

Effectiveness of an Educational Program on Nurses' Knowledge Concerning Preoperative Care of Children Undergoing Intestinal Obstruction Surgery at Pediatric Teaching Hospitals in Baghdad City

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Abstract- Objectives: To evaluate the effectiveness of educational program on nurses' knowledge toward preoperative care of children undergoing intestinal obstruction surgery.

Methodology: A quasi-experimental design in which a Non-probability (purposive) sample of (25) nurses who were worked in the surgical unit at Pediatric teaching hospitals in Baghdad City, the study was conducted between 2nd of November 2015 until 21th of August 2016. A questionnaire format was used which consist of (3) parts, the first part includes demographic information of the sample, the second part consists of nurses' knowledge toward intestinal obstruction and third part consists of preoperative care of children undergoing intestinal obstruction surgery. Reliability and validity of questionnaire was estimated through a pilot study and a panel of expert. The data were analyzed by using descriptive statistical measures which included frequencies, percentages, standard deviation and relative sufficiency, as well as the use of inferential statistical measures which include ANOVA, T-Test.

Results: The results revealed no statistical significant relationship ($P > 0.05$) between nurses' knowledge toward preoperative care for children undergoing intestinal obstruction surgery and age, gender, educational level, years of experiences and training courses.

Conclusion: The present study indicate that the majority of nurses' participants are female at age group between (25-29) years old, graduated from nursing institute, (36%) years of experience in pediatric hospital and the most of the study sample have not training sessions.

Recommendation: Provide educational lectures and booklets for nursing staff directed to improve their knowledge that leads to develop their performance.

Index Terms- Preoperative Care, Intestinal Obstruction

I. INTRODUCTION

Intestinal Obstruction is defined as the majority of Gastroenterology disorders where that the life-threatening problems required emergency surgical and nursing intervention at the surgical unit. The preoperative stage: is the period started from the patient or caregiver of the patient is informed of the need for operative and makes the decision to have the procedure. This period finished when the patient is transported to the

operating room bed⁽¹⁾. The purpose of the preoperative period for guidance and education to facilities the patient quick recovery and independence with good surgical outcome and minimize the complication after operation⁽²⁾. The preoperative care consists of physical and psychological preparations in addition nursing education for the child and parents or caregiver. The purposes of the preoperative care are helped prevent complications related to surgery or minimize complications, and good surgical outcome. The physical preparations included assessment with clinical examination which is very important provided wide information about child status⁽³⁾, the goal of preoperative fasting is ensured an empty stomach to prevent regurgitation and pulmonary aspiration⁽⁴⁾, laboratory testing is very important to identify any problem before surgery, fluid and electrolyte balance to prevent dehydration results from vomiting, alkalosis and acidosis⁽⁵⁾.

Blood transfusion preparation of the blood before surgery if the child suffered from anemia⁽⁶⁾. Sedation medications are used to reduce the anxiety, stressful experience and frequency crying of the toddler and preschool age, the administration of premedication antibiotics reduces the infection rate and the goal of preparation of bowel is reduced fecal as well as bacterial load., must be clean before the operation for 24 hours by enema⁽⁷⁾. The psychological preparations are often very important and notable event in the life of the family and mostly in the child date in his private life, the preoperative anxiety is most common which characterized by stress, crying, agitation and trying to escape from care that may be factors affected on the child such as: age, frequent hospitalization, personnel positive or negative affect on the anxiety level of children⁽⁸⁾. The child and parents are allowed visit to the surgical unit before surgery to reduce the fear and anxiety and the nurse is given information to the child and parents before surgery to minimize anxiety by used of videotapes, booklets, DVDs, are encouraged to explain the child surgical procedure. Allowed the child is played with stethoscopes, gowns, masks and syringes without needles also helped the child feel more control for anxiety. Pediatric nurse is made an interview or preoperative program of the child and parent helped to cope with new situations⁽⁹⁾.

II. METHODOLOGY

A quasi -experimental study design one study group (pretest-posttest) carried out at Surgical Units of Pediatric

Teaching Hospitals in Baghdad City to identify the effect of the educational program on Nurses Knowledge concerning Preoperative Care of Children Undergoing Intestinal Obstruction Surgery; the study was conducted between November 2015 to August 2016. Selection of the study sample is a purposive (Non-probability) consists of (25) all nurses who were working in morning staff. The nurses are exposed to an educational program inside the surgical units. The program consists of three sessions that included: demographic information of the nurses, information about intestinal obstruction and preoperative care with the physical and psychological preparations of preoperative period. The questionnaire is constructed and introduced to the

participants to evaluate the program upon the nurses' knowledge .The total items of the questionnaire were (33) items and the questions were designed on the base of multiple choices for nurses' knowledge concerning preoperative care. The educational program consists of two lectures that are: first lecture contains information toward intestinal obstruction and second lecture consists of information toward preoperative care of children undergoing intestinal obstruction surgery. The application of the program for all pediatric nurses was done for two weeks and two lectures were given in surgical unit.

III. RESULTS

Table (1): Characteristics of participants nurses of the study

Variables	Groups	F	%
Age (years)	20-24	5	20
	25-29	6	24
	30-34	4	16
	35-39	3	12
	40-44	5	20
	45-49	2	8
	Total	25	100
Gender	Male	7	28
	Female	18	72
	Total	25	100
Marital Status	Single	8	32
	Married	16	64
	Separated	1	4
	Total	25	100
Level of Education	Nursing school graduate	3	12
	Secondary school of Nursing	7	28
	Nursing Institute graduate	10	40
	Nursing College graduate	5	20
	Total	25	100
Years of experience in Pediatric Teaching Hospitals	1-4 years	6	24
	5-8 years	4	16
	9-12 Year	6	24
	≥13 years	9	36
	Total	25	100
Years of experience in Pediatric Surgical wards	≤ 1 year	12	48
	2-3 years	1	4
	4-5 years	3	12
	6-7 years	9	36
	Total	25	100
Participants in Training Sessions about Preoperative Care	Yes	10	40
	No	15	60
	Total	25	100

Table (1) shows the distribution of the nurses according to their sociodemographic data for nurses age highest percent was (24%) for the age group (25- 29) years and lowest percent (8%) for age group (45-49). In relation to the majority of the nurses gender was female (72%). The level of education analysis of data

pointed out that highly percentage (40%) for Nursing Institute graduate. As for experiences in Pediatric Surgical wards (48%) of nurses had expert ≤ 1 years in providing care for children. (60%) of the nurses did not have training sessions.

Table (2): Comparison Significant among the Three Periods (Pre, Post-1 and Post-2) for Nurses' Knowledge related to intestinal obstruction in surgical unit of the Study Sample.

No.	Items Related To Nurses' knowledge	Pre – test		Post 1-test		Post 2-test		ANOVA	
		M.S.	Ass.	M.S.	Ass.	M.S.	Ass.	P-value	C.S.
1	Define of intestinal obstruction	1.24	L	1.76	H	1.80	H	0.000	HS
2	Classification of intestinal obstruction	1.32	L	1.84	H	1.68	H	0.000	HS
3	Causes of mechanical intestinal obstruction	1.04	L	1.52	M	1.64	M	0.000	HS
4	Most common large intestinal obstruction	1.20	L	1.60	M	1.72	H	0.000	HS
5	Causes of Hirschsprung's disease in newborn	1.20	L	1.36	M	1.60	M	0.013	S
6	The most common intussusception	1.28	L	1.36	M	1.76	H	0.001	HS
7	The most factors causes meconium plug	1.60	M	1.68	H	1.72	H	0.667	NS
8	The major clinical manifestation	1.36	M	1.84	H	1.92	H	0.000	HS
9	Diagnostic test of intestinal obstruction	1.12	L	1.48	M	1.68	H	0.000	HS
10	The most common laboratory tests	1.52	M	1.72	H	1.80	H	0.043	S
11	The medical history of child	1.64	M	1.64	M	1.68	H	0.945	NS
12	The most complication of intestinal obstruction	1.40	M	1.52	M	1.72	H	0.072	NS
13	The major clinical manifestation of complication intestinal obstruction	1.36	M	1.64	M	1.64	M	0.072	NS
14	The important steps of nurse management of intestinal obstruction before surgery	1.56	M	1.76	H	1.76	H	0.215	NS

Table (2):Showed there is highly significant differences among the three periods (pre ,post-1and post-2 tests) in all items for nurses' knowledge related to intestinal obstruction in surgical

unit of the study sample except for those items (7, 11, 12, 13, 14) which showed that there were no significant differences when analyzed by ANOVA.

Table (3): Comparison Significant among the Three Periods (Pre, Post-1 and Post-2) for Nurses' Knowledge related to Preoperative Care for Children Undergoing Intestinal Obstruction Surgery of the Study Sample.

No.	Items Related To Nurses' knowledge	Pre – test		Post 1-test		Post 2-test		ANOVA	
		M.S.	Ass	M.S.	Ass	M.S.	Ass	P-value	C.S.
1	The beginning and ending of perioperative period	1.04	L	1.60	M	1.72	H	0.000	HS
2	The important stages of perioperative period	1.28	L	1.76	H	1.80	H	0.000	HS
3	The start and end of preoperative period	1.28	L	1.64	M	1.84	H	0.000	HS
4	The role of nurse during preoperative period	1.52	M	1.60	M	1.64	M	0.690	NS
5	The objectives of preoperative care	1.32	L	1.56	M	1.72	H	0.002	HS
6	The child physical preparations before surgery	1.40	M	1.64	M	1.76	H	0.000	HS
7	The child preparation into clinical examination	1.44	M	1.60	M	1.72	H	0.453	NS
8	The important of nursing assessment before surgery	1.40	M	1.52	M	1.76	H	0.007	HS
9	Taken breast feeding before surgery ,the number of fasting hours for children less than 6 months	1.00	L	1.32	L	1.64	M	0.008	HS
10	Taken light meal for children above 6 months the number of fasting hours	1.24	L	1.72	H	1.80	H	0.000	HS
11	Taken formula feeding for children less than 6 month the number of fasting hours	1.08	L	1.56	M	1.76	H	0.035	S
12	The most problems occur resulting from increase the number fasting hours	1.76	H	1.80	H	1.84	H	0.000	HS
13	The cause of fluid and electrolyte imbalance of	1.32	L	1.56	M	1.76	H	0.002	HS

	children with intestinal obstruction								
14	The bowel preparation before surgery	1.24	L	1.48	M	1.80	H	0.029	S
15	The psychological preparation for the child and his family	1.28	L	1.52	M	1.68	H	0.038	S
16	The factors which increase children anxiety before surgery	1.40	M	1.56	M	1.76	H	0.035	S
17	The prepare preschooler child psychology before surgery	1.28	L	1.72	H	1.72	H	0.062	NS
18	The focus nursing education before surgery	1.28	L	1.60	M	1.64	M	0.194	NS
19	The nurse role in the surgical day	1.48	M	1.88	H	1.96	H	0.000	HS

Table (3). Showed there is highly significant differences among the three periods (pre ,post-1and post-2 tests) in all items for nurses' knowledge concerning preoperative care for children undergoing intestinal obstruction surgery of the study sample except for those items (4, 7, 17, 18) which showed that there were no significant differences when analyzed by ANOVA.

IV. DISCUSSION

Data analysis of the present study reveals that the majority (24%) of nurses in the study sample were within the age group (25 - 29) years while (72%) of nurses in the study sample of nurses were female. Concerning the educational level most of nurses (40%) were nursing institute graduate, the majority were married 16(64%). In relation to the number of years' experience in pediatric hospitals (36%) had expert 13years and more. As for years of experience in pediatric surgical wards 12(48%) of nurses had expert ≤ 1 year in providing care for children. Regarding to the participants in sessions of preoperative care (60%) of the nurses did not have training sessions. This results disagree with ⁽¹⁰⁾ mentioned that the majority (71%) of nurses in the study were within age group (31-35) years while (66%) of nurses in the study sample were male. The majority (50%) single and the level of educational level were (29.8%) traing course graduate, as for years of experience in surgical wards (53%) with had expert 1-5 years , the most of nurses did not training (58.3%).

As for the comparson between the three periods (pre-post1-post2 tests) of nurses' knowledge related to preoperative care for children undergoing intestinal obstruction surgery of the study sample, the result showed that there are highly signifiacnt differences among the three periods (pre-post1-post2 tests) in all items for nurses' knowledge related to intestinal obstruction in surgical unit of the study sample except for those items (7,11,12,13,14 items) shows that there are no significant differences(Table2).

This result agrees with the study of ⁽¹¹⁾ that nurses' knowledge about intestinal obstruction is affected nursing mangement to reduce the mortality thus, the nurse role was crucial in preventing complications and assisting the child and family to manage disorder. The result showed that there are highly significant differences among the three periods(pre-post1-post2 tests) in all items for nurses knowledge concerning preoperative care for children undergoing intestinal obstruction surgery of the study sample except those for items (4,7,17,18) which shows that there are no significant differences (Table3), these results agree with the study of ⁽¹²⁾ that both preoperative preparation program which include (physical, psychological ,and

education) were effectived of reduce the fear and anxiety of the child and family before the surgery and reducing moratilty and postoperative complication.

V. CONCLUSION

There is a statistical significant relationship between pretest, post1and post2 results of the educational program concern nurses' knowledge about the preoperative care; the educational program is a great effect on nurses' knowledge. And the difference of statistical significant between pretest, post1 and post2, the nurses ' knowledge were poor in all items of pretest because there were no update of their knowledge which that increased knowledge in Post1 and more Post2 because the effects of educational program of nurses' knowledge and the booklets that are given to nurses after the end of the lecture, this is contributing to increase of nurses knowledge later.The hospitals policy should apply special training session related to surgical unit and teach how to deal with management of the cases for intestinal obstruction to increase knowledge for nurses who are working in pediatric surgical units.

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