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A New Concept in Nursing Care After Surgery: Kinesiophobia

Abstract

Kinesiophobia refers to the negative emotions created by the possibility of a person's previous injury and cognitive-behavioral avoidance behavior. Pain experience, biological, and psychosocial factors affect the patient's developing the fear of movement. The patient may experience different levels of pain in the postoperative period depending on the type of surgery and incision. Interpretation of pain as painful and dangerous causes fear avoidance behavior during movement. The patient should be careful during the physical movement with protecting the wound, avoiding sudden movements, and stabilizing for affecting the healing process positively. In the postoperative period, the pain experienced while performing daily activities such as sleeping, breathing, and coughing in the fowler position strengthens the fear of movement negatively and the patient is anxious while performing physical activities such as walking, breathing, and coughing to avoid damaging the wound site and has difficulty in performing useful activities that contribute to the recovery in the postoperative period due to movement restriction; this may cause complications and adversely affect the healing process. Questioning the presence of kinesiophobia in postoperative nursing care, evaluating the fear of movement by using scales related to kinesiophobia in the clinic, determination and application of appropriate cognitive-behavioral therapy method with the patient in multidisciplinary cooperation, encouraging the patient in all these processes, and providing care by the nurse will contribute to the healing process.

Keywords: Pain, surgery, nursing, movement, kinesiophobia, fear, postoperative care

Demet Bal, Dilek Çilingir

Department of Nursing, Karadeniz Technical University Faculty of Helath Sciences, Trabzon, Turkey

Introduction

Kinesiophobia, which consists of the Greek words kinesis (movement) and phobos (fear), means fear of movement.[1] Kinesiophobia was described by Kori and his colleagues in 1990 as an irrational, debilitating, and destructive fear of movement that occurs due to the belief in vulnerability and sensitivity to injury.[2] Kinesiophobia refers to the negative emotions and cognitive-behavioral avoidance behavior that the individual experiences before, that is the likelihood of recurrence of the injury condition that the individual has experienced before. The individual who is afraid of re-injury avoids acting to prevent this situation.[3] Biological and psychosocial factors prevent the individual from starting to act. Biological factors are structural, morphological, energetic, and instinctive factors; psychosocial factors include personality, culture, and emotions.[4]

Kinesiophobia is based on the fear of action. Fear is often expressed as an emotional state caused by physiological reactions to the idea of danger or danger.[5] Emotional reactions to the thought of an event that has not yet occurred prevent the individual from carrying it out. Although it is initially emotionally comforting to be away from the situation that creates a feeling of fear, the individual restricts himself and is deprived of many activities due to the avoidance behavior in the future.[6]

In addition to fear in the development of kinesiophobia, it is also important how the individual interprets pain and injury. When an individual with pain experience interprets pain as bad, painful, dangerous, and negative, it will be inevitable that he will interpret another experience of pain negatively. As the severity of the pain increases, the individual will try to reduce the devastating effect of pain by showing more fear-avoiding behavior. In this case, the priority to be explained to the individual is that pain does not always show danger and sometimes is even a useful indicator.[7]

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Corresponding author: Demet Bal
E-mail: demetk@windowslive.com

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Vlaeyen et al (1990) explained the mechanism of the formation of kinesiophobia through the "the fear-avoidance model" developed by Lethem et al (1982) revealing the way how pain is interpreted and drives the development of kinesiophobia.[8] According to the fear-avoidance model, if the patient interprets pain correctly when he experiences it, he can show improvement by bringing out his fear. However, when pain cannot be interpreted correctly, the individual may experience fear of re-injury, avoidance of movement, inability to use his physical potential, mobility limitation, and depression.[9]

Development of Kinesiophobia in the Postoperative Period

In individuals who have had surgery, pain due to incision is seen in the postoperative period. Patients may experience pain during dressing, when getting out of bed, walking, and coughing. In surgical interventions with a large incisional volume, such as cardiovascular or abdominal surgeries, the individual experiences pain more severely. Due to pain, the individual has difficulty performing activities such as breathing, moving, sleeping, and coughing.[10] In order to heal the site of the incision in the postoperative period, the individual is expected to show more restrictive and controlled behaviors such as stabilizing the wound place and protecting the wound against external factors and avoiding sudden movements that may traumatize the wound place. A patient who experiences pain and fears damage to the wound area involuntarily restricts his movements due to the concern of making a wrong move even while performing activities that he knows are useful.[11]

It is important that the patient is mobilized to prevent complications that may develop due to immobility after surgery. Activities such as breathing and coughing exercises and walking are gaining importance in the postoperative period in order to increase the function of the lungs that are inactive due to the effect of anesthesia during surgery, to excretion accumulated secretions, and to accelerate wound healing by providing sufficient oxygenation.[12] The individual with a fear of movement can avoid doing the exercises due to the thought of damaging the incision area while performing breathing and coughing exercises. Especially during coughing, the feeling of pain that develops due to the inability to properly support the site of the incision can make the individual concerned.[13] If the individual has experienced a negative experience such as severe pain and pain during walking, breathing, and coughing exercises, this experience can further increase the fear of the individual's movement, and even the thought of doing these activities in the following process can cause the individual to have physiological reactions related to fear. In this case, when the patients walk with a negative attitude, they develop towards thought and experience the same negative emotions and do not succeed, they confirm their feelings to themselves and prove themselves the justification of the fear they develop for the movement.[14]

Cognitive-Behavioral Therapy Methods Used for the Treatment of Kinesiophobia

Cognitive-behavioral therapy methods are used in the treatment of kinesiophobia. First of all, the definition of fear, questioning the factors that increase and reduce fear, past lives that cause fear, and the planning of the therapy method to be used according to the level of fear should be made. Two therapy methods are usually used to reduce the developing fear-avoidance behavior related to kinesiophobia. These are gradual exposure technique and gradual exercise technique.[1,15]

In the gradual exposure technique, the patients are first cognitively prepared to face the situation in which they fear. Then, with small trials, the patients are exposed to the situation they fear and begin to tolerate the situation they once deemed dangerous and thought they could not. Positive support during the exposure phase is important in terms of strengthening the individual's self-belief and the ability to cope.[1,16] For example, the main fear of the patient who has pain in the chest area due to the chest incision and therefore cannot cough effectively is the separation of the wound site. Therefore, the patients are unable to perform the cough exercise, which they would normally perform easily in order to protect the wound location. First of all, the patients should be informed that the pain they experience during coughing is normal and the wound will not be wound dehiscenced easily as long as she supports the incision area with a pillow. Then, the patient performing the coughing exercise under the supervision of a nurse and not realizing the negative scenario in their own thoughts may encourage the individual to continue the exercise.

The aim of ***the gradual exercise technique*** is to improve the activity tolerance of the individual. Instead of focusing on the fear of movement of the individual of pain origin, this technique aims to activate the individual from the existing passive state. Gradual exercises strengthen the patients to make them face the situation they fear more easily.[15,16] For example, The patients, who will be mobilized in the postoperative period, are usually semi-dependent in the first days and try to walk in a painful process, equipped with many equipments, fearing that they will fall. Negative experiences during walking and sometimes the failure of the walk can prevent the patients from long corridor walks that they will take on their own in the following days. In this case, it is aimed to increase the exercise tolerance of the patient by encouraging short distance walks first. Supporting the individual in the first experiences; it is ensured that they are reassured that they will be there in case of a possible danger, and that they perform the exercise individually after first by getting help.

Monticone et al in their study conducted with patients with chronic low back pain to measure the effect of a multidisciplinary rehabilitation program on reducing kinesiophobia stated that the kinesiophobia values of patients who received cognitive-behavioral therapy after treatment were lower than those who received only standard care or exercise and standard care. It is thought that the application of cognitive-behavioral therapies instead of only exercise-based rehabilitation in the treatment of kinesiophobia will be more beneficial in changing the individual's perception of kinesiophobia and developing the appropriate behavior.[17]

Padovan et al obtained positive results by developing an IARA model, a cognitive-behavioral method in the management of kinesiophobia. The IARA model is based on a patient-oriented approach consisting of the words Incontro (interview), Alleanza (compliance), Responsabilità (responsibility), and Autonomia (autonomy).[18] Patients who planned total knee arthroplasty were asked to express themselves and find a solution to address their fear by asking questions about the patient's feelings and fears with a total of 3 interviews before the surgery and once after the surgery. Patients expressed their fears and solution proposals by painting and selected the solution method they most wanted to implement, strengthening the autonomy of individuals.

During the interviews, the expert nurse who mastered the IARA model tried to reduce the individual's fears about the process by making the patient visualize the surgical process. With this new cognitive, behavioral and emotional approach applied, patients can better express their fears, adapt to the surgical process, fulfill their responsibilities and gain autonomy in this process, effectively deal with kinesiophobia, and help the individual to have a better surgical experience.[19]

Scales Used in the Evaluation of Kinesiophobia

Two international scales used for the evaluation of kinesiophobia were found in the literature. One of them is the Tampa Kinesiophobia Scale (TKS), and the other is the Fear Avoidance Beliefs Questionnaire (FABQ).[2,20] The TKS, which is used to assess the fear of movement and re-injury and fear-related avoidance behavior, was developed by Miller, Kori, and Todd (1991).[2] Yılmaz et al (2011) adapted the scale to Turkish and carried out a validity and reliability study. The scale consists of 17 questions. The scale has a 4-point Likert-type feature consisting of 1=Strongly disagree, 2=Disagree, 3=Agree, and 4=Strongly agree. A total score of 17-68 can be obtained from the scale, and the high score indicates that the individual has a high kinesiophobia. Vlaeyen et al [2,21] state a high kinesiophobia score of 37 points and above and a Cronbach alpha coefficient of 0.77.

The FABQ was developed by Waddell et al.[20] which was developed to measure the avoidance behavior developed as a result of the fear of movement. The Turkish validity and reliability study of the scale were performed by Bingül et al (2008). The scale consists of 16 questions. While the first part of the scale consists of beliefs about physical activity consisting of 5 questions, the second part consists of beliefs about work with 11 questions. The scale has a 7-point Likert-type feature and each item is evaluated between 0 and 6 points; the physical activity section can get 0-24 points and the work section can get 0-36 points. A high score on the scale indicates a high fear avoidance belief.[22]

Studies on Kinesiophobia

When the literature on the subject is examined, it is seen that the studies on kinesiophobia are mostly in the field of physical therapy and rehabilitation, and recently, it has been associated with surgery and is used in the clinic. Turhan et al[3] stated that the level of kinesiophobia is higher in individuals with a history of fractures in the lower extremity, and the longer treatment period after fracture increases the level of kinesiophobia. Larsson et al stated that the level of kinesiophobia is high in elderly adults with chronic pain, Özmen et al stated that kinesiophobia negatively affects the quality of life in patients with chronic low back pain, and Uluğ et al reported that patients with low back pain experience more severe kinesiophobia.[5,7,23] While Güney et al stated that pain and psychological stress after lower extremity arthroplasty were associated with kinesiophobia, Demirkapı et al reported that patients who had anterior cruciate ligament reconstruction had a higher kinesiophobia score than healthy individuals, and that the most important reason preventing them from returning to their pre-injury level of sportive activity was kinesiophobia.[24,25]

Nursing Care for Kinesiophobia

Nursing care regarding kinesiophobia in the postoperative period; investigating the existence of kinesiophobia, determining the level of kinesiophobia with the use of appropriate scales, examining the factors affecting kinesiophobia, applying cognitive-behavioral therapy appropriate to the patient in a multidisciplinary approach, pain management, performing physical activities, preventing complications that may develop due to inactivity, sleep and rest, reducing the risk of injury, coping, and stress tolerance.[10-13,15] Nursing care and recommendations regarding these issues are as follows:

Pain management: Effective management of pain in the postoperative period plays a role in reducing kinesiophobia. Accurate interpretation of pain is important, as negative pain experience can affect the individual's perception of pain. The nurse should help the patient to interpret the pain correctly by informing the patient that pain is not always dangerous and is sometimes a beneficial physiological response for the body. The patient, who interprets the pain correctly, can choose to cope with the pain instead of avoidance behavior.[7,8,11] On the other hand, the nurse should be careful about painful procedures while performing therapeutic applications. If the patient has pain before the exercise, pain control should be ensured by applying pain-reducing non-pharmacological methods or analgesics so that the individual can perform the exercises more comfortably.[26]

Physical activity: One of the ways to detect the presence of kinesiophobia in the postoperative period is to follow the patient's exercises. Recognizing patients who have difficulty in performing activities such as breathing and coughing exercises and walking that will contribute to recovery and revealing the underlying cause of this situation is an important step in managing the fear developed by the individual for movement.[27] The nurse encourages the patient to mobilize and exercise in order to accelerate the recovery process, should encourage the patient to do the breathing and coughing exercises, and should inform the patient about the benefits and how to do it.[28,29]

Prevention of complications related to inactivity: Patients should be mobilized early in order to accelerate recovery in the postoperative period, prevent complications, and return body functions to normal. Complications such as respiratory, circulatory and cardiovascular problems, thrombus formation, pressure ulcer risk, and constipation can be seen in patients who cannot mobilize or perform effective physical activity due to the fear of movement.[30,31] Since complications related to inactivity cause delay in wound healing and prolong the duration of hospital stay, the individual can return to his daily life later. For this reason, appropriate physical activity planning should be made for the patient, taking into account the physiological and psychological state of the patient, the level of kinesiophobia, and the type of surgical intervention after the surgery.[32] During the first days spent in the intensive care unit after the operation, passive exercises in bed should be preferred first, as intubation equipment, chest tube, drain, urinary bag, intravenous catheters, and cables connected to the monitor will restrict the patient's movement, and breathing and coughing exercises should be started without delay. Controlling the equipment connected to the patient by fixing them so that they do not interfere with movement can help the patient to perform physical activities more comfortably.[33,34] Explaining the contribution of moving to recovery, informing the patient that the negative situations to be experienced during movement are temporary and that their tolerance for the activity will increase as they move can be effective in turning the negative emotions that the patient will experience into positive.[35] Increasing the patient's level of movement gradually, taking into account the patient's hemodynamic status, pain level, sleep, and nutritional status can increase the patient's level of adaptation

to physical activities, thereby reducing the fear of movement and taking an active role in the healing process. The nurse should evaluate the patient's breathing and circulation, monitor the hemodynamic parameters, measure the level of pain and kinesiophobia with appropriate scales, evaluate the activity level, follow the exercise program, ensure that the patient is at an energy level that will enable the patient to move with adequate sleep and nutrition, and support the patient in activities related to movement.[11,12]

Ensuring sleep and rest: In the postoperative period, patients feel tired, sluggish, and weak due to fasting during the surgical procedure, the effects of anesthetic agents used in the surgery, surgical stress, pain status and analgesic use, the effects of sedatives used, and changes in sleep patterns.[36] Especially in types of surgery with a large incision volume, such as cardiac and thoracic surgery, the patient sleeps in an unfamiliar position to protect the incision area and with the uneasiness caused by the thought of damaging the wound as a result of a wrong move.[37] In cases where the normal sleep posture is not realized, the head, neck, and waist areas should be supported with materials such as pillows and cushions to ensure the patient's sleep comfort, the incision area should be protected against involuntary movements that may occur during sleep, and the equipment such as drains, urine bags, and monitor cables connected to the patient should be positioned in a way that does not pose a risk to the patient and it should be ensured that the patient has a more comfortable sleep experience.[30,35]

Reducing the risk of injury: Since the fear of re-injury is the basis of kinesiophobia, it is important to protect the patient against the risk of injury. The nurse should determine the factors that increase the risk of injury and plan the measures to be taken to prevent injury and ensure the safety of the patient.[38] While mobilizing the patients, it should be ensured that the individuals avoid sudden movements by considering the orthostatic hypotension status. The patients should be accompanied during walking, and in case of imbalance, they should be taught to use tools such as crutches and their gait should be supported.[11] The side effects of the drugs used should be evaluated and the use of drugs that may pose a risk during the activity should be determined. During the activity, the patient should take precautions against the risk of wound opening by supporting the incision area and protect the patient against possible injuries. The environment should be adequately lighted, the tools and equipment that may pose a risk in the room should be removed or properly maintained, and the risk of injury to the patient should be reduced by creating a safe environment.[29,39]

Strengthening coping and stress tolerance: The patient's belief in kinesiophobia, past pain experiences, inability to fulfill role expectations, and lack of motivation affect the individual's coping power. Expressing the fear developed against the action or thought, determining the past experiences that are effective in the formation and triggering of the fear, eliminating the deficiencies in the way of perceiving and managing the pain, investigating the expectations of the individual about the family, work, and social life and the mechanisms of coping with stress, the nurse's individual-specific coping strategy, and can help identify relaxation techniques.[16,39] The nurse, who evaluates the level of kinesiophobia with the related scales in the postoperative period, should take a role in determining and applying the appropriate cognitive-behavioral therapy method for the patient in cooperation with multidisciplinary. The nurse should support the patient in the application of exercise techniques related to therapy, guide the determination of the exercise level according to the fear-avoidance level, and help the patient to perform the exercise program by giving confidence.[15]

Conclusion and Recommendations

In the postoperative period, determining the level of kinesiophobia of the individual and eliminating the fear of movement can provide early mobilization, accelerate wound healing, and prevent possible complications. By following the patient's participation in the exercises in the postoperative period, the nurse can more easily recognize the individuals who are not sufficiently mobilized and show fear-avoidance behavior during the activity. The nurse can use the scales related to kinesiophobia in the clinic to determine the patient's fear level of movement and guide the application of the appropriate cognitive-behavioral therapy method in multidisciplinary cooperation. In this process, considering the patient holistically and providing the necessary care and support by the nurse may contribute to the recovery process of the individual.

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