

# The Effects of Constructed Program on Nurses' Practices of Poisoned Children

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## ABSTRACT

This study was objected to evaluate the effect of constructed program on the nurses' practices for children who diagnosed with chemical poisoning. A Pre-experimental (pre-test, post-test I & II design), non-probability of (30) nurse participated from Al-Basrah Hospital for Maternal and Children, throughout the period 12th of September 2021 to 10th of October 2022. The constructed program based on previous literatures review that related to study purpose. The study instrument composed of nurses' socio-demographic data and questionnaire of (23) items to assess their practices for children with chemical poisoning, a self-report method was used to collect the data. SPSS program was used to analyze the data of the study through percentages, mean, standard deviation, and t-test. The study findings showed a statistical significant difference in nurses' practices scores between pre-test and post-test at ( $p=0.000$ ) after the constructed program. However, no statistical significant difference in practices scores between post-test I and II at ( $p=0.587$ ) after 4 weeks. The constructed program can used as nursing guideline during care of poisoned children chemically, to prevent complication of poisoning and reduce the burden of care.

**Keywords:** Effects, Constructed program, Nurses practices, Poisoned children

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## INTRODUCTION

Frequently, children with chemical poisoning admitted to emergency room as urgent case. They ingested, inhaled, or contact with danger chemical substances [1]. Many factors take place of increase the incidence of chemical poisoning among children such the socioeconomic status and parent awareness [2]. Major chemical poisoning effects may related to a number of chronic disorders such cancer, memory loss, allergies, chronic fatigue syndrome, learning and behavioral issues, infertility, and shock [3]. While the minor chemical poisoning effects may cause irritation and burns, headache, hazy vision, diarrhea, and breathing problems [4]. Mostly poisoned children admitted to emergency room with reported abnormal gastrointestinal and neurological signs [5].

However, children are vulnerable to experiencing feelings of anxiety, tension, and disappointment if they

are not informed about what will happen to them or are not actively involved in their care. They may also feel rejected and disregarded in this situation [6].

The first hour is the best opportunity to stabilize and treat potentially life-threatening injuries before the patient's condition deteriorates, according to the "golden hour" idea. A similar idea should be highlighted when managing poisons that have been consumed; after the first hour, the amount of poison eliminated from the body significantly decreases. This principle should be remembered by medical professionals who treat poisoned individuals by considering early decontaminations after the overdose, preferably within the first hour [7].

In order to provide children with the outcomes they want, good quality clinical care is essential, and nurse performance evaluation is a key component of that. There has long been a need for, and ongoing worry about, an accurate and trustworthy way to assess nurses' clinical performance [8]. Nursing practice that based on scientific concepts for early detection of potential health problems and formulate activities for saving child's quality of life [9]. The nurse's responsibilities also include preparing the children and their families for discharge, which is a continuous process during their hospital stay. The children and his family receive spoken

and written instructions prior to leaving the hospital, when to seek medical attention, activity restrictions, drug administration directives, and infections [10].

Also, all nurses should be involved in continues intervention program to improvement and maintenance children care, and to know the suitable and active care has been produced. Instruction and direction are active methods for actual nursing [11]. Chemical poisoning is a common cause of mortality and morbidity in children around the world, with several million incidences reported annually. In Iraq, by reviewing the statistical data of ministry health, in the year 2019 it was revealed that the percentages of children who were admitted for chemical poisoning was 7236 children, and in the year 2020 was 16756 children while in the year 2021 was 11497 children.

Finally, Encouraging nurses to be enrolled in training sessions to improve their knowledge and practice to keep them up to date about management of children especially in emergency situation decrease mortality and morbidity in children.

## METHODOLOGY

### Study Design

The study was designed as a Pre-experimental (one group pre- test, and post-test design). Pre-test conducted before post-test I, and post-test I done immediately after implementation constructed program was collected from nurses then after 4 week post-test II recollected again from nurses for one group of sample (study group).

### Sample and Setting

A non- probability (convenience) sample of (30) nurses who consist of one group exposed to constructed program regarding chemical poisoning, participate from emergency department in Al-Basrah Hospital for Maternal and Children.

### Instrument

The study instrument is composed of two parts, the first part is concerned with collection of nurses socio-demographic data that include their (age, gender, years of work in hospital, years of experience in emergency department, training courses). Obtained from the nurses by a self-administered questionnaire, while the second part is constructed to assess nurses practices regarding care of children with chemical poisoning, It consists of (23) closed-ended question. The reliability of the instrument was determined through the computation of Alpha Cronbach's test (Alpha Correlation Coefficient).

### Data collection of procedures

The constructed program is carried out in the emergency department at Al-Basrah Hospital for Maternal and Children for the period from May 11th, 2022 to 29th June, 2022.

## RESULTS

In relation to the subject of " Age /years", Findings show participants age, the mean age for nurses included in current study is 27, the age 26-30 years old were recorded the highest percentage (43.3%). In regard with the participant's gender, the female nurses were predominated (63.3%) as compared by those who are male nurses (36.7%). In respect to subject of "educational Level", Education related findings, the institute nursing were records more than half (56.7%). In terms of Years of Work in Hospital, it is obvious among findings that the less than 5 years of work in hospital were records highest percentage (50%). In relation to the years of experience in emergency department, more than half were less than 5 years of experience in emergency department were records highest percentage (76.7%). In regard with the training associated findings, the majority of study sample were no attended training sessions (86.7%).

The analysis of variance by ANOVA in table 2 shows, there is a statistical significant difference in practices

Table 1: Distribution of Study Sample by their Socio-Demographic Variables.

Age /years	Classification	Freq.	%
(M± SD= 27±4.45)	21-25 years old	12	40
	26-30 years old	13	43.3
	31-35 years old	3	10
	36 and older	2	6.7
Gender	Male	11	36.7
	Female	19	63.3
Education Level	High School Nursing	7	23.3
	Institute Nursing	17	56.7
	College Nursing	6	20
Years of Work in Hospital	<5 years	15	50
	5-10 years	11	36.7
	>10 years	4	13.3
	<5 years	23	76.7
Years of experience in Emergency Department	5-10 years	4	13.3
	>10 years	3	10
Training Courses	No	26	86.7
	Yeas	4	13.3

scores between pre-test and post-test I at (p=0.000) however, there were no statistical significant difference in practices scores between post-test I and post-test II at (p=0.587). Table 3 proves these differences.

Figure 1, shows nurses' Practices about care of poison children was inadequate at Pre-test, however their responses were increase at post-test I and post-test II.

**DISCUSSION**

The present finding reflected that nurses had inadequate practices about care of children with chemical poisoning in pre-test table (2-3). Researcher point of view, the crowded patients and nursing shortage at emergency department may relate to inadequate nurses practices. In addition to the less training session about first aids for nurses at the setting of the study and most nurses had a similar duration of experience and educational level that reflect the level of practice. This findings supported by study which done in Ethiopia, to determine the nurses' practice on the initial management of acute poisoning among patient at emergency department, the researcher discovered that (65.50%) of had unsatisfactory practice

level [12]. This finding consisted with another study to assess nurses' performance for children with acute organophosphate poisoning, their finding reports that (54%) of nurses had incompetent practice [13].

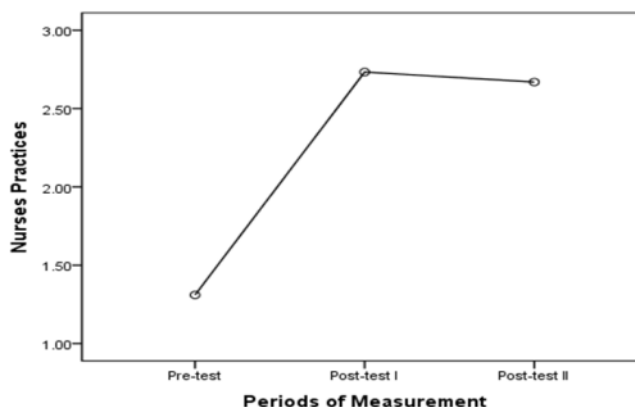
However, after applying the constructed program about care poison children in table (2-3), the study findings showed a statistical significant difference in nurses' practices scores between pre-test and post-test. Also, no statistical significant difference in practices scores between post-test I and II. The researcher point of view, this result might be to the positive change in nurses believe and perceive about adequate practices during chemical poisoning among children. Also, this improvement may be attributed to a combination of the theoretical part and the practical training element of the intervention program such colored booklet, using of audiovisual aids, proper communication. This finding was supported by study to assess practices of critical care nurses about toxicological emergencies, a study that reports 76.5% of them had acceptable practices about toxicological emergencies, as p value is 0.002 [14]. This study was supported by study in India, who mentions the practice skills of the studied

**Table 2: Significant Differences of Nurses Practices about Care of Children with Chemical Poisoning during Period of Study.**

ANOVA						
Practices Periods	Source of variance	Sum of Squares	d.f	Mean Square	F-statistic	p-value
Pre-test & Post-test I	Between Groups	30.382	1	30.382	128.666	0
	Within Groups	13.696	58	0.236		
	Total	44.078	59			
Post-test I & Post-test II	Between Groups	0.061	1	0.061	0.299	0.587
	Within Groups	11.835	58	0.204		
	Total	11.896	59			

**Table 3: Significant Differences of Nurses' Practices about Care of Children with Chemical Poisoning During Period of Study by Post Hoc Test (LSD) Multiple Comparison.**

Post Hoc Test				
Period (A)	Period (B)	Mean Differences (A vs. B)	Std. Error	p-value
Pre-test	Post-test I	-1.42319*	0.12334	.000*
	Post-test II	-1.35942*	0.12334	.000*
Post-test I	Pre-test	1.42319*	0.12334	.000*
	Post-test II	0.06377	0.12334	0.606
Post-test II	Pre-test	1.35942*	0.12334	.000*
	Post-test I	-.06377-	0.12334	0.606



**Figure 1: Nurses' Practices about Care of Children with Chemical Poisoning During Period of Study.**

sample about Basic life support for the studied nurses had significantly increased after planned educational program [15, 16]. This finding approved with study in Egypt to identify effect of guideline protocol for nurses' performance regarding care provided toward poisoned children, study which showed that more than two third of studied nurses had poor score of practices at pre guideline phase, post-guideline protocol the majority of the studied nurses had good practices level [17].

### CONCLUSION

Before implemented the program about care of children with chemical poisoning, nurses' practices was assessed at inadequate level at pre and post-test I.

After implemented the program about care of children with chemical poisoning nurses' practices was assessed at adequate level at post-test I and II.

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