

# Effectiveness of an Educational Program on Nurses' Knowledge about Management of Children with Nephrotic Syndrome in Nephrology Units at Al-Najaf Teaching Hospitals

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**Abstract- Objectives:** To assess the effectiveness of educational program on nurse's knowledge about management of children with nephrotic syndrome at Nephrology units.

**Methodology:** A quasi-experimental design study has been carried out in Al-Najaf City/Al-Najaf Al-Ashraf Health Directorate / Al-Sadder Medical City and AL-Zahra Teaching Hospital from November 1<sup>st</sup>, 2016 to 1<sup>st</sup> July, 2017. The educational program and the questionnaire format were constructed by the researcher to reach the purpose of the study. Purposive sample was conducted on 30 nurses divided into two groups: study group consisted of 15 nurses which exposed to the educational program and the control group consisted of 15 nurses were not exposed to the program. Reliability of instrument is determined through the use of test and re-test, and the instrument validity is determined through a panel of experts. The data were analyzed through the use of the descriptive and inferential analysis statistical methods.

**Result:** The study indicated that the effectiveness of educational program regarding nurses' knowledge about management of children with nephrotic syndrome was clearly positive with good development of high significant difference of the study group in pre and post-test at all items related to management of children with nephrotic syndrome.

**Conclusion:** The study concluded that the educational program was suitable and effective to improve the nurses' knowledge about management of children with nephrotic syndrome. Moreover, the study concludes that most nurses in nephrology units had insufficient knowledge regarding to management of children with nephrotic syndrome.

**Recommendation:** The study recommends to encourage nurses to be involved in special training courses and constructed educational pamphlets regarding the nephrotic syndrome disease and its management particularly in children in order to improve their knowledge.

**Index Terms-** Effectiveness, Educational program, Nurses' Knowledge, Management, Children with nephrotic syndrome.

## I. INTRODUCTION

Nephrotic syndrome is an acquired disorder responsible for alterations in renal function if left untreated. This disorder may lead to renal failure even when treated appropriately.

Sometimes, appropriate response is not achieved and acute or chronic renal failure develops<sup>(1,2)</sup>.

Children with too much protein in their urine, sudden weight gain, and swelling in various body parts could have a condition called nephrotic syndrome. Childhood nephrotic syndrome is also called nephrosis<sup>(3)</sup>. All forms of nephrotic have early characteristics of edema and proteinuria, therefore, definite clinical differentiation cannot be made early in this disease. Nephrotic syndrome has a course of remissions and exacerbations that usually lasts for months. The recovery rate is generally good with the use of intensive steroid therapy and protection against infection<sup>(4)</sup>. Nursing care management is important for continuous monitoring of fluid retention or excretion that is an important nursing function. Strict intake and output records are essential but may be difficult to obtain from very young children. There are other methods of monitoring progress include urine analysis for albumin, daily weight, and measurement of abdominal girth<sup>(5)</sup>.

The important nursing role of the child with nephrotic syndrome includes observation of the child and his family during hospitalization, monitoring of vital signs, giving medications, making balance sheet between fluid intake and fluid output, daily urine analysis and teaching of child and his family treatment program and support to the children and their parents<sup>(6)</sup>.

## Objectives the Study: -

1. To assess nurses' knowledge about children with nephrotic syndrome.
2. To determine the effect of educational program by comparing the pre-test and post-test score on nurses' knowledge toward management children with nephrotic syndrome.

## Methodology:

**Design of the study:** A quasi experimental study.

**Study Sample:** Purposive sample consists of 30 nurses, divided in two groups (study group and control group). The study group was 15 nurses exposed to nursing education program, and the control group also were 15 nurses not exposed to the program.

**Setting of the Study :** Al-Najaf City/Al-Najaf Al-Ashraf Health Directorate / Al-Sadder Medical City (specialized center for kidney transplantation and nephrology disease) and Al-

Zahra'a teaching hospitals (nephrology units) , from 1<sup>st</sup> November to 1<sup>st</sup> July .

**Instrument:** The researcher constructs a questionnaire format in order to reach the aims of the study. It consists of two parts:

**Part I: Self-administered questionnaire format related to demographic characteristics of nurses:**

This part is concerned with the collection of basic socio-demographic data that are related to nurses (age, gender, residency, marital status, , education level, years of experience in nephrology units and number of training courses in nephrology disease).

**Part II: Self-administered questionnaire format associated with (nurses knowledge about management of children with nephrotic syndrome ) .**

It was constructed to assess nurses' knowledge about management of children with nephrotic syndrome that is completed by the involved nurses. The knowledge test (within the questionnaire) composed from (26) items of multiple choice questions. Each question is scored as the correct answer get (2) point and the incorrect answer get (1) point.

**Validity of the Questionnaire and the Program:**

The content validity of the program and the study instruments are determined by the panel of (14) experts, who were skillful in their field to investigate the content of the educational program and questionnaire about management of children with nephrotic syndrome.

**Reliability of the Instrument:** (10) nurses who were selected from the nephrology units in Al-Sadder Medical City and Al-Zahra'a teaching hospitals for management children with Ns by test –retest revealed that (r =0.81) .

**Statistical methods:** The analysis of the data was used of spss ver.23, and descriptive statistics (frequencies, percentages, mean and standard deviations) and statistical inferential (t- test ) in order to find the differences between the study group and the control group.

**Result**

**Table (1): Distribution of the Study and Control Groups according to Demographic Data with Comparison Difference**

Demographic data	Rating And Intervals	study		control	
		Freq.	Percent	Freq.	Percent
Age groups (years)	20-30	14	93.9	9	60%
	31-39	1	6.7%	3	20%
	40 and more	0	0%	3	20%
	Mean ± SD	25.79 ± 3.332		30.67 ± 7.49	
Gender	Male	5	33.3%	9	60.0%
	Female	10	66.7%	6	40.0%
Residence area	Urban	15	100.0%	13	86.7%
	Rural	0	0.0%	2	13.3%
Marital status	Single	9	60.0%	2	13.3%

	Married	6	40.0%	13	86.7%
	Divorced	0	0.0%	0	0.0%
	Widowed	0	0.0%	0	0.0%
	Separated	0	0.0%	0	0.0%
Educational level	Nursing School Graduate	3	20.0%	3	20.0%
	Nursing Institute Graduate	6	40.0%	8	53.3%
	Nursing College Graduate	6	40.0%	4	26.7%
	Postgraduate	0	0.0%	0	0.0%
Years of experience in nephrology units	1- 2	10	66.7%	8	53.3%
	3 - 6	4	26.7%	2	13.3%
	7 Up	1	6.7%	5	33.3%
	Mean ± SD	2.64 ± 2.098		3.93 ± 3.058	
Number of training courses in nephrology disease	No participation	7		5	
	1- 2	4	50.0%	4	40.0%
	3 - 6	4	50.0%	4	40.0%
	7 Up	0	0.0%	2	20.0%
Total		15	100%	15	100%

Freq. : Frequency , SD: standard deviation

Table (1) shows that mean of the study age group was (25.79 years) and the mean of control group was (30.67 years). In addition, it shows that high percentages of females participant in study group (66.7%) while the control group were higher among male participants percentage (60%) . Regarding residency, (100%) of the study group and (86.7%) of the control group were from urban residence area . Concerning the marital status, (60%) of the study group, and (86.7%) of control group were married. Regarding level of the education, (40%) of the study group were graduated from nursing institute and nursing college , while (53.3%) of the control group were institute graduated. In addition, the study results reveals the mean of their experience years at nephrology units was (2.64 years) among the study group with (50%) in (1-2) and (3-6) training courses in nephrology diseases. But mean of the experience years among the control group was (3.93years) with (40%) in (1-2) and (3-6) training courses in nephrology disease.

**Table (2): Distribution the Study Group according to their overall Knowledge**

Main Domain		Pre-test				Post-test			
		Freq.	%	M.S	Ass.	Freq.	%	M.S	Ass.
Overall knowledge	Poor	11	73.3%	1.27	Poor	4	26.7%	1.73	Good
	Good	4	26.7%			11	73.3%		
	Total	15	100%			15	100%		

M.s : mean of score( 1.5) , Freq. : Frequency % : percent , Ass. : Assessment

Table (2) reveals that distribution of the study group through pre and post - test was poor knowledge with (1.27) mean of score in pre –test whereas in post-test was good knowledge with (1.73) mean of score.

**Table 3: Distribution of the Control Group according to their overall Knowledge**

Main Domain		Pre-test				Post-test			
		Freq.	%	M.S	Ass.	Freq.	%	M.S	Ass.
Overall knowledge	Poor	11	73.3%	1.27	Poor	14	93.3%	1.07	Poor
	Good	4	26.7%			1	6.7%		
	Total	15	100%			15	100%		

M.s : mean of score( 1.5) , Freq. : Frequency % : percent , Ass. : Assessment

Table (3) expresses the distribution of the control group at pre and post -test was poor knowledge level, with mean of score (1.27) at pre -test and (1.07) at post-test .

**Table (4): Statistical comparison of the knowledge between pre and post in study and control group by using paired t test.**

		No.	Mean ± SD	T .Value	d.f	Sig. (2-tailed)
Study	pre	15	1.27 ± 0.458	3.5	14	0.004 (HS)
	post	15	1.73 ± 0.458			
Control	pre	15	1.27 ± 0.458	1.871	14	0.082 (NS)
	post	15	1.07 ± 0.258			
Total		30			28	

T-value (paired t-test value), d .f : degree of freedom ,NS (non-significant difference at p-value more than 0.05),HS (high-significant difference at p-value less than 0.05) , SD: standard deviation

Table ( 4) reveals that the distribution of study group through pre and post - test was highly and significantly different between nurses' knowledge, in pre-test and post-test at p- value (0.004), while the control group at pre and post -test was not-significant between nurses' knowledge at p- value (0.082).

## II. DISCUSSIONS

The majority of the study sample (control and study) groups agewere at (20-30) years. This result agrees with the result of (7) who found that the majority of the study subjects age were between (20-29) years old. The study subjects were abundant females percentages in the study group that approved

with(8). But their results were disagreed with control group results of the present study with high male percentages . The present study shows that the majority of study sample were from urban area due to their work in critical care units (nephrology unit). The present study reveals that the single nurses have highest percentages (60%) in the study group this result is approved with (9), who indicated that the higher percentage (86.8 %) were single but the married was (12.9%). But the control group had higher percentage (86.7%) of married nurses that accepted by (10) who pointed in their study that the highest percentage were married .The highest percentage (40%) was among the study group (graduated from nursing institutes and nursing college), while the control group has the highest percentage (53.3%) of graduated from nursing institute. These results agreed by (8) who found that the high percentage majority of the study subjects were graduated from nursing institute in the study sample in one hand while in other hands disagreed with high percentage of the study group who was graduated from nursing college .According to years of nurses experience in nephrology units, the study results revealed that the majority of nurses in study and control groups were between (1-2) years of experience, that is supported by the study of (8), who indicated that higher percentage of study sample were between (1-10) years of experience in nephrology units.The present study found that (50% ) of the study group had (1-2) , (3-6) training courses. While (40%) of the control group had (1-2) and (3-6) courses . These results disagree with (6)results who reported that (66%) of them did not attend any training programs in care of children with nephrotic syndrome while (34%) of nurses have training courses.Whereas , (6)study revealed that the majority of nurses has poor knowledge and incompetent practices skills as regarding care of children with nephrotic syndrome. There is not any kind of educational program about disease and training courses to nursing staff that agree with results of the present study sample .These tables shows nurses knowledge concerning nursing management for children with nephrotic

syndrome in the study group had been improved after involved in educational program that indicated with a significant difference between pre-test and post-test results, that supported by the study of <sup>(11)</sup>, Nurses' knowledge and performance toward children with nephrotic syndrome improved significantly post and at follow up implementation of nursing protocol, and <sup>(12)</sup> who indicated that there is a high significant difference between pre-posttest. Also the researcher confirms that the nurses knowledge among the control group didn't changed in post -test, and stabilized in all their knowledge measures. This was in agreement with <sup>(11)</sup>, "who indicated that most of nurses' knowledge had unsatisfactory about nephrotic syndrome; the most of nurses' performance had incompetent regarding to nephrotic syndrome. This study recommended that periodically educational training programs for nurses to help them to improve their performance for management of children with nephrotic syndrome in the pediatric nephrology units to alienate and reduce the complications of nephrotic .

### III. CONCLUSION

The study concluded that the Nurses' knowledge among the study group were improved in their management of children with nephrotic syndrome at post –test after educational program. While, the control group didn't improved their knowledge among nephrotic syndrome at post-test because they didn't enrolled in the educational program .

### IV. RECOMMENDATION

1. Emphases should be done on nurses working in nephrology units to be enrolled in an educational program about nephrology diseases and management with more regular training sessions to improve their knowledge about nephrotic syndrome in children.
2. Constructed of an educational pamphlets or posters regarding the nephrotic syndrome disease and its management particularly in children.

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