

Effectiveness of Instructional Program on Nurses' Practices toward Reduce of Children's Fear and Anxiety During Nursing Interventions.

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Abstract

Evaluating nurses' Practices towards reducing children's fear and anxiety during nursing interventions, determining the effectiveness of the instructional program on nurses' Practices towards reducing children's fear and anxiety during nursing interventions. A quasi-experimental design (test-and-retest) method for the nurses in study group who were working at (Fatima Al-Zahra Hospital for Women and Children) and the control group who were, the nurses at (Ibn Baladi Hospital for Women and Children). The study was started at September 20, 2022, to February 28, 2023. The sample was collected from the following units (children's emergency and pediatric unit). The study included (30) nurses in the control group and (30) nurses in the study group. The research tool was constructed based on previous studies and literature review related to the subject of the research, which including (socio-demographic characteristics of the nurses. A questionnaire consisted of (12) items about practices on ways to reduce children's fear and anxiety during nursing interventions that were evaluated through observations. Data were analyzed using SPSS version 20. The results showed that all nurses in the control group had (weak) level practices about reducing children's fear and anxiety in the pre and post tests, while the practices of the nurses in the study group were (weak) level in pre-test, the was improved to a (very good) level in the post-test after undergoing the instructional program. The study concluded that the Instructional program designed to reduce children's fear and anxiety during nursing interventions was effective in improving nurses' practice. Nurses need training program to reduce children's fear and anxiety during nursing interventions to improve practices. Preparing a pamphlets for nurses to improve their practices to improving their performance.

Keywords: Instructional Program, Practices, Children fear and anxiety, Nursing Interventions.

INTRODUCTION:

Hospitals may be frightening and stressful environments for children and their families, Any medical procedure or examination could perhaps cause the child to feel anxious and uncomfortable. This is particularly true if the youngster is unwell and unpleasant, possibly in pain from an illness or an accident, or has little or no understanding of what will happen to them. Fears are a common aspect of life for many kids. Conversely, some young people's fears can develop into more serious forms of psychological disorder, such as specific phobias. Which types of worries determine the degree of a child's anxiety and distress responses to an acute medical stressor is still unknown[1]. Fear is an emotional state felt by every human being and every frightening emotional experience that a person encounters in his childhood, which he may recover subconsciously in his old age[2]. Anxiety is an emotional reaction to the threat of risk, with the cause of the threat being largely unknown or

unrecognized. Anxiety may be considered pathological when it interferes with one's ability to live effectively, achieve desired goals or happiness, or maintain rational emotional comfort [3].

Children who are hospitalized must leave their homes, guardians, and siblings, as well as have their daily schedules disrupted. Additionally, spending time in a hospital ward is frequently connected with being in a "cold and medical" environment, experiencing pain, uncertainty, and a lack of control and safety. This is especially true for elementary school students who are engaged in developmental activities involving mental, emotional, and social adjustment [4] . Patients feel anxious when they enter the health care system through the emergency room and the operation room, and the feeling of anxiety does not stop in adults only, but children are more susceptible to anxiety when entering medical and nursing care places[5]. Children who are prone to anxiety in medical settings may be affected by the demanding nature of the therapy and the demands it

places on them. In contrast to other types of dread, medical anxieties may get more intense as children get older[6]. They have been proven to be a common subgroup of fear in kids. Anxiety over injections and operations is among the most common fears, according to research. medical worry in healthy children's reports Although though no published research has directly looked into the impact of medical anxieties during children's VCUG experiences, medical worries have been linked to children's anxiety and suffering during vaccinations and venipuncture's. Children's hesitant reactions to components of the procedure that, while possibly upsetting, may not be life-threatening, may also be predicted with the aid of some non-medical fears. In panic, the emotional-psychomotor realm predominates with accompanying fight, flight, or freeze responses. Adrenaline surge greatly increases vital signs[7]. Children also fear unfamiliar surroundings and tools, discomfort, rejection, threats of physical harm, restrictions on their right to self-determination, lack of discretion, and injections and needles[8]. Venipuncture is one of the procedures that children experience most frequently. Between 3 and 50% of children exhibit indicators of distress after venipuncture. Because it takes longer, involves additional medical equipment like tourniquets to find an appropriate vein, and draws blood, venipuncture differs from other needle procedures like immunization. Venipuncture causes increased anxiety in children as a result of these variables[9]. Nurses should be aware of non-pharmacological pain relief techniques and use them whenever possible. Distraction technique is one of the non-pharmacological approaches used to lessen sensitivity to pain, fear, and anxiety. It works by diverting attention from the painful stimulation to another interesting one. By forcing the patient to focus on

MATERIALS AND METHODS

A quasi-experimental design (test-and-retest) method for the nurses in study group who were working at (Fatima Al-Zahra Hospital for Women and Children) and the control group who were, the nurses at (Ibn Baladi Hospital for Women and Children). The study was started at September 20, 2022,to February 28, 2023. The sample was collected from the following units (children's emergency and pediatric unit). The study included (30) nurses in the control group and (30) nurses in the study group. The research tool was constructed based on previous studies and literature review related to the subject of the research, which including (socio-demographic characteristics of the nurses. A questionnaire consisted of (12) items about

something else via various distraction techniques, distraction gives the patient a sense of control. This technique does not totally alleviate the person's discomfort, but it does raise their tolerance, which raises their pain threshold [10]. Nurses have a critical role in effectively managing pain and reducing the severity of suffering and leading to reducing children's fear and anxiety. Hence, the basic factors must be in pathology and activity, pathology, and nursing science [11].The use of games is to produce play that is entertaining with games that have no specific goals and that nurses relieve children's fears before surgery, reduce anxiety levels, and provide a happy experience [12]. Children can be taught what happens during medical interventions using recreational toys and equipment The therapist interacts with the children while using toys and medical equipment to teach them the steps of treatment Children during nursing interventions Through recent studies conducted in the period of electronic development to reduce fear and anxiety among children inside the hospital and during medical and nursing interventions [13]. Music therapy is used, which reduces pain and distracts from it. The discomfort, fear, and anxiety brought on by medical treatments can be diminished with the use of other passive activities like viewing TV and films Studies have indicated that the age groups ranging from (3-6) are the most scared and apprehensive of nursing interventions. Intravenous puncture and needle injection are among the most frightful and anxiety-provoking procedures for children [14]. Studies have shown that the use of iPod's has contributed significantly to reducing fear and anxiety during medical and nursing care Children inside the hospital. When an iPod is used as a distraction during a vaccination, parents are less likely to notice when their child is in discomfort or upset [15]

practices on ways to reduce children's fear and anxiety during nursing interventions that were evaluated through observations. Data were analyzed using SPSS version 20.

Participants were fully aware of the current study and its aims and therefore voluntary signing consent was obtained in order to participate in the study.. Ethical approval was also obtained from the Research Ethical Committee at the College of Nursing / University of Baghdad on 12/12/2022 regarding confidentiality and non-disclosure of the identities of the participant.

RESULTS:

No.	Characteristics		Study group		Control group	
			f	%	f	%
1	Age (Years)					
	20 – less than 25	9	30	9	30	
		25 – less than 30	13	43.4	7	23.3
		30 – less than 35	3	10	6	20
		35 – less than 40	4	13.3	1	3.4
		40 and more	1	3.3	7	23.3
		Total	30		100	
2	Gender	M±SD=	27.8 ± 5.7	29.9 ± 8.5		
		Male	6	20	11	36.7
		Female	24	80	19	63.3
	Total		30	100	30	100
3	Years of experience in nursing	1 – less than 6				
			15	50	16	53.3
		Total				
	M±SD=					
	6 ± 4.7		7.6 ± 7.7			

Tab (1): Distribution of the Nurses according to their Socio-demographic Characteristics

The descriptive analysis in table 4-1 shows that average age for nurses in the study group refers to 27.8±5.7 years and the highest percentage of them are seen with age group of “25-less than 30 years” among 43.4% of them. The average age for nurses in the control group refers to 29.9±8.5 year and 30% of them are seen with age group of “20-less than 25” years.

The gender variable refers that nurses are females as reported among 80% of them in the study group and 63.3% of them in the control group.

Regarding level of education, the highest percentage refers to “diploma degree” among both groups as reported among 36.7% of nurses in the study group and 46.7% of nurses in the control group.

The average years of experience refers to 6±4.7 years among nurses in the study group with “1-less than 6” years of experience among 50% of them, and among control group, the average years of experience refers to 7.6±7.7 years with “1-less than 6” years of experience among 53.3% o.

Table (2): Assessment of Nurses' Practices toward Reduce of Children's Fear and Anxiety During Nursing

List	Practices	Study Group (N=30)						Control Group (N=30)					
		Pre-test		Post-test 1		Post-test 2		Pre-test		Post-test 1		Post-test 2	
		M	As s.	M	As s.	M	As s.	M	As s.	M	As s.	M	As s.
1	The help of parents or accompanying the child to reduce fear and anxiety	1.43	Fair	3.00	Good	2.23	Good	1.73	Fair	1.70	Fair	1.73	Fair
2	Using verbal distraction to reduce fear and anxiety	1.47	Fair	2.87	Good	2.83	Good	1.47	Fair	1.37	Fair	1.10	Fair
3	Using toys and games for children to reduce fear and anxiety	.30	Poor	2.30	Good	2.03	Good	.63	Poor	.60	Poor	.61	Poor
4	Using iPads and electronic games to reduce fear and anxiety	.57	Poor	2.03	Good	2.09	Good	.30	Poor	.33	Poor	.30	Poor
5	Using children's music to reduce fear and anxiety	.63	Poor	2.01	Good	2.07	Good	.73	Poor	.77	Poor	.73	Poor
6	Using the virtual reality device method for children to reduce fear and anxiety	.00	Poor	2.10	Good	2.04	Good	.03	Poor	.03	Poor	.04	Poor
7	Use encouragement and rewards to reduce fear and anxiety	1.70	Fair	2.53	Good	2.07	Good	.93	Poor	.97	Poor	.93	Poor
8	Using television and animation to reduce fear and anxiety	.10	Poor	2.03	Good	2.04	Good	.10	Poor	.10	Poor	.10	Poor
9	Using hot compresses, heating or cooling pads, ice, and cool mist sprays to reduce anxiety in children during nursing interventions	.07	Poor	2.13	Good	2.17	Good	.03	Poor	.03	Poor	.03	Poor
10	Using cards games and arranging shapes to reduce fear and anxiety	.07	Poor	2.06	Good	2.13	Good	.23	Poor	.27	Poor	.30	Poor
11	Use the method of inflating rubber balloons for children to reduce fear and anxiety	.23	Poor	2.07	Good	2.13	Good	.63	Poor	.60	Poor	.63	Poor
12	Using the continuous inhalation and exhalation method to reduce fear and anxiety	.47	Poor	2.40	Good	2.05	Good	.23	Poor	.20	Poor	.24	Poor

Interventions among Study and Control Group

The table 4-4 presents the items of nurses' practices about reducing fear and anxiety in children during nursing intervention; the findings in the study group reveals that nurses show poor level of practices during the pre-test among all items except 1, 2, and 7 that show fair level, the nurses' practices increase to

good level among all items during the post-test 1 and post-test 2.

The findings in the control group reveal that nurses show poor level among all items during the three times of test; pre, post1, and post2 except items 1 and 2 that show fair level.

Levels of practices	Study Group (N= 30)												Control Group (N=30)											
	Pre-test				Post-test 1				Post-test 2				Pre-test				Post-test 1				Post-test 2			
	f	%	M	S . D	f	%	M	S . D	f	%	M	S . D	f	%	M	S . D	f	%	M	S . D	f	%	M	S . D
Poor	26	86.7	8.83	2.854	0	0	25.10	3.111	0	0	23.83	2.151	28	93.3	9.07	2.116	26	86.7	9.10	2.392	25	83.3	8.90	2.708
Fair	4	13.3			1	40			11	36.7			2	6.7			4	13.3			5	16.7		
Good	0	0			1	60			19	63.3			0	0			0	0			0	0		
Total	30	100			3	100			30	100			30	100			30	100			30	100		

Tab (3): Overall Assessment of Nurses' Practices toward Reduce of Children's Fear and Anxiety During Nursing Interventions among Study and Control Group

This table displays the overall assessment of nurses' practices; the findings indicates that nurses in the study group are showing poor level of practices during the pre-test time (86.7%, $M \pm SD = 8.83 \pm 2.854$) while they are showing good level of practices during the post-test 1 (60%, $M \pm SD = 25.10 \pm 3.111$) and post-test 2 (63.3%, $M \pm SD = 23.83 \pm 2.151$) that indicate the

significant changes in level of practices among nurses after applying the program.

The nurses in the control group are showing poor level of practices during the three time of tests; pre-test (93.3%, $M \pm SD = 9.07 \pm 2.116$), post-test 1 (86.7%, $M \pm SD = 9.10 \pm 2.392$) and post-test 2 (83.3%, $M \pm SD = 8.90 \pm 2.708$) that indicate no significant change in nurses' practices.

Descriptive		Within-Subjects Effect								
Practices	Mean (S.D)	Source	Type III Sum of Squares	df	Mean Square	F	P-value	Sig.	Partial Eta Squared	
Pre-test Post-test I Post-test II	8.83 (2.854) 25.10 (3.111) 23.83 (2.151)	Time	Sphericity Assumed	4912.089	2	2456.044	352.678	.001	H.S	.924
			Greenhouse-Geisser	4912.089	1.951	2517.879	352.678	.001	H.S	.924
			Huynh-Feldt	4912.089	2.000	2456.044	352.678	.001	H.S	.924
			Lower-bound	4912.089	1.000	4912.089	352.678	.001	H.S	.924
		Error(TIME)	Sphericity Assumed	403.911	58	6.964				
			Greenhouse-Geisser	403.911	56.576	7.139				
			Huynh-Feldt	403.911	58.000	6.964				
			Lower-bound	403.911	29.000	13.928				

Tab (4): Repeated Measure Analysis of Variance (RM-ANOVA) Test for Effectiveness of Instructional Program on Nurses' Practices toward the Reduce of Children's Fear and Anxiety During Nursing Interventions among the Study Group (N=30)

This table exhibits that analysis of RM-ANOVA test indicates that instructional program was highly effective on nurses' practices among the study group evidenced by high significance associated with "Greenhouse-Geisser" correction at p-value=0.001 and

the Eta squared that indicate large size effect (.924). It is clear out of descriptive data the noticeable increasing of mean score on nurses' practices during post-test 1 and 2 that indicate the effectiveness of instructional program.

Descriptive		Within-Subjects Effect								
Practices	Mean (S.D)	Source		Type III Sum of Squares	df	Mean Square	F	P-value	Sig.	Partial Eta Squared
Pre-test Post-test I Post-test II	9.07 (2.116) 9.10 (2.392) 8.90 (2.708)	Time	Sphericity Assumed	.556	2	.278	.340	.713	N.S	.012
			Greenhouse-Geisser	.556	1.840	.302	.340	.696	N.S	.012
			Huynh-Feldt	.556	1.958	.284	.340	.709	N.S	.012
			Lower-bound	.556	1.000	.556	.340	.565	N.S	.012
		Error(Ti me)	Sphericity Assumed	47.444	58	.818				
			Greenhouse-Geisser	47.444	53.348	.889				
			Huynh-Feldt	47.444	56.789	.835				
			Lower-bound	47.444	29.000	1.636				

Tab (4): Repeated Measure Analysis of Variance (RM-ANOVA) Test for Effectiveness of Instructional Program on Nurses' Practices toward the Reduce of Children's Fear and Anxiety During Nursing Interventions among the Control Group (N=30)

This table indicates that there is no significance has been associated with "Greenhouse-Geisser" correction and the Eta squared that indicate small size effect (.012). The descriptive shows no clear differences in mean score of nurses' practices in the control group during pre-test, post-test 1, and 2.

DISCUSSION

The descriptive analysis in table 1 shows that average age for nurses in the study group refers to 27.8±5.7 years and the highest percentage of them are seen with age group of "25-less than 30 years" among 43.4% of them. The average age for nurses in the control group refers to 29.9±8.5 year and 30% of them are seen with age group of "20-less than 25" years. This result agrees with the study by "Effectiveness of Health Educational Program on Nurses' Knowledge toward children with pneumonia in Al-Amara City Hospitals" It shows that the majority of the nurses in both groups—the study group, which included 19 (63.3%) of them, and the control group, which included 17 (56.6%) of them, are female and in the age range of 18 to 25. In contrast, only 14 (46.7%) of the nurses in the control group are in the same age range^[16]. The result of this difference in ages due to the different ages of the participants in the study. The descriptive analysis

in Table 1 shows that the gender variable indicates that the percentage of the nursing staff is mostly female, as reported in 80% of them in the study group and 63.3% of them in the control group. This result agrees with the study by "Effectiveness of Health Educational Program on Nurses' Knowledge toward children with pneumonia in Al-Amara City Hospitals" which The study group 19 (63.3%) were females and the control group 17 (56.6%) were females^[16]. And this difference was due to the difference of the study community or because of the nature of the participants of current study to achieve the objectives. The average years of experience refers to 6±4.7 years among nurses in the study group with "1-less than 6" years of experience among 50% of them, and among control group, the average years of experience refers to 7.6±7.7 years with "1-less than 6" years of experience among 53.3% of them. This result agrees with the study by "Effectiveness of Health Educational Program on Nurses' Knowledge toward children with pneumonia in Al-Amara City Hospitals" which Shows that Of the sample, 56% had less than 10 years of experience practicing as a RN with most nurses having less than five years' experience (44%)^[16]. These differences in results may be due to differences in the sample selected as well as differences in the number of years of

experience. Level of Education Regarding level of education, the highest percentage refers to “diploma degree” among both groups as reported among 36.7% of nurses in the study group and 46.7% of nurses in the control group. . This result agrees with the study by “Effectiveness of Health Educational Program on Nurses' Knowledge toward children with pneumonia in Al-Amara City Hospitals” which Shows The percentage of nurses participating in the study was 20 nurses, 12 nurses with a diploma in nursing, and 8 nurses with a bachelor's degree^[16]

The findings indicates that nurses in the study group are showing poor level of practices during the pre-test time (86.7%, $M \pm SD = 8.83 \pm 2.854$) This result agrees with the study by “Evaluation of Nurses' Practices toward Caring of Children with Febrile Convulsion” resulted in low mean score practices (SD)=1.147 (0970) among nurses (100.0%) when it came to caring for children experiencing febrile convulsions.^[16]

while they are showing good level of practices during the post-test 1 (60%, $M \pm SD = 25.10 \pm 3.111$) and post-test 2 (63.3%, $M \pm SD = 23.83 \pm 2.151$) that indicate the significant changes in level of practices among nurses after applying the program This result agrees with the study by “Effectiveness of Intervention Program on Nurses' Practice toward Neonatal Endotracheal Suctioning Procedure” This study demonstrated the significant difference between pre- and post-tests of primary fields in nurses' practices of neonatal endotracheal suction^[17].

The findings indicates that nurses in the study group are showing poor level of practices during the pre-test time (86.7%, $M \pm SD = 8.83 \pm 2.854$) This result agrees with the study by “Evaluation of Nurses' Practices toward Caring of Children with Febrile Convulsion” resulted in low mean score practices (SD)=1.147 (0970) among nurses (100.0%) when it came to caring for children experiencing febrile convulsions^[17].while they are showing good level of practices during the post-test 1 (60%, $M \pm SD = 25.10 \pm 3.111$) and post-test 2 (63.3%, $M \pm SD = 23.83 \pm 2.151$) that indicate the significant changes in level of practices among nurses after applying the program. This result agrees with the study by “Effectiveness of Intervention Program on Nurses' Practice toward Neonatal Endotracheal Suctioning Procedure” This study demonstrated the significant difference between pre- and post-tests of primary fields in nurses' practices of neonatal endotracheal suction^[18].

Instructional program was highly effective on nurses' practices among the study group evidenced by

high significance associated with “Greenhouse-Geisser” correction at $p\text{-value} = 0.001$ and the Eta squared that indicate large size effect (.924). It is clear out of descriptive data the noticeable increasing of mean score on nurses' practices during post-test 1 and 2 that indicate the effectiveness of instructional program. This result agrees with the study by” Effectiveness of an Interventional Program on Nurses' Practices regarding Removing and Cleaning Burn Dead Tissue” As a result of implementing a deliberate intervention program for the subjects under study. Significant test comparisons of the examined items and the evaluation assessment scales revealed significant differences at $P0.01$ in favor of the effectiveness of a proposed program for removal of burned necrotic tissue and cleaning of the examined nursing staff in the post-mortem period, which can be used to support the relevance and success of the proposed program^[19,20].

CONCLUSIONS:

The study concluded that the Instructional program designed to reduce children's fear and anxiety during nursing interventions was effective in improving the practices of nurses.

RECOMMENDATIONS:

Nurses need training program to reduce children's fear and anxiety during nursing interventions to improve their practices. Preparing a pamphlets for nurses to improve their practices .

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