

**Original Research**

**Analysis of Nursing Process on Nasopharyngeal Cancer Patient with Peaceful End of Life Theory Approach: A Case Report**

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**ABSTRACT**

Nasopharyngeal cancer is a malignancy in the nasopharyngeal area with squamous differentiation. According to Ruland and Moore, every cancer patient has the right to get comprehensive bio-socio-spiritual care to improve quality of life by relieving pain and other sufferings and providing spiritual and psychosocial support. The writing aims to apply a peaceful end-of-life care nursing theory to the nasopharyngeal cancer patient. This writing uses a case study approach. Case studies were taken on patients with nasopharyngeal cancer treated at Cipto Mangunkusumo Hospital. Case study was taken for seven days of treatment. Patients were analyzed by using Peaceful End of Life Theory. The result showed that the main nursing problem is chronic pain. Applying the theory of the peaceful end of life is appropriate for cancer patients with palliative conditions to improve their quality of life, free from pain, increasing feelings of comfort, cherish and respect, peace, and feeling close to people who are meaningful in their lives. The conclusion is that the theoretical approach focuses on the physical problems experienced and psychological, social, and spiritual needs. Nurses are expected to be able to apply the Peaceful End of Life theoretical approach in providing nursing care to patients with cancer.

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## Introduction

Cancer is included in the category of non-communicable diseases or what is often referred to as a non-communicable disease, the most significant cause of death after cardiovascular disease. Globocan (2018) shows that the incidence of cancer in the world is 18.1 million new cases with a mortality of 9.6 million deaths. The continent of Asia at first rank (48.4%) incidence of cancer of all types of cancer; followed by Europe at 23.4%, America at 21%, Africa at 5.8%, and Oceania at 1.4%. In Indonesia, women's highest number of cancers is breast cancer, 30.9%, and lung cancer in men is 14%. Basic Health Research (2018) stated an increase in cancer diagnosis from 1.4% to 1.8%. These data indicate that cancer is a disease with an increasing prevalence, so efforts and attention are needed to reduce the number.

Nasopharyngeal cancer is a malignancy in the nasopharynx (above the throat and behind the nose) with squamous differentiation. Recently, nasopharyngeal cancer occupied the fourth most cases in men after lung cancer, colon cancer, and liver cancer. The prevalence of nasopharyngeal cancer in Asia is the first rank at 84.6%, followed by Africa 6.3%, Europe 4.5%, North America 2.3%, Latin America and the Caribbean 2.1%, and Oceania 0.22%. In Indonesia, nasopharyngeal cancer is one of the most common types of malignancy, the fourth most common after breast cancer, cervical cancer, and lung cancer (Globocan, 2018).

The Peaceful End of Life (PEOL) theoretical approach is used, which is suitable for cancer patients (Alligood & Tomey, 2006). The concept of PEOL theory is very appropriate to be used as a basis for providing nursing care to patients with nasopharyngeal cancer, which will be reviewed in this report. By applying this theory, it is hoped that the patient will be able to be free from the pain that has been felt so far, be able to feel comfortable with the condition that is felt, be able to improve the quality of life, and prepare for death with dignity. The PEOL concept model is an approach taken in managing cancer patients, both patients who are undergoing therapy, patients with oncology

emergencies, and patients who are in the terminal illness (Ruland & Moore, 2007). This theory has a concept: free from pain, feel comfortable, feel valued and respected, feel at peace, and feel close to family or other meaningful people. This theory aims to provide good care by focusing on care that prioritizes patient comfort and maximizes family involvement in inpatient care to improve the quality of life and deal with death with dignity. Quality of life in this concept is defined as the satisfaction that can be seen through symptom relief and satisfaction in interpersonal relationships (Kirchhoff, 2016).

The concept of PEOL theory is very appropriate to be used as a basis for providing nursing care to patients with nasopharyngeal cancer, which will be reviewed in this report. By applying this theory, it is hoped that the patient will be able to be free from the pain that has been felt so far, be able to feel comfortable with the condition that is felt, be able to improve the quality of life, and prepare for death with dignity. It is well known that metastasized cancers have a higher morbidity rate than those that do not metastasize. Furthermore, pain is the most common complaint of cancer patients (Adham *et al.*, 2012; Chan *et al.*, 2011). The patient's ability to manage pain and increase comfort is the main target given by nurses in nursing care. In the end, the patient can feel comfortable within his limitations and improve his quality of life (Chan *et al.*, 2011).

PEOL theory also maximizes family involvement in inpatient care. The involvement of family members in treating cancer patients is an important point so that patients feel valued and cared for by their family members. It is hoped that this will increase the spirit of life and the patient's quality of life. This paper aims to describe the application of PEOL theory in patients with nasopharyngeal cancer.

## Method

### Description of Case

This study is a case report conducted on patients with nasopharyngeal cancer treated at Cipto Mangunkusumo hospital Jakarta. The case study was taken for seven days of

treatment in January 2020. Patients were analyzed using Peaceful the End of Life Theory. Patients are already approved by signing informed consent. The participant is 30 years old man from Flores, diagnosed with nasopharyngeal cancer with brain metastasis in Cipto Mangunkusumo Hospital Jakarta. History of the present disease, the patient complained of an abnormal mass on the right side of the neck, about 5 centimeters. The abnormal mass initially appeared six months ago as big as a marble. The abnormal mass got more prominent and painful. In addition to the pain that the patient felt a headache with VAS 2, the pain is like a prickling on the right side, and the pain is reduced after taking one tablet of morphine intermediate release (MIR) drug. He felt nasal congestion, and a history of nosebleeds was denied. Seizures and loss of consciousness were denied. According to the results of the biopsy and nasopharynx CT SCAN, the patient was declared stage 4 nasopharyngeal cancer. The patient was planned for the fourth chemotherapy regimen with cisplatin and 5FU.

## Results and Discussion

During the assessment, the patient complained of nausea and vomiting since the first day of chemotherapy and had been unable to defecate for the last five days. The patient also said that he had lost 5 kg in the last three months. The patient said that for the past two weeks he has complained of frequent coughing and produced secretions. The patient often had a fever that fluctuated before undergoing the last chemotherapy. The patient complained of nasal congestion by a mass but was still able to breathe spontaneously. Constipation has also occurred in the last five days, but the patient also often complained of difficulty in defecation since his current illness.

Past medical history, the patient had previously been treated at Mayapada Hospital in Tangerang City since the first complaint. At Mayapada Hospital, a brain CT SCAN of the nasopharynx was performed, and it was stated that there was malignancy in the nasopharynx area. The patient said he had no history of hypertension, diabetes mellitus, asthma, or

allergies. There is no one in the family who suffers from diseases such as patients or other cancers. Based on the assessment, the patient had a history of smoking since he was a teenager and quit smoking in the last eight months. The number of cigarettes consumed is one pack a day. The patient also had a history of drinking alcohol. The patient said he did not like meat but liked instant food. The daily activities are an employee at a private company.

The patient's general condition appears to be moderately ill with compos mentis awareness and can communicate well. The ECOG performance status score (Eastern Cooperative Oncology Group) was 1. The patient complained of pain around his neck. Based on physical examination, there was a mass in the right neck about 5 x 3 cm immobile. Dry mucous membranes, normal skin turgor, there was no jugular venous distention and no edema on the extremity. The results of the hemodynamic examination showed: blood pressure 110/86 mmHg, respiratory rate 18x/minute, pulse rate 88x/minute, axilla temperature 36°C, pain scale with VAS (visual analog scale) is 4. Anthropometric status: height is 160 cm, weight is 49 kg, BMI 19.14 kg/m<sup>2</sup>. The patient said that his previous weight was 55 kg (10% weight loss in the last three months). Kidney function test: blood urea 23 mg/dl (N:<50) blood creatinine 1.00 mg/dL, eGFR: 100.5 mL/min/1.73m<sup>2</sup>(N:0.6-1.2). Routine hematology: Hb 11.6 g/dl, Platelets 436.10<sup>3</sup>/uL (N: 150-400), Leukocytes 9.3 10<sup>3</sup>/uL (N:5-10), Basophils 0.2% (0-1), Eosinophils 0.8% (1-3), Neutrophils 69.4% (52-76), Lymphocytes 23.6% (20-40), Monocytes 6.0% (2-8). Serum electrolytes: Sodium 136 mEq/L (135-145), Potassium 4.5 mEq/L (N:3.3-5.4), Chloride 103 mEq/L (N: 94-111).

The results of other examination CT SCAN of the nasopharynx: solid malignant mass with characteristic iso-hypodense lesions in the nasopharynx to the oropharynx. The mass was very heterogeneous after the administration of intravenous contrast. The impression of mass extension is expanding. At this time, the mass seemed to surround the

right carotid artery and right jugular vein. Right level II, III, IV, and supraclavicular lymphadenopathy and left level II (2.3 x 1.6 x 1.4 cm). Whole-body scan examination: no bone metastases were seen on the current bone scan. Immunohistochemistry: Non-keratinizing, undifferentiated squamous cell carcinoma of the nasopharynx. Ultrasound: There were no ultrasound abnormalities or visualized metastases in the intra-abdominal organs. CT SCAN brain: Right nasopharyngeal mass and right nodular mass 5.7 x 3.6 x 5.3 cm extending to the corona. Basis cranial intake, multiple lymphadenopathy size 2.6 x 2.3 x 2.1 cm. Endoscopic examination showed a small lesion in fossa rosenmuller. Based on the results of the medical examination above, the patient was said to have T4N3M1 nasopharyngeal cancer.



**Figure 1. Nasopharyngeal Small Lesion on Endoscopic Examination**

The patient received an intravenous infusion of 0.9% NaCl 500 cc/12 hours in medical therapy. Ondansetron 3x8 mg, ketorolac 30 mg every 8 hours, ranitidine 50 mg IV every 12 hours, methylprednisolone 125 mg IV every 8 hours, and the high-calorie high protein diet. The patient has planned a fourth chemotherapy regimen with cisplatin and 5FU. Prior to chemotherapy, the patient was given premedication in methylprednisolone 62.5 mg, ranitidine 50 mg, diphenhydramine 10 mg, and ondansetron 8 mg.

Nursing care is provided for one week in Cipto Mangunkusumo Hospital Jakarta. This case report has analyzed the peaceful end-of-life approach by five concepts. It consists of pain assessment, comfort assessment, dignified and valued assessment, peace

assessment, and also assessment of closeness with meaningful people. According to PEOL theory, the patient has some nursing problems suitable to his condition. The nursing problems are chronic pain, imbalance of nutrition less than requirements, constipation, risk for infection, and anxiety.

The patient said that pain in the right side of the neck with a VAS of 4/10. In addition, the patient felt pain in the head. Previously, the patient had taken MIR while at home, taken if the pain was severe and interfered with his activities. The quality of the pain is like being stabbed both in the neck and in the head. Pain is especially felt when waking up and at night and when moving a lot. For this reason, the patient greatly limits his movement to reduce pain and reduce the risk of falling. The patient appears to be in pain when the mass in the neck is palpated. Interventions in pain management are given comprehensive assessment, including location, characteristics, duration, frequency, quality, and precipitation factors. Teach about non-pharmacological techniques: deep breathing, relaxation, distraction. Furthermore, the collaborative intervention carried out was to provide analgesics to reduce pain. After nursing implementation, the pain scale is in the moderate range, but the patient keeps getting the analgesic drug.

Imbalanced nutrition less than body requirements related to lack of food intake, characterized by the patient said decreased appetite related to nausea, and weight decreased from 55 kg to 49 kg in the last three months. The patient eats 3x/day with portions, and meals are often not spent both in the hospital and at home. Normal skin turgor, normal lip mucosa, RHODES score for nausea and vomiting is eight. Nutrition management is given by assessing the presence of food allergies, making sure the diet eaten contains high fiber to prevent constipation, teach patients how to keep a daily food record. Monitor for weight loss; monitor the environment during meals. Schedule medication and action not during mealtimes. Explain to the patient the consequences of using the analgesic morphine. Teach the patient to maintain adequate fluid intake and

high-fiber foods. Teach the patient to keep doing optimal activities to increase bowel activity. Collaboration with a high-fiber diet nutritions and give anti-laxative if necessary (Shen Su, Xialong, Guorong, 2019).

Next nursing diagnose is risk for infection related to the inadequacy of secondary defense, characterized by a history of fever several times before the last chemotherapy. The patient states that there has been a decrease in appetite since the illness. So far, the patient has undergone chemotherapy three times. Nursing interventions in infection control assess the presence of signs of infection in the patient, limiting the number of patient visitors, and teaching patients and families how to wash their hands. Wash hands before and after contact with patients, give chemotherapy according to hospital protocol, and use clean gloves. Teach the patient and family the signs and symptoms of infection. Collaborative administration of appropriate antibiotics. Collaboration examination of leukocytes and procalcitonin as indicated.

The last nursing diagnosis is anxiety. It is related to the threat and changes in health status, characterized by the patient's expression of the emergence of anxiety and worry because of fear of his health condition and the next treatment plan. The patient feels anxious about his current condition but hopes to continue to get the best treatment. The patient never expected to suffer from this kind of illness because he was previously healthy and had no serious complaints. Sometimes patients have anxiety and worry about the condition of their illness. Pulse rate 88x/min, respiratory rate 16x/min.

Based on the assessment, the patient experienced nursing problems are chronic pain related to chronic physical-psychological disability: cancer metastases to other organs; imbalance of nutrition less than requirements related to the inability to enter or digest nutrients due to biological, psychological factors; constipation related to pharmacology: opioid drugs, the risk for infection related to the inadequacy of secondary defense, anxiety related to the situational crisis, changes in health status.

The Peaceful End Of Life theory has five concepts in the treatment process. Among them are controlling pain, preventing and reducing physical discomfort, involving meaningful people in the treatment process and decision making, providing emotional support so that patients feel valued, respected, facilitating patients to be closer to their families and caregivers, and preparing patients to face the end of life in peace. Based on the above definition shows that palliative care is more emphasizes being free from pain, providing a feeling of comfort, being valued and respected, peaceful, and feeling close to the people who are meaningful in their lives.

The patient is undergoing the third cycle of chemotherapy. The side effects of undergoing chemotherapy can be different in each cycle. Currently, pain complaints are controlled by taking morphine-type pain relievers. Pain is the most common symptom found in cancer patients, and this is the main reason patients seek medical help. Most of the causes of cancer pain are the infiltration of cancer cells into certain tissues, diagnostic or treatment measures, prolonged bed rest, or the presence of other accompanying diseases. The perception of painful stimuli and the patient's emotional reactions may exacerbate physical symptoms, psychological conditions, social difficulties, or spiritual problems (Beuken, 2012; Green *et al.*, 2014).

Nursing intervention with pain management is one of the interventions that is often used in overcoming acute and chronic pain. Pain is the most common symptom found in cancer patients, and this is the main reason patients seek medical help. Most of the causes of cancer pain are the infiltration of cancer cells into certain tissues, diagnostic or treatment measures, prolonged bed rest or the presence of other accompanying diseases. The patient's perception of painful stimuli and emotional reactions may exacerbate physical symptoms, psychological conditions, social difficulties or spiritual problems. Based on the mechanism of pain is classified into inflammatory pain (nociceptive) and neuropathic pain.

In this case, the administration of analgesics in an advanced stage aims to reduce

the level of pain so that the patient is able to carry out activities as expected and died in a state of minimal pain. Giving morphine in addition to functioning to reduce pain, causes side effects in the form of decreased intestinal motility. This causes the patient to often experience constipation, so nutrition also needs to be appropriately managed. In the theory of a peaceful end of life, pain is an annoying thing for the patient, so it requires proper management to minimize the number of pains. The patient often complains of a severe headache that interferes with his daily activities. Cancer pain management should be carried out in a comprehensive manner that does not only pay attention to physical aspects but also to psychological, social, and spiritual aspects (Pitman, 2019). The management is carried out by a team consisting of various disciplines, including nurses. In addition to pharmacological interventions, pain problems in cancer patients can be reduced by providing a psychological approach. Pain that is increasingly felt with fluctuating quality causes anxiety in patients. This psycho-neuro-immunology causes the immunity of cancer patients is decreasing (Shen Su, Xialong, Guorong, 2019).

According to the IASP International Association for the Study of Pain (IASP) define that pain is an unpleasant feeling from a certain area of the body that depends or does not depend on tissue damage and is related to previous experiences. 50-70% of cancer patients experience pain. Cancer pain is predominantly neuropathic, psychological, social, and spiritual in relation to nociceptive pain. The constant pain experienced by terminally ill patients can reduce the quality of life and physical function, increase levels of fatigue and interfere with daily and social activities. Therefore, in dealing with pain in cancer patients, it is not only the physical dimension that must be considered but also the psychological and social, and even spiritual dimensions.

Based on this phenomenon, non-pharmacological interventions are increasingly developed, especially in the nursing field. In the nursing plan, a non-pharmacological intervention can be

arranged, such as progressive muscle relaxation, guided imagery, and hypnotherapy which has been proven in many previous studies.

Anxiety is a normal adaptive process to stress because of a therapeutic process that will be undertaken. A cancer patient must have a series of treatments that are not short and require a long time for treatment. Various kinds of cancer treatments cause reactions and even side effects that are uncomfortable for patients, such as pain, nausea and vomiting, decreased appetite, and psychological anxiety problems, ranges from mild to severe levels. Anxiety in cancer patients who will receive radiotherapy is a common phenomenon (Brighton & Bristowe, 2016). Physically this anxiety will have an impact on increasing blood pressure and pulse. Measurement of vital signs before patients receive radiotherapy is a protocol that must be followed to evaluate the patient's initial condition before undergoing radiation therapy.

The imbalance of nutrition less than requirements, in this case, occurs due to several factors, including anorexia, inadequate intake of nutrients, and the metabolic process of the disease so that the body undergoes rapid catabolism. The interventions that have been carried out are education to increase high-calorie, high-protein intake, eating small but frequent portions to reduce nauseous, collaboration for proper nutrition, administration of the antiemetic ondansetron 3 x 9 mg, and ranitidine 50 mg. After the nutritional management, nausea and vomiting is getting decrease. A nurse must be able to encourage the role of family or closest people to help patients to meet their nutritional needs.

Problems with nutritional disorders often occur in cancer patients, whether related to cancer itself or the effect of the therapy. Nutritional support is part of supportive therapy in cancer. The goal of nutritional therapy in cancer patients is primarily focused on its potential effect on improving quality of life. Adequate nutrition is generally associated with a good prognosis. Several types of therapy undertaken by cancer patients aim to

inhibit the growth of cancer cells but have side effects related to gastrointestinal disorders with manifestations of lack of food intake and digestive disorders during chemotherapy. Early nutritional screening and evaluation can identify problems that may affect the success of cancer therapy. The discovery of nutritional problems and their treatment helps patients improve their response to therapy and reduce complications.

Furthermore, the problem of the risk of infection was resolved by monitoring body temperature every day to identify symptoms of infection. Hygiene practices for the patient's environment have also been taught, like hand washing. Aseptic principles in every nursing action are also an important thing to consider because they can reduce nosocomial infections. Monitoring of leukocyte values is also continuously carried out. In the theory of a peaceful end of life, infection control reduces patient comfort. As a nurse, the actions taken include preventing, monitoring signs of infection, and preventing complications that may occur.

According to epidemiological data, characteristics of patients based on gender show that nasopharyngeal cancer is more common in men than women. Nasopharyngeal cancer is more common in men than women, with a ratio of 2-3:1 and occur at any age. The prevalence is most often diagnosed in adults between 30 and 50 years. According to the study results, the patient had a history of smoking since he was a teenager, quit smoking in the last eight months or since he was sick. The number of cigarettes consumed per day is one pack. Formaldehyde is a residue from cigarette burning, widely used as a solvent compound, disinfectant solution, and preservative and is flammable. In the short term, formaldehyde causes irritation to the eyes, nose, and throat (Okekpa *et al.*, 2019). In the long term, formaldehyde can increase the risk of nasopharyngeal cancer. Several studies have stated that there is a relationship between alcohol and nasopharyngeal cancer based on geographic location, methods of measuring alcohol levels, and other factors that cause nasopharyngeal cancer. The use of high levels of alcohol can be a risk factor for

nonkeratinizing squamous cell carcinoma. High alcohol consumption can lead to the induction of cytochrome P450 enzymes which will cause cell damage (He Zou *et al.*, 2017).

Based on the results of the examination said that clinically symptoms of nasopharyngeal cancer spread in the lymph nodes and extension of cancer in the brain. For this reason, the patient is recommended to get chemotherapy and radiation therapy. Management, in this case, is medically given a combination of chemoradiation as a radiosensitizer, especially given to patients with T2-T4 and N1-N3.

## Conclusion

The Peaceful End of Life theoretical approach to providing nursing care to cancer patients helps nurses identify problems related to palliative symptoms. Nurses are expected to be able to apply the Peaceful End of Life theoretical approach in providing nursing care to patients with cancer.

## Limitations of the study

The limitation of this case study is the author is only able to implement the nursing process in 7 days due to limited treatment time.

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## Conflict of Interest

The authors declare that it has no conflict of interest.

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