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Original research article

Patients' anxiety during the perioperative care from the point of view of the nursing staff and patients

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ABSTRACT

Aims: The aim of this research is to examine what kind of socio-demographic factors may have an influence on the degree of a patients' anxiety. It also deals with how successfully nurses are able to judge the possible reasons and extent of the patients' anxiety, as well as what kind of similarities or differences are shown in the opinions of the nursing staff compared to the subjective judgement and opinions of the patients. Furthermore, it was also examined how often similar focus points might appear in case of nurses' and patients opinions in relationship to the treatment of stress and anxiety.
Methods: The method of this research is in the form of questionnaires (patients – *np* = 70, nurses – *nn* = 19). Patients filled in an individually designed questionnaire and a questionnaire of a Scale of Anxiety and Depression. The figures were analysed with descriptive and deductive statistical methods.
Results: In 67% of the cases the extent of the patients' anxiety was considered to be an abnormal rate. The degree of anxiety did not show any significant relationship with the ways of practising religion, with marital status and with previous surgeries, but it was connected with the fact with whom the patient was living together with ($p \leq 0.014$). Nurses assessed the efficiency of applying the methods of reducing anxiety at a much better rate than the patients did.
Conclusions: The role of reducing the patients' preoperative anxiety must be emphasised and in which the appropriate family background also plays an important part. The period of hospital care before an operation is quite short and the nursing interventions become routine work. Nurses are not fully aware to what extent patients are consumed with anxiety in connection with nursing interventions.

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Introduction

During the period around surgery, the patients' sensation of stress and pain becomes increased which induces the so-called "negative trance", an altered state of consciousness. At that time, the patients' sensation narrows down and in addition, patients react more sensitively and impulsively to any verbal or non-verbal signals of the environment [1]. It is obviously a special state; thus, if that is recognised and treated in an appropriate way, the entourage can successfully improve both a patient's preoperative and postoperative conditions. During this period, the referential staff plays the most essential role. (In our case this term includes the health care workers, doctors, nurses, etc.) Patients spend most of their time in the hospital with the nurses, when compared to other members of the health care team. Furthermore, they also have the closest relationship with them. That is the reason why the behaviour of the nursing staff has an increased impact on the patients' feelings of anxiety and fears during this sensitive nursing period. When a nurse is impatient, moody, inconsiderate, nervous or does not attend to the patient or gives the patient the "cold shoulder", the patient's already increased sensation of anxiety and stress continues to rise. In general, in such a situation a patient is highly at the mercy of the nursing staff and of all the suppliers.

Theoretical background

The feeling of anxiety is one of the most important concomitant symptoms of physical and psychological diseases. It can be seen as a complex organic reaction that occurs only in situations considered to be dangerous. The period around surgery is an example of this, as a patient is involved in a situation that is appraised to be negative.

Numerous studies have emphasised the importance of monitoring anxiety and this has been verified by a wide variety of testing methods in relationship to being able to indicate the degree of anxiety (such as State Trait Anxiety Inventory, Hospital Anxiety and Depression Scale, Visual Analogue Scale, Amsterdam Preoperative Anxiety Information Scale, Multiple Affect Adjective Check List). Other methods, including the analysis of the plasma cortical level, catecholamine urine tests, taking blood pressure or pulse, are also used to assess the degree of anxiety [2].

Research has shown that a more speedy recovery can be reached with the help of applying conscious communication and anxiety reducing methods, thus, the sensation of pain decreases, the patient's compliance improves, less complications occur, the demand for medication is decreased, the duration of hospitalisation is shorter and, therefore, the health care can become more economical [3]. Patients' conscious preoperative preparation performed by nurses reduces their sensation of anxiety significantly [4]. The nurses' appropriate behaviour results in the patients feeling more satisfied [5].

In the frame of a study that aimed to examine 217 patients, answers were sought for the question whether there was any connection between the factors of age, sex, the complex nature of the surgery, previous operations and the feeling of anxiety. Results showed that 18.9% of patients (exactly 31% of female patients and 10.6% of male patients) felt anxiety. With the exception of the most serious of the intended surgery, no further factors could be connected with the degree of angina. The demand for information showed a correlation with the patients' age (particularly in case of elderly) ($r = 0.21$, $p = 0.002$) [6].

The research conducted by Matthias and Samarasekera [2], proved that the increased sensation of anxiety could be experienced in case of patients demanding more information, female patients and of those who had not had previous surgical interventions. Female patients had a significantly higher sensation of anxiety; patients that had already begun feeling anxiety beforehand and preferred waiting with a family member or a friend as well as talking with other patients [7]. Feeling anxiety before surgery can obviously be related to demographic factors and the grade of partnership support [8].

In a Swedish survey, the sensation of anxiety, depression and pain was examined relating to a year before and after surgery in case of patients waiting for hip replacement. Patients born abroad had more problems with self-sufficiency before and after surgery ($p = 0.01$), therefore more had an increased sensation of angina and depression ($p = 0.02$), as well as of pain (VAS, $p = 0.04$) which was experienced in their cases more than in cases in which the patients who were born in Sweden. One year after surgery, the standard of self-sufficiency was reduced ($p = 0.008$) in cases of patients born abroad. Furthermore, they still complained about an increased sensation of pain (VAS, $p = 0.02$) [9].

Fifty-nine percent of patients worried about the pain after surgery, 46% of patients were anxious about recovery after surgery, 33% of patients were concerned about the pain during surgery and 30% of patients were bothered about the attentiveness of the nursing staff [10].

A Taiwanese study examined the connection between the sensation of anxiety and of pain and nursing interventions around the time of surgery in cases of patients waiting for abdominal surgery. This research found that the sensation of anxiety before the operation was significantly reduced in cases involving the examined group ($n = 30$) and their pain attitudes after surgery also improved remarkably, as well as their sensation of postoperative pain was minor four hours after surgery and remained minor in the first 24 h. In case of this analysed group, mobilisation could be started at an earlier time [11].

In the frame of a study that was carried out in the United States of America, nurses ($n = 2500$) were asked to answer two open-ended questions in connection with how they could observe patients' anxiety and what kind of methods could be used in order to reduce this. The rate of answering these questions was rather low, only 31.6% (accurately 593 nurses) gave answers. On the basis of the given answers, four categories, including physical signs, behaviour, emotions and social signs, were created to understand the sensation of anxiety. Strategies for reducing the feeling of angina, which were applied by the nursing staff or with the help of which patients' anxiety

could be lessened, were divided into three groups. The following groups were established: provisioning techniques, providing information and mental support [12].

A survey, which was carried out in cases of patients waiting for laparoscopic cholecystectomy, emphasised that informing patients by the nursing staff could reduce the feelings of anxiety both before surgery and also reduce the possibility of the development of postoperative complications [13].

Aims of the research

In the context of our research some questions are set to be answered. First of all, how successful can the nursing staff assess the possible reasons and degrees of the patients' feelings of anxiety? Secondly, what kind of similarities and differences can be stated between nurses' opinions and patients' subjective assessment and opinions? Thirdly, what kind of socio-demographic factors can have an influence on the degree of the patients' sensation of anxiety? Finally, what similar focus points have arisen between patients and nurses referring to the treatment of anxiety and fear?

Hypothesis:

1. It is estimated that before surgery the average rate of patients' sensation of anxiety is higher than the standard mean value of anxiety.
2. It is also expected that religiousness influences the sensation of anxiety to a greater extent than marital status, previous surgical interventions and the fact, who the patients has been living together with, do.
3. It is believed that the nursing staff has become aware of each patients' sensation of fear in relationship to each intervention performed on that particular ward.
4. It is thought that nurses apply methods to reduce the sensation of anxiety in an appropriate way; moreover, the realisation of the possibilities to reduce anxiety is appropriate in cases regarding the given ward.
5. It is assumed that similar focus points have arisen between nurses and patients in relationship to treating anxiety and fear.

Materials and methods

The method for this research was in the form of a questionnaire. Filling in these questionnaires was carried out on the ward of a hospital in Budapest, which had both a surgical and vein surgical profile, used by both patients and nurses.

An individually designed questionnaire was filled in by patients and nurses. In addition, to this, patients were also asked to answer questions referring to the feeling of anxiety in the Hospital Scale of Anxiety and Depression. The schematics of questionnaires were designed for both patients and the nursing staff and were similar.

The analysis of the data was completed with the help of descriptive statistical methods (mean, deviation, and repartition) and of deductive statistical methods (Chi-squared test, variant analysis). The value of significance was determined as $p \leq 0.05$. The figures were analysed with the help of the Microsoft Office Excel Programme and the System of Statistical Package for the Social Sciences (SPSS) 20.0.

During collection of the samples, the method of non-probability sampling was used, which meant that those subjects were asked, who could be reached easily. The Results were calculated on the basis of the sample, are not representative and these do not properly describe the majority. However, they can be seen as guideline for further research.

Completing the questionnaires was carried out between July 4, 2013 and September 30, 2013 among the patients. These patients who did not have any malignant diseases and stayed at hospital for maximum five days were waiting for planned minor abdominal surgery. Face-to-face interviews with patients were started between 7:00 and 8:00 am every morning, in order to be able to talk with them before the operation. Seventy patients took part in this process (*np* = 70).

The survey among the nursing staff was completed in September 2013. The sample consisted of all of the nurses who worked on the previously mentioned ward and were eager to answer the questions. The factors of age, sex, qualification and further criteria were excluded. As a result of this, the sample of nurses included 19 individuals (*nn* = 19).

Results

Patients' demographical description

The patients' average age was 56 years and its standard deviation was 16 years. The repartition based on sex was the following: 41 participants were female and 29 of the surveyed were male. The separation based on the medical diagnosis was as followed: 36 patients were waiting for biliary surgery, 19 patients were waiting for inguinal hernia surgery, 9 patients were before abdominal wall hernia surgery, three patients were before umbilical hernia surgery and three patients were waiting for other minor abdominal surgery.

Patients repartition based on religiousness was the following: 37 patients were catholic, a participant was evangelic, two patients belonged to the so-called Belief Congregation, while 13 of those surveyed did not want to answer this question.

Results of the hospital scale on anxiety and depression

The evaluation of this scale comprises the following ratings: between 0 and 7 points the result is not considered an anxious case, between 8 and 10 points it is considered to be a borderline case, and above 11 points the term "anxious" case could definitely be used [14].

In case of this survey, the mean value of the patients' feelings of anxiety was 6.7 and the standard deviation was 4.3. The mean values based on the separation of sexes are shown below (Table 1).

Table 1 – The scale of anxiety by ratio of gender (*np* = 70)

	Mean	Standard deviation
Female	7.5	4.5
Male	5.7	3.9

Eight patients assessed themselves to be between 8 and 10 points (marginal case of angina) and 15 participants gave values above 11 points, which meant they are experiencing abnormal anxiety rates.

The connection between the feeling of anxiety and different socio-demographic factors

A multiple aspect variant analysis was carried out in order to analyse the connection between the feeling of anxiety and different non-metric variables. On the basis of this research, the feeling of anxiety did not correlate with the marital status ($p \leq 0.375$), religiousness ($p \leq 0.088$) and with the existence or the lack of previous surgical interventions ($p \leq 0.224$). However, there was a significant connection regarding who the patient was living together with ($p \leq 0.014$).

Those patients who lived alone had the least amount of feelings of anxiety and they were followed by those who were living with their families. The most increased feeling of anxiety involved those patients in which there were only two in the family (Table 2).

Table 2 – The connection between the anxiety and with whom the patient lives with (*np* = 70)

With whom he/she lives	The mean of anxiety
Alone/single	4.464
With family	7.379
Only with partner	8.056

Compared the situation of married couples, singles, widows and those living in a relationship, it was shown that the feeling of anxiety was lower in cases of widows than in cases of any other forms of coexistence (Table 3).

Table 3 – The connection between the marital status and anxiety (*np* = 70)

Marital status	Mean of anxiety
Single	7.0
Married	7.0
Divorced	7.3
Widow/widower	5.9
Companion	7.5

During the analysis of the correlation between feeling anxiety before surgery and age, no significant connection was indicated ($p \leq 0.351$). Patients' religiousness did not show any significant correlation with the feeling of anxiety ($p \leq 0.721$). Experiencing previous surgery and its assessment did not show any significant connection with the feeling of anxiety before surgery either ($p \leq 0.891$).

The demographic characterisation of the nursing staff

The nurses' average age was 40 years, with a standard deviation value of 12. All of the 19 participating nurses were female. In average they spent 15.6 years on the surgical ward during their work (deviation was 12.7). In relationship to their qualification, 12 nurses had qualification registered by the National Qualification Register, Three nurses were general nurses and assistants, one participant had a college degree, one person was nursing assistant and two people categorised themselves as having other qualifications.

The evaluation of various interventions in connection with causing anxiety from the nurses' and patients' points of view

A ranking order could be created on the basis of how patients and nurses thought about each intervention in relationship to the feeling of anxiety. Patients gave answers to the question of what sort of a degree of own anxiety related to different interventions. Nurses gave answers to the question of what kind of a degree of anxiety patients were supposed to have in cases involving various interventions. It is worth emphasising that patients marked the interventions of gastric tubes placement and catheterisation as causing the most increased feelings of angina, while nurses answered the same question by marking surgery and anaesthesia. The exact order can be observed in the table below (Table 4).

Table 4 – The order of different interventions according to the scale of anxiety

Patients (*np* = 70)	Nurses (*nn* = 19)
1. Put in the nasogastric tube	1. *Operation*
2. Catheterization	2. *Narcosis*
3. Enema	3. Put in the nasogastric tube
4. *Operation*	4. Enema
5. *Narcosis*	5. Catheterisation
6. Injection therapy	6. Injection therapy
7. Infusion therapy	7. Wound treatment
8. Blood withdrawal	8. Blood withdrawal
9. Wound treatment	9. Infusion therapy
10. Medication administration	10. Medication administration

In the case of Chart 1 below, it can be observed how patients and nurses assessed various interventions relating to the causes of the sensation of anxiety with the help of a four-degree scale. It must be emphasised that the nursing staff evaluated each intervention with a higher value of anxiety than the patients did.

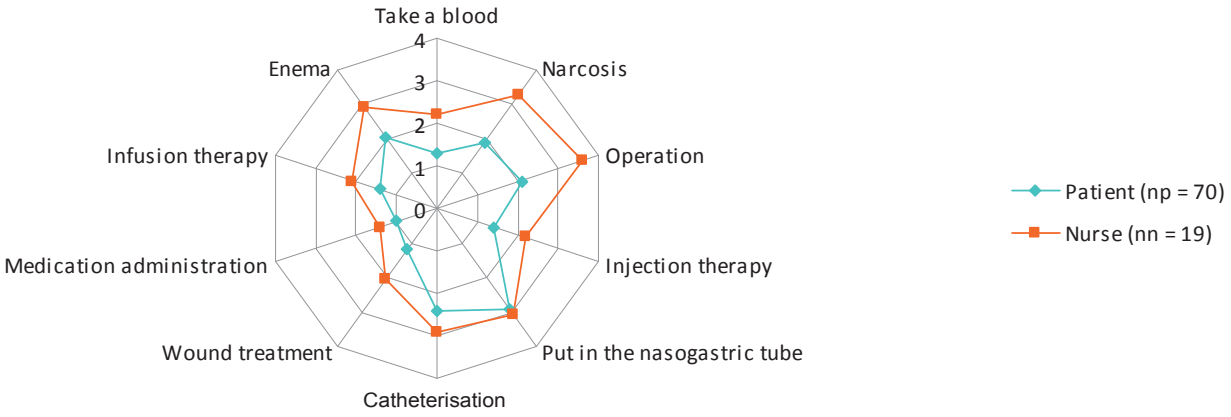

Chart 1 – The judgement of anxiety in connection with interventions by four scales

Implementation of the possibilities of reducing from the nurses' and patients' points of view

Nurses and patients were asked what they thought about the possibilities of reducing the feeling of anxiety, and how successful such methods were applied on the given ward. Both the nursing staff and patients gave the best and the highest scores to the statement referring to the fact that nurses did their best to help patients to recover quickly. Patients assessed those statements with higher scores that dealt with, relying on nurses, whether the nursing staff paid attention to the patients' demands and if the atmosphere in the hospital and in the sick-wards, as well as the surrounding environment reflected tranquillity. Contrary to this, nurses evaluated those statements with higher scores that referred to preparing patients for surgery or that patients could always talk about their fears with them and so they could often put the patients' heart at rest.

In relationship to the two questions nurses were also asked to assess not only themselves, but in addition the general the nursing profession. It is important to highlight that in the case of both questions, nurses gave higher scores when they had to evaluate their own work rather than when they did it in a general sense (Table 5).

Table 5 – The possibilities of reducing anxiety

Point of views	Patient (*np* = 70) (Mean)	Nurse (*nn* = 19) (Mean)
The nurses do everything possible for the recovery of the patients	3.8	Self judgement: 3.9 General judgement: 3.7
The patients trust their nurses	3.7	3.5
The nurses take into account the requests of the patients	3.6	Self judgement: 3.3 General judgement: 3
The environment of the hospital, the rooms and the furniture gives the feeling of comfort	3.5	2.9
The patients are trained for the intervention	3.5	3.8
The nurses often make the patients calm	3.2	3.7
The patient can speak about their fears	3.1	3.4

There were only 33 participants among patients who were unable to answer all the questions. This was explained by the fact that they had no opportunity to meet nurses so often before surgery and they were not able to provide a proper answer to the question.

The introduction of answers received in case of open-ended questions

To answer the question about what mostly helped them to reduce their fears during their hospitalisation, patients gave the following answers listed below (some patients wrote more than one answer, while others did not answer this question). Twenty-two participants highlighted the role of atmosphere including the quality, neatness, tidiness of the hospital and the appropriate room temperature. In addition to these, silence, the feeling of tranquillity and safety, music and providing adequate sleep could be listed here (Chart 2).

To answer the question of what caused the most increased feelings of anxiety, 15 patients stressed the role of their colleagues, in addition to their own behaviour,

while being in a tantrum, or their suffering and death. At the same time, 12 patients emphasised the role of the atmosphere, whose main features included noise, theft, difficult orientation in the building and general untidiness regarding toilettes and shower cabins etc. (Chart 3).

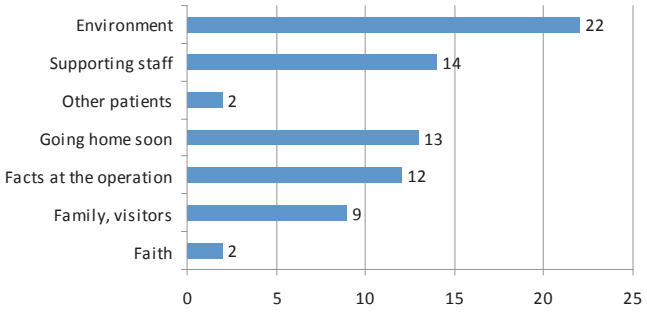

Chart 2 – The conditions producing the most comfort for the patients according to the patients (*np* = 70)

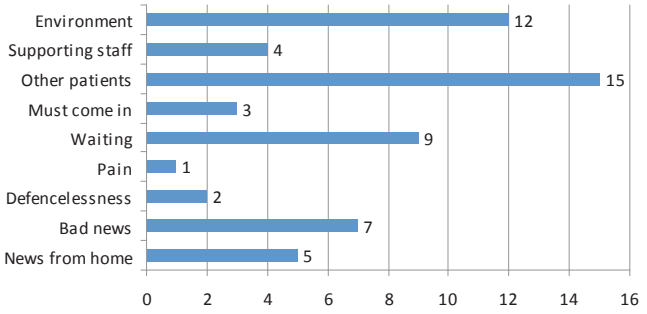

Chart 3 – The conditions producing the most anxiety for the patients according to the patients (*np* = 70)

To answer the question of how the feeling of anxiety and fear could be reduced in cases involving hospitalised patients, 24 participants highlighted the role of the nursing staff. The most essential characteristics involved, their appropriate attitude, patience, understanding, tranquillisation, kindness and the ability of creating a friendly atmosphere. Most patients mentioned that this could be fulfilled by increasing the number of employed nurses. Thirteen participants highlighted the role of speech. This could be achieved with the contribution of the nursing staff, an accredited worker or with a psychologist, if one is required. Seven patients thought that the most important factor was the environment itself with reference to the exterior and interior of the building, the quality of the inside, music, colours, plants and fewer patients in the sick wards. Five patients emphasised the role of receiving information, two participants pointed out getting through surgery as quickly as possible and finally, one patient discussed that everything should be all right at home.

In the context of answering the question of what effectively helped their patients calm down, nurses gave the following answers (some nurses gave more than one answer, while others did not answer at all). The majority of the participating nurses, exactly 8 nurses, emphasised the essential role of providing information and appropriate details to their patients. Five participants found a solution to the problem with the help of engaging in the proper attitudes and behaviours by the nursing staff. This included calmness, being informative, helpfulness, patience and keeping to a routine. One of the participating nurses wrote her own behaviour as mentioning that "while looking into his eyes I'm caressing his arm gently". Five nurses highlighted the role of talking and of mental preparations. In their cases, only one nurse stated that talking with the doctor should be the most essential factor. One of the participants were of the opinion that patients could be calmed down more successfully if there were more nurses. One nurse underlined the role of calm and supportive relatives.

To give answers to the question of what caused the most increased feelings of anxiety during patients' hospitalisation, six nurses emphasised the lack of providing information. Five participants mentioned that patients felt anxiety and tension coming from their surroundings. Four nurses were of the opinion that this could occur when patients heard a great deal of conflicting information about their disease or when they remained in uncertainty. Two nurses thought that hustle and bustle was what caused anxiety for patients. One of the participants underlined the lack of communication. Another nurse highlighted the feeling of stress and one nurse emphasised the waiting period.

To answer the question of how a patients' feeling of anxiety might be reduced, numerous answers were given. Five nurses were of the opinion that this could be solved with the help of providing proper information and details. In the opinion of five other nurses, more time should be spent with a patient. Three participants thought that more nurses had to be employed on a ward, and in this way their work loads might be lessened. Three nurses found a solution to the problem in the nurses' behaviour (smiling, consistency, attention, patience). One of the participants underlined the essential role of appropriate communication, one nurse considered talking and another participant judged the tranquil environment as being the most important factor. One nurse thought that a good solution could be the balanced doctor-patient relationship, another participant was of the opinion that psychologists' help was needed for both patients and the nursing staff, and finally one more nurse considered that nurses should have been paid better in order to be able to reduce the patients' feeling of anxiety.

Discussion

Twenty-one percent of the analysed patients belonged to the category of anxious cases and 12% were in the category of marginal cases. The mean value of their feeling of anxiety was 6.7 and its deviation was 4.3.

In the context of a Sri Lankan study, a hundred patients' feelings regarding preoperative anxiety were analysed. In the cases involvingthis examined sample, the frequency of the occurrence of anxiety was 76.7% [2]. It is obviuos

that this number is much higher than the results of our research; even if in this latest case patients waiting for only minor abdominal surgeries were investigated. Contrary to this, in the Sri Lankan survey, patients waiting for minor and major surgerical procedures took part (in particular, 31 major surgeries and 66 minor operations), and in addition, this difference could be the result of individual differences between the characteristics of these two countries.

On the basis of the results of another survey, it could be additionally stated that 18.9% of the examined patients were considered to belong to the so-called angina cases (31% of female participants and 10.6% of male patients) [6]. This result approaches the result of 21% shown in our research.

In the context of our own preliminary study, the test of State-Trait Anxiety Inventory created by Spielberger was applied in order to be able to assess the feeling of anxiety in cases of patients hospitalised in the surgical ward. Questionnaires were filled in after surgery. Patients' feeling of anxiety was under the mean value [15]. It is worth mentioning that in relationship to the examination of patients' feelings of preoperative anxiety, values below the mean were also received.

On the basis of our hypothesis referring to the statement that "the mean value of patients' feeling of anxiety is increased before surgery than its standard mean value", it must be stated that it could not be proven.

The only factor that significantly connected to a patients' anxiety involved who that person was living with. Those who were single had the least amount of the feeling of anxiety, and they were followed by patients who had a family. The most increased sensation of angina involved those who were married. On the basis of our hypothesis relating to the statement that "religiousness has a greater influence on the degree of anxiety than marital status, previous surgery or the fact with whom the patient is living with do". It must be stated that this could not be proven.

In connection with how various interventions influenced the patients' feelings of anxiety, patients marked nursing interventions (the assistance of a gastric tube or catheterisation) as being the most anxious, while the nursing staff thought the same about surgery and anaesthesia, which did not belong to the task of nurses working on the analysed ward. It can be assumed that patients made their decisions on the basis of what those interventions were that caused the most feelings of stress for them or which threatened their human dignity. Nurses could probably come to a decision on the basis of what those interventions were that were thought to have the most risks or which could threaten the patients' health condition or lives. Besides these facts, a further explanation could also be stated that patients more often trusted their doctors and not their nurses. This is why they were frightened of nursing interventions.

It is critical to emphasise that nurses evaluated each intervention with more increased sensation of anxiety than patients did. Some of its reasons might be that during their qualification nurses could study about the fact that patients could feel anxiety of everything, even of the thing they "need not have". This overvaluation could be desirable, if more attention was paid to reduce the sensation of anxiety.

On the basis of all this, our hypothesis referring to the fact that "the nursing staff is fully aware of the hospitalised patients' fears connected with each intervention" must be rejected.

The evaluation of questions referring to the possibilities and the existence of the methods of reducing the feelings of anxiety, were quite different in the cases of patients and nurses. The statement that the nursing staff did its best to help patients in recovering quickly was assessed with the highest scores coming from both nurses and patients. Patients gave better scores to the statements which dealt with trusting nurses, whether nurses paid attention to patients' demands and if the atmosphere in the hospital, sick-wards and the surrounding environment reflected tranquillity. Contrary to this, nurses evaluated those statements with higher scores that dealt with preparing patients for interventions, whether patients could share their fears with them and if nurses were able to put patients' mind at ease. Both patients and nurses assessed every question with scores above 3 points (out of out a possible 4 points). This could be viewed as a very positive result. However, only 33 patients could answer all questions. This was explained by the fact that patients had not been able to spend enough time with nurses before surgery in order to give a proper answer to the question referring to the nursing staff. On the basis of this, our hypothesis connected with the statement that, "nurses can apply methods of reducing patients' feelings of anxiety with success. Moreover, the existence of possibilities to reduce patients' anxiety is appropriate on the given ward" could not be adopted.

In the case of open-ended questions, similar focus points were stated by both patients and nurses. It was emphasised that the role of the atmosphere and the nursing staff played an essential role in what factors were mentioned that helped patients reduce their fears during hospitalisation. However, patients also mentioned some factors apart from hospital measures and nurses, namely such factors that were influenced directly by vendors and the hospital. Patients highlighted mainly interpersonal factors and they also looked for some issues in their social environment which could help them set their heart at ease. The nursing staff underlined the role of concrete tools for reducing the patients' anxiety in order to cope with task-oriented measures. According to both participating groups, the role of the nursing staff and various environmental effects seen as tension-causing factors, could, for the most part, upset patients. On the other hand, nurses did not reveal the role of colleagues as the most upsetting factor for patients. On the basis of the answers given to the last open-ended question, it could be stated that both nurses and patients found a solution to the problem of reducing the patients' feelings of anxiety in the behaviour, attitude performed and information provided by the staff (especially nurses). Environmental factors were seen as essential tools for reducing the patients' anxiety, and these were mentioned by both participating groups. In reference to 14 patients out of 70 surveyed (exactly 20%), the nurses' behaviour and attitude were marked as a factor for reducing

the feeling of anxiety. On the basis of Apfelbaum et al. [10], it was indicated as reaching the value of 30%.

On the basis of this, it could be stated that our hypothesis referring to the statement that "similar focus points could arise among patients and nurses in order to be able to treat the patients' feelings of angina and fears" can partially be viewed to be proven.

Conclusion

On the basis of the results of this research, it can be stated that the patients' feelings of anxiety does not correlate with the factors of marital status, religiousness and whether patients had been involved with previous surgeries. This phenomenon can be explained by several factors. Patients who had a family might be more anxious of those members, who were staying at home; it could create fears in them who would take care of these members or how their families could handle if their conditions worsened or maybe in the case of their death. Another reason for this could be that the scales used for assessing the patients' feelings of anxiety are subjective, as patients evaluate themselves based on their own admission and if they had the possibility to talk about their fears with their family members, the feeling was increasingly realised and this was shown in the results of the scales of anxiety. It can be concluded that patients living alone, have a lesser degree of angina, therefore these were not be presented in the questionnaires based on one's own admission. This might be checked with methods that take further aspects into account (for example: physical symptoms, projective tests, etc.).

The patients, who meets his nurse only occasionally before surgery, cannot have a confidential relationship with his nurse and is not prepared and tranquillised appropriately, as well as their fears are not handled properly by the nursing staff.

Summarising patients' and nurses' opinions, the following methods or factors can be applied in order to reduce the feelings associated with anxiety in relationship to surgery:

- From the vendor's point of view: providing information and appropriate details, obtaining patients' confidence, talking, being kind, smiling, having a good sense of humour, being calm, having professional qualification, having self-confidence, providing good atmosphere.
- From the patient's' point of view: cooperation and the feeling of trust.
- From other fellows' point of view: accurate behaviour, quiet talk, and making less noise.
- From the family members' point of view: visits and assistance.
- From the hospitals point of view: more nurses on the ward, fewer patients hospitalised in the sick-ward, and pay-raises in case of the nursing staff.

On the basis of previous references and this current research, more factors could be stated, which might have an influence on patients' sensation of anxiety and tranquillity during the period before and after surgery. These are the following [16]:

- Factors in the relationship to a patient: physical effects, biological (somatic) factors (sensation of pain, sickness), socio-demographic elements (for example: who the patient lives together with), psychical factors (such as images about the disease, experiences in relation to the disease, personality, own fighting strategies).
- Factors in connection with the nursing staff: skills, competences, professional qualification, attitude, reliance, personality, psychic state, sympathy.
- Factors relating to providing information: communication, cooperation, appropriate place and time.
- Factors connected with the health care system: technological and economical development, quality-oriented views, education, training systems (enough qualified nurses).

Recommendation

One of the most essential elements of reducing patients' sensation of anxiety is the qualification levels of the nurses. This can be supported with establishing a proper training system. It is suggested that besides theoretical classes such hospital practice classes should be organised in frame of the nursing training system where students would have the opportunity to talk with patients, practice how to reduce anxiety and after all this, to talk about their experiences with their lecturers.

Enough time and an appropriate place have to be provided for nurses to prepare patients' psychically before surgery. To reach this goal, a separated room or a single-bed sick-ward would be ideal where a nurse could help a patient ventilate his fears in a peaceful environment and would be able to prepare him for the happenings around surgery. If this is impossible to be solved, it might be fulfilled on the ward, at basic caring level with the help of monitoring during the recovery period together with psychic caring, which can be performed in frame of district caring. In relation to this, establishing a patient-monitoring system might be useful, which could give a helping hand in supporting and caring of patients who have already gone through surgery.

First of all, the number of nurses being overwork must be reduced. One essential part of this is to increase the number of the nursing staff. Furthermore, with a pay-raise it should be prevented that nurses engage themselves to do extra-work in order to make an affordable living.

Placing trust in nurses is also needed, which requires showing nurses in a more "marketable" way for patients. This would demand nicer, cleaner and more individualised uniforms. Nowadays if the hospital provides uniforms, they are faded or expanded; when nurses wash them at home, in order to save money they do it fewer times than it is required and as a result of this, it is more likely to take pathogens into their homes. Increasing the feeling of trust can be reached with more considerate behaviour or with increasing levels of competences.

Conflict of interest

The authors have no conflict of interest to disclose.

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