Nurses' Knowledge, Attitude, and Practice regarding Pain Management for Cancer Patients in Erbil City

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ABSTRACT

Background and objectives: Pain is one of the main common manifestations of patients with cancer disease and its treatment that seek individuals to find medical treatment in clinics and hospitals. The study assessed nurses' knowledge, attitude, and practice toward cancer pain management in Nanakali Hospital for Blood Diseases and Cancer and the chemotherapy department in Rizgary Teaching Hospitals.

Methods: A cross- sectional study was carried out in Nanakali Hospital for Blood Diseases and Cancer and the chemotherapy department in Rizgary teaching hospitals from May 2020 to the end of November 2022 on a purposive sample which includes 64 nurses through applying self-administered questionnaires by using the Knowledge and Attitudes Survey Regarding Pain (KASRP) tool for assessment of knowledge and attitudes of nurses, and observational checklists for assessment of nurses' practice toward pain. The data were analyzed using SPSS software for statistical analysis (Version 26) for calculating descriptive statistical analysis (Frequency, Percentage, Mean, and Standard Deviation).

Results: study shows that less than half of nurses 42.2% were between 21-33 years of age, 59.4% were males, 78.1% had a diploma in nursing, 75% were formal employees, and 50% of them participated in training courses previously. In this study, the highest percentages of participants had fair knowledge and negative attitudes toward management of pain for cancer patients. They did not provide sufficient practice about non-pharmacological management of pain for cancer disease.

Conclusion: Nurses who work in oncology wards had fair knowledge, negative attitudes and inadequate practice toward pain management for cancer patients. Therefore, it is important to do training courses for enhancing nurses' knowledge, attitude, and practices regarding the management of pain.

Keywords: Nurse; Knowledge; Attitude; Practice; Pain Management; Cancer Pain Management.

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INTRODUCTION

Cancer has increased more and more from the past to now. It takes disturbances in the function of an organ that is damaged and affected. Cancer is a chronic disease; it involves over 100 various conditions and is characterized by abnormal growth of cells, distributed abnormal and unregulated growth of cells [1]. A recent estimation has shown that more than 25,000 cases of current cancer, as well as 14,000 cancer deaths, were presented in the year 2018 in Iraq [2]. Regarding the Kurdistan region of Iraq, the total number of which suffered from cancer, was dramatically increased in Erbil and Duhok, for example, 73 cancer cases per 100,000 populations in Erbil city in 2013, and this number has increased more than doubled to 174 cancer cases per 100,000 populations in 2019. Regarding Duhok city, the total number of cancer cases in 2013 was 486 (36 cases per 100.000 population), while this number increased to 1365 (85 cancer cases per 100,000 population) in 2019 [3].According to two studies [4,5], which declared that pain is mentioned as one of the main issues that occur with cancer disease. It is the main common symptom that lead individuals to seek medical treatment in clinics and hospitals. Pain has been defined as "an unpleasant sensory and emotional experience associated with actual or potential tissue damage or described in terms of such damage" [6,7]. Pain may be caused by cancer disease, the spreading tumor "metastases" and damage to the nerve, or sometimes this pain may be due to treatments of cancer such as chemotherapy and radiotherapy. It has also remained without treatment and control in many different cases of cancer [8, 9]. According to many studies [10, 11,12,13,14 15, 16] in both developed and developing countries and all over the world, there is a continuously reported lack of knowledge and poor attitudes of nurses, and also found insufficient knowledge of nurses such as problems due to physiology and assessment of pain, pharmacology of analgesic medications, and risks related to the use of opioid medications and opioid tolerance and addiction inaccurately. Pain management practice was defined as a group of activities that have been done by nurses practically and effectively to alleviate and reduce cancer pain. Therefore, this study aimed to assess the knowledge, attitudes, and practices of nurses toward the pain management for cancer patients in Erbil city.

METHODS

A cross-sectional design was carried out to assess the knowledge, attitudes, and practices of nurses regarding pain management for cancer patients in Nanakali Hospital for Blood Diseases and Cancer and Rzgari Teaching Hospital in Erbil city/ Kurdistan region/ Iraq. The study commenced from May 2020 to the end of November 2022 among a purposive sample of all participants (64 nurses) available in hospitals during the period of gathering data included in the study. All nurses signed the informed consent and inclusion criteria included nurses who provide care for cancer patients in Nanakali Hospital for Blood Diseases and Cancer and Rzgari Teaching Hospital, both genders (male and female). Self-administered questionnaires were applied to gather data that included three parts: the first part is related to sociodemographic characteristics of nurses, including age, gender, and educational level, years of working in the oncology department, place of work, and participation in a training course about pain management for cancer patients. Second part: included the modified pain management questionnaires “(Knowledge

and Attitude Survey regarding Pain tool constructed by the American Pain Society, the World Health Organization, and the Agency for Health Care Policy and Research pain management guidelines)"[17], the questionnaire consisted of 34 questions that were to 25 questions (14 questions are true and false and 11 questions are multiple-choice) for assessment of nurses' knowledge, and 9 questions (7 questions are true and false and two questions are multiple-choice) for assessment of nurses' attitude. Questionnaires were filled out by participants in 20-25 minutes, and the responses to the nurses' knowledge about pain management for patients with cancer items included: (0 = Incorrect and 1= Correct). The overall calculation of nurses' knowledge regarding the management of cancer pain (25 items) was classified into three groups: poor knowledge (0-8.2), fair knowledge (8.3-16.6), and good knowledge (16.7-25). The responses to the nurses' attitudes about the management of pain for cancer patient items included: (0 = Negative and 1= Positive). The overall calculation of nurses' attitudes about the management of cancer pain (9 items) was categorized into two groups: negative attitudes (0-4) and positive attitudes (5-9). The questionnaire was in the English language and it was translated into the Kurdish language and then the Kurdish version was translated again to English into determine the consistency of the tool. Third part: Included assessment of nurses' practice on pain management: it was done by using observational checklists based on an extensive review of the literature [18]. The responses to the nurses' practice about the management of pain for patients with cancer items included: (0 = Not achieved and 1= Achieved). The overall calculation of nurses' practice about pain management for patients with cancer (20 items) was classified into three groups: poor practice (0-6), fair practice (7-13), and good practice (14-20). The validity of tools was assessed by a panel of experts from health specialties (adult health nursing, oncologist medicine). A pilot study (test-retest) was done among 11 nurses who were not part of the samples. A pilot study was carried out to know any difficult situations dealing with providing the tools and know the period required for the collection of data. Consistency of questionnaires was done by using the Mann-Whitney U value test (test-retest) the time interval between the test and the retest was two weeks. Ethical approval was obtained from the Ethics Committee of the College of Nursing/ Hawler Medical University, as a code number 142 on 1/11/2021. Permission was obtained from the Director of Health/Erbil. Verbal consent was received from participants. The data were interpreted by using SPSS software for statistical analysis Version 26, for calculating descriptive statistical analysis (Frequency, Percentage, Mean, and Standard Deviation).

RESULT

Table 1 illustrates a total of 64 nurses with a mean age of 37.2 ± 9.72 years were included, with less than half of participants 42.2 % in between the 21-33year of age group. Regarding gender, 59.4% were males and 40.6% were females, and majority of the participants 78.1% had a diploma in nursing. The highest percentage 84.4% of nurses worked in the Nanakali Hospital for Blood Diseases and Cancer, 37.5% of them had more than 10 years of experience in management of cancer pain, 75% of participants are formal employed in the Nanakali Hospital for Blood Diseases and Cancer and Rizgary Teaching Hospital and 50% of nurses participated previously in training courses toward management of cancer pain.

Table 1: Sociodemographic characteristics of nurses

Sociodemographic Characteristic (n= 64)		**F. (%)**
Age Group (Years)	21-33	27 (42.2)
	34-46	22 (34.4)
	47-59	15 (23.4)
Gender	Male	38 (59.4)
	Female	26 (40.6)
Qualification	Diploma	50 (78.1)
	Bachelor	13 (20.3)
	Master	1 (1.6)
Name of hospitals	Nanakaly Hospital	54 (84.4)
	Rizgary Teaching Hospital	10 (15.6)
Year of experience	1-5	22 (34.4)
	6-10	18 (28.1)
	> 10	24 (37.5)
Type of employment	Formal	48 (75)
	Contract	16 (25)
Training course about pain management	Yes	32 (50)
	No	32 (50)

Table 2 shows the knowledge of nurses toward cancer pain management, as the percentages of nurses who administered correct answers for each of the 25 questions in the knowledge survey regarding pain. The correct responses with the highest percentage for questions were after an initial dose of opioid analgesic is given, subsequent doses should be adjusted by the individual patient's response (85.9%), patient's spiritual beliefs may lead them to think pain and suffering are necessary (true) (79.7%), intravenous route is the recommended route of administration of opioid analgesics for patients with brief, severe pain of sudden onset, such as trauma or postoperative pain (75%), tramadol is registered as a golden standard for cancer pain management (true) (75%), opioid Addiction is a chronic neurological disease (True) (67.2%), and the time to peak effect for morphine given intravenous is 15 min (64.1%). However, the lowest percentage of correct responses for questions were patients may sleep despite severe pain (True) (14.1%), aspirin and NSAID are not effective analgesics for boney metastasis (False) (17.1%), If the source of the patient's pain is unknown, opioids should not be used during the pain evaluation period, as this could mask the ability to correctly diagnose the cause of pain. (False) (15.6%), the oral route is the recommended route of administration of opioid analgesics for patients with persistent cancer-related pain (9.4%), morphine is an opioid analgesic medication which is considered the drug of choice for the treatment of prolonged moderate to severe pain for cancer patients (7.8%), and abrupt

of an opioid, physical dependence is manifested by the following: sweating, yawning, diarrhea and agitation (18.8%).

Table 2. Nurses' knowledge towards cancer pain management

Knowledge of nurses towards cancer pain management (n= 64)	Incorrect F. (%)	Correct F.(%)
Vital signs are always reliable indicators of the intensity of a patient's pain (False)	38 (59.4)	26 (40.6)
Because their nervous system is underdeveloped, children under two years of age have decreased pain sensitivity and limited memory of painful experiences. (False)	32 (50)	32 (50)
Patients may sleep in spite of severe pain (True)	55 (85.9)	9 (14.1)
Aspirin and NSAID are not effective analgesic for boney metastasis (False)	53 (82.8)	11 (17.2)
Combining analgesic works better than a single analgesic (True)	38 (59.4)	26 (40.6)
The usual duration of analgesia of 1-2 mg morphine IV is 4-5 hours (False)	44 (68.8)	20 (31.3)
Promethazine and hydroxyzine as potentiates of opioids (False)	33 (51.6)	31 (48.4)
Patient's spiritual beliefs may lead them to think pain and suffering are necessary (True)	13 (20.3)	51 (79.7)
After an initial dose of opioid analgesic is given, subsequent doses should be adjusted in accordance with the individual patient's response. (True)	9 (14.1)	55 (85.9)
Tramadol is regarded as a golden standard for cancer pain management (True)	16 (25)	48 (75)
If the source of the patient's pain is unknown, opioids should not be used during the pain evaluation period, as this could mask the ability to correctly diagnose the cause of pain. (False)	54 (84.4)	10 (15.6)
Anticonvulsant drugs such as gabapentin (Neurontin) produce optimal pain relief after a single dose. (False)	45 (70.3)	19 (29.7)
Benzodiazepines are not effective pain relievers (True)	31 (48.4)	33 (51.6)
Opioid Addiction is a chronic neurological disease. (True)	21 (32.8)	43 (67.2)
Oral route is the he recommended route of administration of opioid analgesics for patients with persistent cancer-related pain.	58 (90.6)	6 (9.4)
Intravenous route is the recommended route of administration of opioid analgesics for patients with brief, severe pain of sudden onset, such as trauma or postoperative pain.	16 (25)	48 (75)
Morphine is opioid analgesic medication which is considered the drug of choice for the treatment of prolonged moderate to severe pain for cancer patients.	59 (92.2)	5 (7.8)
A 30 mg dose of oral morphine is approximately equivalent to 10 mg of morphine is given intravenously.	43 (67.2)	21 (32.8)
Analgesics for post-operative pain should initially be given around the clock on a fixed schedule.	47 (73.4)	17 (26.6)
Chance of respiratory depression for cancer patients on opioid analgesics is less than 1%. .	51 (79.7)	13 (20.3)
The most likely reason a patient with pain would request increased doses of pain medication is that the patient is experiencing increased pain.	41 (64.1)	23 (35.9)
Ibuprofen (Motrin) Hydromorphone (Dilaudid) Gabapentin (Neurontin) are useful for treatment of cancer pain.	49 (76.6)	15 (23.4)
The time to peak effect for morphine given intravenous is 15 min.	23 (35.9)	41 (64.1)
The time to peak effect for morphine given orally is 1-2 Hour.	51 (79.7)	13 (20.3)
Abrupt discontinuation of an opioid, physical dependence is manifested by the following: sweating, yawning, diarrhea and agitation	52 (81.3)	12 (18.8)
Mean of percentage of correct answers	60.75	39.252

Table 3 shows the overall nurses' knowledge regarding cancer pain management, the majority of nurses 84.4% had overall fair knowledge toward cancer pain management and majority with poor knowledge level.

Table 3: Nurses' overall knowledge regarding cancer pain management

Overall Knowledge of Nurses towards cancer pain management (n= 64)	F. (%)
Poor	10(15.6)
Fair	54(84.4)
Total	**64(100)**

Table 4 shows nurses' attitude toward the management of cancer pain, as the percentages of nurses who administered correct answers for each of 9 questions in the attitude survey regarding pain. From 9 items, most of the items has negative attitudes which were: patients who can be distracted from pain usually do not have severe pain (False) (89.1%), patients should be encouraged to endure as much pain as possible before using an opioid (False) (84.4%), and giving patients sterile water by injection (placebo) is a useful test to determine if the pain is real (False) (76.6%), Children less than 11 years old cannot reliably report pain so clinicians should rely solely on the parent's assessment of the child's pain intensity (False) (71.9%), 5-15% patients likely are patients who develop pain already have an alcohol and/or drug abuse problem (67.2%), the patient is the most accurate judge of the intensity of the patient's pain (64.1%), and opioids should not be used in patients with a history of substance abuse (False) (51.6%). Nurses only had positive attitudes with those questions: respiratory depression rarely occurs in patients who have been receiving stable doses of opioids for months (true) (75%) and elderly patients cannot tolerate opioids for pain relief (false) (53.1).

Table 4: Nurses' attitude regarding cancer pain management

Nurses' attitude towards cancer pain management (n= 64)	Negative F. (%)	Positive F. (%)
Patients who can be distracted from pain usually do not have severe pain. (False)	57 (89.1)	7 (10.9)
Respiratory depression rarely occurs in patients who have been receiving stable doses of opioids over a period of months (True)	16 (25)	48 (75)
Opioids should not be used in patients with a history of substance abuse. (False)	33 (51.6)	31 (48.4)
Elderly patients cannot tolerate opioids for pain relief (False)	30 (46.9)	34 (53.1)
Patients should be encouraged to endure as much pain as possible before using an opioid. (False)	54 (84.4)	10 (15.6)
Children less than 11 years old cannot reliably report pain so clinicians should rely solely on the parent's assessment of the child's pain intensity. (False)	46 (71.9)	18 (28.1)
Giving patients sterile water by injection (placebo) is a useful test to determine if the pain is real. (False)	49 (76.6)	15 (23.4)
The most accurate judge of the intensity of the patient's pain is. (patient)	41 (64.1)	23 (35.9)
How likely is it that patients who develop pain already have an alcohol and/or drug abuse problem? (5-15%)	43 (67.2)	21 (32.8)

Table 5 represents overall nurses' attitude regarding pain management for cancer patients, the highest percentage (75%) of participants had overall negative attitudes regarding the management of pain for the cancer patient, and only 25% of the sample study had positive attitudes.

Table 5 : Overall nurses' attitude regarding pain management for cancer patients:

Overall Attitude of Nurses towards cancer pain management (n= 64)	F.	(%)
Negative	48	(75)
Positive	16	(25)
Total	**64**	**(100)**

Table 6 shows nurses' practice toward pharmacological and non-pharmacological pain management. The highest percentage of the study sample had achieved the practice of all items related to pharmacological pain management while the highest percentage of participants did not achieve practice for non-pharmacological pain management for cancer patients, except in change positioning (90.6%) which provided.

Table 6 : Nurses' practice regarding cancer pain management

Practice of nurses' regarding cancer pain management: (n= 64)	Not achieved F. (%)	Achieved F. (%)
Assess general condition	35 (54.7)	29 (45.3)
check medications order	0 (0)	64 (100)
procedure/ handwashing	4 (6.3)	60 (93.8)
procedure / identify the patient	1 (1.6)	63 (98.4)
Procedure/ administering pain medication as ordered	0 (0)	64 (100)
Non-pharmacological pain management		
Positioning	6 (9.4)	58 (90.6)
Distraction of patients	62 (96.9)	2 (3.1)
Relaxation technique	54 (84.4)	10 (15.6)
heat and cold compress application	43 (67.2)	21 (32.8)
massage therapy	44 (68.8)	20 (31.3)
emotional support	37 (57.8)	27 (42.2)
Biofeedback	61 (95.3)	3 (4.7)
Hypnosis	64 (100)	0 (0)
Imaginary	64 (100)	0 (0)
Deep breathing	52 (81.3)	12(18.8)
Meditation	64 (100)	0 (0)
post care/ assess of patient response after 1/2 hours	36 (56.3)	28 (43.8)
post care/ observed patients nonverbal care	2 (3.1)	62 (96.9)
post care/ monitored for analgesic side effect	1 (1.6)	63 (98.4)
Document of patient response	64 (100)	0 (0)

Table 7 shows overall nurses' practice toward cancer pain management, as the majority of nurses (93.4%) had overall fair practice toward cancer pain management. However, only 4.7% of them had overall poor practice towards cancer pain management.

Table 7 : Nurses' overall practice towards cancer pain management:

Overall Practice of Nurses toward Cancer Pain Management (n= 64)	F. (%)
Poor	3 (4.7)
Fair	61 (95.3)
Total	**64 (100)**

DISCUSSION

Pain is the worst indicator of cancer disease and its treatment [19]. Cancer patients are required to reduce or manage their pain either pharmacologically or non-pharmacologically to support those Bao et al states that pain management is essential in cancer patients' care and also important for enhancing cancer patients' outcome [20]. In addition, adjuvant therapy should be applied for cancer pain management such as analgesics and complementary or alternative therapy [21]. For that reason, nurses must assess and improve their knowledge, attitudes, and practices regarding pain management. The result of the present study shows most of the nurses who work in the oncology department had fair knowledge and negative attitudes regarding the pain management for cancer patients. This may be due to most of the nurses who work in oncology wards graduating from the institute, the older nurses, and the health system policy and regulations of the hospitals. The result of the present is supported by the result of the study which found inadequate knowledge and negative attitudes during the management of cancer pain [22]. Moreover, the present result is very close to the finding of the research carried out in Jordan by applying exploratory descriptive design, which reported that Jordanian nurses had inadequate knowledge and poor attitudes towards the management of cancer pain [23].The finding of the present study showed the highest percentages of participants had overall fair knowledge and negative attitudes toward the management of cancer pain. This result may be related to less specialization or high qualification of nurses toward the management of cancer pain in our hospitals. Another reason behind this is that the majority of nurses who are working in these hospitals have a diploma degree in nursing, while only a few nurses have a bachelor degree in nursing science, they may be more understanding and follow up the internationally updated articles on the management of cancer pain. The result of the present study is in disagreement with the study carried out in the United Arab Emirates, as revealed participants had inadequate knowledge and negative attitudes regarding the management of cancer pain [24]. Another cross-sectional study is in disagreement with the present study which was conducted in China by using the Knowledge and Attitudes Survey Regarding Pain (KASRP), which stated that oncology nurses had good knowledge and positive attitudes toward the management of cancer pain [25].

It may be due to most of the nurses having diploma qualifications, who do not have a role in the hospital policy and having workload that does not allow nurses to participate in training courses. In addition, the sample size is small. The current study's findings showed the majority of nurses were not achieved in the practical items regarding non-pharmacological pain management such as; distraction of patients, relaxation, heat and cold compress, massage therapy, emotional support, biofeedback, hypnosis, imagery, deep breathing and meditation, which is in agreement with Musleh et al [18] applying the same checklists conducted in Egypt, revealing that the highest percentage of nurses did not perform care and management of cancer pain adequately. Nurses also had an insufficient level of practice in the non-pharmacological management of pain. It may be due to most of the participants having a diploma in nursing; they are less qualified in the management of pain practices. Matthews and Malcolm [26] reported that alternative and complementary therapy is the most effective technique for managing and alleviating pain in cancer patients. Another study was conducted in Ethiopia showing that nurses generally had poor practice regarding pain management for cancer patients (27). The present result is in disagreement with the result of a study which found nurses were good at practicing pharmacologically and non-pharmacologically for cancer pain management (28).

CONCLUSION

The study concluded that the highest percentage of nurses had fair knowledge and negative attitudes toward pain management in cancer patients. The majority of nurses did not provide sufficient practices toward non-pharmacological pain management for cancer patients.

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CONFLICT OF INTEREST

The authors have no conflict of interest.

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