

PAIN EXPERIENCE AMONG PATIENTS RECEIVING CANCER TREATMENT: A CASE STUDY

Abstract

Pain is the most concerning symptom found in patients who have malignant tumor, and represents the most feared consequences for patients and their families. Cancer related pain remains a challenge in cancer patients, their families, and oncology nurses due to lack of knowledge and assessment of pain which causes inadequate pain management.

Inadequate management of pain is the result of various issues that include: under treatment by clinicians with insufficient knowledge of pain assessment and therapy; inappropriate concerns about opioid side effects and addiction; a tendency to give lower priority to symptom control than to disease management; patients under-reporting of pain and non-compliance with therapy; and impediments to optimum analgesic therapy in the healthcare system.

Key words: pain experience, cancer related pain, cancer treatment, dimensions of pain.

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Introduction

Pain is the most concerning symptom found in patients who have malignant tumor, and represents the most feared consequences for patients and their families (Charles & Cleeland, 2006). Cancer related pain remains a challenge in cancer patients, their families, and oncology nurses due to lack of knowledge and assessment of pain which causes inadequate pain management (Winslow, Seymour, & Clark, 2005).

The prevalence of cancer-related pain is high: 64% in patients with metastatic or terminal disease, 59% in patients on anticancer treatment and 33% in patients who had been cured of cancer (Everdingen, Rijke, Kessels, Schouten, Kleef, & Patijn, 2007). Also, in Jordan, the incidence of new cancer cases is high; it was reported that a total of 6214 new cancer cases were registered by Jordan National Cancer Registry (JNCR) in 2008; of these, 4606 cases (74.1%) were among Jordanians (Jordan Cancer Registry, 2008). Based on these statistics which reflects high incidence of cancer patients in Jordan, it is significant to study the issue of cancer-related pain experience to understand the pain management issues to promote quality of life of cancer patients.

Furthermore, research that has studied the experience of cancer related pain confirmed that pain is a complex and multidimensional aspect that consists of feelings of hopelessness, helplessness, emotional distress, and negative impact on coping mechanism.

Thus, cancer pain is a complex phenomenon that is affected by psychology (depression, anxiety), physical experience, cognitive, behavioral, and socio-cultural aspect (Edrington, Miaskowski, Dodd, Wong, & Padilla, 2007; Wit, Van Dam, Litjens, & Abu Saad, 2001).

Inadequate management of pain is the result of various issues that include: under treatment by clinicians with insufficient knowledge of pain assessment and therapy; inappropriate concerns about opioid side effects and addiction; a tendency to give lower priority to symptom control than to disease management; patients under-reporting of pain and non-compliance with therapy; and impediments to optimum analgesic therapy in the healthcare system (Portenoy & Lesage, 1999). Moreover, cancer related pain depends on the type of cancer, stage of disease, type of treatment received and location of cancer (Laurie, et al. 2012). Thus, pain management is an essential component of comprehensive cancer

care and effective management of cancer related pain requires recognizing syndromes and understanding of pathophysiology.

Therefore, the purpose of this paper is to review and analyze one case reporting inadequate pain management, to understand in-depth the factors that lead to inappropriate pain management.

Importance of Controlling Pain

Poor management of pain was first documented in the study done by Marks and Sachar in (1973). According to List et al (2004) more than half of all cancer patients reported severe, uncontrollable pain during the course of their disease, and the management of pain is a primary challenge for the cancer patient and the health care provider. Inadequate pain management can lead to adverse physical and psychological patient outcomes for individual patients and their families. Continuous, unrelieved pain activates the pituitary-adrenal axis, which can suppress the immune system and result in postsurgical infection and poor wound healing. Sympathetic activation can have negative effects on the cardiovascular, gastrointestinal, and renal systems, predisposing patients to adverse events such as cardiac ischemia (Gordon, Dahl, Miaskowski, et al. 2005). Moreover, the effect of pain is not localized; it is systemic and has physiological harm affects on most body systems such as endocrine and metabolic system, cardiovascular system, gastrointestinal system, and immune system (Pasero , Paice , &McCaffery, 1999).

Literature review of pain experience

In order to review the body of knowledge related to pain experience among patients receiving cancer treatment, a comprehensive literature review was conducted using the electronic databases of CINAHL, EBSCO, Medline, and PubMed, for articles published between 2006 and 2012. The following key terms were used to

search the electronic databases: pain experience, cancer pain, pain management, pain symptoms, pathophysiology of pain.

Of the many articles obtained and reviewed, only 14 research articles achieved the inclusion criteria for the purpose of this study. The inclusion criteria were the following: (1) it is a research-based study; (2) written in the English language; (3) investigated the pain experience among patients receiving cancer treatment; and (4) recently published article. Based on the inclusion criteria, a total of 14 articles published from 2006 to 2012 were selected and formed the basis for this review. Each article was read and analyzed, to identify the main themes/findings of the studies. Articles were then systematically compared for common concepts to recognize similarities and differences in scope and findings across the studies. The articles that were included in this study were quantitative and qualitative studies that were published in peer reviewed nursing and medical journals. Countries within which the studies for this review were conducted include the United States, Australia, Japan, China, Israel, Greece, and Jordan.

The 14 studies composing this review were seven quantitative studies and seven qualitative studies. Although only 14 studies were included in this research review, a wide variety of instruments were used to measure concepts related to cancer pain experience. The most common questionnaires used in these studies are the Brief Pain Inventory, semi structured interviews, and BQII. The sample sizes in the 14 studies in this review ranged from 11 to 560 adult cancer patients aged between 18 and 82 years.

Finding of the literature review

Cancer pain is a multidimensional issue that needs to be managed from a holistic perspective. Fourteen articles were reviewed, taking into consideration the experience of

cancer-related pain from all aspects of pain dimensions. In a study done by Everdingen et al. (2007) to review the prevalence of pain in patients with cancer over the past 40 years, the researcher mentioned that patients suffering from cancer related pain in multi stage of cancer process, (64%) have experienced pain with metastatic terminal disease, and (59% to 73%) during anticancer treatment and (33%) in patients who had been cured of cancer.

In another study done by Vallerand, et al. (2007) that focused on the affective, sensory and cognitive domains in his cross sectional design study that aimed to examine the relationships between pain levels and beliefs about pain; two indicators were used to define the patient's beliefs about pain: knowledge regarding pain and barriers to pain control, symptom distress, perceived control over pain, and functional status in 304 ambulatory cancer patients who experienced cancer-related pain within the past 2 weeks. There were 119 (39%) men and 185 (61%) women. Their age levels ranged from 18 to 86 years. The researcher found that a patient's pain level was positively related to increased distress and decreased perceived pain control and functional status. Structural equation modeling indicated that symptom distress mediated the relation between pain level and functional status. Perceived pain control had a direct effect on symptom distress and mediated the effect of beliefs about pain and pain level on symptom distress. Also, a quantitative descriptive study done by Stark, et al. (2012) discussed the physiological experience of pain. The researchers aimed to describe the symptom experience of patients with cancer pain, the researchers recruited 393 outpatients at a National Cancer Institute, in Florida. The researchers found that pain experience was the most distressing problem. Similarly, in a study done by Cohen, et al. (2005) to describe the cancer pain experience of Americans and Israeli patients aged 65 years and older, the researchers found that the pain is the worst

symptoms in the two groups, and significant relationships were found between worst pain and symptom severity, disease stage, age, and culture.

In order to determine gender differences in cancer pain experience, a cross-sectional study was done by Kim, et al. (2006). A total of 262 participants for the quantitative phase were recruited through the Internet, and 41 participants among them were recruited for the qualitative phase. The researchers reported that there was no significant gender difference in cancer pain experience. The qualitative findings indicated five categories that contrasted women's cancer pain experience from men's cancer pain experience: (a) gender differences in the meanings of cancer pain; (b) gender differences in attitudes toward cancer pain; (c) problems in pain management regardless of gender; (d) controlling cancer pain in women and men; (e) gender differences in pain characteristics. The findings of this research recommend the need to respect women's own perceived needs and attitudes influencing their cancer pain experience. In the literature it has been reported that Asians are hesitant to report psychological pain experience, such as depression, which is considered a stigma in Asian cultures; instead, they report physical experience, even when their symptoms are psychological in nature (Im et al., 2007).

Furthermore, Alexopoulos, et al. (2011) studied the pain experience in advanced cancer patients, to identify characteristics of pain. The researchers recruited 134 cancer patients. The researchers found that the great majority of the patients (72%) with advanced malignancy reported high pain intensity and 66.4% experienced the pain as continuous. Furthermore, Cohen, et al. (2008) explored relationship between oncology patients' beliefs about pain and the treatment they received by using a descriptive survey and

patient outcome questionnaire. The researchers found that more than half of the patients had experienced pain in the previous 24 hours (n = 69, 54.8%). Of the 69 patients who had experienced pain, 87% (n = 60) reported their worst pain to be of moderate to severe intensity. Patients with moderate to severe pain in the previous 24 hours accounted for 47.6% of the total sample. The researchers reported that the patients had experienced moderate to severe pain in the previous 24 hours but had only received 40.4% of available analgesics.

These findings reflect the importance of palliative nurses to give more attention to advanced malignancy patients during assessment and management of pain. Moreover, to study the experience of pain related to cancer treatment, Nomiya, et al. (2010) conducted a prospective quantitative study, and recruited 91 patients, age not more than 67 years, to analyze pain experience before and after radiotherapy. The researchers found that the pain score at the end of radiotherapy was significantly less than that before radiotherapy. These findings may help nurses and other health care providers in considering type and dose of pain medication before and after radiotherapy management.

A study was done by Meghani & Keane (2007) to understand the beliefs about pain medication among African American cancer patients. The researchers used a qualitative descriptive design and recruited 35 patients with solid tumor and used a Brief Pain Inventory tool and semi structured audio taped interview. The majority of patients did not believe in using pain medication; only 11% expressed strong beliefs in analgesics. The researchers also found that the reasons for not believing in analgesics included inadequate relief combined with adverse side effects. These findings may help oncology nurses in considering more strong analgesics and managing their side effects. Similarly, Im and colleagues

(2008) identified the socio-cultural dimension of pain experience in their study.

The researchers found that the participants look for pain as a challenge in life that they should fight against and differentiated it from ordinary pain because cancer was stigmatized in their culture. In addition, patients held varying beliefs about pain and pain treatments in particular; 41% held strong beliefs about the potential for addiction to narcotics. Furthermore, Cohen et al. (2008) reported that patients, who have strong beliefs about the potential for addiction to narcotics, may influence their pain management. Effective pain management in the inpatient oncology setting continues to be an important clinical issue, and patients do not receive all available pain treatment. There may be an important association between patients' beliefs about pain and pain management and the pain management they receive. This concurred with Dunn & Horgas, (2004) who mentioned that some religious beliefs or rituals play a critical role in reporting cancer pain and in choosing coping strategies to relieve pain. More studies are needed to explore the multidimensional model of cancer pain experience and the relationship between pain beliefs, attitudes and various dimensions of pain experience.

Assessment of Pain

The goal of pain assessment is to identify the pathophysiology of the pain, intensity of the pain and its impact on the patient's ability to function. For example, a study was done by Mystakidou, Tsilika, Parpa, et al. (2006) to evaluate the association between psychological distresses and pain with advanced cancer. Pain intensity and pain that affected walking ability, normal work, and relations with other people, as measured by the Brief Pain Inventory, were found to be significant predictors of anxiety, as measured by the Hospital Anxiety and Depression Scale. Using the

same tools, the authors also found pain that interfered with enjoyment of life was a predictor of depression.

There are many factors that may play an important role in the response to analgesics and result in persistent pain such as changing nociception due to disease progression, intractable side effects, tolerance, neuropathic pain, and opioid metabolites (Mercadante & Portenoy, 2001).

Multiple pain assessment tools exist. Among the more commonly used tools are numeric rating scales, verbal rating scales, visual analog scales, and picture scales, but, still the main step of pain assessment is the patient self-report (Holen, Hjerstad, Loge, et al. 2006). The clinician should listen to the patient's descriptive words about the quality of the pain; these provide clues to its etiology. Moreover, the clinician should ask about the location of pain, radiation, changes in pattern; these may require a new diagnostic reevaluation and modification of the treatment plan. In addition, exploring the cognitive aspect of pain may help in determining the degree of pain experience.

The Brief Pain Inventory (BPI) was developed from the Wisconsin Brief Pain Questionnaire (Daut, Cleeland, and Flanery, 1983). The BPI assesses pain severity and the degree of interference with function, using 0-10 NRS. It can be self-administered, given in a clinical interview, or even administered over the telephone. Most patients can complete the short version of the BPI in 2 or 3 min. Chronic pain usually varies throughout the day and night, and therefore the BPI asks the patient to rate their present pain intensity, pain now, and pain at its worst, least, and average over the last 24 hours. Location of pain on a body chart and characteristics of the pain are documented. The BPI also asks the patient to rate how much pain interferes with seven aspects of life: (1) general activity, (2) walking, (3) normal work, (4) relations with other people, (5) mood, (6) sleep,

and (7) enjoyment of life. The BPI asks the patient to rate the relief they feel from the current pain treatment (Wang & Cleeland, 2008).

Diagnostic procedure

To understand the cause of cancer pain the patients need to have various laboratory tests, X-rays, computed tomography (CT) scans, magnetic resonance imaging (MRI) scans, Positron emission tomography (PET) scans or biopsies. Sometimes it can take weeks or months before the growth of a tumor shows up in an X-ray, for example, even though a patient has been complaining of pain all along. Every case is different, and depending on the type and stage of cancer, the appropriate diagnostic tests vary. After the pain is diagnosed and treatment initiated, it is essential to follow up specifically if the pain worsens or if there is any new pain. In this case, either the treatment will change and may need reassessment for another cause of the pain. The CT scan produces detailed, cross-sectional images of the body. CT scans are helpful in staging cancer. They help in identifying if cancer metastasizes to other organs. PET scans use glucose (a form of sugar) that contains a radioactive atom. A special camera can detect the radioactivity. Cancer cells absorb a lot of the radioactive sugar because of their high rate of metabolism. PET is useful to look for cancer throughout the body.

Pain Management Strategies

There are two approaches used in cancer pain management; pharmacological approach and non-pharmacological approach. Prescribed pain medications are categorized as non-opioid, opioid and adjuvant pain medications. Non-opioid medications include acetaminophen and non-steroidal anti-inflammatory (NSAID) medications such as ibuprofen or naproxen sodium and are useful for mild to moderate pain and in conjunction with opioid medications for more intense pain (American Pain Society, 2005).

The mechanism of action for acetaminophen is still unknown, but it is postulated that it has a central nervous system mechanism, because of its pain and fever reducing effects (Schug, 2005). The NSAIDs inhibit cyclooxygenase, an enzyme that catalyzes the production of prostaglandins, which are key instigators of the inflammatory process (American Pain Society, 2005). Because of this mechanism, NSAIDs are especially useful in treating inflammatory pain, as they prevent the very process that causes it (Samad, 2004). Opioid pain medications are the medications most frequently used for moderate to severe pain because of their effectiveness, ease of titration, and favorable risk-to-benefit ratio.

Opioid medications include morphine, hydromorphone, methadone, codeine, oxycodone, hydrocodone, levorphanol, and fentanyl (American Pain Society, 2005). Opioid pain medications may be a combination of narcotic pain medications and acetaminophen or non-steroidal anti-inflammatory medications. Opioid medications act on opioid receptors which are found both peripherally and centrally in nerve tissue, in gastrointestinal, respiratory, and cardiovascular organs, and the bladder (Lipman & Gautier, 1997). One particularly opioid receptor-rich area in the central nervous system is the periaqueductal gray, which is a key area in the modulation or control of pain (Heinricher, 2005). When an opioid binds to the opioid receptor, an excitatory or inhibitory response occurs, which inhibits the transmission of pain impulses in the brain and spinal cord (Sweeney & Bruera, 2003).

The term adjuvant analgesics describe "...a non-opioid medication that has pain relieving effects in certain conditions, but whose primary or initial indication was not for the treatment of pain" (American Pain Society, 2005, p. 73). Medications that have been used as adjuvant pain medications include anticonvulsants and antidepressants (American Pain Society, 2005).

Adjuvant medications diminish pain by altering nerve function. Anticonvulsants, such as phenytoin and carbamazepine work by blocking the sodium channels and stabilizing the nerve membrane (Kalso, 2005). Antidepressants, such as amitriptyline increase the availability of neurotransmitters, block sodium channels, and block receptors (Kalso, 2005). When sodium channels are blocked the nerve depolarization and stimulation will be affected, and nerve hyper-excitability is diminished (Kalso, 2005).

The type of pain medication prescribed (i.e. non-opioid, opioid, adjuvant) is an important indicator of pain management quality as pain management guidelines recommend specific types of medication in response to different reports of pain (American Pain Society, 2005; NCCN, 2006; NCI, 2006). The five essential concepts of the World Health Organization (1996) approach to drug therapy are (1) oral administration, (2) by-the-clock, (3) by the ladder, (4) for the individual, and (5) with attention to detail. The drug is chosen to match the intensity of pain. A validation study of the World Health Organization Analgesic Ladder suggests that a direct move to the third step of the ladder is feasible and could reduce some pain scores but also requires careful management of side effects (Maltoni, et al 2005). Use of this approach enables management of 80% of cancer pain.

Radiation therapy can relieve pain associated with local extensions of cancer, as well as metastases. Pain due to peripheral nerve compression or infiltration by tumor may sometimes be relieved by radiation therapy. Radiation therapy may be simply palliative for relief of bone pain.

Non-pharmacological approaches

Non-pharmacological approaches such as acupuncture, hypnosis, and biofeedback have been used for the relief of cancer pain and are useful in some cases. No adequately

controlled studies have shown their effectiveness in cancer pain, but many ambulatory patients use these methods without the knowledge of their attending physicians. A systematic review of controlled clinical trials reveals that there is insufficient evidence to determine whether acupuncture is effective in treating cancer pain in adults (Paley, et al. 2011).

Rehabilitation of the patient with cancer pain

Adequate pain management is a requisite condition for successful rehabilitation of patients with cancer. Opioid pharmacotherapy, adjuvant drugs, disease-modifying therapies, and interventional strategies may be used concurrently to augment pain relief.

The current management of pain in cancer patients is inadequate and requires further research. Problems with management of cancer pain that need to be addressed include use of inadequate doses of opioids and poor management of opioid side effects (Jacobsen et al 2007). There is also a need to develop better dosing strategies and evidence-based recommendations for severe cancer pain. Currently, opioid dose titration for severe pain is guided by the experience and opinion of an individual expert. Evidence-based guidelines for the use of opioid analgesics in the treatment of cancer pain are being developed in Europe (Pigni, et al. 2010). Evidence-based standards for cancer pain management have been described (Dy, et al. 2008). According to the recommendations, when spinal cord compression is suspected, providers should treat with corticosteroids and evaluate with whole-spine magnetic resonance imaging scan as soon as possible but within 24 hours, to make further decisions for definitive treatment. With increasing length of survival of cancer patients, cancer pain is moving into the category of chronic pain and provides more challenges in management (Burton, et al. 2007). Although opioids are capable of controlling moderate and severe cancer pain, their

adverse effects remain a cause for concern. Efforts to address this problem include the following (Plante & VanItallie, 2010). Neuro-stimulatory or neuro-inhibitive methods are being investigated to reduce the dose by amplifying the analgesic action of opioids. The search continues for endogenous opioids that are as effective as currently available opioids but without their adverse effects. Advances during the past decade suggest a future trend towards a targeted as well as an individualized plan of management of cancer pain that is appropriate throughout the course of illness (Portenoy et al., 1999).

Case study

Patient history

Mrs. H is a 52-year-old female with fourth stage of cervical uterus cancer that had metastasized to right lung, bone, adrenal gland, and spinal cord, and was admitted to King Hussein Cancer Center (KHCC) on December, 4, 2012 via the emergency department. The chief complaint was generalized severe pain as a result of her disease process associated with nausea, vomiting and constipation. On admission, she was conscious, oriented to time, place, and person, looked unwell, in distress, crying, and agitated, and of pale color. Hemodynamic status was stable, blood pressure 100/60, heart rate 98, respiratory rate 18 in shallow breathing, and a febrile temperature 37.4c°. Mrs. H has a history of hypertension, no diabetics, and has frequent multiple admission for her pain; the last admission was two months ago.

Case description

The numeric Scale scoring system was used to measure the patient's pain. It was assessed at 10 out of 10. The patient also described her pain as intolerable, all over her body, not relieved by prescribed oral pain killer such as tramadol 50mg orally, three times PRN and Plasil10mg orally, three times. Pain increased at night which disturbed her sleeping. Despite this the patient was compliant to her prescribed medicine

and was using oral opioids drugs. Mrs. H was still suffering from severe pain and the pain had increased in the last two weeks. Also, her pain affected her social interaction with family members and friends.

Treatment plan

Firstly, the patient was reassessed for her pain post receiving a dose of 10mg of IV morphine in the emergency department; the patient was still in pain and she verbalized that her pain still eight out of ten in the numeric scale. Also, the patient was still in distress, anxious, and her vital signs were stable. Another Morphine 10mg IV diluted in 10 ml saline was given slowly; Hydromorphone was administered through a patient-controlled analgesia pump for 24 hours only and dose titrated to pain, and received Paracetamol (perfulgan) one gm IV q 8hrs, Ibuprofen 400mg orally, three times, Plasil 10mg IV every eight hours, Halidol 0.5 mg IV every six hours, and Midazolam 0.3mg IV every six hours.

Outcome

The patients' pain was decreased, pain score became four out of ten after the above treatments for pain were given; the prescribed drug formula was success in alleviating the patient's pain. Halving her pain intensity was sufficient to permit the patient to begin enjoying family interaction again. With no more nausea and vomiting, a patient tends to sleep, with no more agitation.

Discussion

According to Vignaroli et al. (2012) an effective cancer pain management must consider the half-life, bioavailability and the duration of action of the different drugs; thus, analgesics for chronic pain should be prescribed on a regular basis and not on an as needed basis as had been prescribed for Mrs. H. in this case study. Mrs. H. was complaining of severe episodes of pain at home, and she was complaining of nausea and vomiting despite taking her oral morphine.

According to WHO, (2002) and Ripamonti & Bandieri, (2009) the dose of the analgesic drugs is influenced by the intensity of pain and has to be adjusted to reach pain relief and the health care providers should consider an alternative route for opioid administration when the oral administration is not possible because of severe vomiting, bowel obstruction, severe dysphagia, or severe confusion as well as in the presence of poor pain control. Thus, Mrs. H. needs a thorough assessment of her pain and a change in therapeutic regimen.

Opioids are classified according to their ability to control the mild to moderate pain (codeine, dihydrocodeine, tramadol; second step of the WHO analgesic ladder) and to control the moderate to severe pain (morphine, methadone, oxycodone, hydromorphone, fentanyl, heroin, and oxymorphone; third step of the WHO analgesic ladder) (WHO, 1996; Ripamonti, Bandieri, Roila, 2011; Paice & Ferrell, 2011). Moreover, opioid analgesics can be combined with non-opioid drugs such as paracetamol or with non-steroidal anti-inflammatory drugs (NSAIDs) and with adjuvant drugs (McNicol, Strassels, Gouds, et al, 2006). Paracetamol and NSAIDs are universally accepted as part of the treatment of cancer pain at any stage of the WHO analgesic ladder at least in the short-term unless contraindicated. Thus, Mrs. H. as she complains of severe pain needs to have non-opioid drugs combined with opioid drugs. In a systematic review of randomized controlled trials on analgesia obtained from single oral doses of Paracetamol alone and in combination with codeine in post-operative pain, the researchers found that 60 mg codeine added to paracetamol produced additional pain relief even in single oral doses (Moore, Collins, Carroll, et al. 1997).

It is clinically suggested that the best approach is to tailor the dosage of the opioid to the needs of the individual patients, starting treatment with oral normal release morphine (NRM) because its dosage can be

modified very quickly (also every hour) according to the patient's needs. This strategy may be used to titrate and re-titrate the opioid dosage to achieve pain relief individually even on a day-by-day basis. Once an effective morphine dosage is achieved by using NRM, one may switch to a sustained-release oral preparation or to a transdermal opioid (De Conno, et al. 2008).

Recently, systematic reviews of other strong opioids such as hydromorphone and oxycodone were published. Both drugs are analogues of morphine with similar pharmacodynamic properties and can be considered as an alternative to morphine in the treatment of moderate to severe cancer pain (Pigni et al., 2011). Although the oral route of opioid administration is effective in most situations, intravenous, subcutaneous, rectal, transdermal, sublingual, intranasal, and spinal administration must be considered in severe uncontrolled pain (Pigni et al., 2011). In addition, Fentanyl citrate has a very high analgesic potency (?75 times more than morphine), is skin compatible having a low-molecular weight with good solubility and thus suitable for transdermal administration. Transdermal fentanyl offers the advantage of providing up to 3 days continuous administration of a potent opioid. There is some clinical and preclinical evidence showing that transdermal fentanyl produces less constipation when compared with morphine and other strong opioids (Cachia&Ahmedzai, 2011).

Mrs. H. was treated with oral morphine and with analgesic side effects and pain was not adequately controlled. According to the data of the literature, different therapeutic strategies may prevent or treat adverse effects such as hydration, administration of antiemetic, laxative and administration of an alternative opioid such as hydromorphone and fentanyl (Cherny, Ripamonti, Pereira, et al. 2001).

To manage the acute phase of pain for Mrs. H. and to provide continuous

pain relief, a subcutaneous infusion of morphine and midazolam was initiated. The pain team continued to observe and assess her response; the patient's pain was relieved and she felt comfortable. Furthermore, the care team identified several non-pharmacological strategies to address Mrs. H.'s pain including distraction, use of heat and cold, massage, and relaxation technique. Patient's pain and general condition were discussed with her daughter and parents. Frequent visiting times were advised and social interactions with peers were encouraged. In general, the care team needs to be more aware of the need for a holistic approach to pain assessment and management. Moreover, the care team carried out a thorough pain assessment including description of pain sites, type of pain being experienced and during the pain episodes the time and duration, and possible triggers of pain were assessed. Mrs. H.'s pain level slightly improved, but she continued to experience severe breakthrough pain every few hours.

It has been reported that early psychological intervention enables exploration of the issues that may exacerbate pain and help to manage anxiety related pain (Middleton-Green, 2008). Mrs. H. stated clearly, despite the effect of sedation on her inability to think clearly and impaired her social environment, she wanted pain relief including sedation. Thus the care team may need to consider alternative solutions to achieve the sense of control, for example adding patient controlled analgesia infusion when discharged home. Moreover, a need to address her social and emotional needs and a referral to hospice care in order to coordinate the patient's care and promote her quality of life.

Conclusion

This paper examined Mrs. H.'s pain management strategy during her admission to KHCC. The paper focused on the comprehensive assessment of Mrs. H., cancer pain and a pain management strategy was used compared with

an international pain management guidelines and recent based evidence practice toward pain management. Also, it discussed the challenges that were faced in achieving pain control and the appropriate pharmacological and non-pharmacological approaches for Mrs. H.'s issues. Physical pain is only one potential cause of suffering; thus, successful pain control requires attention to some or all of the other aspects of care and suffering, and this requires a multidisciplinary approach to treatment; failure to do this frequently results in unrelieved pain. Successful pain management requires treatment of the patient's total pain: physical, psychological, social, spiritual, and cultural aspects of pain. However, the total approach used in managing Mrs. H.'s pain was acceptable; pain was relieved and referral to hospice care was initiated.

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