



Health care workers' adherence to burn pain management guidelines in Palestine

Ashraf Yaqoub Eljedi^{1*}, Yousuf Ismael Al-Shami²

¹ Associate Professor, International Public Health, Faculty of Nursing, Islamic University of Gaza, Gaza Strip, Palestine

² Adnan Alalami Burn Center, Alshifa Medical Complex, Ministry of Health, Gaza Strip, Palestine

Abstract

Introduction: Despite major improvements in burn wound management and survival, the burn pain management is inadequately treated globally.

Aim: To assess the health care workers' (HCWs) adherence to burn pain management guidelines in governmental hospitals in Palestine.

Methods: A triangulated, descriptive and cross sectional approach was used. All doctors and nurses (No., 53), who are working at burn centers in Gaza were included in the study. Four tools were used to collect the data: A questionnaire to assess knowledge about the protocol; a checklist to assess the adherence; an assessment checklist of physical environment; and in-depth interviews of key medical staff.

Findings: The study found knowledge level of pain management guidelines was 44.9%, and the adherence level was only 12.8%. Only 47% of participants were aware of the presence of Palestinian national protocols for burns care and management. Furthermore, 80% of them didn't receive training courses about the guidelines. About 68% reported no follow-up by the management to ensure the implementation of the protocol. Moreover, there is a severe shortage of most specialties in the multidisciplinary medical team and medical supplies. There is underutilization of non-pharmacological methods in the pain management.

Conclusion: There is huge deficit in adhering to burn management guidelines among HCWs in Gaza Strip. Managerial policies, continuing education and training programs for burn team are crucial steps to promote adherence.

Keywords: adherence, guidelines, burn pain management, Palestine

1. Introduction

Burn injury is the most painful and disfiguring forms of trauma, as it affects the skin, that is the largest and most visible organ. Burn injury is classified from the most damaging of all injuries; hence a good pain control is necessary for more than simply humane reasons. Despite major improvements in burn wound management and survival, the burn pain management is inadequately treated globally [1] and the psychological and physiological adverse effects of uncontrolled pain remain substantially unresolved. Poor pain management can lead to a marked decrease in physical and psychological outcomes, lower patients' overall quality of life, addiction, poor healing process, long hospitalization period in addition to increased expenses and the cost of health services [1, 2, 3]. Therefore, effective pain management is a compelling and universal requirement in health care. It improves patient outcomes and increases patient satisfaction. Also, activation of multidisciplinary teams can lead to enhancements in implementation of pain management protocols, measurement degree of pain, understanding scales, differentiation of pain degree and curing it [4, 5, 6, 7]. Noncompliance with guidelines and protocols became a burden problem, especially in Palestinian fragmented health care system. There are scarcity of studies conducted about pain management in Gaza Strip (GS) and West Bank (WB), so this study considered the first study about pain management in GS and WB. Good pain management is very important in burn care. Therefore, in 2012, the Palestinian National Protocols for Burns Care and Management was established, where standards and

mechanism of action have been developed to deal with the pain caused by burns. After the establishment of the protocol and its application to burn patients, it was noted that there was a large gap between what is stipulated in the protocol and what is applied, which negatively affects the quality of services provided and the patients' quality of life. Therefore, this study came to assess the level of adherence among health care workers (HCWs) to burn pain management guidelines in the governmental hospitals in Gaza strip in Palestine.

2. Materials and Methods

2.1. Design and sampling approach

The study used a descriptive, cross-sectional, triangulation design that combined between quantitative and qualitative models to confirm comprehensiveness of data collection and to provide better understanding of the issue of adherence to the protocols among HCWs [8]. The study was conducted in the only two burn units at the two governmental hospitals (Alshifa Medical Complex in the north and Naser Medical Complex in the south) in Gaza strip. All HCWs, 59 doctors and nurses, at both centers were asked to participate. Only 53 agreed; the response rate was 90%. The ethical approval to conduct the study was obtained from the Helsinki Committee at the Palestinian Ministry of Health (PHRC-HC-391/18). Data collection took place from January to March 2019.

2.2. Study instruments and data collection

Quantitative data

To collect quantitative data, three instruments were used. The first tool is a structured interviewed questionnaire based on

Palestinian national protocol for burns care and management. The majority of the questions were either multiple-choice questions, which give several alternatives Likert scale questions (yes, no, I don't know), or open-ended questions. Validity and reliability testing were done to ensure scientifically sound findings. The researchers explained the nature of all questions, the aim and purpose of the study for the participants and then informed consent was signed to voluntarily participate in the study. Time allocated for each questionnaire was 20–25 minutes. The questionnaire consists of seven domains: socio-demographic which included 7 questions; the second and third domain is level of knowledge and training of the medical staff which included 31 questions; the fourth and fifth domain contains questions about availability of supportive system and multidisciplinary team with 4 questions; the sixth domains contains one open question about the possible obstacles for compliance with the protocol; and the seventh domain contains one open-ended question about suggestions for improving compliance with the protocol. The second quantitative tool was the compliance checklist which contains 17 questions for measuring the adherence level of HCWs to the burn pain management guidelines. It consists of two sections: the patient's data (e.g., level of consciousness and pain severity) and the procedures that must be implemented by HCWs to care for burn pain as prescribed in the protocol. The researcher reviewed 89 medical files of patients who were hospitalized during the period of the data collection. The third quantitative tool was the assessment checklist of physical environment, which contain 8 Yes/No questions to assess the appropriateness of the place, the availability of instruments and medical supplies, the availability of multidisciplinary team and supervision role.

Qualitative data

To collect qualitative data, in-depth interviews with five key informants from health care providers "doctors and nurses" were done. It was designed individually according to the area of expertise, context of burn unit, and managerial position and title. Interviews were conducted after the quantitative data collection was completed. After providing a brief introduction of the study, the interviewer used prolonged engagement and probing techniques to assure that ideas are reasonably reflected. In addition, short notes were taken through the interviews to allow more information captured. Each interview was tape-recorded and last from 40 to 50 minutes.

2.3. Data analysis

The data was entered and analyzed by using Statistical

Package for Social Sciences (SPSS) version 23. Descriptive analysis, T-test and one way of variance (ANOVA) test were used answer the questions of the study.

3. Results and Discussion

3.1. Socio-demographic characteristics of participants

Table 1 shows that there are 73.6% of study participants are male, while 26.4% female. Regarding to age almost 32.7% has ages between 31 to 35 years with mean 37.73 years. 50.9% of participant work at Al Shifa Medical Complex burns unit and 49.1% at Naser Medical Complex burn department. Concerning to Job Titles of participant there are 54.7% a staff Nurse followed by the practical nurse with percent 24.5%, while 21% of participants are doctors. Regarding to the Academic Qualification 43.4% of the participants had a BSC certificate, while 22.7% Postgraduate degree (Ph.D. & Master). About the participant's years of experience in burn unit, the study illustrated that 36.2% of the participants had experience from 6 to 10 years, while 21.9% had experience from 11 to 15 years.

3.2. Knowledge and adherence to the guidelines

The results revealed that the health care providers' knowledge level about pain management protocol is 44.9%, which is considered low. This might be attributed to lack of awareness of health care provider about the existence of a national protocol for the care of burn patients, as well as the lack of training of the health care provider on how to use and apply this protocol, in addition to the lack of follow-up of its application by the hospital administration. These findings are consistent with the results of other studies which indicated that physicians and nurses had low level of knowledge regarding pain management guidelines and need immediate action from health care leaders to bridge this gap [9, 10, 11, 12]. In addition, the total adherence level of health care providers with the burn pain management guidelines in both burns units was critically low (12.8%). The nurses were more compliant with the protocol more than doctors with 20.9% and 4.7% respectively. The results also revealed that there is statistical differences between workplace and compliance for Al-Shifa burn unit with mean 18.33% (P value= 0.003). Our results are consistent with the studies that conducted in Canada, Brazil and Nigeria, which illustrated that the adherence rate to guidelines was 12.9%, 22% and 27.5% respectively [13, 14, 15]. In addition, 80% of participants did not attend any training program on pain management protocol. This reflects an important gap in dissemination of the protocol. Such result is consistent with a study found that 70% of participants indicated not having attended any training program on pain management [10].

Table 1: Distribution of study participants according to demographic data (n. 53)

No.	Items	No.	%
1. Gender			
	Male	39	73.6
	Female	14	26.4
	Total	53	100.0
2. Age			
	Less than 30 Years	11	20.8
	From 31 to 35 Years	18	34.0
	From 36 to 45 Years	12	22.6
	Above 45 Years	12	22.6
	Mean= 37.73, MD = 35.0, SD= 10.09		
3. Marital Status			

	Not Married	9	17.0
	Married	44	83.0
4. Workplace of participant			
	Al shifa Medical Complex	27	50.9
	Naser Medical Complex	26	49.1
5. Job Titles of participant			
	Specialist Doctor	9	17.0
	General Physician	2	3.8
	Staff Nurse	29	54.7
	Practical Nurse	13	24.5
6. Academic Qualification of participant			
	Doctorate (Ph.D.)	2	3.8
	Master	10	18.9
	High diploma	5	9.4
	Bachelor	23	43.4
	Diploma	13	24.5
7. Years of experience in burn unit			
	Five Years and less	13	27.7
	From 6 to 10 Years	17	36.2
	From 11 to 15 Years	10	21.3
	Above 15 Years	7	14.9

3.3. Distribution of the study participants according to supportive system

Administrative support

About 68% of the study participants answered that there is no follow-up, enough efforts or supporting policies by hospital management to ensure the implementation of the protocol in the both burn units. Our study agrees with a study about in-service training programs showed that there is inadequate support of the administration regarding the managing, monitoring, supervision and follow up of nursing care at governmental hospitals in Gaza strip [16].

Availability of multidisciplinary medical team

The result of the assessment checklist of the physical environment in both burn units revealed that there is a severe shortage of all specialties required in the multidisciplinary medical team. The available team members were only three: a plastic surgeon, a nurse and a physiotherapist, with complete absence of anesthesiologist, psychologist, nutritionist and social worker who play essential roles in burns care. The literature indicated that the presence of an integrated multi-disciplinary medical team is a corner stone in the pain management protocol's application, where all are committed to their task and bear their responsibilities in front of patients with burns.

Availability of medications and medical supplies

The assessment checklist of physical environment found a severe shortage of medical supplies, equipment, and pain management medications especially in the burns unit at the Nasser Medical Complex. The military siege imposed on Gaza strip combined with lack of financial funds to the hospitals in Gaza strip contributed significantly to these

results.

Use of non-pharmacological analgesics

The study showed that the usage rate of health care providers of non-pharmacological methods in the controlling of pain is moderate (52.89%). The highest method was "Spiritual Therapy" with weighted mean 66%, followed by "Limb elevation and air conditioning" with weighted mean 63.25% and 59% respectively. The lowest method was "Music Therapy" with weighted mean 39.5%, followed by "Imagery and Distraction" with weighted mean 40.75% and 49% respectively. Such results come in consistence with a study conducted in the United States which found that there is underutilization of non-pharmacologic therapies to control pain in hospitals [17].

3.4. Relationship between knowledge and demographic data

Table 2 showed that there are statistical differences between knowledge and gender, for male with mean 48.58%. Moreover, specialist doctors achieved significantly higher level of knowledge among all HCWs with mean 56.79% followed staff nurse with mean 48.28%. Also, there are no statistical differences between knowledge and other demographic factors (age, marital status, work place, academic qualification, experience). Our study agrees with a study showed that there are no statistical significance differences in all the study domains regarding to marital status, age groups, qualifications and years of experience. Contrarily, our results are inconsistent regarding the gender and job title of participants [16]. In addition, another study conducted in Korea illustrated that specialist physicians had better knowledge of pain management than did nurses [12].

Table 2: Differences between knowledge and demographic data

Demographic Data	Items	No.	Mean %	SD	Test	Sig.
Gender	Male	39	48.58	21.92	T 2.140	0.037*
	Female	14	34.52	18.38		
Age	30 Years and less	11	45.45	22.75	F 1.361	0.266
	From 31 to 35 Years	18	38.56	21.38		
	From 36 to 45 Years	12	54.17	17.10		
	Above 45 Years	12	47.69	21.64		
Marital Status	Single	9	40.12	20.18	T -0.713	0.479

	Married	44	45.83	22.19		
Work Place	Al Shifa	27	50.00	22.54	T 1.497	0.141
	Naser	26	39.53	20.02		
Job Title	Specialist Doctor	9	56.79	12.96	F 3.736	0.017*
	General Physician	2	38.89	0.00		
	Staff Nurse	29	48.28	23.25		
	Practical Nurse	13	29.91	17.35		
Academic Qualification	Doctorate (Ph.D.)	2	50.00	7.86	2.265	0.075
	Master	10	55.56	18.89		
	High diploma	5	57.78	15.01		
	Bachelor	23	43.72	23.11		
	Diploma	13	32.91	20.09		
Years of Experience	5 Years and less	13	45.73	20.18	F 0.115	0.951
	From 6 to 10	17	45.10	22.90		
	From 11 to 15 Years	10	48.33	22.23		
	More than 15 Years	7	50.00	18.43		

* Significant at $p < 0.05$

3.5. Obstacles facing the application of the pain management protocol

The study highlighted that there are many obstacles to applying the pain management protocol as physical obstacles which include lack of specialized workplace mainly in Nasser medical complex and lack of essential medication, supplies and equipment. In addition, there are administrative obstacles as lack of monitoring and supervision about the implementation of the protocol, and lack of support from high-level management. Furthermore, there are professional obstacles included severe shortages of trained and qualified health care providers such as anesthesiologists. Other protocol-related constraints were the rigidity of the protocol and its dependence on the treatment of pain on only one type of medication. Such results are congruent with a study conducted in Australia, which revealed that the barriers to effective pain management were the absence of pain education and assessment tools, parents' reluctance to report pain and insufficient prescription of analgesia [18]. In addition, our study agreed with a study, which highlighted that the organization within which pain management takes place often imposes a number of restrictions that may inadvertently hinder the effective management of pain. These can relate to accountability for pain management, local culture, trust or hospital policies regarding drug administration and resources available [19].

4. Conclusion

The results of the study revealed huge deficit in adhering to the guidelines of burn pain management among HCWs in Gaza Strip. There is an urgent need to adopt managerial policies and to activate the monitoring and supervision role of auditing system in both hospitals to improve health care providers' compliance with the protocol. Recruiting a multidisciplinary burn management team, continuing education and training programs are crucial steps to promote adherence to burn pain management guidelines.

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