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Evaluation of Nursing Performance at Pediatric Burn Unit in Benha City: An Intervention Study

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Abstract:
Background*: Children burns are immediately and potentially life-threatening injuries. A child with the burn is being at high risk due to the rapidly changing physiologic status, and the multiple complications.*
The aim of the study*: the aim of the current study has three folds to compare the nurse's performance with burn- injured children at pediatric burn unit before/after the program. Assessing barriers facing nurses in pediatric burn care unit from a holistic view. To identify the relationships between selected nurse's demographic characteristics and their level of knowledge and performance.*
Design: *A quasi-experimental design was used in the current study.*
Sitting: *the study carried out in the pediatric burn unit at the Teaching Hospitals in Benha City.*
Sample*: A convenient sample of all nurses (55) in the pediatric burn unit were enrolled in this study.*
Tools: *Three tools were used to collect data which included: Tool I: Interviewing questioner sheet categorized into two part: 1-Demographic characteristics as age, level of education and years of experience 2- Nurses' knowledge assessment sheet (**Women's and children hospital (2010).** Tool II: An observational checklist adopted from **American Burn Association (2015)** to assess nurses' performance in pediatric burn unit before/after the program. Tool III**: The barriers facing nurses in pediatric burn care unit** was adopted from **(Nyakanda, 2012)** composed of 9 items. Likert scale collapsed into three categories always, sometimes and never.*
Results: *The study results revealed that after the implementation of the program, 93% of nurses had a satisfactory level of knowledge about burn in the pediatric patient. As well as 94% of nurse had a satisfactory level of performance. There was a statistically significant difference between nurse's level of knowledge and performance before and after the implementation of the program.*
Conclusion: *The education program about burn care was effective and improving nursing performance at the pediatric burn unit.*
Recommendation: *The study recommended that nurses worked at the pediatric burn unit were needed continuous updates in their knowledge and performance regarding burn care of children.*
Keyword*: Education program, Nursing performance, Children, Burns Injuries*

I. Introduction

A burn is defined as an injury to the skin or other organic tissue principally caused by heat or due to radiation, radioactivity, electricity, friction or contact with chemicals. In Egypt, 17% of children with burns have an impermanent inability and 18% have a changeless handicap **(World Health Organization, 2016).** In The study conducted among children in Egypt by **(Halawa, et al, 2015)** stated that burn injuries (20.3 %) were the most widely recognized accidental injuries.

Worldwide burns in the under-five age group aggregate record for a quarter to a half of all burn injuries attending burn centers. Burns are a common injury for children, particularly in toddlers and adolescents. Children at hazard for burns which are related to their curiosity and their developmental state with can appear in absence of thinking of consequences of activities and also the fact that children can be victims of neglect or abuse **(Scherrer, 2015).**

Around 15,000 children require hospitalization for burn injuries **(American Burn Association, 2012).** Burn injury is a primary wellspring of emergency department visits and hospitalization for children. It is estimated that over half a million children are hospitalized with burn injuries per year in the world **(Duke et al, 2011).**

Nursing care of burn is one of the most challenging specialties in nursing. It calls for sharp clinical skills including triage, pain management, fluid balance, critical care, the stabilization of acutely burned patients, trauma recovery, and rehabilitation. The nurse working in the burn unit, must be knowledgeable in using several different types of equipment and techniques to observe, treat, monitor and ventilate patients when necessary **(Price, 2016).**

Nurses are the frontline of care and possess many roles within the care of pediatric burn patients. Nursing roles in pediatric burn care can be organized into three noteworthy ranges of care including acute,

rehabilitative and psychological. It is the roles that nurses carry out that make a difference in the long- term quality of life in the pediatric burn patient **(Scherrer, 2015).**

The nurse who cares for children with burn injury should be educated about the physiologic changes that happen after a burn, in addition, need critical care skills and a willingness to identify subtle changes in the children's condition and learn the subtleties of caring for patients with painful wounds **(Belleza, 2016).** Caring for a burned child represents a unique challenge to even the most experienced nursing staff because few injuries pose a greater threat to the child's physical and emotional wellbeing. In addition, the nurse provides sensitive, compassionate care to children's who are critically ill and initiates rehabilitation early in course of care. The nurse must able to communicate effectively with children, family members crisis, and management team this ensure quality care, improved children outcomes, and optimal quality of care **(Smeltzer et al ,2010).**

II. Significance of the study

Burns are a common cause of accidental deaths and also consider an important public health problem in a developing country like Egypt. Children burns result in 2,500 deaths and over 100,000 emergency room visits every year. Burns of children consider the fourth leading cause of death under the age of 15, and the majorities are under the age of five years and the number one cause of accidental death occurring in the home. Burn injuries are also a major source of pediatric disability and are associated with significant national health care resource utilization. Burns are the fourth most common type of trauma worldwide. World Health Organization (WHO) highlights the need for improvements burn care. The caring of children with burn include burning injury dressing, prevent infections and appropriate pain management, so good training nurses are very important to prevent complication and study challenged facing them trying to overcome it for effective care According to **(Center for Research Injury and Policy, CRIP., 2010)**. Therefore training program for nurses which caring children with burn are necessary to improve both the quality of care and healthcare outcomes or quality of life of critically burning children, there is a need to investigate the level of knowledge and performances related to burn care among nurses as well as barriers of performances at pediatric burn unit in Benha city.

Aim of the study

The aim of the current study has three folds:

- Compare the nurse's performance with burn -injured children at a pediatric burn unit in Benha city before/after a program.
- Assessing barriers facing nurses in a pediatric burn care unit.
- Identify the relationships between selected nurse's demographic characteristics and their level of knowledge and performance.

Research Hypothesis

The current study results test the following hypothesis

The educational program will enhance nurse's performance during care of children with burn.

III. Methodology

Research design: A quasi-experimental design was used in the current study. A quasi-experiment is an empirical study used to estimate the causal impact of an intervention on its target population without random assignment.

Setting: The study was conducted at a pediatric burn unit in the Teaching Hospitals in Benha City.

Sample: A convenient sample of all nurses (55) worked at a Pediatric Burn Unit in the Teaching Hospitals in Benha City were enrolled into the study.

Tools of data collection

Three tools were used to collect data which included: **Tool I: A structured interviewing questionnaire** sheet categorize into two main parts: 1-Demographic characteristics of a participant as age, level of education and years of experience 2- Nurses' knowledge about burn of children was adopted from **(Women's and children hospital (2010).** knowledge contain 17 items as the meaning of burn, types of burn, side effect, infection control, grafting, complication, dressing process, nutrition and pain management.

Scoring for knowledge:

Each item assigned a completely correct answer was scored (2), incompletely correct answer was scored (1), and don't know/incorrect answer was scored (0). The total scores of knowledge question were 42 degrees those who obtained. Total knowledge score above (≥ 75%) considered good, score between (60% – less than 75%) considered average, meanwhile nurses' total score(less than 60%.) was considered poor.

Tool II: An observational checklist was adopted from **(American burn association (2015)** to assess nurses' performance in caring pediatric with burn before/after program as prepare sterile dressing materials, clean burns daily and remove dead tissues, and evaluate burn area for color and healing,…etc.

Scoring for performance:

The level of performance divided into: competent (85% and more) and incompetent(less than 85% and more).

Tool III: The barriers facing nurses in pediatric burn care unit was adopted from **(Nyakanda, 2012)** composed of 9 items. Likert scale collapsed into three categories always, sometimes and never.

Scoring system:

The total score of barriers was 18 degree and categorized into always, sometimes and never barrier scores 0-50% was graded as always a barrier. Scores < 50-75% was graded sometimes barrier and 75-100 % was graded never barrier.

Tools validity and reliability:

Tools were reviewed by a panel of three experts in the field of Pediatric Nursing to test content validity. To check the reliability of the tools an Alpha Coefficient was used. Measurement of reliability ranged from 0.00 to 1.00. The reliability of knowledge tool was established at Alpha Coefficient of 0.90 of total test. For observational checklist reliability was 0.93.

Administrative Design

Official letters were issued from Dean Faculty of Nursing, Benha University to the Directors of the selected previously settings; explaining the aim of the study and asking their permission for data collection and participation of nurses in a research process.

Ethical considerations:

An official permission was obtained from the head of the burn unit. Prior to the initial interview, the researchers introduced themselves to study subjects, each nurse was fully informed of the purpose and nature of the study, and then oral consent was taken from participants. The researchers used coding numbers for each nurse's knowledge and observational' checklist to guarantee nurses' privacy**.** Participation is voluntary and the freedom to withdrawal from participation at any time. The approval of the Ethics committee of college and teaching hospital was taken for agreeing to hold research**.**

Pilot study:

A pilot study was carried out on 6 of the studied nurses, to test the clarity and applicability of the study tools as well as estimation of the time needed to fill the questionnaire. Data obtained from the pilot study was analyzed and the necessary modifications on the study tools were done; those who participated in the pilot study were excluded from the main study sample.

Field work:

To fulfill the aim of the current study, the following phases were adopted; assessment phase, planning phase, implementation phase, and evaluation phase. The actual field work was carried out from the beginning of July, 2013 until the end of September, 2014 in the previously mentioned settings covering three months. The researchers visited the previously mentioned settings two days/week (Monday and Thursday) from 11.00 Am to 1.00 Pm until the predetermined sample size completed. The average time consumed to fill in the tools was 45 minutes.

Assessment phase: Once permission was granted to proceed with the proposed study, each nurse was interviewed individually for about 10 min. thus, to explain purpose and nature of the study. An informal consent was obtained orally to participate in the study. The average time for the completion of each nurse interview was around (30-45 minutes), divided as (5-10 minutes) for the first tool, (10-25 minutes) for the second tool and (5-10 minutes) for the third tool ; average number collected was 2-3 nurse / day. The total sample was divided into 18 subgroups include 3 nurses for each session.

Planning phase: Based on the needs identified in the assessment phase and relevant review of the literature, the researchers developed a booklet about children burn care. This was prepared in the English language, as well as session's number and its contents, different methods of teaching and instructional media were determined accordingly.

Implementation phase: The program was implemented over three months, the knowledge sheet before/after program were distributed for each nurse and collected at the end of the shift. The study sample filled knowledge sheet while they were on duty. The researcher was available through the shift to answer / clarify any questions needed by the subjects. As regards, observational checklist, each nurse of study subjects has been observed and assessed before/after the program by the same researcher during providing care. The program was carried out in

6 sessions; 3 sessions for knowledge about the following: session one include; the meaning of pediatric burn, types of burn, a degree of burn, burn wound description and method of burn depth assessment 35 minutes. Session two include; dressing process, medication, side effect and complication 40 minutes. Session three specific needs of pediatric burn, developmental and psychological issue and formal counseling (45 minutes). Two sessions for practice were started first with discussion to assess nurses' feedback about burn care practice 5 minutes then sessions begins about pediatric burn care practice 40 minutes. One session for assess the barriers facing nurses in pediatric burn care unit 30 minutes. The duration of each session ranged between 30-45 minutes. At the beginning of each session, the researchers started with a summary about what was given to the previous session and objectives of the new one. Different teaching methods were used including small group discussion, lectures, and brainstorming. The teaching aids used were brochures, colored posters, and laptop screen show videos children burn care. An open channel communication was achieved between researcher and nurses to ensure understanding, answer any question and to verify information given.

Evaluation Phase:

The program was evaluated through after test; by using both tools the same of before test forms that were conducted immediately after implementation of the program, by comparing the change in nurses' knowledge and performance.

Statistical Design:

Statistical analysis was done using SPSS version 20 statistical software package. Data were presented using frequency, Qualitative data described by number and percent, Chi-square test used to test the relation between qualitative variables. Correlation between quantitative variables was done using Pearson correlation coefficient. A statistically significant difference was considered at $p \leq 0.05$, and a highly statistically significant difference was considered at $p \leq 0.001$.

IV. Results

Table 1: Demographic characteristics of nurses at pediatric burn unit (N= 55)

Items	**No**	**%**
Age		
<20	13	23.6
20- less than 35	22	40
35-50 and more	20	36.4
□ ± SD	**33.40 ±5.42**	
Level of education		
Secondary school of nursing	13	23.6
Bachelor degree in nursing	42	76.4
Years of experience		
<5	3	5.5
5-9	19	34.5
10-14	21	38.2
15-19	7	12.7
=>20	5	9
□ ±SD	**9.84 ± 5.95**	
Previous training on burn care		
Yes	7	12.7
No	48	87.3

Table 1: **Table 1:** revealed that 76.4 of the nurses had the university education, the mean age of them was (X ± SD 33.60 ±5.53), 38.2% of them have 10-14 years of experience (X ± SD = 9.84 ± 5.95). 12.7% of the nurses attended previous training about the burn.

Table 2: Nurses knowledge about pediatric burn injury before and after education program N=55

Items	**Before program**						**After program**						**X^2**	**P**
	Correct		**Incomplete**		**Wrong**		**Correct**		**Incomplete**		**Wrong**			
	N	%	N	%	N	%	N	%	N	%	N	%		
Meaning	6	11	18	32.7	31	56.4	42	76.4	7	12.7	6	11	5.21	0.05
Types	7	12.7	14	25.5	34	61.8	39	70.9	10	18.2	6	11	4.12	0.05
Degree of burn	5	9	13	23.6	37	67.3	42	76.4	9	16.4	4	7.3	3.47	0.05
Method of burn depth assessment	3	5.5	11	20	41	74.5	49	89	1	1.8	5	9	14.32	0.01
Medication for pediatric burn patient	9	16.4	20	36.4	26	47.2	50	90.9	3	5.5	2	3.6	17.1	0.01
Side effects	10	18.2	17	30.9	28	50.9	41	74.5	9	16.4	5	9	11.2	0.01
Complication	15	27.3	15	27.3	25	45.4	45	81.8	6	11	4	7.3	5.21	0.05
Specific needs of pediatric burn patient	6	11	16	29	33	60	47	85.5	5	9	3	5.5	4.25	0.05
Developmental and psychological issue	8	14.5	21	38.2	26	47.3	33	60	17	30.9	5	9	6.23	0.05
Formal counseling	7	12.7	18	32.7	30	54.6	38	69	13	23.6	4	7.3	9.14	0.01
Mobilization	8	14.5	19	34.6	28	50.9	46	83.6	4	7.3	5	9	7.14	0.05
Scare management	9	16.4	22	40	24	43.6	49	89	3	5.5	3	5.5	8.11	0.05
Pain assessment and management	5	9	14	25.5	36	65.5	50	90.9	4	7.3	1	1.8	9.24	0.01
Grafting	9	16.4	23	41.8	23	41.8	52	94.5	1	1.8	2	3.6	14.1	0.01
Nutrition	11	20	15	27.3	29	52.7	39	70.9	11	20	5	9	12.3	0.01
Fluid and electrolyte balance	8	14.5	16	29	31	56.4	40	72.7	12	21.8	3	5.5	8.12	0.05
Infection control measures	9	16.4	20	36.4	26	47.3	38	69	15	27.3	2	3.6	11.6	0.01

Table 2: highlighted that the highest percentage of nurse's knowledge was (27.3% and 16.4%) related to the items of complication, infection control measures, grafting, scar management and medication before program respectively. While after the program, the highest percentage was (94.5% and 90.9%) related to the items of grafting, pain assessment and management and medication. Also, there was a highly statistically significant difference between nurses knowledge before and after the program in all items ($p<0.05$ and 0.01).

Table 3: Distribution of nurses performance before and after education program N=55

Items	Before program						After program						X^2	P
	Correct		Incomplete		Wrong		Correct		Incomplete		Wrong			
	N	%	N	%	N	%	N	%	N	%	N	%		
Prepare a sterile surgical instrument for changing the dressing	12	21.8	33	60	10	18.2	48	87.3	4	7.3	3	5.5	14.12	0.05
sterilize the affected burns area by uses a sterile medical solution (iodine)	15	27.3	25	45.4	15	27.3	49	89	2	3.6	4	7.3	10.59	0.05
Wearing a sterile uniform	10	18.2	40	72.7	5	9	50	90.9	3	5.5	2	3.6	16.2	0.01
Prepare sterile dressing materials	17	30.9	23	41.8	20	36.4	52	94.5	2	3.6	1	1.8	7.36	0.03
Clean burns daily and remove dead tissues	3	5.5	22	40	30	54.6	46	83.6	4	7.3	5	9	8.25	0.05
Evaluate burn area for color and healing	9	12.3	11	20	35	63.6	35	63.6	15	27.3	5	9	9.21	0.05
Decrease burn edema swelling by elevate affected part	6	11	24	43.6	25	45.4	53	96.4	1	1.8	1	1.8	11.2	0.01

Table 3: illustrated that the highest percentage of nurse's performance related to pediatric burn care was (30.9%) related to preparing a sterile dressing materials before the program, while after the program, become improved to (94.5%). Also, there was a highly statistically significant difference between nurses performance before and after the program in all items ($p<0.05$ and 0.01).

Figure 1: Distribution of total level of nurse's knowledge before and after the educational program

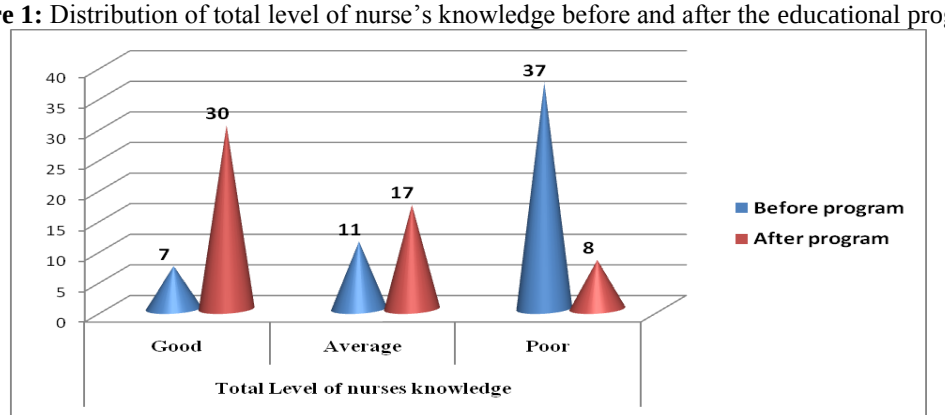

Figure 1: illustrated that good level of nurse's knowledge before the program was 7 meanwhile after the program improved and become 30.

Figure 2: Distribution of total level of nurse's performance before and after the educational program

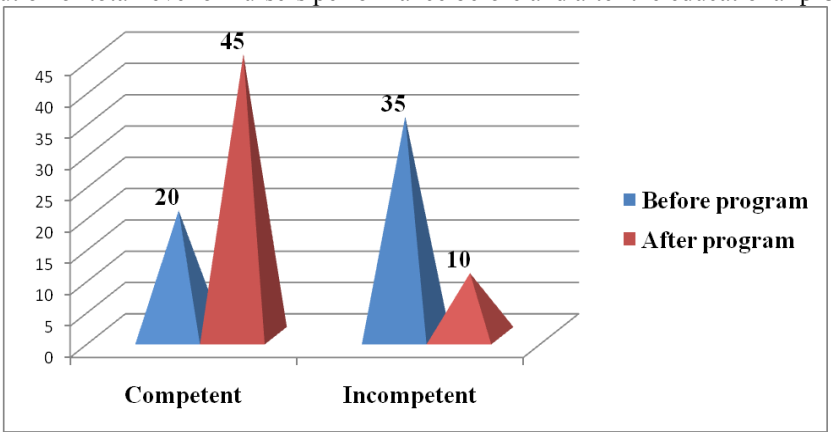

Figure 2: illustrated that competent level of nurse's performance before program was 10 meanwhile after program improved and become 45.

Table 4: percentage of the barriers facing nurses in pediatric burn care unit N=55

Items	Always		Sometimes		Never	
	No	%	No	%	No	%
Insufficient of staff	10	18.2	35	63.6	10	18.2
Unfamiliarity with burn care processes	20	36.4	15	27.3	20	36.4
The reluctance of pediatric staff to care for children with burn wounds.	16	29.1	25	45.5	14	25.5
In appropriate physical space for procedures,	14	25.5	17	30.9	24	43.6
Decrease in facilities	32	58.2	18	32.7	5	9.1
Risk of infection	11	20	30	54.5	14	25.5
Lack of privacy and supplies required for burn wound dressing changes.	7	12.7	29	52.7	19	34.6
Difficult engagement and support from the operating room and other multidisciplinary services,	27	49.1	23	41.8	5	9.1
Un availability of a process for outpatient follow up and management	12	21.8	25	45.5	18	32.7

Table 4: show that the barriers facing nurses in pediatric burn care unit where 58.2% reported a decrease in facilities. Meanwhile, 63.6% of them stated sometimes have insufficient staff. 43.6% of nurses never in appropriate physical space for procedures

Figure 3: Total of barrier facing nurses at the pediatric burn unit.

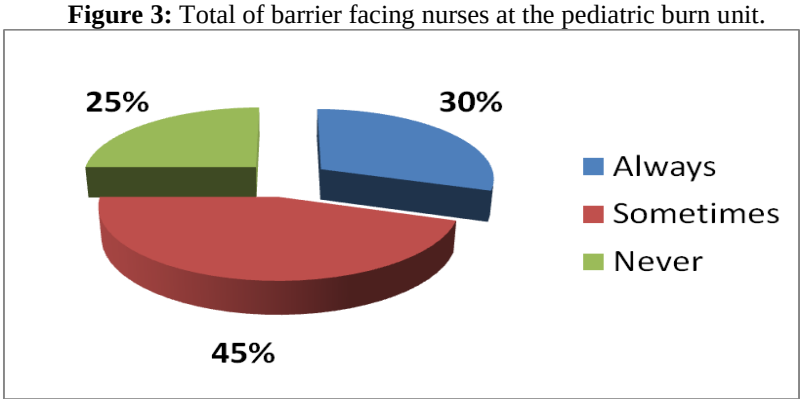

Figure 3: revealed that barrier facing nurses at pediatric burn unit was 45% of nurses reported sometimes barrier, while 25% of them reported never barrier.

Table 5: Relation between barriers facing pediatric burn nurses and their performance

Variables	barriers			r
	Always	Sometimes	Never	
	□ ± SD	□ ± SD	□ ± SD	
Nurses performance	22.10± 5.34	10.11± 3.76	13.75±4.01	<0.05

Table 5: illustrated that there was significant relationship between barriers facing nurses and their performance which reflect that barriers affect on nursing performance

Table 6: Correlation between nursing performance, knowledge and their demographic characteristics before/After program

Variable	Knowledge				Performance			
	Before		After		Before		After	
	r	p	R	p	r	p	r	p
Age	1.02	0.04	0.12	0.05	2.12	0.04	0.07	0.05
Level of education	2.12	0.03	0.35	0.05	0.54	0.05	0.27	0.05
Years of experience	1.32	0.02	0.02	0.05	0.36	0.01	0.16	0.05

Table 6: Documented that there was statistical significant between nurses knowledge, performance and their age, level of education and years of experience after the program implementation P<0.05.

V. Discussion

Pediatric burns comprise a major mechanism of injury, affecting millions of children worldwide, with causes including scald injury, fire injury, and child abuse. The aim of the current study was to compare the nurse's performance with burn- injured children at the pediatric burn unit before/after the program. Assessing

barriers facing nurses in pediatric burn care unit. Identify the relationships between selected nurse's demographic characteristics and their level of knowledge and performance.

In relation to characteristics of studied nurse (table1) the current study revealed that more than two third of the nurses had the university education, with mean age of them was (X ± SD 33.60 ±5.53), one third of them have 10-14 years of experience (X ± SD = 9.84 ± 5.95), and also less than one quarter of the nurses attended previous training about burn. This finding agreed with **(Kizza, 2012)** which found that the majority of nurses had experience of more than ten years in nursing. the study was done by **(AL-Sudani & Ali., 2012)** which found that the nurses with good burn skin care were had nursing institute education and recruited age from 40-49 years. And also found less than half of nurses attending training burn care previously. Additionally, the study conducted by **(Mussa & Abass., 2014)** stated that nurses education was more than half of them have medical institutes graduated nurses with age group (30 – 35) year. Nearly half of nurses with <1 year of employment and two third of them take part in training course regarding burn care. **(EL Sayed, et al., 2015)** found that all the study sample were females with a diploma degree and with a mean age of (X ± SD 36.60 ±7.53), 40% of them have 10-20 years of experience; followed by 35% with less than 10 years of experience, while 25% have more than 20 years of experience (X ± SD = 14.84 ± 6.954). The results also showed that 75% of the study sample attended one or two seminars.

Regarding nurse's knowledge about pediatric burn care (table 2), the current study revealed that there was a highly significant difference after the program in contrast to before the program in nurses' knowledge about burn care. Also (figure 1) illustrate that good level of nurse's knowledge before the program was 7 meanwhile after program improved and become 30. This result agreed with **(Tay, et al., 2013)** which reported that the knowledge of the nurses was poor before the program and their knowledge about children burn increased after education program. Additionally, the study conducted by **(Mussa & Abass., 2014)** mentioned that the nurses' knowledge about burn nursing care, treatment and complication were moderately adequate at Azady hospital in compare to adequate knowledge at a western hospital. Also, in the study was done by **(EL Sayed, et al., 2015)** found that periodical training program regarding children burn care for nurses was effective and improved nurse's knowledge.

Concerning of nurses' performance (table 3) showed that there was a lack efficiency of performance as wound care, dressing, and uses sterile techniques in caring for the wound. In addition (figure 2) illustrated that competent level of nurse's performance before the program was 10 meanwhile after program improved and become 45. This finding is supported with **(Kambli, 2014).** That emphasized the importance of improved burn nurses care of wound burn for the effective quality of burn outcomes. **(Nyakanda., 2012)** stated that the importance of nurses to have technical skills training to be able to perform burn care properly by using a closed method of a wound dressing which facilitated quick wound healing. the study conducted by **(EL Sayed, et al., 2015)** found that nurses' practice scores, the findings indicated that very low percentage 10% of the study sample had satisfactory level of practice (≥85%) related to maintaining a safe environment, initial care of burn wound, procedure for changing dressing and starting I.V. infusion represent.

Regarding barriers faced by nurses in caring of pediatric burn unit (figure 1),(table 4) & (table 5) revealed that barrier facing nurses at pediatric burn unit was 45% of nurses reported sometimes barrier, while more than half of them reported a decrease in facilities also there was significant relationship between barriers facing nurses and their performance which reflect that barriers affect on nursing performance. This result within the same line of **(Nyakanda, 2012)** which reported the nurses facing barriers as deficiency of some equipment were important in the caring burn. Also, a study done in KCMC by **(Ekvall 2009)** stated that nurses encounter problems of providing optimal care to the patients due to lack of equipment and sometimes another barrier. In fact, good performance by nurses is enhanced by a supportive working environment like having sufficient equipments, supplies and sufficient staff nursing.

Concerning correlation between nursing performance, knowledge and their demographic characteristics (table 6) revealed that there was statistical significant between nurse's knowledge, performance and their age, level of education and level of experience These results agree with **(Messmer & Gonzales, 2004)** indicated that there is a relationship between nurse's practices and level of education. Also, disagrees with **(Gore & Akolekar, 2003), (Roman & Mulderrig, 2007) & (AL-Sudani & Ali, 2012),** showed that there is no significant association between nurses of age and their performances. In addition, the finding agreed with **(Issac, 2006)** stated that there was statistical significant between nurses knowledge, performance and their level of experience. In addition, this result was in contrast with **(Halfen et al ,2007) & (EL Sayed et al, 2015)** found that a negative significant relationship was found between nurses' mean practice scores and their level of experience (r = -.482). While, no significant relationship was found between nurses' sample total knowledge scores and their years of experience (r = .047). Also, there was no correlation found between total knowledge/practice score and years of experience and number of seminars (r = .033, .144) respectively.

The researcher view that, pediatric burn care is a critical nursing care branch, also there is little of scientific research in this area, so that needed for continuous training to improve nurse's performance, updates

their knowledge and more nursing research in this hot area for an effective and efficient burn care. In addition, it is important to decrease all obstacles that may face the nurses in the pediatric burn unit to enhance the quality of pediatric burn care.

VI. Conclusion

The present study concluded that the education program about burn care was effective and improving nursing performance at the pediatric burn unit.

Recommendation

-The nurses worked at the pediatric burn unit were needed continuous updates in their knowledge and performance regarding burn care of children.

- Establishment a protocol of care concerning burn care and training the nursing staff to improve the quality of nursing care given to pediatric burn patients in developed burn centers.

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