

ANALYSIS OF THE RELATIONSHIP BETWEEN QUALITY OF LIFE AND ACCEPTANCE OF ILLNESS IN PATIENTS WITH LEŚNIEWSKI-CROHN'S DISEASE

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A. Study design/planning • B. Data collection/entry • C. Data analysis/statistics • D. Data interpretation • E. Preparation of manuscript • F. Literature analysis/search • G. Funds collection

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ABSTRACT

Aim of the study: Crohn's disease belongs to the group of non-specific inflammatory bowel diseases. Due to its chronic nature, incurability, and the risk of various complications, this disorder imposes a huge bio-psycho-social burden on patients. The aim of the study was to analyse the relationship between the quality of life and the acceptance of illness in patients suffering from Crohn's disease.

Material and methods: The study involved 100 adult patients with Crohn's disease hospitalised in the Department of Gastroenterology SPSK No. 1 of the PUM in Szczecin. A diagnostic survey method was used for the research using standardised research tools: SF-36v2, Acceptance of Illness Scale, and the authors' own questionnaire.

Results: The highest quality of health was achieved by patients in physical functioning (78.50) and the lowest in vitality (42.25), whereas the largest group of patients demonstrated a moderate acceptance of illness (49%). A statistically significant positive correlation between the quality of life and acceptance of illness was found for all domains ($p < 0.001$) except for the social functioning domain.

Conclusions: A higher level of acceptance of illness has a positive impact on the quality of life of patients in the bio-psycho-social sphere. Patients who are characterised by a higher degree of acceptance of illness show a higher level of adaptation to life with the disease and a better quality of life.

Key words: acceptance of illness, quality of life, Crohn's disease.

INTRODUCTION

Leśniowski-Crohn's disease is characterised by a chronic granulomatous inflammatory process, which affects all layers of the walls of gastrointestinal tract and is accompanied by the incidence of fistulas and strictures. Crohn's disease is classified as a chronic disease because of its persistent and incurable character with periods of alternate remissions and exacerbations. The disease may affect patients' everyday activities, and thus result in deterioration of the quality of life and the degree of acceptance of illness [1].

Apart from efficient treatment of the underlying pathology and providing patients with optimal care, the objectives of modern medicine and nursing include also achieving improvement in the quality of life of chronic patients [2, 3]. The basic components of the general quality of life include: somatic con-

dition, general physical fitness, psychological well-being, emotions, and social relations. The assessment of the quality of life is a kind of insight into patients' condition, into exacerbation of the disease symptoms and the intensity of undesired events which may influence patients' comfort of life [4]. In medicine, health-related quality of life (HRQL) refers to explicitly specified domains: physical, psychological, and social.

Chronic diseases might also result in patients losing their motivation to maintain their bio-psycho-social skills and their abilities and to adapt to the illness [5]. The acceptance of illness is the adaptation to limitations, dysfunctions, and disabilities caused by a chronic disease. Patients suffering from Crohn's disease are likely to experience mood drops and become highly susceptible to depression and emotional disorders [6-8]. These problems, accompanied by

an active course of the disease and manifestation of its symptoms, might lead to a decrease in the quality of life in various domains of patients' functioning [9, 10].

AIM OF THE STUDY

The aim of the study was to analyse the relationship between the quality of life and the acceptance of illness in patients suffering from Crohn's disease.

MATERIAL AND METHODS

The research was conducted in accordance with the principles of the Declaration of Helsinki. It was conducted in 2017 in the Department of Gastroenterology SPSK No. 1 of the Prof. Tadeusz Sokotowski Pomeranian Medical University in Szczecin. Written consent of the aforementioned health care facility was obtained before the study started. On 7 June 2016 the study received a positive opinion from the Bioethics Committee of Pomeranian Medical University in Szczecin. Prior to the study the following criteria for participants had been established: respondents had to be aged 18 years or over, diagnosed with Leśniowski-Crohn's disease, and hospitalised in the clinic. They also had to give informed consent for participation in the study. The following criteria excluded patients from the study: lack of informed consent, lack of contact with the patient, lack of clear-cut diagnosis of Crohn's disease (differentiation from ulcerative colitis). Participation in the study was voluntary, and the questionnaire was anonymous. The respondents were informed about the aim of the study and that they could resign from it and withdraw their consent at any moment of the research without giving a reason for their resignation. The study was conducted in a group of 100 patients (55 women, 45 men) diagnosed with Crohn's disease. The subjects were aged between 18 and 57 years with the average age of 31.9 ± 8.1 years. The highest number of respondents (45%) lived in the cities with a population below 100,000 inhabitants. The highest number of respondents (40%) lived in non-marital relationships. As far as their education was concerned, only 2% of respondents had primary education and 23% had higher education. A diagnostic survey method was used for the research with the application of standardised research tools: the authors' own questionnaire, the SF-36v2 questionnaire, and the Acceptance of Illness Scale. The authors' own questionnaire consisted of a range of socio-demographic questions and selected medical ones. SF-36v2 questionnaire was used in order to obtain objective assessment of extent to which the respondents maintained an effective life and well-being. The quality of life indicator is the sum of scores

from all eight scales evaluating the quality of life, and it enables the general assessment of the health condition. The highest score means the highest degree of the quality of life, whereas the lowest score accounts for the lowest level of the quality of life. A special license was obtained in order to apply the scale. Acceptance of Illness Scale (AIS) is used to assess the degree of acceptance in adult patients who are currently ill. The Acceptance of Illness Scale (AIS) was adapted to Polish standards by Z. Juczyński [11]. The Acceptance of Illness Scale (AIS) consists of eight statements that refer to difficulties and limitations connected with patients' health conditions. The total score ranging from 8 to 40 is the assessment of the general level of the acceptance of illness. A score below 18 means a low level of acceptance of illness, a score ranging from 19 to 29 means an average level of acceptance, and a score of 29 and more is an indicator of full acceptance and adaptation to illness.

Data collection was followed by preliminary calculations and modifications in Microsoft Excel 2007 PL spreadsheet. Statistical analysis was conducted by means of IBM SPSS 22. The Shapiro-Wilk test was applied to evaluate the congruence between the distribution of the examined quantity variables and normal distribution. When the distribution of variables was close to normal distribution the Pearson correlation coefficient was applied. In the case when the assumption of normal or ordinal distribution was not met Spearman's correlation coefficient was used. Spearman's coefficient is applied to examine correlations between two variables, both of which are presented in, at least, ordinal scale. The level of statistical significance was assumed at $p < 0.05$.

RESULTS

An analysis of the data referring to the respondents' quality of life conducted with the application of SF-36v2 questionnaire showed that the highest level of quality of life was reported by the respondents in the following domains: physical functioning, average score – 78.5 ± 17.2 , limitations resulting from emotional state – 74.17 ± 20.12 , limitation of the role in physical functioning – 63.38 ± 20.37 , and physical dimension of the quality of life. The lowest quality of life was observed in the following areas: vitality, general health condition, and social functioning. Apart from defining eight domains of the quality of life, the SF-36v2 tool evaluated two dimensions: physical and mental. In the physical dimension the average score reached 61.41 ± 16.11 . However, in the mental dimension of quality of life the respondents obtained lower scores than in the case of the physical dimension – 55.40 ± 11.19 , which is indicative of the fact that patients' functioning tends to be worse within this dimension (Table 1).

Table 1. The quality of life of patients with Leśniowski-Crohn's disease assessed with a total scale

Quality of life	n	Min	Max	M	SD
Physical functioning	100	20	100	78.50	17.22
Role limitation in physical functioning	100	0	100	63.38	20.37
Pain perception	100	12.5	100	57.50	23.50
General health condition	100	10	95	46.27	18.47
Vitality	100	6.25	93.75	42.25	18.42
Social functioning	100	37.5	75	50.13	9.14
Limitations resulting from emotional state	100	0	100	74.17	20.12
Mental health	100	30	90	55.05	15.23
Physical dimension of the quality of life	100	22.81	98.75	61.41	16.11
Mental dimension of the quality of life	100	29.38	80.31	55.40	11.19

n – number; M ± SD – mean ± standard deviation; Min – minimum; Max – maximum

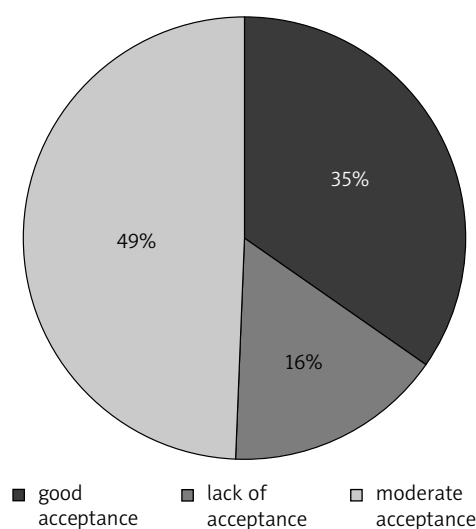


Figure 1. The degree of the respondents' acceptance of illness

The assessment of the level of the acceptance of illness proves that the average level of acceptance in the examined group reached 26.5 ± 6.9 . In the group examined in the study the minimum level of the acceptance of illness was 10, whereas the maximum level reached 40. The largest group of patients, i.e. 49%, demonstrated a moderate acceptance of illness, and 39% of respondents reported very good acceptance of illness. Only 16% of patients did not accept their illness (Fig. 1).

Statistical analysis showed that there is a statistically significant correlation ($p < 0.05$) in patients suffering from Crohn's disease between the assessment of the acceptance of illness according to AIS and the assessment of quality of life measured with SF-36v2. A positive correlation was found between the assessment of the acceptance of illness and the assessment of the quality of functioning in all dimensions with the exception of the social functioning category. This leads to the conclusion that the more patients ac-

Table 2. Relationship between the assessment of the quality of life according to the SF-36v2 scale and the acceptance of illness (AIS) of the examined patients with Crohn's disease

Variable	r	p
Physical functioning	0.369	0.000
Role limitation in physical functioning	0.391	0.000
Pain perception	0.418	0.000
General health condition	0.508	0.000
Vitality	0.459	0.000
Social functioning	0.029	0.774
Limitations resulting from emotional state	0.286	0.004
Mental health	0.351	0.000
Physical dimension of the quality of life	0.521	0.000
Mental dimension of the quality of life	0.443	0.000

p – statistical significance coefficient; r – Pearson correlation coefficient

cepted their illness, the higher they rated their quality of life in these categories (Table 2).

By means of analysis of multiple regression a subset of independent variables was chosen in order to define the acceptance of illness in the best possible way. An analysis of regression was conducted in which the acceptance of illness was a dependent variable, whereas domains and dimensions of quality of life played the role of independent variables. A multiple stepwise regression was applied in which independent variables were removed one by one from the regression equation until the best form of equation was reached. The subset of independent variables, which were included in the best form of regression equation, are presented in (Table 3). The tested model explains 30% of changeability of the dependent variable. The quality of life in the role limitation of physical functioning as well as the general health condition account for 30% of changeability as far as acceptance of illness is concerned.

Table 3. Multiple regression of acceptance of illness in patients with Crohn's disease

Variable	B	SE	β	t	p
(Constant)	14.322	2.082		6.878	0,000
Role limitation in physical functioning	0.078	0.031	0.23	2.504	0,014
General health condition	0.157	0.034	0.419	4.563	0,000
	R	R2	$\Delta R2$	F change	
	0.55	0.303	0.288	5.81928	

DISCUSSION

In the face of a currently incurable disease, in order to come back to "normal" life patients should accept their illness and adapt to it. The acceptance of illness decreases the intensity of the negative emotional reactions that are involved and increases proportionally with the rising quality of patients' lives [8, 13].

Authors of numerous scientific publications [7, 12-15] emphasise the importance of the acceptance of illness in relation to the quality of life in patients suffering from inflammatory bowel diseases. The acceptance of illness is important not only because of patients' psycho-physical comfort, but also because it is the key to therapeutic effects obtained by a therapeutic team. The authors' own research showed that patients with higher acceptance of disease are also characterised by a higher dimension of adapting to life with the disease and a higher quality of life. According to De Boer *et al.* [13] and the researchers from various Polish research centres [14, 15], psycho-social functioning of patients suffering from Leśniowski-Crohn's disease determines their quality of life. The conclusions presented by the aforementioned authors coincide with the findings of Pejas-Grzybek and Skorupska-Król [16], who, in their nursing research into multiple sclerosis in young patients, proved that the degree of acceptance of illness in the case of SM is similar to the degree of acceptance of other somatic diseases. The aforementioned studies also confirm that the incidence of a chronic disease, regardless of its character, is a key aspect in the issue of its acceptance and that a stable emotional state is correlated with a higher likelihood of acceptance of illness, which, in turn, affects patients' subjective sense of quality of life.

Denys *et al.* [17] in their study into the level of acceptance of illness and the quality of life of chronic patients confirmed the hypothesis that the quality of life of the examined patients is significantly correlated with their acceptance of illness in the general dimension. The results of the authors' own study coincide closely with the results obtained by Uchmanowicz *et al.* [18], Brzozowska, Postępski, and Jedrych [19] as well as Skowron [20] and Perek *et al.* [21], which proved that the acceptance of illness and the support of the patient's family and friends have a positive in-

fluence on improving the quality of life of patients suffering from autoimmune diseases. Other potentially successful factors responsible for improving patients' quality of life include long-term health education about the disease itself and about methods of coping with one's illness accompanied by appropriate skills and abilities of the patient's family, friends, and therapeutic team aimed at providing patients with positive support [22].

CONCLUSIONS

A higher level of acceptance of illness has a positive impact on the quality of life of patients in the bio-psycho-social sphere. Patients who are characterised by a higher degree of acceptance of illness show a higher level of adaptation to life with the disease and a better quality of life.

Disclosure

The authors declare no conflict of interest.

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