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Analysis of the styles of coping with stress in women in the preoperative period

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ABSTRACT

Introduction: Stress constitutes a serious social and health problem. At the beginning of the 21st century, it became a very common and popular topic in medicine. As such, it is important to conduct studies on the causes of preoperative stress and strategies of dealing with it, especially in a hospital environment. Our research results, alongside numerous other studies, show that the problem is still present.

The aim of the study was to analyze the styles of coping with stress in women before surgeries using the Coping Inventory for Stressful Situations (CISS).

Materials and methods: The study was conducted on 339 women admitted to a surgical gynecology clinic. A diagnostic survey with a questionnaire CISS was conducted.

Results: The most dominant style of coping with stress is the avoidance-oriented style which is prevalent in 35.4% of respondents. The study shows that use of the avoidance-oriented style decreases with age ($p = 0.007$). Younger women try to avoid stress by socializing more frequently than older individuals. Less-educated women focus on avoiding stress more often ($p = 0.017$) than well-educated women who are more task-oriented ($p = 0.011$). Women with fewer past surgeries seek social contact to avoid stress more frequently ($p = 0.019$). Engaging in substitutive activities is more prevalent among women who underwent surgeries where the abdominal cavity is opened.

Conclusions: 1. Gynecological surgeries are a source of stress and a great emotional burden for women. 2. Older, well-educated women show better skills in coping with preoperative stress. 3. Most respondents use the avoidance-oriented style.

Keywords: gynecology; stress before surgery; women.

INTRODUCTION

Stress constitutes a serious social and health problem. At the beginning of the 21st century, it became a very common and popular topic in medicine. Informing patients of an illness and a need for treatment usually resulted in the patient experiencing nervousness and an increase in levels of anxiety which is not only a burden for their psyche, but also hinders the healing process [1, 2].

Nowadays, there is a lot of discussion on different types of stress as these are affecting an increasing number of people in Poland as well as across the world. This is why it is important to conduct studies on the causes of preoperative stress and strategies of dealing with it, especially in a hospital environment. Our research results, alongside numerous studies referred to in this paper, show that the problem is still present. There is a need for a greater focus on the issue of perioperative stress in gynecological units. It has a significant impact on the patients' condition and affects their decision-making abilities and behavior. This is why the way of coping with stress is so important. Implementing the most optimal standard in nursing care in this regard could also contribute to improving the general quality of medical interventions. It would be beneficial to improve the processes designed to help women who require surgical treatment, e.g. by developing and providing patients with information material or by creating support groups. There is no doubt that this issue requires further in-depth study.

The aim of the study was to use the Coping Inventory for Stressful Situations (CISS) scale to analyze the styles of coping with stress in women before surgery.

MATERIALS AND METHODS

The study was conducted on 339 women admitted to the Clinic of Surgical Gynecology and Gynecological Oncology of Women and Children in the Independent Public Clinical Hospital No. 2, Pomeranian Medical University in Szczecin. The age of the respondents ranged 20–75-years-old.

The study included a diagnostic survey with the use of the CISS, standardized by the Polish Psychological Association, alongside the author's own questionnaire in order to collect socio-demographic and medical data from the respondents.

The CISS questionnaire consisted of 48 statements concerning various behaviors that respondents may display during stressful times. The participants indicated how frequently they exhibited certain behaviors in difficult and stressful situations on a 5-point scale. Each scale consisted of 16 positions and the overall score ranged 16–80 points. After calculating the raw results, they were

assigned sten scores in relation to age categories. This provided results that ranged 1–10, where 1 was the lowest and the least compatible, and 10 was the highest and the most compatible score.

The author's own questionnaire consisted of 7 questions concerning the respondents' age, education, marital status, place of residence as well as the number of previous surgeries, the type of anesthesia used and the type of surgery they were scheduled to have.

RESULTS

The largest group of respondents were women aged 41–60-years-old (50.44%). In regard to their education, 40.41% of the respondents had a secondary level education, 30.38% had completed higher education, and 29.2% of the respondents had primary education or vocational training. The majority of participants were in a relationship (67.85%) and lived in a city (79.94%).

The largest group of respondents had undergone one previous surgery (27.73%), 25.37% of participants had undergone 2 previous surgeries, 24.48% of respondents had more than 2 surgeries, and 22.42% had never experienced any surgery. During their operations, the respondents were either given general anesthesia (65.78%) or spinal anesthesia (34.22%). The surgeries were performed using the laparoscopic method (63.42%) or the classic method, by opening the abdominal cavity (36.58%) – Table 1.

TABLE 1. Socio-demographic data of researched women

Socio-demographic data	n = 339	%
Age		
20–40	88	25.96
41–60	171	50.44
Over 60	80	23.60
Education		
Primary/vocational	99	29.20
Secondary	137	40.41
Higher	103	30.38
Marital status		
Relationship	230	67.85
Single	109	32.15
Place of residence		
Village	68	20.06
City	271	79.94
Number of previous surgeries		
None	76	22.42
One	94	27.73
Two	86	25.37
More	83	24.48
Type of anesthesia		
General anesthesia	223	65.78
Subarachnoid anesthesia	116	34.22
Type of surgery		
Laparoscopy	215	63.42
Laparotomy	124	36.58

The next stage involved analyzing the respondents' sensitivity to stress and their style of coping with it.

After acquiring data concerning all styles of coping with stress, a dominant style was determined (with an 85% probability). The avoidance-oriented style was reported by the respondents most frequently. It was dominant in 35.4% of the participants, whereas the task-oriented style and the emotion-oriented style were dominant in 24.19% and 22.71% of the respondents, respectively. There was no significant difference between different styles of coping with stress in 2.65% of the participants. Two of the styles were more dominant than the 3rd in 15.04% of the respondents (Fig. 1).

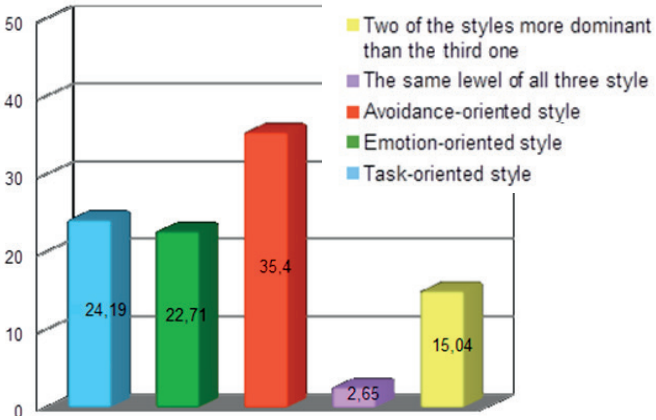

FIGURE 1. Dominant style of coping with stress

An analysis of these 3 styles of coping with stressful situations showed that the most common was the avoidance-oriented style – X = 6.19 ±2.34 in the form of engaging in substitutive activities – X = 6.25 ±2.26 (Tab. 2).

TABLE 2. Structure of the styles of coping with stressful situations in researched women

CISS n = 339	X (±SD)	Min.–Max.	Q1–Q2	M
Task-oriented style	5.68 ±2.06	1–10	4–7	6
Emotion-oriented style	5.59 ±2.26	1–10	4–7	6
Avoidance-oriented style	6.19 ±2.34	1–10	5– 8	6
Engaging in substitutive activities	6.25 ±2.26	1–10	5– 8	6
Seeking social contact	5.72 ±2.47	1–10	4–8	6

TABLE 3. Effect of age on the strategies of coping with stress

Variable	R	p
Task-oriented style	–0.045	0.407
Emotion-oriented style	–0.039	0.477
Avoidance-oriented style	**–0.146**	**0.007**
Engaging in substitutive activities	–0.024	0.661
Seeking social contact	**–0.222**	**0.001**

Moreover, the effect of variables on the frequency of the use of various coping strategies was analyzed. The first analyzed factor was the respondents' age. It was demonstrated that

there is a significant correlation between age, the avoidance-oriented style and in seeking social contact (Tab. 3).

Age and strategies of coping with stress

As demonstrated, the frequency of using the avoidance-oriented style decreases with age ($R \approx -0.146$; $p \approx 0.007$). Therefore, younger women avoid stress much more frequently than older women.

There is also a correlation between age and avoidance of problems by seeking social contact. Younger women try to avoid stress by seeking social contact more frequently than older respondents (Tab. 3).

Education and strategies of coping with stress

The next factor to be analyzed was education. It can be concluded that higher levels of education positively correlated with the frequency of using the task-oriented style and negatively correlated with the frequency of using the avoidance-oriented style and engaging in substitutive activities (Tab. 4).

Details concerning the relationship between the task-oriented style and education levels are presented in Table 4. The data shows that well-educated patients are more task-oriented ($R \approx 0.138$; $p \approx 0.011$).

TABLE 4. Effect of education on the strategies of coping with stress

Variable	R	p
Task-oriented style	**0.138**	**0.011**
Emotion-oriented style	−0.095	0.082
Avoidance-oriented style	**−0.130**	**0.017**
Engaging in substitutive activities	**−0.207**	**0.001**
Seeking social contact	0.055	0.315

Table 4 also shows the influence of education on using the avoidance-oriented style. Women with lower levels of education are more likely to avoid stress ($R \approx -0.130$; $p \approx 0.017$). The data also shows that women with lower levels of education try to avoid stressful situations more frequently by engaging in substitutive activities ($R \approx -0.207$; $p \approx 0.001$).

Number of previous surgeries and strategies of coping with stress

The next analysis determines the influence of the number of previous surgeries on how the respondents coped with stress. There is a significant negative correlation between the number of surgeries a patient has had and how likely they are to seek social contact (Tab. 5).

Table 5 details how the number of previous surgeries affects the amount that stressful situations are avoided by seeking social contact. These results show that women with fewer past surgeries seek social contact more frequently ($R \approx -0.127$; $p \approx 0.019$).

Type of surgery and strategies of coping with stress

The effect of the type of surgery (laparoscopy, laparotomy) on the strategy for coping with stress was also investigated. The results show significant differences in the emotion-oriented style and engaging in substitutive activities (Tab. 6).

TABLE 5. Effect of the number of previous surgeries on the strategies of coping with stress

Variable	R	p
Task-oriented style	−0.030	0.578
Emotion-oriented style	0.003	0.955
Avoidance-oriented style	−0.105	0.053
Engaging in substitutive activities	−0.039	0.473
Seeking social contact	**−0.127**	**0.019**

As shown, the emotion-oriented style is more intensified among patients who underwent surgery using the classic method ($p \approx 0.004$).

Other data regarding the engagement in substitutive activities in relation to the type of surgery shows that engaging in substitutive activities is more frequent in patients who underwent surgery through an opening the abdominal cavity ($p \approx 0.009$) – Table 6.

TABLE 6. Effect of the type of surgery on the strategies of coping with stress

Variable	Z	p
Task-oriented style	0.502	0.616
Emotion-oriented style	2.856	**0.004**
Avoidance-oriented style	1.586	0.113
Engaging in substitutive activities	2.629	**0.009**
Seeking social contact	0.800	0.424

DISCUSSION

The life of every human is centered around many issues and values determined by social and individual expectations and experiences. Health is not usually a central part of this. However, priorities are revalued as soon as an illness occurs. The necessity of hospitalization and the method of treatment can cause changes in the hierarchy of life goals. The situation often requires individuals to temporarily step down from fulfilling certain roles in their family life, social life and professional life. Each person experiences different emotions, including stress, in their own individual way and their adaptive reactions condition their psychological resources [1, 2].

Our study shows that patients prefer the avoidance-oriented style and the task-oriented style of coping with stress. The optimal style of reacting to stress was most common in a study by Kurowska and Jaworska where the majority of patients utilized the task-oriented style [3]. In a study by Bidzan et al., women with past surgical experiences displayed aspects of the task-oriented and emotion-oriented styles more frequently than patients awaiting their 1st surgery [4].

Research conducted by Pilewska and Jakiel shows that hospitalization and surgical treatment significantly disturb the daily routines of 70% of researched women by excluding them from their family life and professional life. Surgery-related stress is mostly caused by a fear of the operation and of pain. The vast majority of respondents in the preoperative period demonstrated the need of support from their relatives and more than half of the women expressed an interest in joining a support group [5].

Type of surgery and strategies of coping with stress

In our study, stress in the preoperative period affected all researched patients. Due to the fact that the hysterectomy is the most popular method of treatment in gynecology, there are many psychological consequences for patients, especially in the increase of stress, anxiety and depression. This theory is confirmed by Alexander et al. [6] as well as Reroń and Huras [7]. On the other hand, Kjerulff et al. show that the type of surgery has no effect on a patient's well-being and that levels of stress are only linked to the fear of an unsuccessful surgery [8]. Kuppermann et al. [9] and Hawighorst et al. [10] have made similar observations. Marek et al. suggest that the issues of stress, anxiety and depression in women after surgeries should not be underestimated [11].

The levels of stress in women treated surgically depends largely on their personality, age, education, the scope of the proposed treatment, and the prognosis.

Age and strategies of coping with stress

In our study, the results of the analysis confirm that age significantly affects the style of coping with stress. The avoidance-oriented style is the most common style in every age group, however, younger individuals were shown to be more likely to avoid stress than older patients.

Research by Lewicka et al. shows that patients under 40 years of age who undergo surgical treatment have a significantly lower ($p < 0.05$) average level of anxiety than patients over 41 years of age [12]. Łoza et al. also show that younger patients have a lower level of anxiety than older patients [13] and Bojar et al. reached similar conclusions [14]. On the other hand, Bączyk et al. do not confirm a statistically significant correlation between age and levels of anxiety [15].

Education and strategies of coping with stress

Our study suggests that the level of education significantly affects the style of coping with stress. Well-educated patients concentrate on the task, whereas patients with less education focus on avoiding stress. A study by Lewicka et al. shows that patients with primary education or vocational training have significantly higher ($p < 0.001$) levels of anxiety than well-educated patients [12]. Cosentino et al. have also reached similar conclusions in their study where higher levels of anxiety correlate with lower levels of education [16].

The ability to express emotions is an important aspect of dealing with illness. Controlling one's emotions in the event of sickness helps to maintain psychological balance and enables one to exhibit positive and negative behaviors when confronted with a difficult situation. Research conducted by Paciuch among patients of surgical units shows that they have difficulties expressing emotions accompanying their disease, which negatively affects their stress levels [17].

In our study, the emotion-oriented style was more frequent among patients who underwent their surgery using the classic method and those who experienced many surgeries in the past.

CONCLUSIONS

1. Gynecological surgeries are a source of stress and a great emotional burden for women.
2. Older, well-educated women demonstrate a higher ability to cope with preoperational stress. Therefore, it is necessary to pay more attention to younger and less-educated patients by teaching them methods of dealing with stress.
3. The majority of the researched women present the avoidance-oriented style; they should therefore be taught other techniques of coping with stress.

REFERENCES

1. Ali A, Altun D, Oguz BH, Ilhan M, Demircan F, Koltka K. The effect of preoperative anxiety on postoperative analgesia and anesthesia recovery in patients undergoing laparoscopic cholecystectomy. J Anesth 2014;28(2):222-7.
2. Pilewska AB, Jakiel G, Kanadys K, Kozak ŁA, Wernecki W, Malec K. Operacja ginekologiczna jako przyczyna zobiektywizowanego stresu u kobiet. Ginekol Pol 2007;78:777-82.
3. Kurowska K, Jaworska M. Poczucie koherencji (SOC) a style radzenia sobie z chorobą u osób z rozpoznaniem raka jajnika i jądra. Probl Pielęg 2010;18(4):429-34.
4. Bidzan M, Smutek J, Zielonka A, Mielnik J, Jurczak-Czaplicka M. Strategie radzenia sobie ze stresem u kobiet leczonych operacyjnie z powodu nowotworu narządów rodnych. Psychoonkologia 1998;3:41-7.
5. Pilewska A, Jakiel G. Oczekiwanie na interwencję chirurgiczną jako sytuacja trudna dla kobiet. Prz Menopauz 2005;4(5):37-41.
6. Alexander DA, Naji AA, Pinion SB, Mollison J, Kitchener HC, Parkin DE, et al. Randomised trial comparing hysterectomy with endometrial ablation for dysfunctional uterine bleeding: psychiatric and psychosocial aspects. BMJ 1996;312(7026):280-4.
7. Reroń A, Huras H. Operacyjne leczenie mięśniaków macicy a zaburzenia depresyjne. Ginekol Pol 2006;Supl. 1:127.
8. Kjerulff KH, Rhodes JC, Langenberg PW, Harvey LA. Patient satisfaction with results of hysterectomy. Am J Obstet Gynecol 2000;183(6):1440-7.
9. Kuppermann M, Varner RE, Summitt RL, Learman LA, Ireland C, Vittinghoff E, et al. Effect of hysterectomy vs medical treatment on health-related quality of life and sexual functioning: the medicine or surgery (Ms) randomized trial. JAMA 2004;291(12):1447-55.
10. Hawighorst S, Schoenefuss G, Fusshoeller C, Franz C, Seufert R, Kelleher DK, et al. The physician-patient relationship before cancer treatment: a prospective longitudinal study. Gynecol Oncol 2004;94(1):93-7.
11. Marek K, Dimter A, Jawor M, Dudek D. Zaburzenia depresyjno-lękowe u kobiet po histerektomii - przegląd piśmiennictwa. Psychiatr Pol 2001;35:763-9.
12. Lewicka M, Makara-Studzińska M, Sulima M, Bakalczuk G, Kanadys K, Wiktor H. Nasilenie lęku u kobiet w okresie okołooperacyjnym. Post Psychiatr Neurol 2012;21(3):183-9.
13. Łoza B, Opielak G, Szkodziak P, Bronikowska A, Bartyzel M. Lęk jako objaw łączący psychiatrię z innymi dziedzinami medycyny somatycznej – poziom leku u pacjentów wybranych oddziałów somatycznych. Psychiatr Prakt Ogólnolek 2004;4(4):193-6.
14. Bojar I, Humeniuk E, Wdowiak L, Chrzanowska D. An influence of an anxiety level on health state self-evaluation among patients of obstetric-gynecological outpatient clinics in Lublin. Pol J Environ Stud 2006;15(2B):86-8.
15. Bączyk G, Poniedziałek M, Skokowska B. Poziom lęku przedoperacyjnego u chorych leczonych chirurgicznie. Pielęg Pol 2005;1:42-5.
16. Cosentino M, Vidotto G, Ponchia R, Trovò S, Magistris M. Anxiety and acceptance of gynecological laparoscopic operations. Minerva Ginecol 2002;54(2):171-7.
17. Paciuch J. Objawy stresu u pacjentów związane z zabiegami operacyjnymi. Przeds Zarz 2012;13(11):87-98.