

# The Effect of Educational Intervention on Improving Quality of Life for Children with Burn Scars

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**Abstract:** Burn injury is a leading cause of disability and disfigurement which limits their functional ability, resulting in social stigma and restriction of participation in society. Viewed globally, it is one of the major causes of trauma, death and one of thirty principal causes worldwide of loss of life years due to premature mortality and years lived with disability. Children and adolescents affected by burns often live with life-long social, educational, physical and psychological consequences. The children are vulnerable because of their physical, psychosocial development and maturity. **Aim of the study:** The aim of the study was to evaluate the effect of educational intervention on improving quality of life for children with burn scars. **Design:** A quasi-experimental research design was used to conduct the study. Setting: This study was conducted at the burn unit in Benha Teaching Hospital (Ministry of health). **Sample:** A convenient sample consisted of (50) children who were admitted to the burn unit for grafting. **Tools of data collection:** **Tool (I): An interviewing questionnaire sheet:** It was designed by the researchers and it consists of three parts, *the first part:* Characteristics of the studied children and their mothers, *the second part:* Medical history of the children and *the third part:* Children knowledge sheet: to assess children knowledge. **Tool (II): Brisbane burn scar impact profile (BBSIP):** This scale was adapted from Tyack, (2013), to assess children quality of life. **Tool (III): An observational checklist:** To assess children practice about personal hygiene, wound care and physical exercise. **Results:** The results showed that, most of the studied group was male and living in rural area. Meanwhile, there was a highly statistical significant difference between pre, post and after three months of educational intervention in relation to their total knowledge, quality of life and practice score in study group. **Conclusion:** the study was concluded that, the educational intervention had improved knowledge, quality of life and practice of children with burned scar. **Recommendations:** The study recommended that, post burn programs should be initiated by multidisciplinary team and continued after discharge to provide education and prevention of complications for pediatric burned children.

**Keywords:** Quality of life, Burn scars.

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## 1. INTRODUCTION

Burn children of all ages are at risk for development of scar contractures. Besides the esthetic outcomes, scars affect other functions of the skin in the longer term. For instance, sensation is changed and the regulation of body temperature can be affected as evaporation is reduced in scar tissue and sweat glands do not grow back after deep burns. Pediatric burns can

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cause disturbances in a child's development and functional independence. Burn wounds or scarring of the skin interfere with independent to performance of activities in daily living such as ambulation, dressing and toileting. Daily physical activity can be at least as important as a structured exercise program in the restoration of physical functioning after burns, especially in children who generally spend a large share of their time on participation in school, play, sports and other hobbies (Grice, et al., 2014).

It is estimated that more than 500,000 children worldwide are hospitalized with a burn injury every year (Brown, et al., 2015). Estimated number of burns account for a quarter of a million deaths annually with the majority occurring in low and middle-income countries (WHO, 2010). In Africa, burn injuries are the leading cause of accidental death in children. Annually, about 1000 children with burns are treated at children's hospital in Africa. These burns were most commonly caused by exposure to boiling water, other hot liquids and flames, especially in the informal settlements where there is an increased usage of indoor fires and paraffin stoves (Van Niekerk, et al., 2004).

The severity of burn injury has been categorized into minor, moderate and major burns. Minor burn injuries can be treated in the emergency department with outpatient follow-up every 48 hours, until the risk of infection is reduced and wound healing is underway. Children with moderate, uncomplicated burn injuries or major burn injuries should be referred to a regional burn center and, if appropriate transferred for specialized care (Williams, 2010).

Burns in certain areas of the body have a worse prognosis than others. Such area as: face, eyes, ears, hands, feet, and perineum. Any facial burns can produce scarring and are often associated with an inhalation injury. Burns to the eyes can cause blindness, eyelid deformities or corneal scarring. Ear burns can lead to deformity and infection. Burns to the hands and feet, especially deep or deep partial-thickness burns can produce extensive scarring, disability and need special occupational rehabilitation (Greaves, et al. 2006).

The concept of quality of life is particularly salient for nursing, because nurses traditionally have viewed children from a holistic perspective, focusing on the quality of survival as well as the length of survival. The holistic perspective encompasses all aspects of life affected by burn and treatment, such as physical symptoms, mental and physical functioning, body image, psychological state, work and role responsibilities, social and family life, and spiritual concerns. Because the concept of quality of life is a multidimensional construct that encompasses the whole of life (Ferrans, 2010).

Burns the most important influence on the quality of life of patients, especially children and impairs physical, psychological, social and spiritual well-being in them. Long term squeals of burn injury indicated that many burn survivors achieve a quality of life that was satisfying to them. The average time of disability was 6 months (Phillips, 2012).

**Significance of the study:**

Burns are consider the most serious injuries that child can experience. The actual burn event contains adverse and frightening aspects for both a child and the family. Additionally, the subsequent hospitalization, daily painful medical procedures, and long-lasting rehabilitation can evoke feelings of fear, uncertainty, and uncontrollability as well. Generally, there is a concern for the psychological adjustment and quality of life of children with burns and their families. However, there is a little consensus regarding psychological adjustment of children after a burn event (Bakker, et al., 2010).

**Aim of the Study:**

The study aimed to evaluate the effect of educational intervention on improving quality of life of children with burn scars through:

- 1- Assess knowledge of burned children.
- 2- Designing educational intervention to improve children's quality of life and their practice.
- 3-Evaluate the effect of educational intervention on quality of life for children with burn scars.

**Research Hypothesis:**

- The educational intervention will improve knowledge and practice of the burned children
- The educational intervention will improve the quality of life for children with burn scars.

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**Research Design:**

A quasi –experimental research design was utilized to conduct the study.

**Setting:**

This study were conducted at the burn unit in Benha Teaching Hospital (Ministry of health).

**Sample:**

A convenient sample consisted of (50) children who were admitted to the burn unit were selected according to the following criteria: All children, male or female, children less than 15 years old, accidental burn, recent burned, after shock stage, with different sites of burn, free from any injury and chronic illness and willing to participate in the study.

**Tool (I): An interviewing questionnaire sheet:**

It was designed by the researchers in the light of relevant studies and researches. It was written in an Arabic language and composed of three parts, to gather the necessary data as in the following parts:

**The first part:**

- A) Characteristics of the studied children (name, age, educational level, sex and child ranking).
- B) Characteristics of the mothers include age, educational level and occupation.

**The second part: Medical history of the children (parameters of burn injury) Questionnaire**, this tool was designed by the researchers after reviewing literature and children hospital sheet to collect data about every child related to: date of admission, age, causes of burn, location of burn, burn degree, percentage of burn, presence of infection at burn site, and past history of skin grafts. This sheet filled by the researchers by asking the mothers if the child cannot response.

**The third part: Children knowledge sheet:** developed by the researchers to assess children's knowledge about skin, burn, cause, degree, complication, skin graft, first aid and methods of wound care. It contains (20) question.

**Scoring system of the knowledge questionnaire**

The studied children answers were compared a model key answer, where 2 scores were given for complete correct answer, 1 score was given for incomplete correct answer and 0 score for wrong answer and unknown answer. According to the children' responses, their total level of knowledge was categorized as either poor (less than 20 degree) or average (from 20-<30 degree) and good (30-40 degree)

**Tool (II): Brisbane burn scar impact profile (BBSIP):**

This scale was adapted from **Tyack, (2013)**, to assess children quality of life. It contains 40 items (QOL) of children and encompasses the following part: daily activities, hand function, appearance, psychological statues, body image, social relationships, photo sensitivity, treatment regimens and school activities.

**Scoring system:**

The studied children answers were compared a model key answer, where not at all (zero), a little bit (one), abit (two), quite abit (3) and a lot (4) score. The total score for quality of life was classified as the following

- Good from 40-<80 degree
- Fair from 80-<100 degree
- Poor above 100 degree

**II - Tool (III): An observational check list:**

It was designed by the researchers in the light of relevant literature review to assess children practice about personal hygiene, wound care, physical exercise (cough and lip exercise, upper arm exercise, arm exercise, neck joint exercises, leg exercise and abdomen exercise).

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**Practice scoring system:**

Scoring of observational checklist was assigned to score according to its number of sub-items. For each sub-item, if done complete (2), and if done incomplete (1) would be given but if not done or wrong answer; (zero) would be given. The scoring system of the tool check list was computed and the sheet received a grade out of total 20 points. The total score for practice was classified as the following:

- Good 30- 40 degree
- Average from 20-<30 degree
- Poor below 20 degree

**Tools validity and reliability:**

The data collection tools were revised by a panel of three experts in the field of pediatric nursing to test face and content validity. Modifications of the study tools were done according to the panel judgment on clarity of sentences, appropriateness of content and sequence of items. Regarding reliability, internal consistency reliability of all items of the tools was assessed using coefficient alpha test.

**Field work:**

A permission from Faculty of Nursing, Benha University for administrator of Benha Teaching Hospital in order to take their approval for conducting the study.

The actual field study was conducted during the period from the beginning of May (2018) to the end of July (2018). The researchers visited Benha Teaching Hospital, three days weekly (morning & afternoon) to collect the data by using the previous tools. An explanation of the questionnaire sheet was done by the researchers after an official permission to conduct this study was obtained from the head of the medical units and children consent.

The questionnaire sheets were administered by the researchers to children with different degrees of burn individually in burned and their mother's in burn unit. The average time needed for the completion of this sheet for each child was between 15 – 30 minutes.

Implementation of the educational program was done through group teaching, according to number of subjects during the visit. The group education comprised of (5) child. The researchers were assessing children knowledge and quality of life after finishing the educational program after one month's interval.

The implementation of this health educational program was conducted on three sessions:

**First session:** (introductory session) orientation and explanation of reasons and importance of educational program and give an explanation about skin function and cause, degree, and types of burn.

**Second session:** An explanation about first aids of burn for prevention of complication, personal hygiene and wound care (how to make dressing, type of dressing, exercise to help the child to perform daily activities).

**Third session:**

Re-demonstration for daily exercises to promote physical activity, how to make dressing of wound, cough and lips exercises, upper arm exercises, arm exercises, neck joint exercises, leg exercises and abdomen exercises.

Evaluation of the program was done through comparing the pre and post assessment of the children's regarding their knowledge, practice, quality of life scale, and ability to perform the usual daily living activities by the same format of the pre-test using tool two and third to evaluate the effect of the implemented education program then posttest was done after three month.

**Ethical considerations:**

The researchers explained the aim of the study to the children and they were informed that the study is harmless. The researchers secured that all the gathered data are confidential and are used for the research purpose only. The children were informed that they are optionally allowed either to participate or not in the study and they have the right to withdraw at any time. An oral consent was taken from the children.

**Pilot study:**

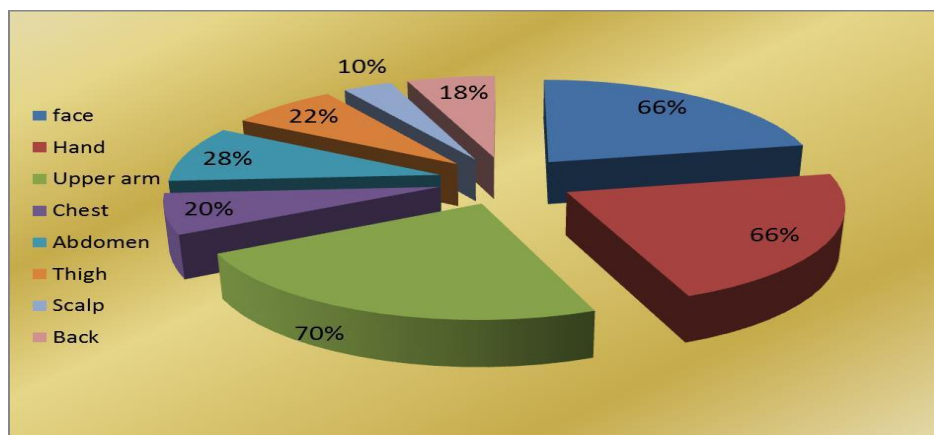
A pilot study was carried out on 10 % of the total sample size (5 children) over a period of two weeks to test the validity and applicability of the study tools and to estimate the time needed to fill the questionnaire. No radical modifications were carried out on the study tools so the pilot study subjects were included in the study sample.

**Statistical analysis:**

The collected data were organized, tabulated and analyzed using electronic computer and statistical package for social sciences (SPSS) version 20. Descriptive statistics were calculated for the data in the form of: Mean and standard deviation for quantitative data, and frequency and distribution for qualitative data. Also in analytical statistics, inter-group comparison of categorical data was performed by using chi square test ( $X^2$  value). Also, Pearson correlation coefficient test was used. P value <0.05 was considered statistically significant (\*) while >0.05 statistically insignificant and P value <0.001 was considered highly significant (\*\*) in all analyses.

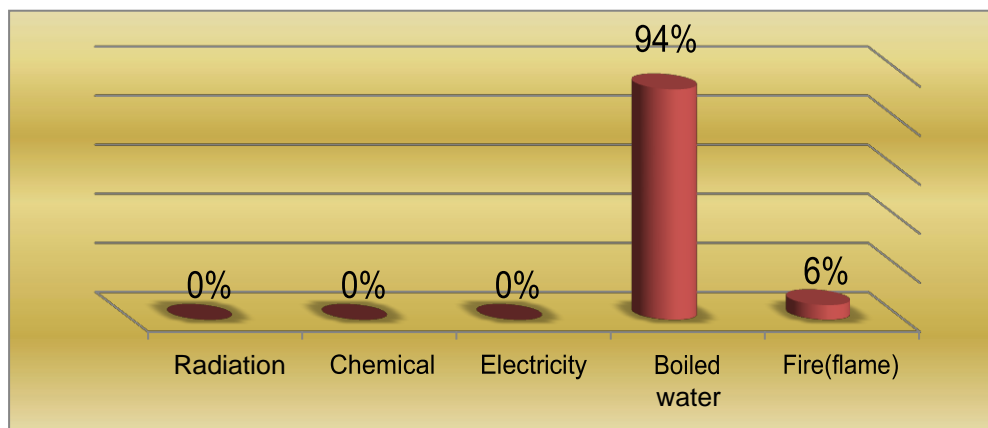
**2. RESULTS**

More than half (58.0%) of the studied group their age ranged between 6-9 years. In relation to children gender, most of studied children (66.0%) were male. Regarding to residence 66.0% of them reside in rural areas. Meanwhile, all of the children (100%) their burn occurred due to accident and the majority of them (84.0%) had moderate burn. Also, approximately two third of the studied group (65.0%) have skin graft, only (15.00%) of them have more than one skin graft operation during three months.



**Figure (1): Frequency distribution of children according to burn site**

This figure shows that, highest frequencies of burn site are face (66%), hand and upper arm (70%), while the least is in the scalp (10 %).



**Figure (2): Frequency distribution of children according to causes of burn**

This figure shows that, majority (94%) causes of burn, boiled water, while the least is in the fire (flame) (6 %).

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**Table (1): Mean and standard deviation of the studied children knowledge regarding skin, burn and skin graft in pre, post and after three months of educational program intervention (n= 50).**

Items	Pre- program		post- program		t test	p	After three months		t test	p
	Mean ± SD		Mean ± SD				Mean ± SD			
Skin	.380	.923	3.66	1.66	9.51	.000	3.28	1.72	9.12	.000
Burn	1.86	3.09	11.38	3.98	11.11	.000	11.76	3.42	11.46	.000
First aid for burn	.300	.614	1.92	1.33	8.42	.000	2.52	1.11	11.78	.000
Methods of burn care	1.10	1.313	4.30	2.62	10.31	.000	4.84	1.99	9.54	.000
Nutrition of child during burn	.820	1.452	4.50	3.13	8.70	.000	5.02	2.79	8.55	.000
Skin graft	.460	.994	3.44	2.31	8.40	.000	3.60	2.31	9.12	.000

Table (1): Shows that, there was a highly statistically significant difference of the studied children knowledge in post and after three months of program implementation as compared to preprogram (P=<0.001).

**Table (2): Mean and standard deviation of the studied children practice in pre, post and after three months of educational program intervention (n=50)**

Items	Pre- program		post- program		t test	p	After three months		t test	p
	Mean ± SD		Mean ± SD				Mean ± SD			
Cough exercises	.100	.303	1.84	.548	9.90	0.00	1.92	.395	10.31	0.00
Lip breathing	.240	.431	1.84	.370	11.58	0.00	1.90	.364	11.58	0.00
Neck joint exercises	.080	.274	1.98	.141	10.52	0.00	1.90	.416	10.10	0.00
Upper arm exercises	.180	.388	1.86	.495	10.70	0.00	1.96	.197	11.31	0.00
Exercises of arm	.220	.418	1.86	.452	11.16	0.00	1.94	.239	11.63	0.00
Hand muscles exercises	.140	.350	1.90	.303	10.82	0.00	1.96	.197	10.96	0.00
Abdominal muscles exercises	.260	.443	1.74	.564	11.12	0.00	1.88	.435	11.58	0.00
Leg muscle exercises	.280	.453	.720	.904	6.70	0.00	1.82	.522	11.48	0.00
Personal hygiene	1.26	.899	1.74	.564	19.10	0.00	1.88	.435	20.42	0.00
Wound care	.620	.854	1.64	.692	12.17	0.00	1.44	.812	11.12	0.00

Table (2): Shows that, there was a highly statistically significant difference of the studied children practice in post and after three months of program implementation as compared to preprogram (P=<0.001).

**Table (3): Mean and standard deviation of the studied children toward quality of life in pre, post and after three months of educational program intervention (n= 50).**

Items	Pre- program		post- program		t test	p	After three months		t test	p
	Mean ± SD		Mean ± SD				Mean ± SD			
Social relations	12.44	3.79	9.84	3.67	28.26	0.00	8.42	3.70	24.58	0.00
Psychology	24.64	7.37	17.86	8.82	24.20	0.00	14.12	6.90	21.87	0.00
Hand function	11.82	3.66	6.42	3.46	20.42	0.00	6.12	3.16	20.15	0.00
General appearance	9.08	3.08	6.56	3.23	23.07	0.00	6.06	3.35	21.35	0.00
Photosensitivity	14.46	4.81	10.56	4.79	24.21	0.00	8.70	3.98	21.99	0.00
Daily activities	12.14	3.67	9.70	4.73	24.87	0.00	6.92	3.62	21.28	0.00
Treatment system	39.76	11.79	28.46	12.77	25.29	0.00	25.16	11.02	24.00	0.00
School attendance	11.80	3.76	6.96	3.44	21.64	0.00	6.80	3.60	20.91	0.00

Table (3): Shows that, there was a highly statistically significant difference of the studied children toward quality of life in post and after three months of program implementation as compared to preprogram (P=<0.001).

Table (4): Total knowledge, quality of life and practice scores of the studied children in pre, post and after three months of the educational program intervention (n=50).

Items	Study group(No.50)						F	P
	Pre-program		Post -program		After three months			
	No.	%	No.	%	No.	%		
<b>Total knowledge score</b>								
Good	0	0.0	17	34.0	23	4.00	02020	0000
Average	4	8.0	24	48.0	24	48.0		
Poor	4.	92.0	9	1000	3	.00		
<b>Total quality of life score</b>								
Good	3	6.0	13	26.0	28	56.0	3.0233	0000
Fair	7	14.0	19	38.0	15	30.0		
Poor	40	80.0	18	36.0	7	14.0		
<b>Total practice score</b>								
Good	0	0.0	47	94	49	98	36.563	0.00
Fair	10	20	3	6	1	2.0		
Poor	40	80	0	0.0	0	0.0		

Table (4): Showed that, there was a highly statistical significant difference (P value <0.001) between pre, post and after three months of educational program intervention in relation to their total knowledge, quality of life and practice score in study group.

### 3. DISCUSSION

Burns remain a huge public health issue, at least in terms of long-term disability, suffering in all parts of the world and especially in developing countries (Cleveland, 2012). It has more adverse effects on the body than just damage to the skin and tissues. Burn is one of the most expensive catastrophic injuries to treat, as they require long periods of hospitalization and may result in physical, as well as psychological sequelae ( King, 2018).

This study aimed to evaluate the effect of educational intervention on improving quality of life for children with burn scars.

Regarding characteristics of the studied children, more than half of the studied group their age ranged between 6-9 years. In relation to children gender, most of studied children were male. Regarding to residence, less than three quarter of them reside from rural areas. This study accordance with Chrapusta and Pączalska, (2014), which study entitled "evaluation of differences in health related quality of life during the treatment of post burn scars in preschool and school children, " who reported that, first group consist of (66 boys and 54 girls), average age 4.3 years ± 1.7. The second group, consisted of 60 children (36 boys and 24 girls), average age 10.4 years ± 1.2.

According to causes and classification of burn, all of the children burn occurred due to accident and majority of them had moderate burn. Also, approximately two third of the studied group have skin graft, Less than third of them have more than one skin graft operation during three months. This study accordance with Rode, et al.,(2011), which study entitled "ethical decision making in sever pediatric burn victims, " who illustrated that, the children were suffering from deep upper extremity burns. The burn depth was classified as deep 2<sup>nd</sup> degree burns. Approximately 3.2% of South Africa's populations suffer from burns annually and 50% of them less than 18 years of age.

This may be due to children aged 6-12 years and the need to explore the surrounding environment may be exposed to several accidents such as burning

In addition, this study agreement with findings of Shahid et al., (2018), which study entitled" assessment of quality of life in post burn, " they illustrated that, the most frequent cause of burns was scald followed by flame. Children (46%) of aged 3–10 years were predominant sustained scald and flame burns. Female proportion was high (56%) and were significantly sustained scald and flame burn, whereas, male was observed by electric (84.2%) and contact burns (78.3%). The upper limbs anatomical part was most commonly affected (11–20%) TBSA burned in 36.4% patients and 71.6%

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sustained partial thickness and mixed deep thickness. Also, this study accordance with **Ahmed, (2003)**, which study entitled "assessment of nutritional needs and factors influencing them for burned patient's," his study reported that, the majority of causative agent of burn injuries in studied sample was flame and the majority of pattern of burn injury was accidental burn.

As regard burn site, this study showed that, the highest frequencies of burn site are face, hand and upper arm burn. This study agreement with **Alonge and Hyder, (2014)**, which study entitled "reducing the global burden of childhood unintentional injuries," who showed that, most burns were caused by hot liquid (36.3%), hot objects (29.5%) and fire (25.2%). The leading injured body parts were hands or arms. Burns of limbs were accounted for more than three-quarters of the total burns, while head and trunk accounted for less than one-quarter. Home was the most frequent place for pediatric burns, where 91.0% of burns occurred. In addition, **Mzewa et al., (2010)** which study entitled "found in a study performed on burned children," who showed that, the anatomical sites which are most frequently burned were the trunk (39%), head (31%), and the lower extremities.

As regards studied children knowledge about skin and burn, this study showed that, there was a highly statistically significant difference of the studied children knowledge in post and after three months of program implementation as compared to preprogram. This study accordance with **Solis, (2014)** which study entitled "epidemiology of burns in children and adolescents from Chile's Metropolitan Region," who stated that, more than one fifth of children had little idea about how to proceed when a fire happens, and nearly 15% of children did not answer correctly the question of what should not do when a fire happens. Also this study accordance with **Othman and Kendrick, (2013)**, which study entitled "risk factors for burns at home in Kurdish preschool children," who found that, over 30% of children did not have correct knowledge about how to prevent accident and provide first-aid after burn events. They reported wrong ways to treat burns themselves, such as spreading alcohol and using toothpaste. Such self-treatments are likely to cause infections or to prolong the healing process. All children need more educational programs to increase awareness about burns may be required to reduce risk of pediatric unintentional burns in rural areas.

Regarding studied children practice, this study showed that there was a highly statistically significant difference of the studied children practice in post and after three months of program implementation as compared to preprogram. This study accordance with **Vasli and Salsali, (2014)**, which study entitled "parents' participation in the taking care of hospitalized children," who stated that, exercise and range of motion exercise should be provided at least daily, with each joint through its range, active range of motion is encouraged from the very early beginning, but until the children is able to cooperate enough to exercise actively, assisted or if necessary, passive exercises are performed. As well, **Rossi et al., (2009)** which study entitled "cultural meaning of quality of life," who pointed that, short and frequent exercise sessions are better than long periods. If performed frequently throughout the day, exercise and active participation of daily living activities can be effective in counteracting the contractile forces that are present 24 hours a day. The exercise program should be kept simple, moving in the direction opposite the contractile forces. In the line of result, this study accordance with **Atiyeh and Janom, (2014)**, which study entitled "physical rehabilitation of pediatric burns," who reported that, physical rehabilitation program, including aerobic and resistance exercises, implemented post-burn, improves cardiopulmonary capacity, muscle mass and strength and pulmonary function. In severely burned children, increase in strength is due to muscular and neural adaptations. Increase in muscle strength and ability to ambulate in a satisfactory manner augments the child's emotional and physical independence and self-confidence and results in an improvement in capability and return to normal activities of daily living.

On investigating of the studied children quality of life this study revealed that, there was a highly statistically significant difference of the studied children toward quality of life in post and after three months of program implementation as compared to preprogram. This study accordance with **Fauerbach et al., (2010)**, which study entitled "effect of early body image dissatisfaction on subsequent psychology and physical adjustment after disfiguring injury," who illustrated that, the most common location for burns was face, followed by hands, fore arms, neck, chest and thighs. While the least injured part was the perineum. On the same line, **Fathy, (2010)**, which study entitled "assessment of burned patients' needs," who explained that, hand burn generally evoke fears related to functional independence, whereas burn face is related to loss of identity, moreover, face and hand burns are the most difficult burns to reconcile since these body parts represent. Also, this study accordance with **Loey et al., (2003)**, which study entitled "psychopathological problems in patients with burn scars," who reported that, quality of life initially seems to be lower in burn children compared with



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other children. Problems in the mental area are more troublesome than physical problems. Over a period of many years, quality of life was reported to be rather good. Also scars might contribute to impact on social anxiety and increase post-traumatic stress syndrome, since pressure garments or red and disfiguring scars can attract too much attention from other people, which may induce feelings of shame. This study accordance with **Scherrer and Leger, (2015)**, which study entitled "advancements of nursing roles in pediatric burn care", who showed that, physical abilities, hand function, psychological status, body image, social relationships, heat sensitivity, treatment regimens and work have highest domain scores and higher health related quality of life (BSHS) after 6 months after burn. In my opinion, care of pediatric burn children must consider age-appropriate exercises and activities.

Regarding children total knowledge, quality of life and practice this study illustrated that, there was a highly statistical significant difference (P value <0.001) between pre, post and after three months of educational intervention. This study accordance with **Janssens et al., (2009)**, which study entitled "health-related quality-of-life measures for long-term follow-up in children after major trauma," who found that, children with injury-related problems had significantly lower overall HRQOL than those with other or no health issues. Change in overall HRQOL over time was reported improvement in overall HRQOL to normative levels between 1 month and 1 year after injury. Also, this study agreement with **Ghesquiere, (2008)**, which study entitled "adolescents' and parents' agreement on posttraumatic stress disorder symptoms and functioning after adolescent injury," who showed that, younger children ages 1 to 8 years, showed significant improvement in the physical ability subscale of the CHQ-IT between 1 and 6 months after injury but not in the behavior overall or change in health subscales. In the line of study, this study accordance with finding of **Kattan, et al., (2016)**, which a study entitled improper knowledge and practices about burn, first aid and care of wound, can have detrimental consequences on wound healing, physical and psychological status. Ice is a common measure used by children and first responders; ice increases the risk of hypothermia especially in larger surface area burns. A common misconception in many areas is the use of eggs, toothpaste, mud, and other traditional remedies that are harmful, certainly aggravating the injury and creating a more favorable environment for infection, and at best, these remedies are of no benefit.

#### 4. CONCLUSION

Based on results of the present study, the educational intervention had improved knowledge, practice and quality of life of children with burned scar.

#### 5. RECOMMENDATIONS

Results of the current study recommended the following:

1. Initiating a burn support group in the hospital to facilitate and faster psychosocial adjustment for motivation of burned children.
2. A protocol of wound care should be standardized and used for measurement of quality of wound care
3. Post burn programs should be initiated by multidisciplinary team and continued after discharge to provide education and prevention of complications for pediatric burn children.

#### REFERENCES

- [1] Ahmed, N.E. (2003): Assessment of nutritional needs and factors influencing them for burned patients, Master degree in Medical Surgical Nursing, Faculty of Nursing, Alexandria University, P.54.
- [2] Alonge, O. and Hyder, A. A. (2014): Reducing the global burden of childhood unintentional injuries. Archives of Disease in Childhood. vol 99(5). 62–69.
- [3] Atiyeh, B. and Janom, H. (2014): Physical rehabilitation of pediatric burns. Annual Burn Fire Disaster Journal. Vol 27(1).
- [4] Bakker, A., Loey, N., Son, M., and Heijden, V. (2010): Mother long term posttraumatic stress symptoms following burn even of their child. Journal of Pediatric Psychology. Vol 35(6). Oxford University Press. Available at: <https://doi.org/10.1093>

## International Journal of Novel Research in Healthcare and Nursing

Vol. 5, Issue 3, pp: (131-141), Month: September-December 2018, Available at: [www.noveltyjournals.com](http://www.noveltyjournals.com)

- [5] Brown, N., David, M., Cuttle, L. and Kimble, R.(2015): Cost-effectiveness of a Non pharmacological intervention in pediatric burn care. Available at: <https://dx.doi.org/10.1016/j.jval.2015.04.011>
- [6] Chrapusta, A. and Pachaiska, M. (2014): Evaluation of differences in health related quality of life during the treatment of post burn scars in preschool and school children. *Annals of Agricultural and Environment Medicine*. Vol 21(2). Available at: <https://doi.org/10.5604/12321966>.
- [7] Cleveland, G. (2012): Performance measures and the fire service. National Fire Protection Association (NFPA), Fire Service Section Newsletter. Available at: <http://www.nfpa.org>.
- [8] Fathy, R. (2010): Assessment of burned patients needs in Benha Teaching Hospital. Unpublished Master Thesis. Faculty of Nursing, Benha University.
- [9] Fauerbach, J., Heinberg, L., Lawerence, J., Munster, A., Palombo, D., Richter, D., Spence, R., Stevens, S. and Ware, L. (2010): Effect of early body image dissatisfaction on subsequent psychology and physical adjustment after disfiguring injury. *Psychosomatic Medicine Journal*. 562- 576.
- [10] Ferrans, C. E. (2010): Quality of life as an outcome of burn care. *Cancer Nursing Principals and Practice*, 6<sup>th</sup> ed., U.S.A. pp 184- 195.
- [11] Ghesquiere, A., Fan, M.Y., Berliner, L., Rivara, F.P., Jurkovich, G.J. and Russo, J. (2008): Adolescents' and parents' agreement on posttraumatic stress disorder symptoms and functioning after adolescent injury. *Journal of Traumatic Stress*. 21(5):487–491.
- [12] Greaves, L., Porter, K., Hodgetts, T. and Wollard, M. (2006): Emergency care. A text book for paramedics, Burns. 2<sup>nd</sup> edition, Saunders. Elsevier Philadelphia. PP.340:342.
- [13] Grice, K.O., Barnes, K.J. and Vogel, K.A. (2014): Influence of burn injury on activity participation of children. *J Burn Care Res*. Vol 4(2)
- [14] Janssens, L., Gorter, J.W., Ketelaar, M., Kramer, W.L. and Holtslag, H.R. (2009): Health-related quality-of-life measures for long-term follow-up in children after major trauma. *Quality of Life Research*. Vol 17(5):701–713.
- [15] King, I.C.(2018): Body image in pediatric burns: A review. *Burn Trauma*. Bio Med Central. Vol (6)12. Available at: <https://doi.org/10.1186/S41038>.
- [16] Loey, N., Maarten, J. and Son, V.(2003):Psychopathological problems in patients with burn scars. *American Journal of Clinical Dermatology*. Vol (4). Issu (4)
- [17] Mzezewa, S., Jonsson, K., Aberg, M. and Salemark, L. (2010): A prospective study of suicidal burns admitted to the Harare Burns Unit, Burns.
- [18] Othman, N. and Kendrick, D. (2013): Risk factors for burns at home in Kurdish preschool children: a case-control study. *Inj Prev*. vol 19 (2)
- [19] Phillips, D. (2012): Quality of life, concept, policy and practice. 1<sup>st</sup> edition, United States. Routledge, pp : 14 - 28.
- [20] Rode, H., Millar, A. and Castle, B. (2011): Ethical decision making in sever pediatric burn victims. *Issues in Medicine*. SAMJ. Vol 101(1).
- [21] Rossi, L. Costa, M., Dantas, R., Ciofi-Silva, C. and Lopes, M. (2009): Cultural meaning of quality of life: Perspectives of Brazilian burn patients. *Disabil Rehabil*. vol 31(9): 712 - 719.
- [22] Scherrer, S. and Leger, R. (2015): Advancements of nursing roles in pediatric burn care. Honor theses. Salem State University. Available at: <http://digitalcommons.salemstate.edu/honors-theses>.
- [23] Shahid, F., Ismail, M. and Khan, S.(2018): Assessment of quality of life in post burn: Across- sectional single center first validation study from Pakistan. *Journal of Burn*. vol 2(1).Elsevier,Ltd.com. Available at: [doi.org/10.1016/J.burns](https://doi.org/10.1016/J.burns).
- [24] Solis, F. F., Domic, C. C. and Saavedra, O. R. (2014): Epidemiology of burns in children and adolescents from Chile's Metropolitan Region. *Review Child Pediatric*. Vol 85(1), 690–700

**International Journal of Novel Research in Healthcare and Nursing**

Vol.5, Issue3, pp:(131-141), Month: September-December 2018, Available at: [www.noveltyjournals.com](http://www.noveltyjournals.com)

- [25] Tyack, Z.(2013): Brisbane burn scar impact profile(BBSIP)for children and young people. Centre for Children's and Trauma Research. Available at: Z.tyack@uq.edu.au.
- [26] Van Niekerk, A. (2004): Incidence and patterns of childhood burn injuries in the Western Cape South Africa. Burns. Vol 30 (2) 341–347. <http://dx.doi.org/10.1016/j.burns.2003.12.014>
- [27] Vasli, P. and Salsali, M.( 2014): Parents' participation in the taking care of hospitalized children: concept analysis with hybrid model. Iran Journal Nurse Midwifery Research. Vol 19(2).39–44
- [28] Williams, F.N., Herndon, D.N., Suman, O.E., Lee, J.O. and Norbury, W. (2010): Changes in cardiac physiology after severe burn injury. J Burn Care Res. Vol 32(2)
- [29] World Health Organization, (2010): Violence, injuries and disability biennial report. Available at: [http:// apps.who.int /iris/ bit stream /10665/75573/1/ 9789241504133\\_eng.pdf](http://apps.who.int/iris/bitstream/10665/75573/1/9789241504133_eng.pdf)
- [30] Kattan, A. E., Abdulaziz ,K.F., Addar, A. A. and Algerian, A.(2016): Current knowledge of burn injury first aid practices and applied traditional remedies: a nationwide survey. Burns Trauma. Vol 4(37). Available at: doi: 10.1186/s41038-016-0063-7.