SATISFACTION WITH LIFE AFTER RECTAL PROLAPSE SURGERY

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Assessment of satisfaction with life, as a result of comparing own life situation with the individualised personal standards, is an important element for measuring satisfaction with life of the patients suffering from somatic disorders. Literature provides numerous data on satisfaction with life of different groups of patients suffering from somatic disorders. Little space is devoted to the study of the level of satisfaction of patients with rectal prolapse, which is particularly evident in relation to the Polish patient population.

The aim of the study was planned to determine the level of satisfaction with life and its determinants among patients with full-thickness rectal prolapse surgery as well as to assess the improvement of continence after this surgery.

Material and methods. The study group consisted of 20 patients operated on for full-thickness rectal prolapse in the Department of General and Colorectal Surgery, Medical University in Łódź. SWLS (Satisfaction with Life Scale) Diener et al. in the Polish adaptation by Juczyński was used to assess global life satisfaction. Assessment of the incontinence severity and the postoperative improvement was made with Jorge and Wexner scale.

Results. The average level of global life satisfaction among patients with rectal prolapse surgery is 21.05 (SD = 4.68) and it corresponds to the level of satisfaction of the total population. In the study group, there were no statistically significant differences in the level of global satisfaction with life depending on age, disease recurrence and continence improvement after surgery. The continence after rectal prolapse surgery improved significantly (p< 0.05).

Conclusions. The most common consequences of rectal prolapse include incontinence of varying severity. The studies give grounds for considering that a rectal prolapse surgery is an effective method of treatment, being conducive to continence improvement in the study group. Rectal prolapse involves also numerous psychosocial consequences. Due to the complexity of the problem, it appears advisable to undertake further empirical studies with the object of identifying the factors influencing life satisfaction of patients operated on for rectal prolapse.

Key words: rectal prolapse, satisfaction with life, incontinence

A tendency initiated by the World Health Organization (WHO) to define health as full biopsychosocial welfare, contributed to the gradual replacement of the biomedical paradigm with holistic and functional understanding of health. This had a significant impact on the currently observed increase in interest in the issues of life quality, closely related to the issue of welfare. At present, the common point for the plurality of approaches to the definition of the life quality is an assumption that it is composed of two aspects: objective which includes the actually existing life and health conditions of an individual, and subjective which is associated with internal, individual properties, predispositions and experience of an individual expressed in their specific attitude toward life, its evaluation and the perceived level of satisfaction (1, 2). The subject of numerous studies of the modern medical science, particularly widespread in the population of people suffering from somatic disorders,
is quality of life understood subjectively as a level of satisfaction. However, the studies which have been carried out so far, do not include or do so to a limited extent a group of patients with rectal prolapse.

Rectal prolapse is a disease entity with complex aetiopathogenesis (3). This disease is defined as dislocation of a rectum outside the anal canal (4, 5). This dislocation may concern all walls of large intestine and it is defined then as a full (full-thickness) rectal prolapse. It must be also distinguished from a rectal mucosal membrane prolapse, involving the displacement of the rectal mucosa only and from the internal (hidden) rectal prolapse, in which the rectum sinks in without dislocating outside the anal canal. Rectal prolapse is a problem of all age groups. In children, it is diagnosed more frequently in males and it usually resolves spontaneously to 3 years of age. It is also indicated that, in this age group, it is often accompanied by mucoviscidosis (6). In the adult population, rectal prolapse concerns most commonly patients over 50 years of age (5). 80-90% of the patients are female. It is supposed that this may be a consequence of perinatal damage to the perineal nerves and muscles. However, there are data that rectal prolapse has been also observed in nulliparas. Other reasons of rectal prolapse include: chronic constipation with prolonged rectal tenesmus which weakens the uterine fundus muscles, previous surgeries (especially gynaecological), spinal cord injury, presence of neurological diseases and senile dementia (5). A consequence of rectal prolapse, cited in the literature most often, is loss of control of defecation and incontinence which affect more than half of the patients as well as the constipation, frequent rectal tenesmus, increased secretion of mucus or bleeding to the lower gastrointestinal tract (7). In addition, this disease entails a number of psychological consequences, in a form of a sense of shame and fear of its disclosure as well as because of frequently coexisting incontinence it contributes to increased psychological stress, a sense of alienation, social withdrawal and a significant decrease in quality of life (3, 8). In this context, it is particularly important to answer the question about the perceived level of satisfaction with life and its determinants in patients treated surgically for rectal prolapse, which is the objective of this study. In addition, the study attempts to assess the improvement of continence after the surgery and its relationship to the perceived life satisfaction of the respondents.

**MATERIAL AND METHODS**

76 patients operated on for full-thickness rectal prolapse in the Department of General and Colorectal Surgery, Medical University in Łódź between 2003 and 2012 were qualified to participate in the empirical study. At the stage of data collection the group was reduced by 46 people, of which: 39 persons were not reachable by telephone, 9 persons refused to participate in the study, 4 persons were excluded from the study because of the inability to carry out the survey because of significant cognitive impairment, and 4 persons died during the follow-up for reasons unrelated to the surgery. Finally, the study involved a group of 20 patients, including 19 women (95%) and 1 man (5%). The mean age was 63.15 (SD=19.23). The period after surgery ranged from 1 month to 87 months (M=20.75, SD=21.83). The patients were operated on using 3 following surgical procedures: Altemeier's procedure was applied in 10 patients (50%), rectopecty in 6 (30%), Delorme’s procedure in 4 (20%). Recurrence of the disease was observed in 7 patients (35%), of which 6 were re-operated on, and one person did not consent to another surgery.

The study involved questionnaires and was conducted by telephone. Participation in the study was voluntary and anonymous. The patients who chose to participate were informed of the study objective and assured that the study results were for scientific purposes only.

The standardised research tools were used for the study. SWLS (Satisfaction with Life Scale) Diener et al. in the Polish adaptation by Juczyński was used to assess satisfaction with life (9). SWLS questionnaire is a tool with validated psychometric properties and used to measure global satisfaction with life in adults, both healthy and ill. It consists of 5 statements which are addressed by a respondent on a 7-point scale (1 – strongly disagree to 7 – strongly agree). The final result, corresponding to a total number of points scored, is calculated according to the standardised score (STen). The scores range from 5 to 35 scores.
Satisfaction with life after rectal prolapse surgery

The higher score corresponds to a higher global satisfaction with life of a respondent.

Assessment of the incontinence severity and the postoperative improvement was made with Jorge and Wexner scale (10). It represents the sum of the 5 parameters (gas continence, continence of loose stool, continence of solid stool, need for wearing diapers and need for changing lifestyle) rated on a scale from 0 to 4, where zero means no presence of a given parameter, and 4 – its highest intensity. The final score of zero indicates a complete continence, whereas score of 20 means full incontinence. In order to evaluate the effectiveness of surgical treatment and improved continence, the data on the severity of faecal incontinence before surgery were collected retrospectively from medical records at the first stage, and then the patients were re-examined using the Jorgea and Wexner’s scale in postoperative period.

In the process of statistical analysis the Spearman’s rank order correlation, Mann-Whitney U-test and the Wilcoxon rank order test were used. The calculations were performed with statistical application STATISTICA.

RESULTS

At the first stage of analyses the level of global satisfaction with life of the study group was evaluated and then the differences in perceived satisfaction level depending on age, disease recurrence and continence improvement after surgery were sought. The average level of global life satisfaction among patients with rectal prolapse surgery was 21.05 (SD = 4.68) and it corresponds to the mean score in the standardised scale (tab. 1). The low level of satisfaction with life (1-4 sten) was represented by 30% of respondents, while the average (5-6 sten) and high (7-10 sten) by 35% of the respondents each. The respondents assessed their satisfaction with life (M=4.55, SD=1.28) and life achievements (M=4.55, SD=1.14) highest, while the similarity of their life to the ideal was assessed lowest (M = 3.55, SD = 1.23).

The analysis of relationship between the increase in the patients age (treated linearly) and satisfaction with life showed no statistically significant differences, both with regard to the global result of SWLS and the results of 4 out of 5 statements (tab. 1). Statistically significant differences in the assessment of life satisfaction were found only in the case of the fourth statement on the SWLS scale (R=0.46, p<0.05), indicating that satisfaction with the achievements in the group increases with age.

Disease recurrence was another analysed variable. It was proven that in the group where there was no disease recurrence, average life satisfaction was higher (M=21.69, SD=5.10) compared to the group with the disease recurrence (M=19.86, SD=3.85). The differences between the groups were not statistically significant (tab. 2).

Similar analyses were performed for the continence improvement. Although, there were no significant intergroup differences in the level of satisfaction with life, a higher average level of satisfaction in the group, which has improved continence after surgery (M = 22.50, SD = 4.94) in comparison with other persons (M = 19, SD = 3.77) was observed (tab. 3).

Table 1. Results of the SWLS Scale including Spearman’s Rank Order Correlation between satisfaction with life and age

<table>
<thead>
<tr>
<th>Individual statements of SWLS</th>
<th>study group (n=20)</th>
<th>age</th>
<th>t</th>
<th>p&lt;0,05</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>Me</td>
<td>SD</td>
<td>R</td>
</tr>
<tr>
<td>1. In most ways my life is close to my ideal</td>
<td>3.55</td>
<td>3.50</td>
<td>1.23</td>
<td>-0.16</td>
</tr>
<tr>
<td>2. The conditions of my life are excellent</td>
<td>4.15</td>
<td>4.00</td>
<td>1.46</td>
<td>-0.04</td>
</tr>
<tr>
<td>3. I am satisfied with my life</td>
<td>4.55</td>
<td>5.00</td>
<td>1.28</td>
<td>0.16</td>
</tr>
<tr>
<td>4. so far I have gotten the important things i want in life</td>
<td>4.55</td>
<td>5.00</td>
<td>1.14</td>
<td>0.46</td>
</tr>
<tr>
<td>5. if I could live my life over, i would change almost nothing</td>
<td>4.25</td>
<td>5.00</td>
<td>1.12</td>
<td>0.25</td>
</tr>
<tr>
<td>SWLS total</td>
<td>21.05</td>
<td>22.0</td>
<td>4.68</td>
<td>0.12</td>
</tr>
</tbody>
</table>

M – mean; Me – median; SD – standard deviation; R – value of Spearman’s rank order correlation; t – empiric value of t-Student statistic; p – significance level
The last stage of the analysis consisted in evaluation of the continence improvement in relation to the preoperative period. The objective of this stage was to determine the relationship between rectal prolapse surgery and the continence improvement. The average degree of severity of urinary incontinence in the preoperative period was nearly twice as high in relation to the postoperative period and was almost 10 points in the Wexner scale (fig. 1).

The analysis showed a statistically significant difference in faecal incontinence severity before and after surgery ($Z=3.10$, $p=0.002$) (tab. 4). These data demonstrate that a rectal prolapse surgery is a significant condition of the continence improvement in the study group.

**DISCUSSION**

Assessment of satisfaction with life, as a result of comparing own life situation with the individualised personal standards, is an important element of measuring satisfaction with life among patients suffering from somatic disorders (9). The literature points to differences in the level of satisfaction based on personal characteristics, including age and disease-related factors, its nature and course of the treatment process (9, 11, 12). With regard to patients treated for rectal prolapse, the assessment of life satisfaction is particularly important due to the specifics of the disease itself and the fact that this group of patients is exposed to a number of psychological consequences related to their disease and treatment process. The study shows that the average global life satisfaction in the study group is 21.05 points and is at the average level, which

![Faecal continence](image)

**Fig. 1.** Average severity of faecal incontinence according to Jorge and Wexner scale before and after rectal prolapse surgery

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**Table 2. Relationship between the satisfaction with life and the disease recurrence (Mann-Whitney U test)**

<table>
<thead>
<tr>
<th>SWLS scale</th>
<th>Disease recurrence</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>without recurrence</td>
</tr>
<tr>
<td>N</td>
<td>M</td>
</tr>
<tr>
<td>Wynik ogólny / general result</td>
<td>13</td>
</tr>
</tbody>
</table>

N – group number; M – mean; SD – standard deviation; $Z$ – value of nonparametric Mann-Whitney U-test statistic; $p$ – significance level

**Table 3. Relationship between the satisfaction with life and the continence improvement (Mann-Whitney U test)**

<table>
<thead>
<tr>
<th>SWLS scale</th>
<th>Improvement of continence</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>improvement no improvement</td>
</tr>
<tr>
<td>N</td>
<td>M</td>
</tr>
<tr>
<td>General result</td>
<td>16</td>
</tr>
</tbody>
</table>

N – group number; M – mean; SD – standard deviation; $Z$ – value of nonparametric Mann-Whitney U-test statistic; $p$ – significance level

**Table 4. Relationship between the incontinence severity before and after surgery (Wilcoxon Rank Order Test)**

<table>
<thead>
<tr>
<th>Wexner scale</th>
<th>Incontinence severity (n=20)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>before surgery</td>
</tr>
<tr>
<td></td>
<td>M</td>
</tr>
<tr>
<td>General result</td>
<td>9,55</td>
</tr>
</tbody>
</table>

M – mean; SD – standard deviation; $Z$ – value of Wilcoxon rank order test statistic; $p$ – significance level
suggests that the respondents do not differ in this respect from the total population in most economically developed countries (11). It is also noteworthy that the respondents evaluated their own satisfaction with life higher than the patients after myocardial infarction (M=18.78), patients on dialysis (M=19.51) and diabetics (M=20.34) (9). An assumption can be made that in relation to aforementioned groups of patients, the disease in patients with rectal prolapse is a significantly smaller source of danger to health and life, and it entails relatively fewer medical consequences (need for frequent hospitalisation, permanent drug therapy), which probably is reflected in the level of satisfaction of these patients. Another explanation for the higher subjective satisfaction of these patients. Another explanation for the higher subjective satisfaction of these patients may also be psychological defence mechanisms which distort perception of their own position (13, 14).

The results obtained for absence of a relationship between global life satisfaction and age are not consistent with the majority of previous reports (11, 15). The satisfaction with life is indicated to be changed with age, which was not shown in this paper. In addition, the elderly are proven to experience a higher level of satisfaction resulting from the gradual vanishing of differences between the level of aspirations and expectations and the actual state of ownership (15). It was contrary in the case of patients with rectal prolapse surgery, whose life satisfaction decreased with age, which may, however, correspond to a lower health status, lower economic status and limited prospects for the future of the elderly (15). At the same time a significant positive correlation between the age of respondents and satisfaction with life achievements was shown, which is confirmed by the literature, according to which the increase in the age is conducive to the ability to adequately evaluate and prioritise achievements (16).

No relationship between satisfaction with life after rectal prolapse surgery and recurrence was proven in this study. At the same time the literature fails to provide the verified data. It was noted that as far as other somatic diseases there is a negative impact of disease recurrence on the functioning of a patient, causing the patient’s intense anxiety and distress (17). This can be applied to the trend observed in our study that patients with disease recurrence evaluate their life satisfaction worse.

The final stage of this study allowed finding a statistically significant improvement in continence after rectal prolapse surgery in the Jorge and Wexner faecal continence grading scale. This improvement, however, has not significant correlation with satisfaction of life of patients. Available literature focuses mainly on the comparison of different surgical methods, and their usefulness is measured by improvement in continence, increase in quality of life or the occurrence of complications or disease recurrences. In a study, the patients were operated on both with trans-abdominal and trans-perineum procedures, however, due to the small size of the study group, no statistical relationships between continence, satisfaction with life and the type of surgery performed was sought.

The available literature showed the continence improvement and quality of life after rectal prolapse surgery performed with Altemeier’s procedure (18). However, no statistically significant improvement of continence and quality of life after laparoscopic rectopexy performed for rectal prolapse was proven (19). Riansuwan et al. found an improvement in continence after the rectal prolapse surgery with both trans-perineum and trans-abdominal techniques, although the quality of life in patients operated on with rectopexy was significantly higher compared to the quality of life of patients operated on with trans-perineum technique. It is considered that a reason for such results is a fact that older and more burdened patients with lower baseline quality of life are qualified for trans-perineum surgery (20). Lack of correlation between the improvement in continence and satisfaction of life of patients demonstrated in the study is most likely to be also related to the age of the patients in the study group. The advanced age of the patients with rectal prolapse correlates with a higher incidence of other diseases that lower quality of life. Therefore, the benefit of postoperative continence improvement may be a minor condition of overall satisfaction with life of these patients. No correlation between the postoperative improvement in continence and satisfaction of life demonstrated in the study is most likely to be also related to the small size of the study group.
In addition, the literature also points that there is no correlation between the enteropathy, incontinence, food passage rate and the quality of life of the patients (13, 14).

CONCLUSIONS

In summary, it should be emphasised in the context of the presented study results that the use of surgery in patients with rectal prolapse is an effective method of treatment being a condition of the continence improvement. With regard to satisfaction of life in patients with rectal prolapse, the absence of significant correlation with age, disease recurrence and continence improvement proven may result from the small size of the study group. Therefore, it is important to highlight the dignity of the problem and the relevance of multi-attribute studies in as numerous group of patients as possible to reliably verify whether the factors, including the nature of medical care, such as disease recurrence and improved continence, influence the formation of satisfaction with life in population of these patients. Looking further ahead, the awareness of predictors of satisfaction with life of patients treated surgically for rectal prolapse will enable to take appropriate measures aimed at optimising their performance and increasing their quality of life.

REFERENCES