

Life satisfaction and self-efficacy in patients with stoma

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ABSTRACT

Introduction: There are many indications for a stoma surgery; however, most frequently it is the severity and progression of colorectal cancer. The result of surgical procedure is frequently a stoma. In view of the increasing prevalence of colorectal cancer and delaying stoma surgery particular attention should be paid to the aspects of quality of life and adaptation to a new life situation in patients with a stoma.

Purpose: To evaluate satisfaction with life and management of difficult situations in people with the stoma.

Materials and methods: The study included 200 people from three provinces: Podkarpackie, Małopolska, and Zachodniopomorskie. The study was performed by means of a diagnostic survey in a form of the author's questionnaire and two standardized tools: the SWLS (satisfaction with life scale) and the GSES (generalized self-efficacy

scale). A chi-square test for independence was used for a statistical analysis.

Results: The research found that for 56.5% of the respondents a stoma formation had a strong negative impact on their functioning both in personal, family and social life. In the opinion of 12.5% of the respondents intestinal stoma was the reason for giving up work. It was also found that there was a correlation between the level of satisfaction with life and education - higher education favors a higher level of satisfaction with life.

Conclusions: This study showed that there is a positive relationship between the level of life satisfaction and the sense of self-efficacy. The higher self-efficacy, the higher satisfaction with life among the respondents were found.

Keywords: Stoma, satisfaction, quality of life

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INTRODUCTION

Each year worldwide the incidence and mortality of cancer is increasing. The conducted analyses, observations and opinions of IARC experts (International Agency for Research on Cancer) show that in the category of structure of morbidity and mortality a present decade will be dominated by malignant tumors. The changing epidemiological structure is determined by such determinants as population growth, the aging and lifestyle of the world population (smoking, high-fat diet, low physical activity, obesity) [1]. Globally, colorectal cancer is the third most common cancer diagnosed in men (after lung cancer and prostate cancer) and the second in women (after breast cancer). In 2008, 1.2 million new cases were diagnosed, of which 608,700 patients died [2]. Relying on data contained in the National Register of Cancer, 14,938 (C18, C19, C20) cases of CRC were diagnosed in both sexes in Poland in 2010. This year 10,508 patients died from this disease [3]. For several years, the authors pointed out that the most common site of CRC is the rectum, however, epidemiological data from recent years clearly point to the colon as the site of the most frequent location of colorectal cancer [4,5]. Optimal therapeutic management of colorectal cancer is the one that takes into account aspects related to the radicality of tumor removal and the ability to maintain the continuity of the gastrointestinal tract. The choice of method of treatment depends on the tumor location, malignancy, staging and histological type [6,7]. In many cases, surgery ends with the formation of a stoma on the abdominal wall. The creation of intestinal stoma, in the light of the available literature, is mostly due to the progression of cancer of the lower GI tract, and mainly concerns patients between the fifth and the seventh decade of life. Nevertheless, cases of creation of ostomy, especially in the final segment of the small intestine, can be also found among young people in the second and third decade of life caused by the inflammatory bowel disease, including colitis ulcerosa and Crohn's disease [8,9]. The main purpose of creating a stoma is stool and gas excretion. However, bearing in mind professional equipment, properly formed stoma should also determine best possible quality of life during complicated systemic treatment and social rehabilitation [10,11]. Regardless of the age and sex of the patient, stoma formation is a special moment in patient's life, and at the same time critical, which causes loss of control of sphincters, has a negative impact on all spheres of life, increases the feeling of loneliness, disfigurement and mutilation. On the other hand, for many people stoma gives hope, prolongation of life, ability to function and to some extent pursue life plans [12-14]. Adaptation to a

new life situation lasts from a few months up to two years and is conditioned by many factors, which include health, possessed knowledge and skills, family support, the support of health care workers and self-help groups, the opportunity to return to their professional and social functions [6,8,11,12]. In Poland, according to the 2012 data from the National Health Fund, nearly 48,000 full refunds of aids (ostomy bag) were given. On the basis of these data, the number of patients with a stoma living in Poland can be estimated. This paper is an attempt to assess satisfaction with life and dealing with difficult situations of people with stoma.

The aim of the study was to assess satisfaction with life and dealing with difficult situations of people with intestinal ostomy.

MATERIALS AND METHODS

The study involved 200 people from Podkarpackie, Malopolskie and Zachodniopomorskie provinces (54.5% men and 45.5% women), aged 17 - 86 years with surgically formed intestinal stoma. The median age was - $M = 65$ years, and the first and third quartile 55 and 72 years, respectively. All respondents were provided a nursing care of the stoma. In the sample dominated elderly people, pensioners, whose stoma (usually a colostomy) was formed because of colorectal cancer. Inclusion criteria for the study were the formation of intestinal ostomy at least two months earlier and informed consent of the respondent. The research method was a diagnostic survey. The study used the author's questionnaire and two standardized tools: the Satisfaction with Life Scale (SWLS) by Diener et al. in the Polish version of Juczyński [17] and the Generalized Self-Efficacy Scale (GSES) by Schwarzer and Jerusalem [18] in the Polish adaptation of Juczyński [17].

Satisfaction with life is a conscious, cognitive process of making decisions about one's own life in relation to personal criteria. It refers to the global assessment of one's life and is a reliable measure of well-being [15,16]. The SWLS scale contains five statements with an option of choosing one response from a seven-degree scale. The examined person assesses the extent to which each of them refers to his or her past life. The result is a global rate of life satisfaction. The range of results is from 5 to 35 points. The higher the score, the greater the sense of satisfaction with life. Sten is used to interpret the scores. Sten scores within 1- 4. (standard score of 5-17 points) are interpreted as low, sten scores of 5 and 6 (standard score of 18-23 points) are considered average, while sten scores within 7-10. (standard score of 24-35 points) are interpreted as high [17].

The GSES scale is based on the theory of expectations and assessment of self-efficacy. It

measures the general strength of the individual's belief in successful coping with difficult situations and obstacles. Perceived efficacy may be related to specific areas of activity, as well as express the general belief as to dealing with problematic or new situations. Assessment of self-efficacy is a valuable indicator of intentions and actions in various areas of human health behaviors. The tool includes 10 statements rated on a four-degree scale. The sum of all points gives an overall indicator of self-efficacy, which may be in the range of 10 to 40 points. The higher the score, the greater the sense of self-efficacy. It is also acceptable to use a scale interpreting sten scores of 1-4 as low, 5 and 6 as average, 7-10 as high. [17,18]. The collected data were subjected to statistical analysis using IBM SPSS statistical package. The study used a chi-square statistical test of independence, at the same time adopting $p \leq 0.05$ as the level of statistical significance.

Characteristics of the respondents

The most common cause of stoma formation is colorectal cancer (67.5%), Inflammatory Bowel Diseases (IBD) (14.0%), polyposis (11.0%) and others (7.5%). 87.5% of the respondents had colostomy, whereas 9.5% had ileostomy. Only 3.0% of the respondents could not specify the type of ostomy. People over 60 accounted for 62.5% of the examined group and one-third of all respondents were over 70 years old. The smallest group (7.5%) was represented by

people under 39 years of age. More than a half (62.0%) of the respondents came from cities. The majority of the respondents (80.0%) got a pension or disability allowance, 12.0% were professionally active and worked full time. The findings revealed that the dominant respondents (65%) were married. One third of the respondents were people with secondary education (33.5%). The time elapsed since ostomy formation varied among the respondents. The largest group was people functioning with a stoma from 2 months to 1 year - 40%, 32.5% of the respondents had a stoma for over 1 year to 5 years, and 24.5% of the respondents for more than 5 years.

RESULTS

According to more than a half of the respondents (56.5%), a creation of the stoma has a substantial adverse affect on normal functioning at the personal, family and social life level. Only 10.0% of the respondents reported no problems in the functioning. 12.5% of the subjects pointed to the fact of the stoma creation as a reason for resignation of work.

59.5% of the respondents were rather satisfied and satisfied with life. Nearly one-third (29.5%) of the subjects were dissatisfied with life (the categories "rather dissatisfied" and "very dissatisfied" together). The ratio of satisfied to dissatisfied (all categories) was 2.2 :1 (Fig.1).

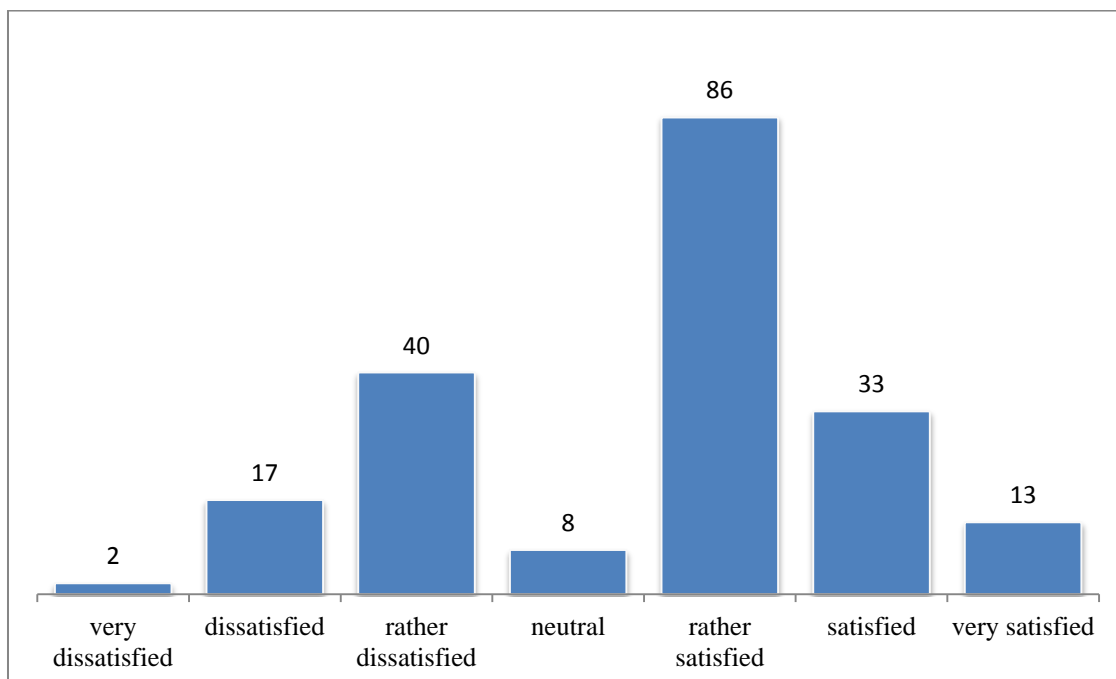


Figure 1. Satisfaction with life in the researched group.

Each of five questions included in the SWLS has 7 categories of response. Analysis of cross tables and in particular the analysis of chi-square test were difficult to carry out due to a large number of cells with small expected frequency. Therefore, further analysis was conducted by combining two extreme categories: "very satisfied" with "satisfied" and "very dissatisfied" with

"dissatisfied", while the category "indifferent" was eliminated. In the course of socio-demographic analysis, no statistically significant correlation between the level of life satisfaction and factors such as age, sex or marital status was found. However, correlation was observed between the level of satisfaction with life and education (Tab.1).

Table 1. Life satisfaction level based on education.

SWLS	Primary	Vocational	Secondary	University	Total
Very satisfied+satisfied	24.3%	17.9%	23.1%	44.0%	24.6%
Rather satisfied	35.1%	42.9%	47.7%	56.0%	44.8%
Rather dissatisfied	27.0%	26.8%	20.0%	-	20.8%
Very dissatisfied+dissatisfied	13.5%	12.5%	9.2%	-	9.8%
Total N	37	56	65	25	183*

*No answers (9 persons) as well as those whose satisfaction level was assess as "neutral" (8 persons) were excluded from the analysis.

Higher level of education promotes a higher level of life satisfaction. However, this correlation is not statistically significant at $p < 0.05$ ($p = 0.051$). The subjects who live in cities often declare higher satisfaction with life than those living in rural areas ($p \leq 0.05$).

The type of stoma and time since stoma creation did not influence the level of satisfaction: the individuals a few months after stoma surgery represented a similar level of satisfaction with life to those who were operated several or several dozen years before (Tab. 2).

Table 2. SWLS and GSES, and time since stoma creation.

Time from stoma creation	Scale	Mean	Min	Max	SEM	SD	Valid N
2 months-1 year	SWLS	4.44	2	7	.15	1.37	80
2-5 years	SWLS	4.75	1	7	.18	1.47	65
6-10 years	SWLS	4.58	2	7	.27	1.48	31
11-15 years	SWLS	4.45	2	6	.39	1.29	11
More than 15 years	SWLS	4.44	2	7	.58	1.74	9
Total	SWLS	4.57	1	7	.10	1.43	196

Time from stoma creation	Scale	Mean	Min	Max	SEM	SD	Valid N
2 months-1 year	GSES	1.97	1	3	.10	.90	80
2-5 years	GSES	2.32	1	3	.10	.77	65
6-10 years	GSES	2.10	1	3	.16	.88	30
11-15 years	GSES	2.45	1	3	.28	.93	11
More than 15 years	GSES	2.44	1	3	.29	.88	9
Total	GSES	2.16	1	3	.06	.87	195

Analysis of data on the level of life satisfaction and reasons for stoma creation showed that the respondents with intestinal polyposis and other conditions (complications after radiotherapy,

trauma) were more likely to represent a higher level of satisfaction than others (Fig. 2).

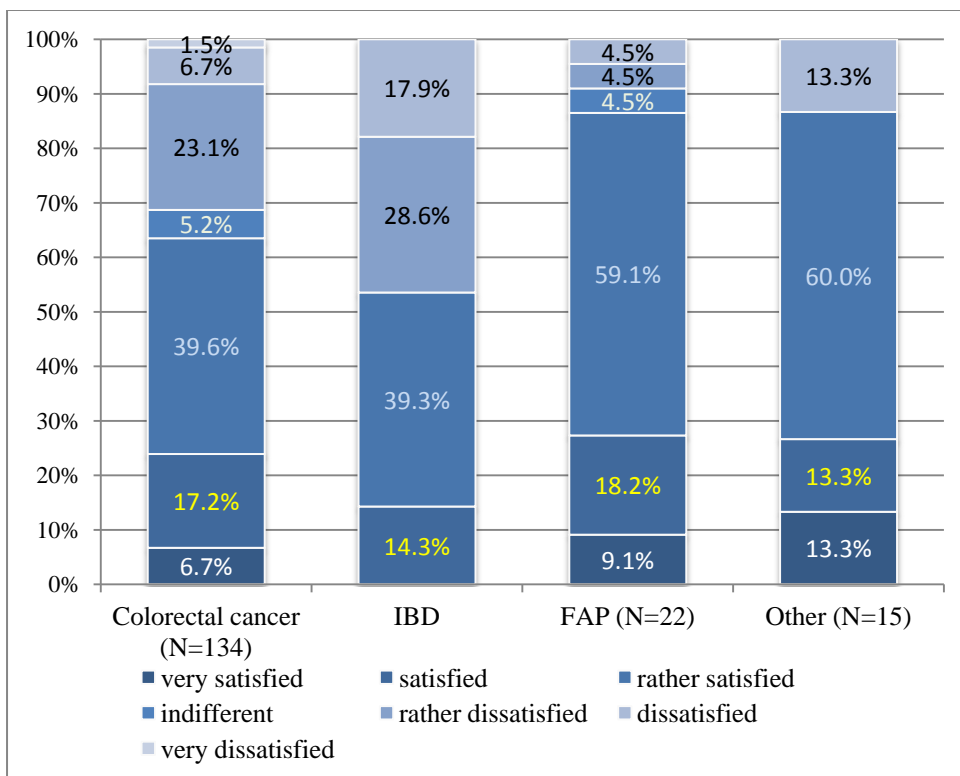


Figure 2a. SWLS and a reason of stoma creation in the researched group.

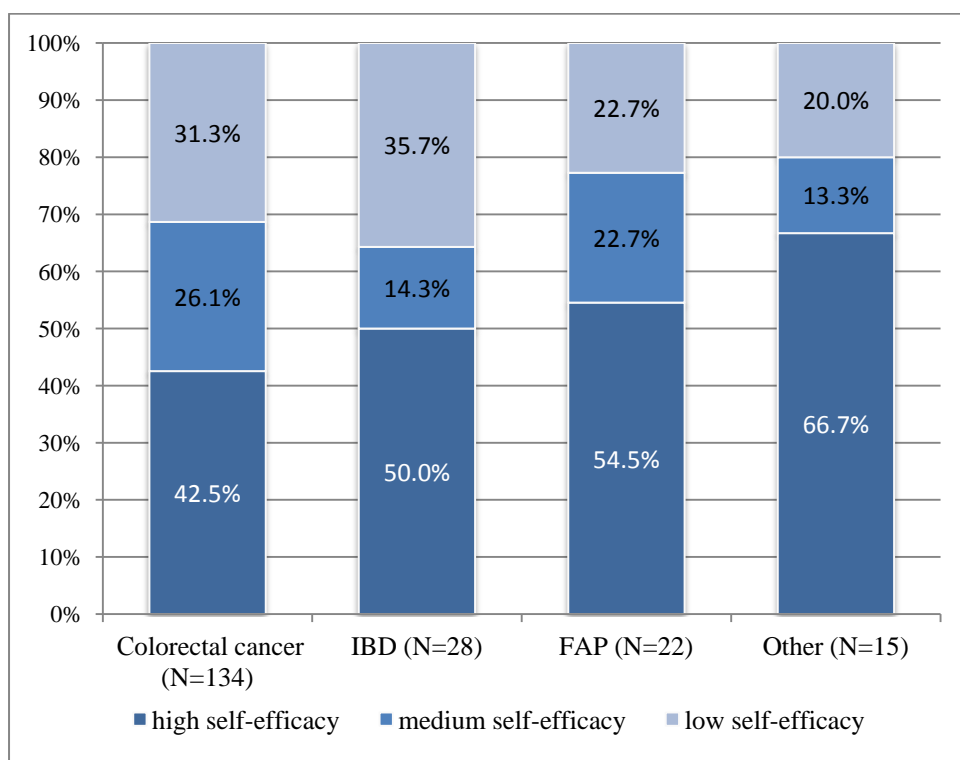


Figure 2b. GSES, and a reason of stoma creation in the researched group.

The smallest proportion of patients satisfied with life was in a group with inflammatory bowel diseases. The relationship was statistically significant at the aggregate level that is using dichotomous division of the respondents into satisfied and dissatisfied ($p \leq 0.05$). Therefore, it can be concluded that the underlying disease affects the life satisfaction; the relationship should be, however, checked on a sample with a greater representation of patients with other conditions than colorectal cancer, which was dominant in the researched group.

Nearly a half of the respondents (47.0%) represented a high sense of self-efficacy, while 30.0% - low and 23.0% - medium (Fig. 3).

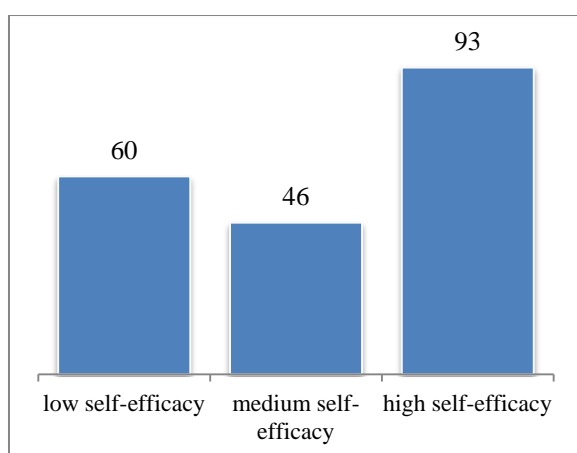


Figure 3. The sense of self-efficacy in the researched group.

Socio-demographic variables, i.e. age, sex, place of residence had no effect on self-efficacy. Although high self-efficacy was slightly more frequently observed in our sample in the youngest group (17-39 years of age), statistical significance cannot be proved.

A factor that significantly influences the sense of self-efficacy is education (statistically significant correlation at $p \leq 0.05$). The individuals with higher education represent high sense of self-efficacy more often than people representing a lower level of education. Self-efficacy increases with time elapsed since the stoma surgery. The subjects after a longer period since stoma creation were much more likely to represent high sense of self-efficacy as compared to those shorter period since ostomy formation ($p \leq 0.05$) (Tab. 2).

Respondents treated for colorectal cancer had lower self-efficacy as compared to the group which had a stoma formed for reasons other than cancer (Fig. 2). Statistical analysis showed a relationship between the level of life satisfaction and sense of self-efficacy ($p \leq 0.001$). Higher level of self-efficacy influenced higher level of life satisfaction (Fig. 4).

The respondents who declared that stoma surgery had a negative impact on their functioning in the social life often manifest dissatisfaction with life ($p \leq 0.001$).

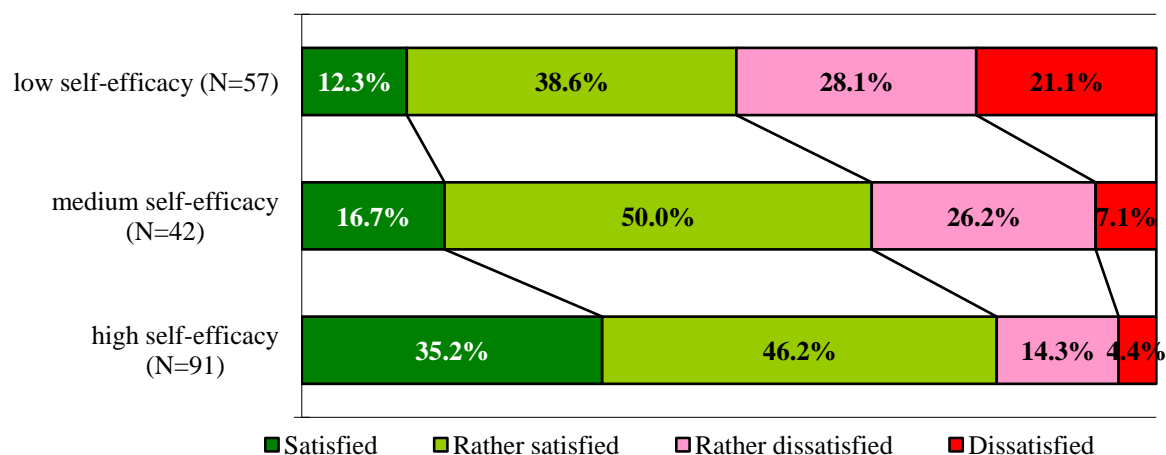


Figure 4. Life satisfaction and the sense of self-efficacy.

DISCUSSION

Well-being as a cognitive component of wellness is one of substantial factors affecting health, which is a value most desired by a man. It allows to perform functions and implement life plans, thus strengthening the sense of security. According Shin and Johnson, life satisfaction is a general assessment of the quality of life in relation to in relation to personal criteria [19]. Well-being (satisfaction) of a man consists of three main elements: the level of satisfaction, positive feelings and lack of negative feelings. Evaluation of satisfaction done by both a healthy or ill person results from a comparison of their position with the canons (rules) established by them. If the performance is satisfactory for the individual, its effect is the feeling of satisfaction [17]. Satisfaction with life in the course of the disease and remission may be conditioned by the various factors, both positive (support, acceptance of illness, coping with difficult situations, the level of self-care, availability of health care) and negative factors especially complications of treatment, disease progression, loneliness. The authors focused in this paper on the global evaluation of satisfaction and coping with a difficult situation without analyzing the determinants [10,12]. Creation of intestinal stoma resulting from a progression of the disease carries a number of physical, mental and social disorders, which apply to everyone to a bigger or smaller degree [6,10-12]. However, stoma creation may determine further active functioning and quality of life only when the person accepts a new life situation that is life with a stoma and adapt to it. In the studies by CK Mc Mullen et al. the respondents described their situation as follows: "better to have a stoma than die of cancer", "life must go on", "only you decide how much stoma is weakening you" [20]. In the researched group the overall level of life satisfaction was recorded as average high (dominant: rather satisfied). Variables such as age, sex, marital status, a type of stoma and the time elapsed since surgery did not affect the level of satisfaction in the study group.

However, JH Lee et al. in the studies on the quality of life of people treated for cancer observed a relationship between quality of life and factors such as gender, age, education, work, type of surgery, it should be taken into account that satisfaction is one of the components of a broad concept of quality of life [21]. In a study, conducted by Rogowska et al. [22] the level of satisfaction with life was affected by: gender (women were less satisfied with life than men), place of residence (people living in rural areas were more satisfied with their lives than those who live in a city) and patient's living conditions (people who had better living conditions were more satisfied with life than people who had worse living conditions).

It has been observed that people with higher education and living in the city are characterized by a higher level of satisfaction compared to those living in the countryside. Similar results were obtained by Basinski and March in a group of chronically ill people. The authors reported a strong association between SWL and education. Satisfaction with life was the highest in people with higher education and lowest satisfaction with life was observed in the respondents with vocational education. The authors did not find the relationship between age, gender and level of satisfaction [16]. An interesting finding, which would be worth researching is the low level of satisfaction among people who had formed stoma due to inflammatory bowel disease. Knowles et al. [22] pointed out that the negative perception of bowel disease (IBD) by patients is associated with the development of increased anxiety and depression, which can affect the destructive body image and generate sexual disorders. Bearing in mind that this is a group of young, active people, this concept seems probable. Sak et al. [23] in the study of 225 people who underwent chest surgery demonstrated that patients undergoing surgical treatment and less satisfied with life tend to perceive the disease as a condition leading to a significant reduction in their ability to self-realization. According to these researchers, the more satisfied with life are the patients, the less importance they attach to the perception of the state of "being sick / ill" as a psychological dysfunction and withdrawal from social life [23]. Taking these observations into account it can be concluded that people with intestinal stoma, if they are optimally prepared and positive about life, will be able to accomplish their life plans with confidence and the stoma will not have a major impact on their social functioning. While analyzing the literature, a conclusion can be drawn that life satisfaction may be a special kind of "buffer" against pessimism, lack of motivation or disbelief in the existential possibilities both during a disease and remission. Self-efficacy is defined as a belief of an entity in the potential to achieve the intended purpose in a particular life situation. The notion of effectiveness is concerned with person, and above all, depends on the level of cognitive and causative activity [24]. The sense of efficacy may relate to specific areas of activity, as well as to express the general belief as to the specific role in problem or new situations. In the group of patients with the stoma almost a half of the respondents presented a high sense of self-efficacy, there was a tendency of increased sense of self-efficacy with increasing education, and the time lapsed since the stoma formation. It can be assumed that knowledge, intellectual ability and experience arising from the passage of time since the surgery can affect the perception of a new life situation as a positive, rather than focusing on the

experiences resulting from lacerations and loss of control of excretion. Gapinski et al. [25] in their studies did not demonstrate the relationship between the sense of self-efficacy and education or gender. The level of education both in women and men and the time elapsed since intestinal stoma creation had no effect on self-efficacy. According to the researchers, further stays in the hospital result in patients' lesser willingness to make new contacts with other people and maintain them. [25]. It is worth noting, and applying this knowledge in everyday nursing practice that people treated surgically who are able to cope with difficult situations, or wish to pursue a specific, designated purpose, may be more satisfied with their lives, and thus are less susceptible to the occurrence of depression or withdrawal from social life.

CONCLUSIONS

1. Satisfaction with life in the researched group was on average high level (rather satisfied individuals dominated).
2. Age, sex, marital status, a type of stoma and the time elapsed since its creation did not affect the level of satisfaction with life.
3. The subjects presented a high or medium level of self-efficacy.
4. Age, sex and a place of residence had no effect on self-efficacy.
5. The level of education of the respondents and the time elapsed since stoma creation affected the level of self-efficacy.
6. There is a positive relationship between the level of life satisfaction and the sense of self-efficacy. The higher the self-efficacy, the higher the satisfactions with life were found.

Conflicts of interest

The authors declare that there are no conflicts of interest of this paper.

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