference in post pain scores of children at time duration of distraction with blowing soap bubbles (1 minute, 3 minutes, 5 minutes) by child observed through Wong Baker pain rating scale, N = 30

Time interval of distraction with blowing soap bubbles	Number of subjects	Mean rank of postoperative scores	Kruskal Wallis H value ( $\chi^2$ )	P value
1 minute	10	14.10	1.933	.380**
3 minutes	10	18.30		
5 minutes	10	14.10		

df=2 Table Value 5.99 \*\*Non significant

**Comparison of mean post-operative pain scores of Experimental and Control group**

This section deals with the comparison of mean postoperative pain score of experimental group with the mean post-operative pain scores of control group.

**H<sub>04</sub>:** There is no significant difference between post-operative pain scores in both experimental and control group.

**H<sub>4</sub>:** There is significant difference between post-operative pain scores in both experimental and control group.

**Table 9** shows the Comparison of Mean post-operative pain scores of children after distraction with blowing soap bubbles at different time intervals that is (1 minute 3 minutes and 5 minutes). ANOVA was used to test the differences in postoperative pain scores of experimental and control group with exposure to different time durations. Analysis revealed that there is significant difference in the mean postoperative pain scores of experimental group as compared to control group which shows the effectiveness of distraction with blowing soap bubbles. This analysis also revealed that there is no significant difference (Group. Time duration  $F_{(2,17)} = 1.339, p > 0.05$ ) between mean postoperative pain scores of experimental and control group with exposure to time duration. Hence it can be concluded that there is no significant difference among 3 different durations of distraction with blowing soap bubbles based on postoperative pain scores of the children

**Table 9:** Comparison of mean post-operative pain scores of children after exposure to time duration with ANOVA using FLACC scale

N= 120, n<sub>1</sub>= 60 n<sub>2</sub> = 60

	Duration of	Duration of	Duration of	ANOVA	
	1 min. Mean ± SD	3 mins. Mean ± SD	5 mins. Mean ± SD	F value	P value
Score in experimental group	0.7±1.031	1.4±1.501	1±1.487	1.339**	0.27
Score in control group	6.55±2.585	6.6±1.930	6.25±2.425	0.132	0.877
Mean difference	5.85	5.2	5.25		

df = 2 F tab(2,17) = 3.59 \*\*Non significant

**Table 10** shows the Comparison of Mean post-operative pain scores of children after distraction with blowing soap bubbles at different time intervals that is (1 minute 3 minutes and 5 minutes). ANOVA was used to test the differences in postoperative pain scores of experimental and control group with exposure to different time durations. Analysis revealed that there is significant difference in the mean postoperative pain scores of experimental group as compared to control group, which shows the effectiveness of distraction with blowing soap bubbles. This analysis also revealed that there is no significant difference (Group. Time duration  $F_{(2,17)} = 1.735, p > 0.05$ ) between mean postoperative pain scores of experimental and control group with exposure to time duration. Hence it can be concluded that there is no significant difference among 3 different durations of distraction with blowing soap bubbles based on postoperative pain scores of the children

**Table 10:** Comparison of mean post-operative pain scores of children after exposure to time duration with ANOVA using Wong Baker Pain rating scale

N= 120, n<sub>1</sub>= 60 n<sub>2</sub> = 60

	Duration of	Duration of	Duration of	ANOVA	
	1 min. Mean ± SD	3 mins. Mean ± SD	5 mins. Mean ± SD	F value	P value
Wong baker score in experimental group	0.7±0.979	1.4±1.465	0.8±1.361	1.735**	0.186
Wong baker score in control group	7.1±1.997	7.5±1.933	7±2.000	0.358	0.701
Mean difference	6.4	6.1	6.2		

df = 2

F tab(2,17) = 3.59 \*\* Non significant

**2. Discussion**

Present finding also conclude that distraction during post-operative period is effective in reducing pain in children, study conducted by Nilsson & Stefan<sup>8</sup> found that Distraction techniques were helpful coping strategies for the children, who also needed to feel secure in the pain management. **Edward L**<sup>9</sup> also reported that when young patients engage in distractions like video games they experience significant relief from their pain. By Using a “Faces Scale” – no pain at all is represented by a smiling face – the children reported an average pain score of 4.1 when using just pain medication. When combined with the virtual reality game, the pain score dropped to 1.3. **Diette G B**<sup>10</sup> worked on Distraction therapy with nature sights and sounds reduces pain during flexible bronchoscopy found that the primary outcomes were patient ratings of pain control (a 5-point scale ranging from poor to excellent) and anxiety.

Present study has shown significant difference between pre and post post-operative scores ( $Z = -6.829, p < 0.05$ ) as assessed by FLACC Scale and found significant difference when measured through Wong baker scale ( $Z = -6.901 < 0.05$ ). Results revealed that distraction with blowing soap bubbles is effective in relieving post-operative pain. Study conducted by **Heden L**<sup>11</sup> also reported that children experienced less fear when subjected to intervention vs. standard care reported by parents ( $P < 0.001$ ). Children also experienced less fear ( $P < 0.05$ ) and distress ( $P < 0.05$ ) when subjected to standard care + blowing soap bubbles vs. standard care (n = 14), and less fear when subjected to standard care + heated pillow vs. standard care ( $P < 0.05$ ). **Sparks L**<sup>12</sup> also found both forms of distraction, touch and bubble-blowing, significantly reduced pain perception. There were no interaction effects of either age or gender. Fear was a significant covariate, but distraction was effective even when fear was not held constant. Study by **William Li HC et al**<sup>13</sup> one effects of therapeutic play on outcomes of children undergoing days surgery revealed children in the experimental group reported significantly lower state anxiety scores in pre- and postoperative periods and exhibited fewer negative emotions at induction of anesthesia than children in the control group. **Samaneh Bagheriyan et al**<sup>14</sup> evaluated the effects of regular breathing

exercise and making bubbles on the pain of catheter insertion in school age children. The mean score of behavioral pain symptoms was  $3.80 \pm 2.80$  in the control group,  $1.15 \pm 1.13$  in the bubble-making group, and  $0.96 \pm 0.75$  in the breathing exercise group. Both distraction methods of regular breathing exercise and bubble making can reduce the pain of catheter insertion in children.

### 3. Conclusion

The result revealed that there is significant decrease in the post pain scores of children at 0.05 level of significance in experimental group as compared to control group which shows that distraction with blowing soap bubbles was effective. In the present study researcher have also seen the effectiveness of distraction with blowing soap bubbles on the postoperative pain of child with exposure to specific time duration of distraction with blowing soap bubbles (1 minute, 3 minutes, 5 minutes) different statistical test was used to draw the inference and the findings revealed that there is no statistical difference among the 3 different durations of distraction with blowing soap bubbles based on the post pain scores of the children

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