

Assessment of Nurses Knowledge Regarding Nursing Care for Patients with Burn

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Abstract

The main purpose from this study was to identify Sociodemographic characteristics of burn nurses, compare their knowledge concerning burn and nursing care, burn treatment, their experiences and complications of burn between both Azady Teaching hospital/Kirkuk City and Western Emergency hospital/Hawler City. A comparative study, using the assessment approach was conducted on nurses from 12th June, 2011 to 17th July, 2012. A purposive (non-probability) sample of (20) nurses (males and females) whom working in burn center at both Azadi Teaching hospital/Kirkuk City and Western Emergency hospital/Hawler City were selected for the study. A questionnaire was developed for the purpose of the study; it was comprised of (5) parts: part (1) Sociodemographic characteristics; part (2) training course; part (3) nurses knowledge concerning burn and nursing care; part (4) treatment of burn; part (5) knowledge of complications, by using the scale (I know, Uncertain, I don't know) for comparing their knowledge concerning burn and nursing care, treatment, and complications of burn, while for nurses training courses used the scale (Yes, No). Data were analyzed through the application of descriptive statistical data analysis approach (frequency, percentage, mean of scores). Knowledge of the nurses in items of parts (3, 4, 5) are determined as following: (adequate = 2.33 – 3), (moderately adequate = 1.67 - 2.32), and (inadequate = 1 - 1.66). The findings of the study showed that an age group (30 – 35) year represents the greater percentage (45.0 %) at Azady Teaching hospital in compare to Western Emergency hospital, in which (60%) of their nurses were at age group (24 – 29). Males highly represented at both Azady hospital (75%) and Western hospital (70%). Medical institutes graduated nurses represent (55%) in Azady hospital while (80%) at Western hospital, nurses had worked for (<1) year at both Azady hospital (55%) and Western hospital (45%) (15) nurses weren't take part in training course, (10) nurses were attended to continuous nursing education lectures of burn care and only (2) nurses were sent for session out of country, while at Western Emergency hospital, (14) nurses share in training course, (11) nurses were attended to continuous nursing education lectures of burn care and only (1) nurse were sent for session out of country. The average mean of scores of nurses knowledge at Azady hospital was (2.32) against (2.61) for Western hospital, while the average mean of scores of their knowledge of treatment was (2.34) against (2.37) for Western hospital and regarding the complications of burn was (2.11) against (2.1) for Western hospital. In conclusions, the nurses knowledge of burn and nursing care were moderately adequate at Azady hospital in compare to adequate knowledge at western hospital knowledge regarding treatment showed adequate knowledge at both hospitals, and their knowledge of complication of burn were moderately adequate at both hospitals. Recommendation from this study is to establishment a protocol concerning nursing care of burn patients in burn center, training the nursing staff in developed centers whether inside or out of country. Put a policy that limits nurses transferring between different unites in the hospital.

Keywords: Assessment, Nurses, Knowledge, Burn.

1. Introduction

Burns are one of the most devastating conditions encountered in medicine (Acton, 2004). The injury represents an assault on all aspects of the patient, from the physical to the psychological. It affects all ages, from babies to elderly people, and is a problem in both the developed and developing world. All of us have experienced the severe pain that even a small burn can bring. However, the pain and distress caused by a large burn are not limited to the immediate event. The visible physical and the invisible psychological scars are long lasting and often lead to chronic disability. Burn injuries represent a diverse and varied challenge to medical and paramedical staff. Correct management requires a skilled multidisciplinary approach that addresses all the problems facing a burn patient. This series provides an overview of the most important aspects of burn injuries for hospital and non-hospital healthcare workers (Carrougner, 1998; Acton, 2004). In caring for the patient with a burn injury, it is important to remember that many factors influence the care that we are able to deliver. This is of particular relevance in the area of wound care. Access to costly wound products is not an option in many settings. In these situations, creativity and innovation have led to many excellent alternatives being developed. In some instances, sophisticated products are available but lack of clinical experience makes them difficult to use. Wound care needs to be undertaken in the context of the local environment (Konop, 1991).

The patient's health history affects burn care. This makes each burn patient unique and provides a variety of challenges to the patient's plan of care. In addition, the nurse provides sensitive, compassionate care to patients who are critically ill and initiates rehabilitation early in the course of care. The nurse must also be able to communicate effectively with patients who have burn injuries, family members in crisis, and members of the entire interdisciplinary burn management team. Care of the patient with a burn requires knowledge and skill throughout the care continuum from injury to recovery. This ensures quality care, improved patient outcomes, and optimal quality of life (Brunner, Smeltzer et al., 2010).

Various biologic, biosynthetic and synthetic wound dressings are used in burn care. Selection and use of these products depends on the condition of the wound bed, the inherent properties of the dressing and the goals of therapy. In practice, different products seem to work for some centers and not for others. Patient population demographics and the local environment may all impact on the success or failure of certain dressing products (Carrougher, 1998; Pitts, Niska et al., 2008). A burn injury can affect people of all age groups, in all socioeconomic groups. An estimated 500,000 people are treated for minor burn injury annually (Konop, 1991; Pitts, Niska et al., 2008).

2. Materials and Methods

Experimental design: A descriptive study, using the assessment approach was conducted on patients with burn from 12th June, 2011 to 17th July, 2012.

Sampling collection: A purposive (non-probability) sample of (20) nurses in both sexes (males and females) whom working with burn patients were selected for the study.

Setting: Burn center at both Azadi Teaching hospital/Kirkuk City and Western Emergency hospital/Hawler City.

Tools: A questionnaire was developed for the purpose of the study by using the scale (I know, Uncertain, I don't know), it was comprised of (5) parts that included Sociodemographic characteristics, nurses knowledge concerning burn and nursing care, their experiences, treatment of burn and their knowledge of complications of burn.

Data analysis: Data were analyzed through the application of descriptive statistical data analysis approach (frequency, percentage, mean of scores) (Abass, 2014). Knowledge of the nurses in items of (Tables 3 - 5) are determined as following:- (adequate = 2.33 – 3), (moderately adequate = 1.67 - 2.32), and (inadequate = 1 - 1.66).

3. Results

Table (1) Distribution of the sample according to demographic characteristics.

No.	Demographic Items	Teaching hospital/Kirkuk City		Western Emergency hospital/Hawler City	
		Frequency	Percentages	Frequency	Percentages
1.1	Age				
1.1.1	(18-23)	1	5.0	3	15.0
1.1.2	(24-29)	1	5.0	12	60.0
1.1.3	(30-35)	9	45.0	5	25.0
1.1.4	(36-41)	6	30.0	-	-
1.1.5	(≥42)	3	15.0	-	-
Total		20	100%	20	100%
1.2	Gender	F	%	F	%
1.2.1	Male	15	75.0	14	70.0
1.2.2	Female	5	25.0	6	30.0
Total		20	100%	20	100%
1.4	Level of Education	F	%	F	%
1.4.1	Graduate of secondary nursing school	8	40.0	4	20.0
1.4.2	Graduate of medical institute	11	55.0	16	80.0
1.4.3	Graduate of the College of Nursing	1	5.0	-	-
Total		20	100%	20	100%
1.5	Years of employment	F	%	F	%
1.5.1	(<1)	11	55.0	9	45.0
1.5.2	(1-4)	7	35.0	7	35.0
1.5.3	(5-8)	1	5.0	3	15.0
1.5.4	(9-12)	1	5.0	1	5.0
Total		20	100%	20	100%

Results from Table 1 had revealed that an age group (30 – 35) year represents the greater percentage (45.0 %) at Azady Teaching hospital in compare to Western Emergency hospital, in which (60%) of their nurses were at age group (24 – 29). Two third of the nurses were male in both Azady hospital (75%) and Western hospital (70%). Medical institutes graduated nurses represent (55%) at Azady hospital while (80%) at Western hospital Concerning to the nurses years of employment, the finding of the study revealed that (55%) of the nurses worked for (<1) year at Azady hospital while (45%) at Western hospital.

Table (2) Percentage distribution of the nurses regarding training courses in burn care.

No.	Items	Azady Teaching hospital		Western Emergency hospital	
		Yes	No	Yes	No
2.1	Take part in training course regarding burn care	5	15	14	6
2.2	Attendance to continuous nursing education lectures of burn care	10	10	11	9
2.3	Sending out of country for training	2	18	1	19

Finding from Table 2 was showed that at Azady Teaching hospital out of (20) nurses, (15) nurses weren't take part in training course, half of the nurses were attended to continuous nursing education lectures of burn care and (18) nurses weren't send for training out of country, while at Western Emergency hospital, (14) nurses share in training course, (11) nurses were attended to continuous nursing education lectures of burn care and (19) nurses weren't send for session out of country.

Table (3) Comparison between Azady Teaching hospital and Western Emergency hospital regarding mean of scores of nurses' knowledge of burn and nursing care.

No.	Question	Azady Teaching hospital				Western Emergency hospital			
		—	✓	⊃	⊃	—	✓	⊃	⊃
3.1	Assessment of pain	6	1	13	1.65	17	-	3	2.70
3.2	Calculate the degree and percentage of burn	15	3	2	2.65	16	2	2	2.70
3.3	Measuring V/S from different sites of the body	16	1	3	2.65	20	-	-	3.0
3.4	Necessity of nursing documentation	11	2	7	2.20	16		4	2.60
3.5	Importance of checking the patient' weight every day	11	2	7	2.20	12	3	5	2.35
3.6	Supportive food for burn patients	13	-	7	2.30	15	2	3	2.60
3.7	Care of invasive Catheters	11	1	8	2.15	13	5	2	2.55
3.8	Open dressing method	16	2	2	2.70	14	-	6	2.40
3.9	Closed method	17	-	3	2.70	17	1	2	2.75
3.10	Mixed method	15	4	1	2.70	15	3	2	2.65
3.11	Appropriate technique of sterilization	14	1	5	2.45	17	-	3	2.70
3.12	Health education for the patient and family	5	3	12	1.65	18	-	2	2.90
3.13	Microorganisms that cause infection	12	1	7	2.25	11	1	8	2.15

Results from Table 3 was indicated that mean of scores of nurses knowledge at Azady Teaching hospital were adequate in (6) items (2, 3, 8, 9, 10, 11), and moderately adequate in (5) items (4, 5, 6, 7, 13), and inadequate knowledge in (2) items (1, 12), average mean of scores were (2.32) which mean that nurses had moderately adequate knowledge of burn, while mean of scores of nurses knowledge at Western Emergency hospital were adequate in all items except item (13) which was moderately adequate. Average mean of scores were (2.61) which means that the nurses had adequate knowledge of burn.

Table (4) Comparison between Azady Teaching hospital and Western Emergency hospital regarding mean of scores of nurses' knowledge of treatment of burn.

No.	Question	Azadi Teaching hospital				Western Emergency hospital			
		I Know (3)	Uncertain (2)	I don't know (1)	M.S	I Know (3)	Uncertain (2)	I don't know (1)	M.S
4.1	Types of I.V. fluids needed for burn pt.	19	1	-	2.95	15	1	4	2.55
4.2	Calculate the amount of fluid needed to be replaced	12	1	7	2.25	11	5	4	2.35
4.3	Period of treatment (fluid replacement)	15	2	3	2.75	9	2	9	2.0
4.4	Types of antibiotics	19	1	-	2.95	19	-	1	2.90
4.5	Side effect of antibiotics	8	-	12	1.80	11	-	9	2.10
4.6	Preferable method of antibiotic administration	15	1	4	2.55	16	-	4	2.60
4.7	Types of analgesics	18	1	1	2.85	18	-	2	2.80
4.8	Side effect of analgesics	6	1	13	1.65	10	2	8	2.10
4.9	Preferable method of analgesics administration	17	2	1	2.80	16	1	3	2.65
4.10	Dealing with pt. refuse treatment	14	-	6	2.40	10	2	8	2.10
4.11	Provide psychological support	6	-	14	1.60	12	2	6	2.10
4.12	Assess respiratory system for abnormality	4	4	12	1.60	20	-	-	2.30

Outcomes in Table 4 shown that mean of scores of nurses knowledge at Azady Teaching hospital were adequate in (7) items (1, 3, 4, 6, 7, 9, 10), moderately adequate in (3) items (2, 3, 5), and inadequate knowledge in (3) items (8, 11, 12). Average mean of scores were (2.34) which mean that nurses had adequate knowledge of treatment of burn, while mean of scores of nurses knowledge at Western Emergency hospital were adequate in (6) items (1, 2, 4, 6, 7, 9), and moderately adequate in other (6) items (3, 5, 8, 10, 11, 12), average mean of scores were (2.37) which means that the nurses had adequate knowledge of treatment of burn.

Table (5) Comparison between Azady Teaching hospital and Western Emergency hospital regarding mean of scores of nurses knowledge of dealing with complications of burn

Seq.	Question	Azady Teaching hospital				Western Emergency hospital			
		I Know (3)	Uncertain (2)	I don't know (1)	M.S	I Know (3)	Uncertain (2)	I don't know (1)	M.S
5.1	Heart failure	4	6	10	1.7	9	1	10	1.95
5.2	Pulmonary edema	9	4	7	2.10	11	1	8	2.15
5.3	Sepsis	8	4	8	2.0	10	1	9	2.05
5.4	Paralytic ileus	10	-	10	2.0	9	2	9	2.0
5.5	Shock	16	3	1	2.75	13	1	6	2.35
5.6	Deep venous thrombosis	9	6	5	2.20	10	1	9	2.05
5.7	Renal failure	7	7	6	2.05	11	1	8	2.15

Consequences from Table 5 designated that mean of scores of nurses knowledge at Azady Teaching hospital were adequate in (9) items (1, 2, 3, 4, 8, 9, 10, 11, 13), and moderately adequate in (4) items (5, 6, 7, 12), average mean of scores were (2.11) which mean that nurses had moderately adequate knowledge of burn, while the mean of scores at Western Emergency hospital were adequate in all items except item (13) which was moderately adequate. Average mean of scores were (2.1) which means that the nurses had moderately adequate knowledge of burn.

4. Discussion

Regarding the age of the sample, both Azady hospital and Western hospital nursing staff were young, and their age are ranging from 24 to 35. Two third of the nurses were male in both Azady hospital (75%) and Western hospital (70%) and this may inversely effect on some of the nursing cares because females can do specific cares (general care, cleansing, bed preparation, female catheterization). Medical institutes graduated nurses represented higher percentage at both hospitals (55%) at Azady hospital against (80%) at Western hospital In addition, the finding of the study revealed that (55%) of the nurses worked for (<1) year at both Azady hospital while (45%) at Western hospital because they were previously working in other unites and they were recently engaged for burn centers.

Concerning knowledge of the nurses, the findings of the present study revealed that nurses at Western Emergency hospital have adequate knowledge in compare to Azady teaching hospital nurses whom have moderately adequate knowledge of burn. This result appear due to poor sharing of the nurses at Azady teaching hospital in training course regarding burn care, absence of dispatch for training out of country ,in addition to that the nurses continuously exposed for transferring between the units within the hospitals for un satisfied reasons and this inversely effect on their experience and knowledge as general for both hospitals, regarding Western hospital, it was established in cooperation with Italian team specialist in burn, in which they work and trained the Iraqi nursing staff in the center, and most of nurses were sharing in training course opposite of Azady hospital Findings of table 2, this explore the difference in their knowledge between both centers. The results from the table (4) also demonstrated that nurses had adequate knowledge concerning the treatment of burn in both hospitals, while table (5) revealed moderately adequate knowledge regarding the complication of burn in both Hospitals.

Although of the presented results, the nurses in Azady teaching hospital ignore some important nursing care, which they are assessment of pain, education for the patient and family, side effect of analgesics, assessment of respiratory system and provide psychological support. Continued assessment of the patient during the early weeks after the burn injury focuses on hemodynamic alterations, wound healing, pain and psychosocial responses, and early detection of complications. Assessment of respiratory and fluid status remains the highest priority for detection of potential complications (Brunner, Smeltzer et al., 2010). Furthermore, families have a need for information about their loved one's prognosis and what to expect as the patient recovers (Leeder, 1978; Molter, 1993; Meyer, Blakeney et al., 1994; Maaser, 1995; Watkins, Cook et al., 1996; Blakeney, Rosenberg et al., 2008; Pitts, Niska et al., 2008). At the end of this study, their need for information is generally ongoing throughout the patient's recovery, they may have many questions and may need answers repeated and reinforced by members of the burn care team.

Conclusions

The nurses' knowledge of burn and nursing care were moderately adequate at Azady hospital in compare to adequate knowledge at western hospital knowledge regarding treatment showed adequate knowledge at both hospitals and their knowledge of complication of burn were moderately adequate at both hospitals. Recommendations: Establishment a protocol concerning nursing care of burn patients in burn center, training the nursing staff in developed centers whether inside or out of country. Put a policy that limits nurses transferring between different unites in the hospital.

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