



PERIOPERATIVE PSYCHIATRIC DISORDERS

Theofilidis Antonis

Clinical Neuropsychologist, Occupational Therapy Department, University of Western Macedonia – Greece; +30
6978 802 810: Antonis109@yahoo.gr

ABSTRACT

Background: Surgery is a very stressful situation for humans, resulting in various psychiatric problems. Fear of the operation process, fear of the unknown, death anxiety along with changes in primary personal, family and professional roles, cause the manifestation of problems from the mental realm. The effects of psychiatric disorders can have a profound effect on both the mental and physical health of the patient.

Aim: The aim of this study is to present psychiatric disorders during the Perioperative period.

Material and method: The method used to write this study is the literature review. The writing was done by studying books, scientific articles and internet search.

Results: Psychiatric problems such as anxiety, depression, delirium at their onset, affect the preoperative and postoperative condition of the patient.

Conclusions: The evaluation of psychiatric disorders experienced by patients should be an integral part of perioperative care. Early diagnosis and early treatment are associated with the avoidance of chronicity and serious complications.

Keywords: Psychiatric problems, anxiety, depression, Perioperative period.

INTRODUCTION

Anxiety is a long-term human reaction to an unknown indefinite threat and this is because the stimulus that causes it is not clear. Etymologically, the root of the term Anxiety is found in the ancient Greek verb anxiety, which can be rendered as push, strangle or strangle. When a person is possessed by anxiety, he experiences tension, a feeling of indefinite fear, waiting for an impending danger or a difficulty without a justified reason. However, although it is accompanied by unpleasant emotions, it is useful to humans because it has a warning role. Specifically, man, through stress, is physically and mentally activated to deal with a potential threat. In this way physical and mental performance is increased and strengthened.¹

It is worth noting that the concepts of anxiety and fear are often used as synonyms as they warn of the existence of danger and mobilize the person to be ready to deal with it. However, there are differences between them. More specifically, fear is an emotional reaction to a specific danger and is addressed to a present threat. Stress, on the other hand, is a subjective emotional state of excessive anxiety, uncertainty, irrational fear where it is caused by a threat whose source is either of unknown etiology or has minimal intensity compared to the intensity of normal and emotional (psychological) reaction it causes. Fear leads to specific activities such as running away or attacking while stress has the ability to detune and disorganize the sufferer. Fear brings about changes both on a psychological level (subjective feeling of fear) as well as at a normal level (acceleration of the heart rhythm,

acceleration of respiration, redistribution of blood from the skin and viscera to the large muscles). These changes prepare the body for muscle activity (fight or flight), which may be necessary in response to the threat.² When the stress exceeds the normal degree, and prevails for a long time period then is a morbid manifestation, and is considered pathological resulting in impaired adaptive capacity of man. Pathological stress is defined as disproportionate reaction to a situation or reaction resulting from conflicts belonging to the individual's past. Pathological stress is the central symptom in anxiety disorders and is accompanied by physical and mental symptoms.

Physical Symptoms: Chest pain, anorexia, shortness of breath, dry mouth, motion sickness, feeling of drowning.

Mental Symptoms: The anticipation of an indefinite threat, difficulty of concentration, impatience, nervousness. Distraction, feeling of reduced perceptual capacity, negative reactions

Types of Anxiety Disorders

Anxiety disorders are a major concern in today's society as they are most basic forms of psychiatric disorders. When a patient suffers from this disorder, the symptoms are more severe than the condition that caused them and his daily life is constantly disrupted. The anxiety disorders of which the

Panic Disorder and Obsessive Compulsive Disorder are the most common forms, divided into the following categories:

Panic Disorder: A recurring period of feelings of fear or discomfort which within an hour, peak within 10 minutes

and are accompanied by symptoms such as sweating, palpitations, tachycardia, muscle tremor, intense tremor.

Obsessive Compulsive Disorder: Manifested either by obsessions or compulsions. As for the former, the person is forced to do repetitive ones thoughts and images that have disturbing content. These thoughts come from his own mind and not from someone else, something that the individual himself knows. Compulsions are repetitive behaviors aimed at controlling these thoughts.

Generalized Anxiety Disorder: It is characterized by intense anxiety and persistence

Occupy the person for a period of at least 6 months, for a series of daily events and activities it has to carry out. The main symptoms are mild fatigue, muscle tension, irritability, fatigue and sleep disturbance.

Agoraphobia: It is characterized by the feeling of intense fear that the person has, when he is in places or situations where escape is difficult, causes him embarrassment and fear that there will be no help available in case he needs it. Specific phobias: 'Intense fears about specific objects or situations that disrupt a person's life.'³

Anxiety disorder caused by a physical illness: Every physical illness brings to the person many negative feelings, experiencing on a daily basis anxiety, pessimism, despair and uncertainty about the course of the illness. The introduction to hospital depletes the physical and mental reserves of the individual resulting in manifestation of diseases or symptoms from the psychic sphere, such as anxiety, depression, nervousness, fear. Many physical ailments are the cause of anxiety disorders. These diseases are categorized as follows:

- Endocrine disorders (thyroid dysfunction)
- Autoimmune diseases (rheumatoid arthritis)
- Systemic diseases (respiratory failure)
- Neurological (Brain tumors).

Spielberger's theory

Stress, according to Spielberger's theory in 1966, is divided into occasional, transient and permanent. When a person has stress as a permanent feature of himself, he takes normal events as threatening and manages them with intensity, greater than the events that manifest it, with a strong feeling of threat and anxiety. Occasional stress, according to Spielberger, refers to the subjective state of the individual and is characterized by feelings of tension and anxiety that are accompanied or associated with the activation or stimulation of the Autonomic Nervous System. Spielberger (1972a)'s theory of permanent and transient stress is based on the following hypotheses:

1. Internal or external stimuli for a person that are perceived as threatening cause transient stress reactions. Through sensory and cognitive feedback mechanisms high levels of transient stress are experienced as unpleasant
2. The greater the intensity of the perceived threat, the more intense the transient stress response.
3. The permanence of the transient stress response is proportional to the duration of the threat the person feels.
4. Compared to people with low levels of persistent stress, people with high levels of persistent stress perceive more

situations as threatening, respond with more intense transient stress reactions, or both. Situations that pose a risk of failure or threat to self-esteem are more likely to be sources of threat than situations that can threaten physical health

5. High levels of transient stress include impulses that manifest themselves in the behavior or mobilize the psychological mechanisms that have been able to reduce transient stress in the past.

6. The frequent occurrence of stressful situations can lead the individual to develop specific psychological defense mechanisms in order to reduce transient stress.⁴

Stress

The term stress comes from the English word stress which has its roots in the Latin words *strictas* (tight / narrow) and *stingere* (passive participle) which means tighten. During the 18th and 19th centuries the word stress was used to describe suffering, stress, tension and strenuous effort. Despite its widespread use by the scientific community, a precise definition has not yet been established due to its multilevel importance from time to time. According to Lazarus and his colleagues, stress is a series of reactions when a person is faced with difficult environmental situations and his personal strength is not enough to cope. It is generally a condition in which all the human dimensions of the individual are affected such as the mental, the physical, the emotional, the biological, the social and the spiritual. Stress is the individual's perception of events that are perceived as threatening, where reactions to them are individualized and differ from person to person and from one period of time to another⁵. Eustress is the positively considered stress and has positive effects on the human body in contrast to distress. The stress that manifests itself to a degree is creative for the body, as the controlled intensity maintains a constant contact between the body and the environment and keeps the biological organism awake. Often stress and anxieties are confused without their meanings being identical but semantically belonging to concentric circles. In conclusion, stress and stress if we compare it we will find that they work. During the process of stress, the stressful stimulus mobilizes the brain resulting in the person feeling anxious⁶.

Depression

Depression has been known since ancient times. Hippocrates was the first to use the terms mania and melancholy to distinguish depression. He defined general functional psychoses as mania, while the term melancholy seems to have referred to chronic mental disorders and not to the nosological meaning of depression as it has developed to date.

The reason that health professionals are particularly concerned with recognizing, evaluating and treating depression is because there is a high rate of suicide. Depression is a mental disorder that consists of a set of symptoms. The person who is depressed, shows reduced mood, constant sadness, low self-esteem as well as lack of concentration. However, in addition to the symptoms on a mental-emotional level, depression also has symptoms on

a physical level. The duration of these symptoms lasts about 2 weeks and can be causes of significant damage to the individual's ability to manage his daily needs.

Some of the factors that increase the risk of developing depression are family and work status, gender, age, ethnic and cultural backgrounds, chronic physical or mental disorders, and family history. Depression is more common in unmarried, divorced, and rural resident. It is estimated that 6% of the general population suffers from depression, ie more than 350 million people worldwide and 550 thousand in Greece. Worldwide, women experience depression twice as often as men⁷.

Perioperative mental disorders

Surgery is widely accepted as one of the most stressful situations for humans. During the operation, the patient's psychosomatic condition is affected, through mental and physical factors as well as through social and cultural elements. The patient before the surgery manifests psychological reactions such as feelings of ambivalence, melancholy, loneliness from separation from his family as well as anxiety about postoperative pain.

Perioperative Stress

The procedure of anesthesia in the operating room is experienced as a threat of loss of control while the cross section as a risk of changing the image of the body. Fear of possible unsuccessful surgery, along with concern about whether he will wake up after surgery, are among the main causes of preoperative stress. In general, the results of a surgery force the patient to limit his functional role to personal, professional, social and family areas, as a result of which he experiences disorders from the mental sphere, such as anxiety and depression.

Research shows that the patient's psychosomatic unit plays an important role in the prognosis of the disease and the outcome of a surgery. Strong feelings of anxiety and fear, feelings of uncertainty or denial of the severity of the disease affect the preparation for surgery as well as the postoperative course⁸.

Predisposing factors

Predisposing factors are closely related to Perioperative stress and affect it both in appearance and in its degree. More specifically:

Gender: it plays an important role in increasing Perioperative stress. Many studies have shown that women who undergo surgery have more stress.

Age: Although stress occurs at all ages, children under the age of twelve and the elderly have lower rates.

Educational level: People with a high level of education show a higher rate of stress as they have a higher appreciation of surgery.

Marital status: Married people have emotional support and stress levels are lower than those who are single or divorced.

The personality of each person influences the way of reacting and managing stressful situations. Patients who have anxiety by nature and self-critical behavior are more likely to develop perioperative anxiety.

Social support: The support that the person will receive from those around him will help him to forget about all

this pressure as well as to stand stronger in stressful situations. Research has shown that the severity of an operation is associated with a high level of stress, as not only the difficulty of the operation and its outcome, but also what effects will have on the health of the person and his body image.

Experience from previous surgical experience, reduces Perioperative stress, as the person is familiar.

Etiological factors

In order to treat Perioperative stress, one must first pay attention to the causes that cause it. Causes are grouped into three main categories:

- In what has to do with the procedure of the operation, and those related to it.
- In those that concern the postoperative course and its development.
- In those that have a common point of reference the patient and his personality.

There are many factors that can contribute to a surgical patient's level of anxiety. Patients' anxiety begins as soon as surgery is scheduled and increases as the patient enters the hospital. With regard to surgery, the person is observed to have high levels of stress, which is due to the loss of independence of movement, to the environment which seems unknown to him and to the threat of serious illness. Fear of the unknown for those undergoing surgery for the first time as well as the outcome of surgery with chances of death during the operation is factors that contribute to the increase of preoperative anxiety symptoms. In general, surgery causes the patient to become dependent on the nursing staff, creating a feeling of loss of control, which causes fear and increased stress.

An important problem for the patient to be operated on is the fear of anesthesia. The fear that they will wake up during anesthesia or that they will realize everything that happens during the operation, are the main causes of preoperative anxiety. This is highlighted by the studies of Kindler⁸, as well as by Jawaid⁹, where the participating patients stated that detailed information from the competent health professionals about anesthesia would significantly reduce their stress. In addition, it has been observed that the communication environment between patients and health professionals plays a key role in increasing both preoperative and postoperative stress. In particular, the lack of necessary knowledge and skills in order for health professionals to properly and adequately inform the patient, can lead to patient dissatisfaction and disruption of the therapeutic relationship between doctors and patients.

Several studies have reported that a major factor in increasing preoperative stress is waiting for surgery, as the patient is forced to wait in conjunction with reduced information for an unpleasant but unavoidable surgical procedure. A recent study in Nigeria¹⁰ to assess preoperative and postoperative stress involved 51 patients who had undergone surgery. 51% of patients experienced preoperative anxiety while 15.7% experienced postoperative anxiety. The factors responsible for preoperative stress were the fear of complications that

may occur in the operation process by 70.6%, the concern for the family by 54.9%, and the fear of death during the operation. In terms of the postoperative course and the fear of major changes that will occur in his life postoperatively as well as the effort to adapt, they contribute to the increase of stress. Factors of uncertainty that cause stress regarding the postoperative course are the possible complications that may occur during the operation. Another factor is considered the postoperative pain which often emerges with the greatest impact.

An important source of preoperative stress is the patient's personality. The lack of support from family members, which is considered necessary in an operation, is associated with the worst psychological state of the patient, which is a cause for stress. Also when patients have the fear that after the surgery they will not be able to financially and socially support the people around them, this is another source of stress. In some patients, the hospital environment significantly affects the onset of anxiety. Specifically, these factors may be due to characteristic sounds from machines, the low ambient temperature as well as the smells of the hospital area.

Finally, the financial situation of the patient is a cause of stress. Specifically, financial difficulties due to the reduction of the degree of productivity in combination with the coverage of surgical expenses and postoperative financial requirements are important stressors.

Complications

Although Perioperative stress is considered part of the surgical experience, it can lead to many complications related to either the surgery or the postoperative course. Elevated levels of preoperative stress have been found to increase the risk of morbidity and mortality. Specifically in coronary artery angioplasty, high levels of preoperative stress stimulate an increased risk of adverse outcomes and maximize death.

The combination of anxiety and depression increases the risk of arrhythmia and the chances of the patient developing behaviors, which are factors that contribute to increased mortality such as sedentary lifestyle and smoking. A US study found that fear along with preoperative and postoperative stress affects the surgical outcome and early access to surgery. In general, the higher the levels of preoperative stress in a patient, the more difficult his postoperative course becomes and his adaptation to the new rhythms.

Stress can cause complications in the body's physiology and behavior that is similar to that caused by the feeling of fear. Adrenaline levels preoperatively and intraoperatively are elevated and this may cause adverse pharmacokinetic interactions with the drugs used to introduce anesthesia. Reactions such as vasoconstriction of the skin, increase in blood sugar, as well as cardiovascular disorders such as tachycardia and hypertension are observed¹¹.

Analgesics - Anesthetic requirements.

Preoperative stress is associated with anesthetic needs, analgesic requirements, and postoperative pain. When the person experiences stress at high levels then the use of painkillers is more frequent as the postoperative pain is

more frequent and more intense. The same is true of anesthetics during anesthesia. Anxious patients do not respond to anesthesia to the same degree. It has been found in a study that at the stage of introduction to anesthesia, people who had more preoperative anxiety, were given higher doses of anesthetics, during anesthesia more doses of sedatives, as well as anxiolytics and analgesics postoperatively¹⁰.

Several doses of the drug can cause complications, such as slowing down breathing, increasing lung risk, and leading to decreased activity, which increases the risk of blood clots and bowel disorders. Preoperative stress has been blamed for increasing postoperative pain both during the patient's stay in the ward and when returning home causing chronic postoperative pain¹.

Risk of infections

Stress also plays an important role in increasing an infection and reducing the immune system response, resulting in prolonged hospitalization which results in increased financial costs. However, a study in patients who underwent hysterectomy found that the action of benzodiazepines on benzodiazepine receptors interfered with the reduction of the hormone corticotropin, which is caused by stress and is responsible for immunosuppression, thereby reducing 30 days after surgery.

Nausea - Vomiting - Mobility

Several studies suggest that preoperative stress is a factor in the development of postoperative nausea and vomiting. Also a study performed on patients who underwent off pump coronary artery angioplasty, observed to predispose to postoperative psychological adjustment difficulty and reduced motor function.

Psychological effects: Rehabilitation. Surgery is a threatening event for humans, where preoperative stress can lead to changes in body functions, whether cognitive or behavioral. Other symptoms may include aggression toward specialized staff, family, and especially spouses, as well as emotional sensitivity to crying, chatter, and agitation. Therefore, aggression and emotional sensitivity are defense mechanisms of anxious patients. High levels of preoperative stress disrupt the harmonious functioning of the individual and hinder his postoperative recovery and rehabilitation. Specifically in a study performed on patients who underwent hip or knee arthroplasty, high preoperative stress adversely affected the quality of recovery.

Sleep Disorders: Prolonged insomnia and generally poor sleep quality that often accompanies stress can lead to aggressive and depressive behaviors as well as attention and concentration disorders, resulting in inability to make appropriate treatment decisions and adhere to treatment.

Postoperative delirium

Postoperative delirium is a clinical syndrome with a definite symptom of disturbance of consciousness and loss of cognitive functions. It occurs in patients undergoing surgery and anesthesia. It usually has a sudden invasion, short and fluctuating course, while when the causative agent is found and neutralized, there is a rapid

improvement. The causes of postoperative delirium are surgical stress, postoperative pain, analgesics, insomnia, infection and blood loss. Age is also an important factor for its appearance. About 30-40% of hospitalized patients over the age of 65 have a delusional episode.

A similar study by Olin et al. (2005) involving 51 elderly patients after major abdominal surgery found that 50% (26 patients) developed postoperative delirium. In 14 patients it lasted 1 -2 days while in 12 patients it lasted 3 or more days. The latter showed greater blood loss and intravenous fluid delivery, higher postoperative complications, and longer hospital stays¹². The type of surgery (eg open heart surgery) and the high need for blood transfusions are positively related to the chances of developing postoperative delirium. Delirium is a clinical disorder that is not recognized and is not always diagnosed due to its multifactorial etiology. The clinical features of delirium are as follows:

- Memory and attention disorder. Inability to record and hold and disorders in the ability to solve problems. Speech and thought disorders. These disorders include incoherent speech and impaired speech comprehension. The person also has difficulty concentrating and aiming - directed thinking.
- Disorders of perception. Illusions are quite common, mainly visual and auditory.
- Mood and emotion disorders. The most common symptoms are anger and unreasonable fear. Many times emotions do not change constantly and even symptoms of depression, euphoria and apathy can occur.

Postoperative Depression

After an operation, some emotional disorders appear. In most cases, these are mild forms of depression. Factors that contribute to the occurrence of such disorders are postoperative complications and postoperative pain that lead patients to a state of discomfort. Depression has a negative effect on the course of a disease as it is associated with reduced compliance to therapeutic instructions, reluctance to modify risk factors

Including risky behaviors (smoking, alcohol), as well as reluctance to participate in physical rehabilitation programs that were considered necessary after surgery⁴.

Ghoneim and O'Hara (2016) report that the interaction of depression, anesthesia and surgery contributes to increased morbidity and mortality of patients and affect their morbidity. Depressive disorders affect the suppression of the immune system with the result that patients are exposed to postoperative complications, infections and increased mortality. Another cause of postoperative depression is pain. Specifically, depression is a strong prognostic factor and is associated with chronic postoperative pain¹³.

The effects of depressive disorder include negative cognitive symptoms and include feelings of worthless grief, hopelessness, and recurring thoughts of death or suicide. Another effect is the influence of the biological course of the disease, which leads to a longer stay of the patient in the hospital. In addition, mental disorders that occur during hospitalization and after surgery, due to the fact

that health professionals consider them as a natural consequence of the disease, are not detected and the complications they cause are not adequately treated. Therefore, just like stress, depression, in order to deal with it, presupposes the preoperative and postoperative evaluation of its intensity, the minimization of possible complications, the establishment of a therapeutic relationship, the provision of psychological support by health professionals and the support network and rehabilitation programs. Finally, antidepressant treatment depends on the depth and duration of the depression, but is often considered necessary⁴.

Panic attack

The stress of surgery, the fear of the unknown, the fear of illness and the fear of life increase patients' anxiety. Also, the diagnosis of a chronic illness, disability as a result of surgery, or the recurrence of a chronic illness and other painful conditions that may occur preoperatively or postoperatively can lead the patient to a crisis. Specifically, a seizure can be caused by an unexpected threatening event such as a postoperative complication, while other times it can occur due to the patient's long stay in the hospital and his inability to resolve effectively this stressful situation. The process of the operation, the evolution of the postoperative course and the interpretation that the person attaches to the event which is perceived as destructive and extremely threatening, cause the sharp increase of real fear combined with the realistic stress. So the person in the effort to deal with this situation can exceed its reserves and lead to a crisis. During a crisis the person experiences some symptoms such as palpitations, rapid heartbeat, shortness of breath, fear of losing control and dying. If the person suffers from repeated and unpredictable panic attacks along with a strong fear that a crisis will happen again, as well as a significant change in his behavior due to the seizures, then we are talking about panic disorder¹⁴.

Strategies for dealing with Perioperative psychiatric disorders

Surgery as a stressor accompanied by other negative factors such as less information, difficulty understanding medical information and difficulty asking questions, helps to create high stress in patients. The investigation of mental health and the early diagnosis of people suffering from anxiety disorders and depression, as well as their treatment, help to reduce re-admission and the cost of hospitalization. Stress is often associated with physical illness and affects it negatively. Successful management of stress helps to neutralize or prevent the effect it has on physical health. According to Lazarus and Lanier, the term "ways to deal with stress" refers to efforts to manage environmental requirements, intra-individual requirements and conflicts between them. Specifically, they are strategies that the individual can use either to dominate, or to tolerate, or to reduce or minimize stressful events. An important role in dealing with the stress that accompanies a surgery is the personality of the individual. Awareness as a personality trait in the face of surgery, as opposed to repulsion, helps the patient to prepare

psychologically and adapt to the situation. The repulsion of the patient on the other hand in reality and the denial of their condition, affects the therapeutic relationship patient-nurse¹⁵.

Stress management

According to Lazarus and Folkman, the ways to deal with stressful situations are divided into strategies focused on problem solving and strategies focused on emotion. In the first case, its goal is to control the situation and reduce stress either by enriching the resources that the person will need, or by reducing its requirements. In the treatment that focuses on problem, some people may apply pre-planned prevention. In other words, people take steps in advance to deal with a potentially stressful situation, so that they even appear to be better prepared.

On the other hand when events are accomplished and cannot be changed, then the person resorts to emotionally focused coping efforts. Through cognitive reassessment of the situation, seeking emotional support from those around him and trying to accept the problem if nothing can be changed, and relieving the emotion, the individual controls and regulates the emotional consequences of a stressful situation. You can also use sedatives, alcohol and try to distract yourself with other things. Surgery is a threat to the individual that causes stress, the patient resorts to coping strategies focused on both the problem and the emotion. Regarding the former, he seeks information from doctors about the possible effects of the surgery and participates in his Perioperative training. In emotion-focused treatment, she seeks support from health professionals and intrapsychic defense mechanisms. For example, he denies the seriousness of the situation, believing that there are worse. The efforts that are focused on the problem after an operation, negatively affect the level of stress and positively the quality of life of the operated. This was found in a study performed on patients after coronary artery bypass graft surgery, where patients paid more attention to their postoperative complications than to their emotional reactions¹⁶.

Here are the most common coping strategies a person uses when experiencing stress, according to Cohen and Lazarus (2012):

The search for information focuses on examining the options available for action and increasing the knowledge to deal with a stressful situation. This strategy is sometimes aimed at solving the problem and sometimes at emotional regulation. For example, the patient seeks information about alternative therapies before giving his or her consent (problem solving), or seek a second medical opinion to make sure he is making the right decisions and to feel that he has exhausted all efforts (emotional regulation). Immediate action focuses on trying to take specific action to deal with a stressful situation. For example, the patient participates in his Perioperative care by taking advice from the doctor, participates in the decisions that concern him, etc. Effecting on an intrapsychic level involves activities in areas that have nothing to do with their health problem, helping to remove stressful thoughts and regulate his emotions. Claiming

support from others concerns efforts either to regulate emotions or to resolve the problem. For example, the person being treated turns to a friend for companionship (emotional regulation) while at other times he may ask a relative to take on some of his responsibilities, due to the fact that he is being treated in the hospital.

Emotional revelation and social support

Surgery is usually accompanied by negative emotions that can provoke reactions both emotionally and physiologically. Suppressing negative emotions includes increased heart rate and blood pressure and sweating. Emotional revelation is a way of free expression and emotional experiences in other people either in written form or orally. As for the oral form of emotional revelation which is the most common, many times people who need to talk are pressured by those around them to stop talking about it anymore. So many times people are oppressed and try to deceive others so that they do not perceive the true feelings, something that can cause disorders in their health. Psychologist James Pennebaker in his attempt to study whether the expression of the event leads to overcoming the traumatic event that has an impact on mental health of the individual conducted numerous studies in which participants either had the opportunity to confess intensely emotional events of their lives or were instructed to keep their thoughts and feelings to themselves. The results showed that people who expressed themselves in writing or with other people, led to the discharge of stress and was a factor in dealing with a mentally painful event¹. Second, social contact has positive effects on dealing with a stressful situation, such as the surgical procedure. People who discuss an event have the potential for social comparison that leads to emotional support. This is also confirmed by the study conducted by Mayne and Bagaoisan (2009), in patients who were going to have heart surgery. Patients were divided into wards with a roommate who was preparing for surgery and into a ward with a roommate who had already had surgery, while others were placed in a patient who had undergone the same or different type of surgery as their own. The results showed that those who had a postoperative roommate were favored, without the type of operation being a factor. This may be because the postoperative patient offered a degree of emotional social support, either because he or she may have referred to how he or she experienced the surgery and how he or she felt after it, or because he or she may have provided information about the postoperative course¹⁵.

Perioperative information and training

According to the latest research, the informational value of preoperative communication has a therapeutic effect in dealing with a stressful situation. This means that people who prepare through information, adapt more easily to the operating room. Training has many benefits for the patient such as improving the quality of care provided, increasing the degree of satisfaction, reducing stress, promoting self-care, as well as reducing the length of hospital stay and therefore the cost of hospitalization. Patients who have not received the appropriate information and information

show poorer postoperative adjustment with intense postoperative stress. One of the observations of the American psychologist Irving Janis, who believed that the person who does not have anxiety before the surgery will not be able to cope with the stressful process of the surgery, prompted Pollo and his colleagues to conduct another study. The study involved patients who were going to have abdominal surgery. Half of the patients were informed about the impending surgical experience, were warned about what to expect, about the existence of postoperative pain as well as training through breathing exercises to reduce it. The other half had not received any information. The results showed that the information given to the patients led to their postoperative recovery. Informed patients showed less anxiety, which led them to be discharged more quickly. In contrast, uninformed patients presented during the postoperative examination, increased anxiety and need for several painkillers¹⁴. Similar to a study by Pinar, Kurt and Gungor (2011), it was found that the provision of systematic education and teaching, led patients who had undergone hysterectomy, to improve their postoperative course. More specifically, those who received information about the course of the surgery, showed an improvement in negative mental and emotional states such as aggression and depression. However, other studies have shown that due to the strong emotions that patients pay, enough information can also have negative effects¹³. Due to the inability to assimilate a lot of information, patients acquire new fears and their anxiety increases. Therefore, informing and providing information to people who were going to have surgery must be adjusted to the level of stress of each patient, so as not to create further stress. Thus the information to be given to patients must be specific, clear and answer specific patient questions without the use of difficult medical terms, so that the patient can assimilate and utilize them in his postoperative course.

Ways of information and psychological support

In order to facilitate the therapeutic relationship between doctor and patient, various multimedia have been discovered which, despite the fact that they alone do not seem to be effective in reducing stress, combined with meetings, discussion and good communication with the anesthesiologist, help combat stress and building a relationship of trust between doctor and patient. Creating a comprehensive patient education program tailored to their knowledge, which includes systematic support, advice, motivation and information aimed at improving the standard of living, has the effect of reducing stress preoperatively and postoperatively and increasing self-confidence. In a study by Mohan (2017), in order for the patient to understand the process of anesthesia in surgery, videos and images were used that included patients' previous experiences on the same subject. This information, obtained in the form of images and videos 1 hour before and 8 hours after surgery, helped patients feel better prepared and reduce their anxiety². In patients undergoing hip surgery, briefing by the anesthesiologist

surgeon, handing out leaflets, using video and multimedia, and interactive discussion reduced preoperative stress. Therefore, the use of technology, the Internet and educational interventions aim to reduce patients' stress and improve their quality of life.

Conclusions

Surgery remains to this day by its very nature, an extremely stressful situation both for the person to be operated on and for the rest of his family. Few patients calmly see the possibility of a surgery, even a small one. Many times after the diagnosis and the medical decision for surgery, the patient delays the procedure. This is due to an ambiguous conflict between hope and fear that makes him indecisive. Factors such as the fear of the expected postoperative pain, the degree to which the patient's life is threatened by the surgery, the separation from the family, are the cause for the manifestation of problems from the mental sphere. Psychiatric problems during the Perioperative stage carry an increased risk of morbidity and mortality and generally force the patient to stay in the hospital for a long time in combination with possibly more postoperative complications. Early recognition of the symptoms of psychiatric disorders and their early treatment are considered necessary for the existence of a smooth Perioperative course of a patient. The patient's psychological discomfort and diagnosis of the disease can affect his quality of life, his interpersonal relationships and his family and work role. If stress is diagnosed as a patient's reaction to surgery, the psychological mechanisms it mobilizes to deal with it, the patient's psychosocial problems, his support network, his personality, and the personal meaning he gives to the disease should be investigated. According to the literature review in the postoperative stage, the patient's anxiety is obvious. At all levels of the preoperative and postoperative period the mental disorders that the patient may experience are panic disorder obsessive-compulsive disorder, generalized anxiety disorder agoraphobia, specific phobias and anxiety disorder caused by physical illness. Evaluation of the psychiatric disorders experienced by the operated patients should be an integral part of the treatment. Psychiatric problems need to be studied more extensively in order to organize better approaches to health care for these individuals.

References

1. Mohan, B., Kumar, R., Attri, J. P., Chatrath, V., & Bala, N. (2017). Anesthesiologist's role in relieving patient's anxiety. *Anesthesia, essays and researches*, 11(2), 449 .
2. Golba KL. (2015) Services for people with serious mental illness: the impact of national, state and local policy and practice [dissertation]. Lincoln, NE: Psychology, University of Nebraska—Lincoln.
3. Coughlin CG, Cohen SC, Mulqueen JM, Ferracioli-Oda E, Stuckelman ZD, Bloch MH. (2015). Meta-analysis: Reduced risk of anxiety with psychostimulant treatment in children with attention-deficit/hyperactivity disorder. *J Child Adolesc Psychopharmacol* 25:611–617.
4. Eisenberg, D., Gollust, S. E., Goldberstein, E., & Hefner, J. L. (2007). Prevalence and correlates of depression, anxiety

- and suicidality among university students. *American Journal of Orthopsychiatry*. , 77(4), 534-542.
- 5.Kang, Y.S., Choi, S.Y., &Ryu, E. (2009). The effectiveness of a stress coping program based on mindfulness meditation on the stress, anxiety and depression experienced by nursing students. *Nurse Education Today*, 29, 538-543.
- 6.Kanji, N., White, A., & Ernst, E. (2006). Autogenic training to reduce anxiety in nursing students: randomized controlled trial. *Journal of Advanced Nursing*, 53(6), 729-735.
- 7.Karg K, Burmeister M, Shedden K, Sen S. (2011). The serotonin transporter promoter variant (5-HTTLPR), stress, and depression meta-analysis revisited: evidence of genetic moderation. *Arch Gen Psychiatry*. 68:444–54.
- 8.Kindler C, Harms C, Amsler F, Ihde-Scholl T. and Scheidegger D.(2000) The visual analogue scale allows effective measurement of preoperative anxiety and detection of patients' anaesthetic concerns. *Anesth Analg*, 90:706-712.
- 9.Jawaid M, Mushtaq A, Mukhtar S, Khan Z.(2007) Preoperative anxiety before elective surgery. *Neurosciences (Riyadh)* 12(2):145-8.
- 10.Bentwich, M.E., Dickman, N., Oberman, A. (2018) Human dignity and autonomy in the care for patients with dementia: Differences among formal caretakers from various cultural backgrounds, *Ethnicity and Health*, 23(2), pp. 121-141.
11. Hawighorst, S., Schoenefuss, G., Fusshoeller, C., Franz, C., Seufert, R., Kelleher, D. K., & Koelbl, H.(2004). The physician-patient relationship before cancer treatment: a prospective longitudinal study. *Gynecologic oncology*, 94(1), 93-97.
12. Donate Marín, M., Litago Cortés, A., Montesano, Y., & Martínez Serrano, R.(2015). Preoperative aspects of information related to patient anxiety scheduled for surgery. *Enfermería Global*, 14(1), 170-180.
- 13.Koivula, M., Paunonen-Ilmonen, M., Tarkka, M. T., Tarkka, M., & Laiippala, P.(2002). Social support and its relation to fear and anxiety in patients awaiting coronary artery bypass grafting. *Journal of clinical nursing*, 11(5), 622-633.
14. Pollo A, Amanzio M, Arslanian A, Casadio C, Maggi G, Benedetti F. (2001) Response expectancies in placebo analgesia and their clinical relevance. *Pain* 93:77-84.
15. Mayne N, Bagoisan K (2009) Patient's anxiety and fear of anesthesia: effect of gender, age, education, and previous experience of anesthesia. A survey of 400 patients. *Journal of anesthesia*, 27(1), 104-108.