

Original Article

Nurse's Perspectives in Utilization of Non- Pharmacological Pain Management among Post- Operative Patients at Khartoum Public Hospitals, 2021-2022

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Abstract

Background: Pain in surgical patients considered one of the most serious complaints in the postoperative period. The nurses should be involved actively in the treatment of pain by using the pharmacological and non-pharmacological methods specially designed for the patient. Non-pharmacologic interventions include many types such as cognitive behavioral therapy, relaxation therapy, the study **aimed** to study nurse's perspectives in utilization of non-pharmacological pain management methods for post- operative patients. **Methods:** This was descriptive cross sectional hospital based study conducted at selected public hospitals in Khartoum State. It's include (106) nurses working at general surgical words. Data was collected by a self-administered questionnaire and analysed by using computer statistical package of social program and presented in form of tables. **Results:** study revealed that, total knowledge of participants was adequate and there was a significant relationships between participant's qualification and their using of guidelines in post-operative pain management. Majority of participants didn't received any training course about pain

management. The participants had inadequate knowledge about utilization of relaxation techniques in managing post- operative pain.

Conclusion: The study concluded that, the majority of participants didn't use standardized tools in assessing and managing the post- operative pain. Half of participants sometimes using non- pharmacological methods to manage post- operative pain and there is no significant relationship between participant's experience in surgical department, qualification and using of these methods. So, study recommends that, encouragement of in- service training program, continuous professional developmental program should be introduced.

Key words: nurses, perspectives, non pharmacological, methods, post-operative pain.

Introduction

Postoperative pain is an acute pain that starts with surgical trauma, gradually reduced and ends with tissue healing. It remains to be a medical and social predicament even with all development of pain in medicine knowledge and use of new and complex drug delivery systems, unfortunately, most of the patients

still receive inadequate almost all of the patients suffer from post-operative pain because of lack of informations and interest of both physicians and other health personnel ⁽¹⁾.

Pain in surgical patients considered one of the most serious complaints in the postoperative period, and if not controlled, it can leads to many problems such as, pneumonia, deep vein thrombosis, delayed wound healing, chronic pain and other systemic complications ⁽²⁾.

Nurses have a great responsibility in pain assessment and management. So, the nurses should be involved actively in the treatment of pain, diagnose the patient in the direction of a nursing model/theory, use the pharmacological and non- pharmacological methods specially designed for the patient, evaluate the results and prevent the problems that may arise by keeping the pain within the affordable limit.

Non-pharmacological method is a natural therapies that help decrease the pain. These therapies don't involve taking medicines. People have used a natural ways to assist with pain management and healing from the very beginning of time. Non-pharmacologic interventions include many types such as cognitive behavioral therapy, relaxation therapy, biofeedback, patient education, self-management, and social support interventions. There's good evidence that these interventions can be effective in managing pain, particularly in relation to the cognitions surrounding pain; this, however, is predominantly in the short term ⁽³⁾.

Non pharmacological methods of pain management do not replace pharmacological methods and can be used in conjunction with pharmacological pain practices to enhance the relief of pain. Hence nurses' utilization of

non-pharmacological methods can participate in managing postoperative pain ^(4, 5).

There was a many types of non-pharmacological method can be used to manage post-operative pain such as cognitive methods, physical methods, emotional methods and other methods which include helping with daily activities, creating a comfortable environment, relaxation technique and spiritual practices.

A study conducted to determine the use of non-pharmacologic methods by surgical nurses for postoperative pain management and to identify the influencing professional factors. It was determined that many of the surgical nurses participating in the study never used the music therapy, massage, and relaxation methods. However, there are many study indicating that these methods are effective in the postoperative pain management because of their effects of decreasing the surgical stress, increasing the secretion of endogenous opioids, raising the pain threshold, and providing relaxation and comfort to patients. It has been reported that even the independent nursing practices reducing the pain and the pain perception like relaxation and massage increase the effect of the analgesics ⁽⁶⁾.

A study conducted by Kenan, et.al. Was determined that, the nurses applied some non-pharmacological methods such as hot-cold application, exercise, positioning, resting, and distraction practices at a quite high rate. There are results similar to those of the present study. It has been reported that positioning is the most frequently used method for the postoperative pain control, the positioning and exercise may contribute in management of the postoperative problems, especially pain ^(7, 8).

Methods

This is descriptive cross sectional, Hospital based study was conducted at Khartoum public hospitals, surgical wards which include (Omdurman Teaching Hospital, Bahry Teaching Hospital and Ibrahim Malik Hospital). The targeted populations was all nurses working in general surgical wards both gender during study period and willing to participate (106). A designed structured, self-administered close ended questionnaire was used to collect the data from study subjects. Rational scaling was used (adequate, inadequate, poor knowledge) adequate

knowledge for more or equal 75percent inadequate knowledge for more or equal 50percent Poor knowledge for less than 50 percent ⁽¹⁵⁾. The tool was examined by expertise in the field of the study and his comments about content and context was considered. Piloting was done in 15 nurse and Alpha Cronbach's test was 84%. Data was analyzed by using statistical package of social program (SPSS). P value considered significant at (0.05). The research was respect the rights of participants. Consent was obtained from all participants after explanation.

Results

Table (1): distribution of participants according to their demographic data (n =106)

Qualifications	Frequency	Percentage
Diploma	26	24.5%
Bs.c	69	65.1%
Master	11	10.4%
Total	106	100%
Experience in surgery	Frequency	Percentage
<1 year	36	34%
1-3 years	48	35.8%
4-6 years	12	11.3%
> 6 years	20	18.9%
Total	106	100%

Table (2): Study group using of standardized tool in pain assessment. (n =106)

Item	F	%
Always	10	9.4%
Often	11	10.4%
Sometimes	24	22.6%
Never	61	57.5%
Total	106	100%

Table (3): Study group knowledge about pain assessment. (n =106)

Item	Adequate		Inadequate		Poor		Mean $\pm$ St. deviation
	F	%	F	%	F	%	
Pain definition	62	58.5	14	13.2	30	28.3	1.7 $\pm$ (0.9)
Effect of pain	50	47.2	17	16.0	37	34.9	1.9 $\pm$ (0.9)
Types of Pain assessment tools	56	52.8	20	18.9	30	28.3	1.8 $\pm$ (0.9)
Components of Pain intensity scale	75	70.8	14	13.2	17	16.0	1.5 $\pm$ (0.8)
Pain response factors	58	54.7	19	17.9	29	27.4	1.7 $\pm$ (0.9)
Factors affecting Severity of post-operative pain	58	54.7	13	12.3	35	33.0	1.8 $\pm$ (0.9)

Table (4): Study group using guidelines in post-operative pain management. (n =106)

Item	F	%
always	21	19.8%
Often	8	7.5%
sometimes	21	19.8%
never	56	52.8%
Total	106	100%

Table (5): Study group using of non-pharmacological methods in post-operative pain management: (n =106)

Item	F	%
always	10	9.4%
often	13	12.3%
sometimes	55	51.9%
never	28	26.4%
Total	106	100%

Table (6): Study group knowledge about types of non-pharmacological methods utilized to manage post-operative pain. (n =106)

Item	Adequate		Inadequate		Poor		Mean $\pm$ St. deviation
	F	%	F	%	F	%	
Aims of post-operative management	68	64.2	18	17.0	20	18.9	1.5 $\pm$ (0.8)
Cognitive methods	54	50.9	23	21.7	29	27.4	1.8 $\pm$ (0.9)
Emotional methods	65	61.3	24	22.6	16	15.1	1.6 $\pm$ (0.8)
Other methods	80	75.5	13	12.3	12	11.3	1.4 $\pm$ (0.7)
Relaxation techniques	42	39.6	13	12.3	51	48.1	2.9 $\pm$ (0.9)
Ways of providing informations	79	74.5	9	8.5	18	17.0	1.4 $\pm$ (0.8)

Table (7): Study group knowledge about physical methods. (n =106)

Item	F	%
Heat Thermal Regulation	77	73.3%
Cold Thermal Regulation	58	55.2%
Cutaneous Stimulation and Massage	51	48.5%
Transcutaneous electrical nerve stimulation (TENS)	44	42%
Positioning	89	83.8%
Total	106	100%

Table (8): Cross tabulation

Item		P Value
Qualification	using of guidelines in post-operative pain management	0.005*
	using of non-pharmacological methods	0.012
	knowledge about relaxation technique	0.003**
Surgical experience	Pain response factors	0.004**
	using of guidelines in post-operative pain management	0.001**
	using of non-pharmacological method	0.041
	knowledge about relaxation techniques	0.022

training course	using of guidelines in post-operative pain management	0.001**
	using of non-pharmacological method	0.098

Significant = 0.005* highly significant < 0.005**

Discussion

Every nurse have to be aware by interventions that mitigate the pain from patients and adopted it in order to decrease need of analgesics and as it was known that, nurses play an important role in comforting the patient, one from these interventions non pharmacological strategies of pain management. On behalf of this study which was done to assess level of awareness toward non pharmacologic strategies of pain management. This descriptive cross sectional hospital based study was conducted aiming to assess nurse's perspectives in utilization of non- pharmacological pain management methods among post- operative patients.

The finding drawn as the following; the baseline demographic data showed that, two third (65.1%) of participants had bachelor's degree and the majority of participants had experience level ranged between 1-3 years in surgical department. These findings were congruent with another study conducted in Sudia Arabia which revealed that, the most common age group among subjects of the study sample was 20-30 years, most of whom were female (72.5%)⁽³⁾.

Pain assessment is an important approach to help healthcare providers, it can clarify the cause of the patient's pain, and thus provide prompt and effective treatment to patients post-operatively. Higher quality pain assessment and management can be achieved with the use of pain assessment tools. this

study found that, (57.5%) of participants didn't use standardized pain assessment tool, while only (9.4%) use it ,this findings was congruent with a study conducted in Saudi Arabia which found that, the proportion of the studied sample that do not use pain assessment tools is larger than those who use them⁽³⁾. However, the purpose of using a pain scale is to develop a shared vocabulary between patients and healthcare professionals and using of pain assessment tool help the nurses in prioritizing nursing care for patient with pain and allow them to choose a proper method of intervention to relieving and controlling the post- operative pain.

Furthermore, regarding participant's level of knowledge about factors affecting pain response the study revealed that, half of them had adequate knowledge (54.7%). There for, the nurse have to understand these factors to be able to assess the pain properly and to avoid under or over estimation of pain level among post- operative patients. In spite of these finding, there was a significant relationship between experience of participants in surgical ward and their knowledge about factors affecting pain response (p 0.004).

It is obvious from the present data that, half of participants didn't use guidelines in pain management (52.8%). This percentage supported by study findings which reflect the new graduation of participants and their low experience, so, there is a significant

relationship between education level, experience in surgical department and using of guidelines in post- operative pain management (p 0.001, 0.005) respectively. From researcher opinion, nurses can play a crucial role in pain management by using a developed guidelines and protocols to facilitate their achievement to optimal pain control and patient comfort.

Majority of participants didn't received any training course about pain management (84%), in spite of its importance as a potential method of improving nurse's knowledge and skills of pain management and provide an opportunity to address positive attitudes and beliefs. In addition to that, the study found a significant relationship between a training course and using of guidelines in pain management (p 0.001) this finding agreed with a study conducted in Turkey was found a statistically significant difference between pain scores according to whether a pain management course had been attended, a book or journal on pain had been read, and the effectiveness of the nurse regarding pain ($p < 0.05$)⁽¹⁰⁾.

Nurses have a key role in pain management. The promotion of comfort and relief of pain are fundamental to nursing practice, it includes two basic types of nursing interventions which is pharmacologic and non-pharmacologic. They often use non pharmacological measures to facilitate comfort for patients within the hospital setting. However, guidelines for use of these measures are commonly inadequate or absent, based on the above scientific based evidenced the current study findings was revealed that, half of participants sometimes using non-pharmacological methods to manage post-operative pain and their percentage was (51.9%) and quarter of them (26.4%) never

using it. Despite of that there is no significant relationship between participant's experience in surgical department, qualification and using of these methods (p 0.041, 0.012) respectively, moreover, it was in agreement with other study conducted in Iran found that, there no significant relationship between the use of non-pharmacological pain management methods and demographic variables such as educational level ($P = .51$), and work experience ($P = .515$)⁽⁹⁾.

A non-pharmacological pain management methods have fewer and uncomplicated side effects. Therefore, they have been considered as safer and more convenient methods that can reduce the negative effects of drug therapies. Furthermore, they can result in a decrease in the dose and duration of drug administration in patients with pain. Non- pharmacological pain management interventions are a set of psychological and physical pain management methods that play a vital role and can be used both complementarily and independently. In addition, non-pharmacological interventions also yield other benefits, such as lower medical costs, greater availability to patients, and ease of use. Nurses should have a great knowledge of non-pharmacological methods to practice them effectively.

Concerning types of non- pharmacological methods, most of participants had adequate knowledge about cognitive methods such as positive re-enforcement, breathing technique, imaginary and preparatory informations mean $\pm$ (std) $1.8 \pm (0.86)$ and emotional methods such as presence, comfort, reassurance and therapeutic touch mean $\pm$ (std) (1.5 ± 0.78). In support to these findings a study done in Eritrea found that, cognitive behavioral methods, breathing and relaxation were often used⁽²⁾. In addition, majority of

participants utilize positioning as a physical method to relieving the pain (83.8%) whereas transcutaneous electrical nerve stimulation (TENS) was had least percentage (42%). These findings were congruent with another study conducted in Eritrea revealed that, alleviating pain by positioning the patient was responded by most of the nurses ⁽²⁾. Similar studies done in Finland, China and Singapore reported that positioning was the most commonly used physical method during postoperative pain ^(12, 13, 14). Another study conducted in United State stated that, the use of TENS as a non- pharmacologic intervention was rare ⁽¹¹⁾.

In addition to that, the study justify that two third of participants had adequate knowledge to utilize other methods such as helping with daily activities, creating a comfortable environment and spiritual practices (75.5%) with mean $\pm$ (std) 1.4 $\pm$ (0.72). While relaxation techniques had a low response by participants (48.1%) of them had a poor knowledge about it. In the view of the researcher, if nurses have a sound base of knowledge of non-pharmacological pain management therapies this will enable them to have positive attitudes towards their use and they will practice these methods at the same level of their knowledge.

Conclusion The study concluded that, the participant's total knowledge was adequate, except their knowledge about utilization of relaxation techniques in managing post-operative pain

On other view the majority of participants didn't receive any training course about pain management and they didn't use standardized tools and guidelines in assessing and managing the post- operative pain. So, continuing evidenced-based educational programs on pain management can improve

nurses' knowledge of pain. The results of this study could guide the development and implementation of continuing educational programs for nursing staff in providing patients with evidence-based pain management.

There was significant relationship between (participant's qualifications, years of experience in surgical department and training course) and their using of standardized tool and guidelines to assessment and management of pain and using of some non-pharmacological methods.

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