

Some Aspects Regarding the Psychology of the Surgical Patient

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Abstract: *The need for a medical consultation always generates an unpleasant sensation, which becomes more accentuated, when the doctor is a surgeon. The surgeon is next to the dentist, gynecologist and psychiatrist, the doctor to whom the patient turns with the greatest fear. The operative indication and the discussion of therapeutic perspectives can trigger a psycho-emotional imbalance, leading to tomophobia. In fact, it is a complex psychological reaction, including odyinophobia (fear of pain), dysmorphophobia (fear of postoperative bodily sequelae), hypnophobia (fear of anesthetic sleep, from which one could not wake up), trypanophobia (fear of injections, needles, scalpel), pantophobia (fear of everything that happens around, in this case, in the hospital environment) and above all, thanatophobia (fear of death). Therefore, it can be stated that the surgical intervention is a test of the psycho-affective capacity.*

The paper presents the authors' experience in 20 years (2002-2021), related to the psychological management of surgical patients, subjected to medium or large-scale surgical interventions (75% performed in emergency mode), in 958 patients.

Mental stress can have consequences, both on the reactivity of the surgical patient and on his postoperative evolution. In the time crunch and in the absence of a psychologist, available to offer specific advice on medical objectives, the management of perioperative anxiety rests with the surgeon and the nursing staff.

The paper discusses and underlines some elements related to the psychology of the surgical patient and insists on the importance and role of the psychologist, in the prophylaxis and treatment of what can be called operative disease.

Keywords: *surgical intervention, psychology.*

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1. INTRODUCTION

The need for a medical consultation always generates an unpleasant sensation, which becomes more pronounced, when the doctor is a surgeon. The surgeon is next to the dentist, gynecologist and psychiatrist, the doctor to whom the patient turns with the greatest fear. The operative indication and the discussion of therapeutic perspectives can trigger a psycho-emotional imbalance, leading to tomophobia (*Klopfenstein C.E., 2000*). In fact, it is a complex psychological reaction, including odyphobia (fear of pain), dysmorphophobia (fear of postoperative bodily sequelae), hypnophobia (fear of anesthetic sleep, from which one could not wake up), trypanophobia (fear of injections, needles, scalpel), pantophobia (fear of everything that happens around, in this case, in the hospital environment) and above all, thanatophobia (fear of death) (*Popazu et al, 2022*). Therefore, it can be stated that the surgical intervention is a test of the psycho-affective capacity.

2. MATERIAL AND METHOD

This study presents experience of the authors in 5 years, related to the psychological management of surgical patients, subjected to medium or large-scale surgical interventions (75% performed in emergency mode).

It includes 958 surgical patients, aged 35-82 years, in the period 2018-2022. Inclusion criteria were age over 18 years, ASA score 1-3 (*American Society of Anesthesiology*), ability to read and understand language. Patients with mental illnesses, unable to answer the questionnaire and those who did not give their consent, were excluded from the factual material. The questionnaire used was handed out before the anesthetic consultation and the administration of the premedication.

The questionnaire consisted of two sections: demographic data (*table 1*) and visual analogue scale (VAS) + APAIS. The APAIS was used to measure anxiety, while the VAS was used to identify the roles played by various factors on anxiety.

The APAIS consisted of 4 questions regarding patients' anxiety related to anesthesia and surgery and 2 questions regarding the need for information. All questions were scored on a Likert scale from 1 to 5. The 6 items were subdivided into 3 components: anxiety related to anesthesia (A), anxiety related to surgery (K) and the component of desire for information (I). The sum total of A+K was defined as sum C.

VAS was used to measure anxiety and various influencing factors. The VAS consisted of a 100 mm line, one end of which showed no anxiety

and the other end was depicted as the highest possible anxiety. The left side of this line was marked “non-A” (score 0), while the far right was marked “A-max” (score 100). Patients were asked to rate their own anxiety and score it on the anxiety line. The causes for anxiety listed were: waiting for the operation, being at the disposal of the medical staff, the result of the operation, postoperative pain, the time after waking up from anesthesia, immediate postoperative suffering (nausea, incomprehensible vomiting), physical and psycho-emotional suffering, post-surgical sequelae, absence of waking up after the operation , state of consciousness maintained during anesthesia, the impossibility of oral feeding, financial losses, concern about the family, need for a blood transfusion. We used mindfulness techniques, narrative medicine and cognitive-behavioral therapy, as well as coping strategies (Berth H., 2007, Gavito M.C., 2000, Sirinan C. 2000, Garip H., 2004, Nishimori M., 2002).

Table 1. Demographic characteristics

<i>Variable</i>		<i>Nr.</i>
<i>Gender</i>	<i>Men</i>	339
	<i>Women</i>	619
<i>Marital status</i>	<i>Married</i>	879
	<i>Single</i>	179
<i>Medical insurance</i>	<i>Yes</i>	789
	<i>No</i>	169
<i>Education</i>	<i>Gymnasium</i>	49
	<i>High school</i>	210
	<i>Post-secondary studies</i>	600
	<i>University studies</i>	99
<i>Socio-economic status</i>	<i>Poor</i>	150
	<i>Medium class</i>	550
	<i>Rich</i>	258
<i>House</i>	<i>With family</i>	889
	<i>Alone</i>	69
<i>The type of surgery</i>	<i>Minor</i>	319
	<i>Major</i>	639
<i>Surgical history</i>	<i>Yes</i>	440
	<i>No</i>	518
<i>Anesthetic antecedents</i>	<i>Yes</i>	440
	<i>No</i>	518

Source: Authors' personal data

3. RESULTS

The reliability of the APAIS was high Cronbach's alpha, with 0.885 in the global component, 0.84 in anxiety related to surgery, 0.73 in anxiety related to anesthesia and 0.93 in terms of desire for information.

Women were more worried about anesthesia compared to men ($p = 0.02$). Those with a history of surgery were less anxious ($p = 0.05$). Women who had undergone previous surgery/anesthesia were less anxious than those who had never experienced such an event ($p = 0.012$ vs $p = 0.021$). The other parameters did not show significant differences regarding anxiety level or information requirement (*table 2-3*).

Table 2. Anxiety score according to gender

<i>Variable</i>	<i>Gender</i>	<i>p</i>
<i>Surgical history (yes/no)</i>	<i>Men</i>	<i>0,504</i>
	<i>Women</i>	<i>0,012</i>
<i>Anesthetic antecedents (yes/no)</i>	<i>Men</i>	<i>0,452</i>
	<i>Women</i>	<i>0,021</i>

Source: Authors' personal data

Table 3. APAIS score

<i>Component</i>	<i>Average</i>	<i>Standard deviation</i>
<i>A</i>	<i>4,61</i>	<i>2,63</i>
<i>K</i>	<i>4,16</i>	<i>2,52</i>
<i>I</i>	<i>7,53</i>	<i>3,16</i>
<i>Amount C (A+K)</i>	<i>15,62</i>	<i>7,11</i>

Source: Authors' personal data

The correlation between information requirement and C amount was significant. Anesthetist visit and premedication reduced total anxiety scores and anesthesia-related anxiety scores. There was no change in information requirements and anxiety about surgery (*table 4*).

Table 4. Relationship between APAIS score and patient characteristics

<i>Variable</i>	<i>pA</i>	<i>pK</i>	<i>pI</i>	<i>pC</i>
<i>Men/ Women</i>	<i>0.02</i>	<i>0.79</i>	<i>0.62</i>	<i>0.94</i>
<i>Marital status</i>	<i>0,24</i>	<i>0.37</i>	<i>0.93</i>	<i>0.33</i>
<i>Type of surgery</i>	<i>0,47</i>	<i>0.41</i>	<i>0.77</i>	<i>0.90</i>
<i>Surgical history</i>	<i>0,05</i>	<i>0.89</i>	<i>0.03</i>	<i>1.1</i>
<i>Anesthetic antecedents</i>	<i>0.12</i>	<i>0.57</i>	<i>0.49</i>	<i>0.96</i>
<i>Medical insurance</i>	<i>0.27</i>	<i>0,46</i>	<i>0.14</i>	<i>0.57</i>
<i>Family surgical history</i>	<i>0,27</i>	<i>0,94</i>	<i>0.22</i>	<i>0.77</i>
<i>Education</i>	<i>0,33</i>	<i>0.85</i>	<i>0.73</i>	<i>0.79</i>
<i>Socio-economic status</i>	<i>0.78</i>	<i>0.19</i>	<i>0.71</i>	<i>0.48</i>

Source: Authors' personal data

DISCUSSIONS

The study shows that the prevalence of anxiety in preoperative patients in this group was 76% when the APAIS score was above 11. The cutoff value of 11 is the one that determines a good predictive value and is suitable for identifying the anxious.

The registered prevalence tends towards the upper limit of the range published in other studies - 11-80% (*Boker A., 2002, Berth H., 2007, Sirinan C., 2000, Kindler C.H., 2000*). This could be attributed to several factors:

- The limits of the health system, based on social insurance
- The socio-economic status of the patients is below the EU and US average
- The period of the CoViD-19 pandemic
- Trust and respect towards doctors, in general, for surgeons, in particular, damaged in the last 30 years
- The level of general culture and health education is low (*Luca et al, 2022*)

An ideal preoperative anxiety assessment tool should be short and easy to use, as reliable and accurate as questionnaires designed to measure anxiety in psychiatric pathology. The estimation made by anesthetists and surgeons, without the use of a dedicated standard questionnaire, leads to the overestimation of anxiety. So, the measurement of preoperative anxiety should use a special version of the State-Trait Anxiety Inventory (STAI), in the conception of which, the presence of the psychologist becomes absolutely necessary (*Pandele et al, 2021*).

On the other hand, VAS has proven to be a reliable tool for measuring anxiety. In our study, we used it to assess anxiety levels for

different causative factors. The main causes of anxiety in our study included, in order: staying conscious during anesthesia, not waking up after surgery, the result of surgery, postoperative pain, waiting for surgery at the disposal of the medical staff, financial losses.

This signifies the importance of visiting the anesthesiologist, succeeding the psychologist, in order to provide patients with more information about anesthesia, in order to minimize the theme, along with premedication. There is a high positive correlation between well and correctly informed patients, incomplete clarifications and anxiety scores, also found by other studies (*Matthias A.T., 2012*)

Adequate anxiety management can lead to a smoother induction and a better surgical outcome.

The so-called operative disease begins even before the surgical intervention. Specialists say that the anxiety before the operation is a normal reaction. Surgical intervention represents a potential danger, which mobilizes and leads to the appearance of the psycho-affective reaction of natural defense (*Jafar M.F., 2009*).

Thus, preoperative anxiety appears before the operation. There are certain attitudes of a person, which can indicate the presence of this phenomenon: excessive agitation, casualness or, on the contrary, aggressiveness. These people, in an attempt to deal with the anguish, can shift their hatred or aggression onto substitute objects or persons, leading to a negative reaction towards nurses, surgeons, in general, on the staff working in the hospital. However, there is also the situation where the patient adopts an opposite attitude, of indifference and resignation.

Anxiety appears for some as fear without an object or fear without an apparent object and is translated through an association of functional signs and objects of the imagination (*Chirita et al, 2012*). The functional signs can be minor - anorexia, insomnia, nightmares, or more obvious - sweating, abdominal cramps, diarrhea, etc.

It is obvious that the perspective of a surgical intervention, especially of an urgent nature, mentally affects the person in question. The fear of surgery is natural, but the quantification of the psychological trauma or the stress generated by the fear of surgery, of the disease, depends, first of all, on the personality, on the psycho-affective structure of each one. In these cases, the patient faces a physical suffering, dominated by pain, and mental suffering, dominated by uncertainty, anxiety and often, even depression, especially in irreversible situations. Psychologically, anxiety dominates almost throughout the surgical and medical procedure, starting with the moment of admission, continuing with the pre-operative preparation (thoughts about

the operative risk) or with the moment of anesthesia (worries about the possibility of not waking up), the concern for the severity the disease and the fear of the surgical intervention, or the long recovery period. Preoperative mental stress, can have medical consequences, both on the reactivity of the surgical patient and on his postoperative evolution.

The postoperative stage is characterized by mixed discomfort: physically, through pain, vomiting, flatulence, functional impotence, but also mentally, dominated by anxiety regarding the results of the operation or the presence of mutilation, infirmities (e.g. amputations, fitting of colostomies) (Izzat et al, 2021). There is a direct, very close connection, between physical and mental discomfort.

This suffering can be lessened by the intervention of the psychologist. The psychologist will pay more attention to the psychological factor, inherently included in the therapeutic relationship between the doctor and the patient, as well as family members, friends, close persons, as allies in the psychological preparation for the intervention.

The psychologist aims to gain confidence in the effectiveness of the operation and in the healing; guides the patient to increase his trust in the doctor, in the procedures, in the results. It provides emotional support for accommodation with the hospital, the operation, the doctor and with his own state. The psychologist also mediates the relationship with the family. He uses the experience of other people, similar cases solved by surgery, or by the respective intervention. The psychologist prepares the patient and establishes, together with the doctor, the right moment for communicating important information, the need for intervention, risks, possible mutilations, etc., and gives advice to family members, the patient's relatives, friends. Everything that could make the patient anxious must be suppressed. The psychological consultation contributes to the creation of a therapeutic doctor-patient-family relationship, in order to achieve the medical objectives and the interests of the patient. The psychologist offers specific advice on medical objectives, increasing adherence to treatment, lifestyle modification, tertiary prevention in the case of chronic diseases.

Regarding the psychological implications, the surgical act has several characteristics:

- it is a trenchant relationship, most often clear, the patient having the prospect of a quick and, as a rule, definitive recovery;
- it is dominated by risks, sometimes major, threatening the integrity and even the life of the patient;

- the emotional load is maximum, both for the patient and for the operating surgeon, who considers a possible failure of the intervention, including side effects or postoperative complications;

- the entire unfolding of the surgical act bears the imprint of a drama generated, first of all, by the surgical risk perceived by the patient, and secondly, by the numerous surprises that may appear in the dynamics of the operative act;

- the patient may have sensations and feelings generated by the idea of a bodily harm, in the context of extirpating own segments or organs;

- the anxiety, which is a psychological dominant of the patient, is extreme and it dominates the patient, almost throughout the surgical act, starting with the moment of admission, continuing with the pre-operative preparation (thoughts about the operative risk) or with the moment of anesthesia (worries about the possibility of not waking up again), amplified, perhaps paradoxically, after the success of the surgical intervention (dark thoughts about possible sequelae or complications, about his future socio-professional or family reinsertion).

Causes of preoperative anxiety:

a. Upon admission to the clinic:

- separation from family and friends;
- foreign environment, noises and smells (specific, more intense than in other departments);

- routine care;

- worries about the recovery of health and of the capacity for effort, in the family or in profession;

- fear of the unknown, of the imminence of contact with it;

- loss of self-control in relationships with those around you, awareness of helplessness, difficult communication with the outside world, unusual length of hospital days;

- the accounts of some patients, about the failures or sequelae of operations, about anesthesia accidents;

- media reports about intra- and post-operative failures or mistakes.

b. The moment of the surgical intervention

- the operation perceived as an injury and aggression to the body and soul;

- assessments through the prism of personal experience (other operations or relapse);

- fears about the result of the surgical intervention (if he will return to his old capacities);

- fears about possible negative intraoperative surprises (e.g. discovery of a cancerous lesion);
- the thought of the consequences of the operation (worries about the recovery of health and the ability to exert effort in the family, profession, loss of physical condition)
- fear of the need for adjacent care (probes, infusions, catheterization, etc.);
- bad news before the operation;
- the connection between anesthesia and death, the strange sensation of "pseudo-death", due to the loss of consciousness during anesthesia; the feeling of total abandonment;
- excessive fear of anesthesia complications (e.g. allergy), compared to the moment of awakening;
- discomfort caused by infusions, injections, mask;
- the fear of committing indiscretions on his privacy;
- previous unpleasant experiences;
- the moment of awakening from anesthesia and the immediate evaluation of the results of the operation;
- worries about the recovery of health and effort capacity, loss of physical condition.

c. The postoperative period is the one which, due to its relatively long duration and certain objective or subjective factors, has psychologically a special importance.

- in the early postoperative stage, the discomfort is mixed: physical, through pain, vomiting, flatulence, functional impotence, but also possibly psychological (only the idea - in the case of post-partum psychoses - or even the presence of mutilation, sequelae, infirmities - in the case of limb amputations). Thus, many times, the pace of health progress, of recovery, is inconsistent with the patient's expectations. This is painfully perceived by people vulnerable to frustration (e.g. psychobehavioral type A, who has a very strong social, self-affirmation motivation). Also, post-operatively, the patient is faced with the failure of the therapeutic intervention, with disproportionately small or even dramatic results, compared to his or the doctor's expectations (e.g. the intraoperative finding of an inextricable tumor). The patient is more susceptible to iatrogenic mental stress, the discomfort, "minimal" in other situations, is amplified, because, usually, the patient's psychological preparation is focused on accepting and carrying out the operative moment, and less or not at all on the post-surgical period (Anghel et al, 2022).

Moreover, a special place is occupied by patients operated on in the immediate emergency, when the first two stages of psychological intervention do not exist, and the entire mental balancing effort is concentrated after the surgical intervention, with all the difficulties arising from this situation.

- in the late postoperative stage, two apparently opposite tendencies can be manifested:

- on the one hand, relapse/relapse (correlated with the patient's previous overuse of the surgical intervention) strongly erodes trust in the doctor - "If no surgery, then what?";

- on the other hand, links with current medical are often broken now; as a rule, they are maintained only shortly after the operation, and the problems that arise late are managed by the family doctor or medical practitioner, until they become critical. Of course, among the psychologically bad prognostic factors, the complications generated by the surgical intervention itself can also be included in this period - thread granulomas, abscesses, eviscerations, etc.

Both on the patient and the doctor, the psychological impact of the surgical disease is increased. The surgeon's sense of responsibility does not disappear with the end of the operation. This feeling is accentuated, or appears as a response to the doctor's over-investment by the patient, and sometimes as a result of the radicality of the therapeutic intervention; Entering the unfamiliar, cold world of the hospital, confronting the suffering, possibly the death of other patients, breaking the connection with the environment are also factors that raise serious psychological problems.

In the psychological approach to the surgical patient, it must not be forgotten that the disease can induce a series of behavioral changes, translated by regression.

Regression, which is an inevitable, universal mechanism that every member of the care staff must know and understand, with its various implications. Any wound, any disease involves a protective reaction, the natural reaction of anybody to fold itself back in case of aggression or suffering. In humans, regression is characterized, beyond self-withdrawal, by the emergence of infantile behavior, with:

- reduction of interests – the patient only lives in the present and in the near future, not being able to bear the waiting state;

- egocentrism - the patient no longer judges the world except by reference to himself, not imagining that others can also be sick or tired, not tolerating even the slightest state of frustration;

- dependence on the doctor and entourage, from whom he expects to be fed, cared for. Added to this addiction is a hypersensitivity to the reactions of those around, the patient behaving like a child looking for a good mother; also, there may be a return to archaic satisfactions - sleep or the search for oral satisfactions, which can favor alcoholism or excessive consumption of drugs;

- a magical, illogical way of thinking, with the belief in the omnipotence of the doctor, medicines or the disease, with the predominance of some emotional processes - aggressiveness (latent/manifest) or anxiety.

Regression can have positive effects, being, as a rule, very useful and even necessary, through:

- the abandonment by the patient of all worries and daily demands and the concentration of forces on himself. These forces are essential, in the fight against the disease and in avoiding the vulnerability of the patient;

- acceptance of help and support from the entourage and the absence of opposition to the good progress of the treatment, through untimely initiatives and unnecessary, even harmful, activism.

Refusal to regress often reflects precisely the fear of regressing, the fear of excessive passivity or of being close to introjected maternal images, overwhelming and dangerous images. The absence of regression can, in these cases, have serious consequences. By refusing to be cared for by the entourage and thus freed from his excessive tensions, the patient condemns himself to a very costly over-adaptation, for his health. From here, the patient can suddenly move to an increased level of disorganization. The psychic structure and psychic states, which accompany the regression, can no longer play the role of a protective buffer. The answer takes place at a deeper and more serious somatic level.

Regression can have negative effects. It can exceed its purpose and isolates the patient in a self-perpetuating behavior. This is specific to neurotic personalities, who find, through regression, the possibility to express their affective demands. The greatest danger is, in such cases, abandoning the patient in a regressive behavior, by refusing any response on an emotional level, under the pretext of suppressing the disease as a benefit. This refusal does nothing but accentuate the regression, the lack of interest on an affective level forcing the patient to withdraw deeper into himself and resort to aberrant behaviors:

- overinvestment in certain areas of the body, stereotypical gestures;
- evasion, resignation from social obligations, justified in part by illness, can become neurotic, in case of exaggeration of symptoms;

- the exaltation of the Ego, with the exacerbation of some primitive narcissistic traits, against the background of a lower social status and a low intellectual level, the disease becoming a means of valorization ("my disease is the rarest, most interesting");

- informational contagion - taking over some information from other patients, with older states, in the respective disease.

The struggle with the anguish and anxiety of the surgical patient falls, in the absence of the psychologist, to the attending physician and the nursing staff. This requires, in addition to the allocated time, empathy and thorough knowledge of psychology, an additional effort, which erodes the mind of the surgeon, involved in the treatment and follow-up of the postoperative evolution of several cases, simultaneously (*Mathias A.T., 2012*).. . But, in spite of these difficulties we have faced over the years, our experience is positive, the cases with problems, very rare, isolated, being solved successfully on a psycho-affective level as well.

4. CONCLUSIONS

Preoperative anxiety can cause various problems through the wide range of physiological and psychological responses it induces.

The first and perhaps the most important step in reducing preoperative anxiety is testing it. Testing can be done easily with a standard APAIS questionnaire. A better agreement between a special version of APAIS and STAI is desirable.

Patients who demand detailed information and women are more anxious preoperatively. Also, those who have never undergone surgery are more anxious compared to their experienced counterparts. Anesthetic and surgical information reduce preoperative anxiety. Counseling should be done by the surgeon and anesthetist, and in patients with a high level of anxiety, by a dedicated psychologist. The participation of family members in this endeavor can be beneficial.

The mental stress, generated by the surgical intervention and all that it implies, can have consequences, both on the reactivity of the surgical patient, and on his postoperative evolution. His complex psycho-emotional imbalance, going as far as thanatophobia, was solved through repeated sessions of psychological counseling of the patient and his entourage (co-patients, family, friends). In the time crunch and in the absence of an available psychologist, who can provide specific counseling for medical objectives, the management of perioperative anxiety is for now the responsibility of the surgeon and the nursing staff. However, the

intervention of a dedicated psychologist for surgical patients is imperative, both for therapeutic success and for the surgeon's professional comfort.

The real progress of society, at the cultural-educational and economic level, can represent the basic solution for this problem as well as for many others.

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