

Physicians' And Nurses' Knowledge And Practices About Management Of Acute Pain Among Injured Persons

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Abstract:

Background: Pain is the most common reason due to which patients come to the emergency department and painful traumatic injuries account for a large portion of emergency department visits. Inadequately managed pain can lead to adverse physical and psychological patient outcomes. Because of the capricious nature of trauma pain, recognition and alleviation of pain, regular assessment and frequent adjustments in medications, dosages, and techniques should be a priority when treating the ill and injured patients. **Aim of the study:** to assess physicians' and nurses' knowledge and practices regarding management of acute pain among injured persons at Makkah Hospital. **Research Design:** A Descriptive exploratory research design was utilized in the current study. **Research questions:** a) What do emergency nurses know about management of acute pain among injured persons at Makkah hospital? b) What are the emergency nurses' practices toward acute pain among injured persons at Makkah hospital? **Setting:** The study was carried out at the emergency department in Makkah hospital. **Sample:** A purposive sample including nursing staff and physicians who were working in the emergency department at Makkah Hospital and were willing to participate in this study (70 nurses and physicians). **Tools of data collection;** Tool 1: Knowledge assessment questionnaire sheet which consist of two parts (a) personal characteristics & background data. (b) Emergency nurses' and physicians knowledge regarding management of acute pain Tool 2: An observational checklist **Results:** (91.4%) of the study sample were females. As Well, (85.7%) of them were married. While (47.1%) of them were having technical nursing institute degree and (45.7%) of them got training courses in emergency courses, the highest mean scores related to causes of acute pain (0.4333 out of 1), all the study subjects had unsatisfactory general knowledge about acute pain and hundred percent of the studied sample were having an unsatisfactory practice level in relation to nursing management for acute pain **Conclusion:** considering the result of the present study and the available evidence it can be concluded that, hundred percent of the studied sample were having an unsatisfactory Knowledge practice level in relation to nursing management for acute pain. **Recommendations:** based on results of the present study can recommended Hospital decision makers create strategies to decrease work load on nurses and encourage inservices training programs for nurses included knowledge and skills for how to apply assessment and management of patients with acute pain.

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Introduction:

Pain can be defined as, “An unpleasant sensory and emotional experience associated with actual or potential tissue damage or described in terms of such damage **International Association for the study of pain, 2011**). Pain is the most common reason due to which patients come to the emergency department. Painful traumatic injuries also account for a large portion of emergency department visits. Improved pain management has not only led to increased comfort in trauma patients, but has also been shown to reduce morbidity and improve long-term outcomes. **(Cordell et al, 2012)**.

Various pharmacological options are available for treating acute pain, ranging from oral, intravenous, and intramuscular medications; topical agents; and peripheral nerve blocks. Objectively assessing and documenting a patient's pain is the key to determining treatment **(WOLF & Ma, 2013)** The approach to a patient with acute pain requires an experienced clinician who is aware of the pharmacology of analgesics and anesthetics, contraindications, precautions, side effects, administration methods, and monitoring requirements **(Wuhrman, Cooney 2011)**.

Insufficient pain control, has been correlated with a catabolic stress responses well as increased incidences of venous thromboembolic events, pulmonary complications, and immunosuppression. Therefore, comprehensive pain assessment is one of the most important initial steps for successful management of acute pain in trauma patients and prevention of these complications. **(Toddy et al, 2007)**.

Acute pain in trauma patients results from tissue damage mainly due to excessive nociception which is usually caused by combination of various stimuli, mechanical thermal or chemical secondary to an inflammatory reaction, a trauma or a visceral lesion. This stimuli cause release of chemical substances (histamine, brady kinin, serotonin, substance P) that activate nociceptors. Once stimulated, a nociceptor transmits a signal along the spinal cord to the brain and causes nociceptive pain **(Williams, 2012)**.

The primary aim of acute pain management in trauma patients is to minimize pain through the careful use of drugs and pain interventions, improve function and increase quality of life while avoiding side effects **(Wong, 2012)**.

There are a variety of different therapies and techniques available for acute pain relief which arises from multidisciplinary approach. This multi-modal approach usually includes pharmacological interventions with conventional analgesics, but the use of the regional anaesthetic techniques, adjuvant agents and non-pharmacological methods can also be very useful in acute pain management in emergency department **(Ready & Edwards, 2012)**

Aim of the study:

The aim of this study was to assess physicians' and nurses' knowledge and practices regarding management of acute pain among injured persons at Makkah Hospital.

Research questions

To fulfill the aim of this study the following research questions were formulated:

1. What do emergency physicians' and nurses know about management of acute pain among injured persons at Makkah hospital?
2. What are the emergency physicians' and nurses' practices toward acute pain among injured persons at Makkah hospital?

Subjects and Method Research Design

Descriptive exploratory research design was utilized in the current study.

Setting

The study was carried out at the emergency department in Makkah hospital

Subjects

A purposive sample including all physicians' and nursing staff (70 nurse) who are working in the emergency departments at Makkah hospital.

Tools

- 1) Knowledge assessment questionnaire sheet:

Which was developed based on review of literature to assess the physicians' and nurse's knowledge about management of acute pain among injured persons; it consisted of two parts:

- A) Personal characteristics & back ground data of the physicians' and nurses working in the emergency units. Consisted of 9 items including (code, age, gender, marital status, years of graduation, level of education, years of experience, years of working in ER, training courses he or she received).
- B) Emergency physicians' and nurses' knowledge regarding management of acute pain : It is an Arabic questionnaire sheet developed based on review of literature to assess the nurses knowledge about management of acute pain among injured persons, It consists of 37 Questions.
 - General Knowledge about acute pain.(questions from 1-4) `
 - Causes of acute pain (questions from 5-7)
 - Factors affecting acute pain(questions from 8-13)
 - Signs and Symptoms of acute pain (questions from 14-15)
 - Effect of the acute pain on the body system (16-20)
 - Medical management of acute pain (21-27)
 - Nursing Management of acute pain(28-34)
 - The complication of acute pain(35-37)

Scoring system

Each right action was given one score with total score of (37).less than 80% (30grades) was considered unsatisfactory while equal or more than 80% was considered satisfactory

2) An Observational checklist

The physicians' and nurse's performances checklist(this sheet was developed by (**Gélinas,2014**) to assess emergency physicians' and nurses' practices during assessment and management of injured persons with acute pain.

Scoring system

Each right answer was given one score with total score of (29).less than 80% was considered unsatisfactory while, equal or more than 80% was considered satisfactory.

Pilot study:

A pilot study was conducted on 7 physicians' and nurses to ensure objectivity, clarity, feasibility, validity and reliability of the study tools and determine the time required to fill data collection tools. No modifications were done so the pilot study sample was included in the actual study.

Legal and Ethical Considerations:

An official permission to conduct the study was obtained from the Ethical Committee. Verbal consents were obtained from head nurses of these units. In addition, physicians' and nurses' agreements to be included in the study were obtained formally after explanation of the nature and purpose of the study. Each nurse was free to either participate or not in this study and have the right to withdraw from the study at any time without any rational; also, nurses were informed that data will not be included in any further researches without another new consent if they do not mind. Confidentiality and anonymity of each subject were assured through coding of all data.

Statistical Design:

Upon completion of the data collection, descriptive and inferential statistics were utilized, using the Statistical Package for the Social Sciences (SPSS) program. Data obtained from the study tools were categorized, tabulated, analyzed and data entry was performed using the SPSS software. Descriptive statistics were applied (e.g. mean, standard deviation, frequency and percentage).

Field Work:

The study was carried out at the Emergency Department in Makkah Hospital. data collection from January 2022 to May 2022

Results:

As show from table (1) that ,(91.4%) of the study sample were females .As Well,(85.7%)of them were married .While (47.1%) of them were having technical nursing institute degree in nursing and (45.7%) of them got training courses in emergency courses.

Variable	No.	%
Percentage		

Gender	Male	6	8.6
	Female	64	91.4
Marital status	Single	10	14.3
	Married	60	85.7
Education	Technical Nursing Institute	33	47.1
	Diploma of Nursing	16	22.9
	Bachelor degree of Nursing	21	30.0
Courses Taught	No Related Courses	16	22.9
	Infection control	22	31.4
	Emergency	32	45.7

Table(2) showed that , all the study subjects had unsatisfactory general knowledge about acute pain , reason ,factors affecting ,symptoms ,effect of acute pain ,treatment nursing care and complication for acute pain.

No.	Knowledge dimensions	Satisfactory (>80%)		Unsatisfactory (<80%)	
		No.	%	No.	%
1	General knowledge about acute pain	0	0	70	100
2	Reasons of acute pain	0	0	70	100
3	Factors affecting acute pain	0	0	70	100
4	Symptoms of acute pain	0	0	70	100
5	Effects of acute pain	0	0	70	100
6	Treatment of acute pain	0	0	70	100
7	Nursing care of patient with acute pain	0	0	70	100
8	Complications of acute pain	0	0	70	100

Table (3) shows that, the highest mean scores (highest knowledge score of sample) was related to the Causes of acute pain (0.4333 out of 1) while the dimension with the lowest mean (lowest knowledge score of sample) was factors affecting acute pain (.1000±.21869).

Knowledge dimensions	Mean± SD
General knowledge about acute pain	.3464±.21406
Causes of acute pain	.4333±.29131
Factors affecting acute pain	.1000±.21869
Signs & Symptoms of acute pain	.2929±.38536
Effects of acute pain	.1343±.21188
Treatment of acute pain	.1286±.15022
Nursing care of patients with acute pain	.2082±.28539
Complications of acute pain	.3000±.27305
Total (out of 37)	7.8000±5.4708

Table (4) demonstrates that, hundred percent of the studied sample were having an unsatisfactory practice level in relation to management for acute pain.

No.	Practice dimensions	Satisfactory (>80%)		Unsatisfactory (<80%)	
		No.	%	No.	%
1	Assessment of Pain Intensity& Character	0	0	70	100
2	Pain Management	0	0	70	100
3	Documentation	0	0	70	100

Table (5) revealed that, the total mean practices score of the studied sample regarding acute pain management (6.74 ± 1.50). Also, This table illustrates that the highest mean (highest practice score of sample) was Pharmacological Management..

Practice dimensions	Mean \pm SD
Description of complaint	.59 \pm .19
Pharmacological Management	.75 \pm .23
Non Pharmacological Management	.50 \pm .20
Documentation	.00 \pm .00
Total Mean (out of 32)	6.74 \pm 1.50

As can be seen from table (6) that , there is negative correlation between age , years of experience and knowledge scores ($r = 0.12$, $p =0.3$.) ,($r = 0.09$, $p0.42$) Also , there is negative correlation between age , years of experience and practice scores ($r =0.21$, $p = 0.08$) Also there is no significant statistical correlation between total knowledge score and total practice score ($r = 0.231$, $p =0.054$)

Variables	r	p-value
Age and knowledge	0.12	0.3
Experience and knowledge	0.09	0.42
Experience in Emergency and knowledge	0.04	0.7
Age and practice	0.21	0.08
Experience and practice	0.24	0.4
Experience in Emergency and practice	0.04	0.7
Total knowledge and total practice	0.231	0.054

Discussion:

The total number of the current studied sample was 70 physicians and nurses; the majority of them were females (91,4%). In relation to age and years of experience, more than two thirds of them age ranged between 20- 30 years and near half of them having 0 – 5 years of working experience in nursing and majority of them having 0 – 5 years of working experience in

emergency department.

This finding is supported by Kizza in some study findings (**Kizza,2012**) carry out a research entitled nurses' knowledge and practices related to pain assessment in critically ill patients at mulago hospital, Uganda. A total of 170 nurses were interviewed, with 84% older than 30 yrs. Majority were females (96%) Majority of the nurses had less than two years of unit experience (47%) had attained diploma level of education in nursing. (57%) had experience of more than ten years in nursing.

Also, this result was agreement with(**Bader , 2015**) Carry out a research entitled "Critical Care Nurses' Knowledge and practices regarding pain assessment and management. The total number of studied sample was 60 nurses the majority of them were females (83.3%). Moreover, most of the studied sample carrying diploma nursing degree. Near half of the nurses their age ranged between (20-25 years)and having (1-5years) of working experiences in nursing and approximately more than half of them having 1-5 years of working experience in the ICU.

This result was disagree with (**AL Qadiere& ALKhalailah 2014**)The results indicate that 51.7% of participants were male and the average age was 27.2 (SD 4.7) years. In addition, most nurses had a bachelor's degree (90.5%)and worked in medical and surgical wards. Furthermore, 52% of nurses reported no previous pain education in the last five years.

In the current study , the finding data that answered the first research question regarding physicians and nurses knowledge about assessment and management of acute pain among injured persons revealed that all of the studied subject (100%)had got unsatisfactory knowledge level with mean (**7.8 ±5.47**) out of 37 scores, This finding contradicted with (**Willson,2007**) Who carry out study about nursing staff knowledge of pain and the result discovered that the research specialist nurses had a more comprehensive knowledge base than the general nurses; however, their knowledge scores did not appear to be related to their experience in terms of years within the nursing profession.

Also, (**Ayed, 2015**) results disagreed with the study findings, he found that 20.8 % of nurses had good knowledge, about palliative care. Also, (**Kassa at al, 2014**), showed that 30.5% of nurses had as good knowledge about palliative care.

This study was agreed with(**Yaqoob, 2015**) The result of the study showed that a mean score of knowledge was 15.8 out of 33 .This finding indicates that staff nurses and physicians had poor knowledge About pain assessment and management. Contradicting our results(**Kizza , 2012**)in a study entitled as Nurses' knowledge of the principles of acute pain assessment in critically ill adult patients who are able to self-report found that the mean knowledge score of nurses was 71% indicating adequate knowledge levels. Also the current study is supported by **Jones, et al.,(2004)** showed Nurses have insufficient knowledge regarding pain assessment and management.

Also, the current study finding is supported by **Willson , 2007& Jones, et al., (2004)** that showed Nurses have insufficient knowledge regarding pain assessment and management strategies

The current study finding that answered the second research question which stated" What are the emergency physicians' and nurses' practices toward acute pain among injured persons?

Revealed that all of the study subjects (100%) had got unsatisfactory level of practices. The current study results was agreed with **Rose, et al (2014)** Who revealed that more than 80% of nurses underestimated the patient's pain and they didn't treat it in the correct way.

The study finding regarding pain assessment practices by the studied subjects revealed that nearly all of them didn't assess pain intensity & character. This finding supported by **Kizza, 2007** who revealed that (78.2%) of nurses didn't observe patients behavior during pain.

Documentation of pain assessment finding is among the principles of pain management. The finding of this study showed that all nurses didn't document pain scale and vital signs during pain. This finding is supported by (**Watt- Watson, et al., 2010**) who reported that there is no documentation practices among nurses caring for emergency ill persons.

In relation to pharmacological management practices, the majority of nurses are give analgesia it also this finding contraindicated with **Watt-Watson, et al., (2010)** who revealed that nurses didn't prescribed analgesic appropriately as the patients who reported moderate to severe pain receive only (47 %) of their prescribed analgesia.

In relation to non Pharmacological management practices, the majority of nurses put the patient in comfortable position. This study supported by (**Bicek 2004**) who revealed that (60%) of nurses didn't use non pharmacological measures and the most common therapy used was change of position (53.2). also **Polkki et al, (2001)** who revealed that (57%) of nurses used non pharmacological therapies routinely.

Conclusion:

Considering the result of the present study and the available evidence it can be concluded that, hundred percent of the studied sample were having negative correlation and an unsatisfactory knowledge and practice level in relation to nursing management for acute pain. However, there are still some shortcomings in physicians and nurses practice of pain assessment and management. Also documentations of pain characteristic and the outcome of interventions were also inappropriate

Recommendations:

Based on the study in the current study it can be recommended:

Establishment of in-service training program for physicians and nurses included knowledge and skills for how to apply assessment and management of patients with acute pain .

- 2- Hospital decision makers create strategies to decrease workload on nurses.
- 3- Follow up physicians and nurses' performance in relation to pain management.
- 4- Introduction of pain assessment tools guidelines and protocols charts for documentation that are appropriate to the setting.

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